




Strategic reading program to develop critical-creative thinking in high school students

Programa estratégico lector para desarrollar el pensamiento crítico-creativo en estudiantes de secundaria

Programa de leitura estratégica para desenvolver o pensamento crítico-criativo em alunos do ensino médio.


César Muñoz¹

Universidad César Vallejo, Chiclayo-Lambayeque, Perú

 <https://orcid.org/0000-0002-1183-1307>
mmunozvi7@ucvvirtual.edu.pe

Aurelio Ruiz

Universidad César Vallejo, Chiclayo- Lambayeque, Perú

 <https://orcid.org/0000-0001-7684-3475>
aruiz3@ucvvirtual.edu.pe

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KEYWORDS

strategies, reading,
program, critical thinking,
creative thinking.

ABSTRACT. The objective was to design a program of reading strategies to develop critical and creative thinking (PCC) in the students of the VI cycle of the educational institution Diego Ferré Sosa de Monsefú. The research was of a primary propositional type, in which 137 students participated, who were administered a questionnaire on the development of critical and creative thinking, elaborated separately for every kind of thought and covering the dimensions of each one of them. The instruments were duly validated and with a reliability coefficient of 0.80. The results regarding the level of development of critical and creative thinking indicate that 45.99% of the total sample are at the medium level for critical thinking, and 51.09% are also at the medium level concerning creative thinking, which makes it possible to determine that almost half of the students surveyed need to reorient the development of higher-order thinking skills that allow them to strengthen their cognitive abilities.

PALABRAS CLAVE

estrategias, lectura,
programa, pensamiento
crítico, pensamiento
creativo.

RESUMEN. El objetivo fue diseñar un programa de estrategias de lectura para el desarrollo del pensamiento crítico y creativo (PCC) en los estudiantes del VI ciclo de la institución educativa Diego Ferré Sosa de Monsefú. La investigación fue de tipo básica propositiva, en la que participaron 137 estudiantes a quienes se les administró un cuestionario sobre el desarrollo del pensamiento crítico y creativo elaborado de manera separada para cada tipo de pensamiento y abarcaron las dimensiones de cada una de ellos. Los instrumentos fueron debidamente validados y con

¹ Secondary education teacher, BA in Language and Literature. **Correspondencia:** mmunozvi7@ucvvirtual.edu.pe



coeficiente de confiabilidad de 0,80. Los resultados en cuanto al nivel de desarrollo del pensamiento crítico y creativo señalan que, 45,99% del total de la muestra se encuentran en nivel medio para pensamiento crítico y 51,09% también en nivel medio respecto al pensamiento creativo. Lo que permite determinar que casi la mitad de los estudiantes encuestados necesitan reorientar el desarrollo de habilidades del pensamiento de orden superior que les permita fortalecer sus habilidades cognitivas.

PALAVRAS-CHAVE

Estratégias, leitura, programa, pensamento crítico, pensamento criativo.

RESUMO. O objetivo foi conceber um programa de estratégias de leitura para o desenvolvimento do pensamento crítico e criativo (PCC) nos alunos do VI ciclo da instituição educativa Diego Ferré Sosa de Monsefú. A pesquisa foi do tipo propositiva básica, da qual participaram 137 alunos, aos quais foi aplicado um questionário sobre o desenvolvimento do pensamento crítico e criativo, elaborado separadamente para cada tipo de pensamento e abrangendo as dimensões de cada um deles. Os instrumentos foram devidamente validados e com coeficiente de confiabilidade de 0,80. Os resultados referentes ao nível de desenvolvimento do pensamento crítico e criativo indicam que 45,99% do total da amostra estão no nível médio para o pensamento crítico e 51,09% também estão no nível médio no que diz respeito ao pensamento criativo. O que permite determinar que quase metade dos alunos pesquisados precisam reorientar o desenvolvimento de habilidades de pensamento de ordem superior que lhes permitam fortalecer suas habilidades cognitivas.

1. INTRODUCTION

Education currently faces a series of challenges related to developing basic skills in students of various educational levels, especially those related to critical and creative thinking (PCC), also called by Portillo (2017) as competencies or essential skills of the 21st century. This scenario requires the search and creation of strategies to overcome multiple problematic situations. It is relevant to know and apply techniques to develop students' skills such as observing, analyzing, making judgments, and being creative to contribute to achieving a comprehensive education.

Some research references related to the study variables are shared through a global geopolitical view. For example, Al-Hashim (2019), in his research on critical thinking, expresses that society and the globalized world are experiencing an era of automation and the predominance of scientific knowledge. In this sense, it is essential and mandatory for teachers and students to develop skills related to critical thinking in the development of academic activities. Consequently, teachers at all educational levels have the inescapable duty to apply specific strategies to build PCC.

Another investigation on PCC determined that educational institutions should consider strategies in their pedagogical activities that contribute to developing aptitudes and skills in Portuguese students that allow them to face current challenges. In this sense, it is the development and improvement of the PCC that facilitates the individual's personal and professional growth (Carvalho & Almeida, 2020). It follows then that the product of these types of thoughts is essential in the training of students since it strengthens the innate entrepreneurs to challenge a rapidly changing and complex society.

On the other hand, Maturana and Lombo (2020), regarding the development of critical thinking (CP) skills and cognition needs, conclude that it is essential to provide Colombian students with a conducive environment. This provokes a state of mind that allows them to face the challenge or school challenge that arises. The background and motivation will facilitate the development of critical thinking skills (Arias, 2019).

Along the same lines, Correa et al. (2019), in their research on the acquisition of critical thinking in first-year middle school students from Chillán, Chile, concluded that the levels found on the development of the PCC are as expected. Therefore, it stands out that emphasis should be placed on pedagogical work, the development of critical thinking considering the cognitive-emotional components due to the relationship between them.

On the other hand, Salazar and Cabrera (2020) investigated the application of didactic strategies to strengthen critical thinking in students of an elementary school in Chiclayo. They highlight that to mitigate the deficiencies found. It is essential to consider training in specific strategies at the level of teachers as a relevant axis. Achieve an ideal professional profile according to the needs that the current world demands.

The observation made to the first and second-grade students has made it possible to point out that they show problems in developing the PCC. The manifestations shown are poor analytical, reflective and critical capacity. Likewise, they offer the limited argumentative ability to defend positions and elaborate academic works lacking originality. The causes of this problem are centered on teaching practices aimed at dogmatic learning, mechanical reading practices without understanding, analyzing, or reflecting on what is read, and the influence of individual and collective beliefs.

If the problem raised is not resolved or there are no solutions, then the students will have difficulties facing a globalized and highly competitive world. They translated issues in the resolution of complex problems, decision-making, analytical capacity, and the emission of opinions and critical judgments. Similarly, lack of ability to face the problems with creativity, little generation and elaboration of ideas, and creative transfer.

Once the deficiencies have been identified, appropriate intervention is required to solve them. It is essential for this, the knowledge of reality and the theoretical contribution related to the study variables that ensure scientific rigor and justify the investigation. Due to these considerations, the research objective was to design a program of reading strategies oriented to the development of the PCC in the students of the VI cycle of the educational institution Diego Ferré Sosa de Monsefú, to face the difficulties encountered in the development of these types of thinking.

2. METHOD

2.1. Research type and design

The research carried out is of a primary type because it has not changed the participating subjects. However, it does contribute to the increase in knowledge that serves as the basis for another research. Likewise, it responds to the quantitative methodological approach since the data collected was analyzed through statistical processes (Ñaupas et al., 2018). In the same way, it corresponds to the propositional level because it is oriented to the design of a program constituted in a proposal. It considers actions to solve specific problems (Estela, 2020).

2.2. variables

Independent variable: Reading strategies.

Dependent variable: Critical and creative thinking.

2.3. Population, sample sampling

The population consisted of 308 students from the first and second grades of secondary education at the Diego Ferré Sosa de Monsefú educational institution, as evidenced in table 1. The population is the totality of elements subject to research that share characteristics (Hernández et al., 2014).

Table 1

Distribution of the number of students of the educational institution Diego Ferré Sosa-Monsefú.

Participants	Degree of studies	Section	Men	Women	Total
Students	First	A	17	13	30
		B	16	15	31
		C	14	15	29
		D	17	11	28
		E	16	13	29
	Second	A	17	15	32
		B	16	16	32
		C	17	15	32
		D	16	16	32
		E	18	15	33
Total		10	166	148	314

Note: I.E. Diego Ferré Sosa de Monsefú-2021.

The sample consisted of 137 students from the first and second grades of secondary education. It was determined by applying the sample size formula (illustration 1) with a margin of error of 5% and a confidence level of 95%. The sample is a subgroup of the universe of the population made up of 308 students who share common characteristics (Fernandez & Baptista, 2014).

Illustration 1

Formula to calculate sample size

N =	308		
Confianza =	95%	==>	Z = 1.960
p =	0.2	==>	q = 0.8
error max =	5%		
$n = \frac{N * Z_a^2 * p * q}{d^2 * (N - 1) + Z_a^2 * p * q}$			
n =	136.96731		
Redondeando			
n =	137		

César Muñoz; Aurelio Ruiz



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Where:

n = sample size

N = population size

p = probability of success

q = probability of failure

Z = desired confidence level

d = acceptable limit of sampling error

The students participating in the research were determined using the simple random technique (Otzen & Manterola, 2017). For this, the payrolls of each of the first and second-grade studies sections were available. Previously, it had been determined to have 14 students from each team, using Ms Excel 2019 and the respective payroll.

2.4. Data collection techniques and instruments

In the investigation, the survey technique was applied through a questionnaire on critical and creative thinking development. Separate questionnaires were developed and administered to students for each thought. In the structure of the questionnaire, items related to the dimensions of each of the studies were considered. These were aimed at achieving the previously established research objectives. Therefore, the questionnaire is an instrument that allows collecting the amount of data necessary to meet the stated goals (Muñoz, 2015).

A questionnaire on reading strategies was also applied to the teachers who made up the study population to collect additional information that contributed to the design of the reading strategies program. The technique used in collecting data through clear and coherent questions guarantees and facilitates the analysis of the collected information (Cabezas et al., 2018).

The content validity of the instruments of this research was carried out through the judgment of five experts whose data were processed with Aiken's V , taking into account the criteria of clarity, coherence, sufficiency, belonging, and relevance (Escobar & Cuervo, 2008; Galicia et al., 2017). A coefficient equal to 0.95 was obtained in the questionnaire on critical thinking. In the questionnaire on creative thinking, 0.96 was obtained, specifying an excellent concordance in the two instruments; therefore, the instruments are applicable.

Likewise, the reading strategies program was validated by five experts who used the observation sheet for this purpose. They indicated their unanimous agreement both in the design and in its applicability. Likewise, after applying the content validity coefficient (CVC), a score of 0.96 was obtained both in the individual assessment of each expert and in the total of them. The rating was excellent, which requires the proposal's acceptance, consistency, and specificity.

The reliability of the research instruments was determined by running a pilot test with fifteen students who shared the same characteristics but who were not part of the study sample. The data obtained were processed by applying the Cronbach's Alpha method. The result for the two instruments used was 0.80, which indicates an excellent reliability coefficient, therefore, applicability to the study sample (Ñaupas et al., 2018).

2.5. Procedures

César Muñoz; Aurelio Ruiz



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One of the information collection procedures consisted of establishing contact with the members of the study sample. Then, through informed consent, they were asked to participate in the development of the research instruments. To send the invitation, the online system was used through Zoom and WhatsApp on specific dates and times. The corresponding support was received, which made it possible to obtain the required data.

Likewise, coordination was carried out with the management of the educational institution Diego Ferré Sosa de Monsefú. With these negotiations, the corresponding authorization and support was obtained to carry out the research with the participation of students and teachers. To collect the information, the databases with digital bibliography were reviewed, fundamentally obtained from scientific articles from Scopus, Ebsco, ProQuest, Eric, as well as from the Google Scholar search engine.

Data analysis method

The data that was collected through the administration of the research instruments were previously processed. For this, the SPSS v26 program was used, taking into account descriptive statistics through measures of central tendency and dispersion, deriving from statistical tables. In this way, a set of data was examined, which allowed the subsequent elaboration of the conclusions of the investigation.

3. RESULTS

The results presented below are the product of the analysis that allows the problem variable to be evidenced through the application of instruments that measured the level of critical and creative thinking development, whose findings are presented below:

Table 2

Critical Thinking Levels of Students.

Levels	Frequency	Percentage
Under	3	2,2
Medium	63	46,0
High	71	51,8
Total	137	100,0

Note. Preparation according to instrument

According to the results of the analysis shown in the table 2, it was obtained that 51.82% of the students require a high level in terms of critical thinking, 45.99% of the total specify a medium level. In comparison, 2.19% have a low level of critical thinking, which means that about 50% of the students show an average level of developing critical thinking. Results are consistent with the research and scientific position of Al-Hashim (2019) , who maintains that this reality is complicated if it is considered that there is a predominance of automation and scientific knowledge in today's world. Therefore, both teachers and students need to focus on developing critical thinking skills through academic activities in the classroom.

Table 3

Students' Creative Thinking Levels

Levels	f	%
Under	24	17,5
Medium	70	51,1
High	43	31,4
Total	137	100,0

Note. Preparation according to instrument

Regarding what was analyzed and as shown in the table 3, 51.09% specify a medium level in creative thinking, 31.39% have a high level, and 17.52% determine a low level concerning this level of thought. This means that more than 50% of the total students are at the average level in developing creative thinking. As support to deal with these low levels, Salazar y Cabrera (2020) state that it is essential to update teachers with specific strategies to strengthen their professional profile according to the demands of today's society.

Variable summary: critical and creative thinking

Table 4

Critical and creative thinking levels of students

Levels	f	%
Under	10	7,3
Medium	70	51,1
High	57	41,6
Total	137	100,0

Note. Preparation according to instrument

According to what was analyzed in table 4, it is observed that 51.09% of the students require a medium level in terms of critical and creative thinking, 41.61% require a high level, and only 7.3% low level. The summary shows that more than 50% of all students are at the average critical and creative thinking level. Results consistent with Dos Santos y Souza (2015) who state that to reverse this situation, teachers' responsibility must be considered since they are the ones who make it possible for a training strategy to achieve what is expected. And if the teacher is prepared to apply them, this achievement is enhanced (Ossa et al., 2018).

Table 5

Levels of reading strategies in teachers

Levels	f	%
Under	4	66,7
Medium	1	16,7
High	1	16,7

Total	6	100,0
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Note. Preparation according to instrument

Analyzing the results concerning the teachers, the table 5 show that 66.67% have a low level concerning their deployment with the reading strategies, 16.67% require a medium level, and in the same percentage, 16.67% require a high level, which means that there is a high percentage of teachers who do not develop reading strategies in class. Consequently, they do not encourage or motivate the development of the reading process. Nor does it encourage creativity or the result of critical thinking. This coincides with Prendes and Cerdán (2020), who determined that, due to this, didactic metacognitive strategies should be implemented to improve reading competence, especially the inferential level.

4. DISCUSSION

Obtained the results concerning the outlined research objectives. It is pertinent to compare them with those of other authors. These were part of reference studies or research works that served as theoretical foundations to govern the study guidelines. The comparison of realities, strategies, and different actors allowed to specify the level of contribution, certainty, and specificity. Next, the discussion of the present study is presented.

Ausubel's theory of meaningful learning is used as theoretical support to support the main objective. The analysis of this learning occurs within the framework of the knowledge accumulated by the students with a high level of importance. The conceptual organization of the companions to connect innovative information with the knowledge accumulated in their educational process is elementary. In the same way, the active participation of students is essential to incorporate new knowledge into their existing conceptual frameworks.

The cognitive domain encompasses conceptual knowledge and reasoning abilities. The affective domain encompasses attitudes and motivation toward learning. Likewise, the psychomotor field contains motor skills. Each of these areas is necessary for meaningful learning. Therefore, a significant learning experience must address all three domains.

In addition, the proposal is based on Vygotsky's sociocultural theory (1979, citado por Martínez, 1999) considered an essential link for existing models of learning and development due to its multidimensional approach. This approach pays special attention to change's cognitive, affective, social, and contextual aspects. With this learning, the program focuses on examining the concept of social mediation in teacher professional development. In this sense, a wide range of tools available to teachers is required. The use of these elements and the process discusses the implications of the concepts raised for designing and implementing teacher professional development in the workplace.

On the other hand, the program is also based on the complex thought theory of Morín (1995, citado por Uribe, 2009). The principles of this theory are based on the current view of evolution and self-organization of complex systems, commonly known as synergetics. Transdisciplinary, holistic, and human-centered principles are essential. The Spatio-temporal definition of the builders of the structure of evolution also plays a leading role. Resonant influences and smooth, nonlinear handling are vital concepts that contribute to systems analysis and necessary educational and cognitive change.

In carrying out critical parallelism, the theoretical support of the program is by what was specified by Freire (2000) , who identified that intervention programs include activities of interaction, dialogue, and cooperation, with all possible resources, analog or digital. The consistent application of formative evaluation techniques. He also considers the proposal of new objectives and the strengthening of those that are being worked on. It also facilitates the development of learning expectations, critical thinking, and creativity.

This program proposes learning determined by the environment or context in which it also includes the existence of evolutionary changes that influence the human being and of a sociocultural nature. Furthermore, from what was specified by Guerra (2020) , the interaction between adults and students enhances the zone of proximal development. Therefore, teachers must consider the level of knowledge, the style, and the pace of learning.

From another perspective, as cited Delabra and Romero (2021) the sociocultural theory emphasizes social relations to design interactive strategies that promote development zones. All the specific points mentioned above follow the program's structure for its value to the student-teacher relationship. It is also crucial to strengthen skills regarding innovation, which empowers internally and generates specific motivation for their learning.

The process that governed the investigation has as a starting point to diagnose the hard reality observed (Morocho et al., 2019). According to what was found, problems are shown in developing critical and creative thinking in students. Consequently, reading techniques must be integrated into a curriculum with theoretical, methodological, philosophical, and axiological support. It also supports initiatives that help students develop critical and creative thinking skills. This idea organizes and integrates the relevant information in a graphic scheme that the students can understand and apply amid their pedagogical activities.

The reading strategies program is a pedagogical approach designed to address the challenges involved in developing critical and creative thinking. Its use will allow teachers to educate children comprehensively, turning them into critical thinkers capable of defending their opinions on complex issues. Likewise, it will enable the creation of original academic works to enhance the competence of literary production. According to , just what is read is understood, but its content must also be related to the context and what this implies. Therefore, the principle is considered in the program because it strengthens reading and its use to develop critical and creative thinking.

The reading training seeks to confirm that the elements of the process build innovative ideas in the student and that they add to their learning process. According to the point of view of Gallego et al. (2019) it is possible to advance, build, associate, create records with the accumulated knowledge and make a critical judgment after understanding the text. However, according to Flores (2016) , one of the benefits of reading is the construction of cognitive skills based on problem-solving, hypothesis formulation, verification, and the formation of conclusions. Consequently, reading is a fundamental tool to face the challenges of today's society. This position goes beyond reading comprehension since it generates new alterations that allow the environment to be transformed for the student's benefit as the leading actor of the program.

The present study for its realization had specific objectives in correspondence with the general purpose. It presents a logical sequence in its solution since, in the first place, it was sought to diagnose the level of

development of critical and creative thinking in the students participating in the research. As analyzed, 51.09% of the students require a medium level in critical-creative review, 41.61% require a high level, and only 7.3% a low level.

In support of the result, Carvalho and Almeida (2020) confirmed that educational institutions should explore ways to help students develop skills and abilities to deal with current difficulties. This ensures that critical and creative thinking helps personal and professional progress. Consequently, students need to build these thinking skills to support their educational evolution.

The specific analysis indicates that 51.82% of the students specify a high level, 45.99% of the total set a medium level, and 2.19% have a low level regarding critical thinking. According to Al-Hashim (2019) , the scientific position maintains that the current world is a reality in which automation and scientific knowledge predominate. Therefore, both instructors, trainers, and students need to develop critical thinking skills through academic activities.

On the other hand, Maturana and Lombo (2020) predispose that students should be provided with a favorable environment that provokes a state of mind that allows them to face the school challenges presented to them. In the same way, this environment will facilitate the development of critical thinking skills to achieve school success in correspondence with what was specified by Correa et al. (2019) , who expressed that the levels of development of this type of contextualized thinking are consistent with the proposed expectations. In this sense, the association between metacognition and the motivation to think critically demonstrates the importance of including these cognitive-emotional components in promoting critical thinking.

Regarding what was analyzed regarding the students, 51.09% specified a medium level in creative thinking, 31.39% had a high level, and 17.52% specified a low level concerning this level of thought. As support to counteract the quantity at the low level, Salazar and Cabrera (2020) predispose that to mitigate the deficiencies found. It is essential to consider training in specific strategies at the level of teachers as a relevant axis. This will allow achieving an ideal professional profile according to the current world's needs.

It is worth highlighting the structure of creative thinking, which is why, according to López (2017) a person is creative when they can solve difficulties, generate new knowledge or learning paths, which are initially considered unusual and are later used in the education. For their part, Dos Santos and Souza (2015) affirm that the teacher's presence is an incident factor for any training strategy to achieve what is expected.

However, it is even more powerful when the teacher has the necessary skills to execute the strategy, both to carry them out and transmit them. Furthermore, Lasky and Yoon (2020) agree that the cognitive approach to creativity promotes a social climate with numerous options for students to choose from. This environment goes hand in hand with innovative elements, increasing curiosity, inventiveness, and understanding, making it easier to internalize the learning strategy.

What stands out most about the descriptive analysis is that teachers do not encourage and motivate their students to follow the stages of the reading process. They never give them enough time to go through all the process steps. As a result, their creativity and critical thinking skills are not encouraged, nor do they develop an argument

to define the structure of their reading. This coincides with Amiama and Mayor (2018) , who determined that didactic strategies based on metacognition should be implemented to improve the inferential level of reading specifically. Based on this, the guidelines of the proposed program seek to improve the teaching practices of reading skills. The most fundamental alternative practical approach is used when considering the process-oriented approach.

For their part, Mego and Saldaña (2021) state that reading helps people develop cognitive skills that will allow them to recognize, relate, deduce, and generalize the information received. This will enable students to enhance their ability to solve problems, make decisions, and put critical and reflective thinking into practice. However, to achieve these benefits, Zanotto (2016) expresses that it is necessary to relate reading strategies to the student's subjects to contextualize them. In this way, he will apply them to the various areas of knowledge that he needs to address.

As a second specific objective, it was proposed to develop a program of reading strategies, leading to the development of critical and creative thinking in the educational institution's students that make up the study sample. The analysis of the results concerning teachers, 66.67% have a low level regarding their deployment with reading strategies, 16.67% require a medium level, and in the same percentage, 16.67% require a high level.

It was essential to recognize, in the first place, the role and meaning of reading, according to Freire (2000). With the proposed program, we seek to outline a process that improves a social context. It is pertinent to clarify a diagnosis so that the students' abilities while reading are understandable. The more you read, the more likely it is that you will understand more complicated writing that will add more experience. The point is that their instructors and trainers lack the facility, expertise, and elements to organize and execute strategies focused on this aspect in detail.

Depending on the level of reasoning and analysis in reading, although the scientific knowledge of struggling readers may coincide with that of good readers, the association between performance and reading comprehension is significantly influenced by specific characteristics of the text. Among them are the syntax or the number of words in a piece of writing, which reveals a variation in the difficulty of the items when the linguistic characteristics are changed. Previous knowledge and the socio-cultural context of the reader are also considered necessary (Amiama & Mayor, 2018). In agreement with the earlier authors, Zárate (2019) adds that critical literacy allows students to face challenging tasks and deeply develop thought and reflection. They will identify ideologies and the way of seeing the world of the authors through the texts.

In the analysis of the level of questioning according to the results, the obstacles to reading fluency are mainly caused by the automation in the reading of words recognizable at first sight. This reading practice leads to poor command of decoding skills. Deficits in word recognition, in turn, pose a significant challenge to reading comprehension. In general, students with learning barriers resort to the non-lexical route because they have difficulties storing information correctly and consequently experience clumsiness. However, it is essential to consider that these difficulties have their intersection point is the motivation for reading those teachers do not promote. In that sense, the proposed plan directly contains the intention to contribute to that end.

Accompanied to the previous analysis by Pérez et al. (2019) , it can be said that, to develop an excellent critical and active reader, the reading processes must be habitual and flexible from the first years of life. Likewise, reading strategies must consider these three didactic moments: before, during, and after reading. However, Yana et al. (2019) specify that to understand a text significantly, it is essential to consider the strategies to be used and how to apply them. The development of these cognitive activities and the gradualness of their application allows the reader to understand what he reads.

In the analysis of the level of evaluation of reading, it is inferred that a branch of comprehension focuses on the complex interaction of the cognitive processes involved. These processes are capable of schematizing the student's training. Most problem-solving models assume that the most critical steps are constructing a mental representation of the problem situation and its execution in a contextual model based on the studied curriculum. Thus, the entire construction process is centered on a position whose objective is to promote self-assessment from the student so that he knows his evolution promptly.

When making a panoramic comparison with Solé (2016) position, independent reading allows students to read at their own pace, coherently articulate their purposes, and evaluate the strategies' effectiveness throughout the learning process. This independence will enable students to choose and read texts according to their personal goals. A critical part of the process is identifying errors and gaps in understanding that must be avoided at all costs. This position allows the student's evolution to be detected in time with his assessment instead of the part of the trainer. It is precisely there where the efficiency of the process and the proper management of the resources or didactic elements are guaranteed.

The difficulties in terms of the level of positioning encountered are due to not having a support protocol in case of failures or little understanding of the strategy's guidelines. Very few times, the information is precise as objective, which causes the phases of the processes to be irrelevant. Therefore, the student is not motivated or contextualized to make inferences about reading. This hurts their reading skills. Consequently, it is difficult for them to practice the processes and strategies learned. This causes that the role assumed in the reading is unclear, whether a part of only receiving information or inventiveness to recreate a new context.

Given the above, the reading strategies program is also based on maieutic based on what was specified by De la Fuente (2017) where he states that these tactics use the Socratic method. This question-based methodology guides students to discover explicit or implicit concepts from the readings. Its application increases the effectiveness of teaching by creating activities that facilitate learning and the implementation of critical thinking.

Another of the fundamentals on which the reading strategies program is based is dialectics. According to her concept, Arcila (2020) states that, given the nature of language and the dialogical link between the reader and the text, it is proposed that ideas are confronted through dialogues in which reasoning is built and strengthened to hold a particular posture. Given this, the program has two basic foundations that provide analysis and feedback options to improve the defense of a position with solid arguments.

According to the results, the student's level of performance lacks interest in the search for new arguments, so it is difficult for them to gather information about the phenomenon to be analyzed, and it is not possible to successfully contextualize the problem to be solved. Given this, it is not possible to correctly determine the

answers to the filter questions of the process. Based on the identification of problems, it was found that there were facilities to synthesize arguments, and the level of concern was very high, generally due to the sensitivity of the student when dealing with a specific topic. This specifies the difficulty of detecting details, the possibility of monotony in the process, and the emotional wear and tear of doing the same thing without seeking new ways of interaction and knowledge.

From the previous analysis, we have the constructive contribution of Lasky and Yoon (2020) They defend that it is the teacher's responsibility to promote creativity since it is the best way to manage student stress and stimulate their learning through creative processes. These processes must involve the interaction of numerous cognitive, environmental, cultural, and personal variables. In this sense, creativity should be studied as a systemizing process. According to Suárez and Wechsler (2019) , creativity is the implementation of original, innovative ideas and the production of fresh and different ideas by students. This is what is aspired to with the proposed innovative model, built based on the critical points established by the student's situational diagnosis.

Concerning the objective of validating the program of strategies, the proposal was assessed according to the perspective of experts, based on the investigation of the situational diagnosis of the school understudy. According to their assessment, the program meets the expectations of being an effective practice program. Furthermore, from the statistical analysis developed, the content assessment coefficient (CVC) requires a score of 0.956. Therefore, according to the assessment scale, it is excellent, which requires the acceptance, consistency, and specificity of the proposal based on the current context of the educational institution.

Based on the validation model, the proposal is qualified as very good, which guarantees its applicability and implementation structurally and functionally for the educational institution, where the main objective is to structure a training role for the student during their stay in the school, provide tools, skills, and competencies to strengthen their critical-creative thinking; On the part of the teacher, the formative role of him is specified, providing him with elements, strategies, and tools that seek to improve him professionally in the assigned educational functions.

5. CONCLUSIONS

The level of development of critical thinking in the students who participated in this research was diagnosed. Being the most outstanding of the diagnosis, almost half of the students surveyed are in the middle level with 45.99% of the total sample because it allows identifying the reality in which the students are concerning the development of critical thinking.

The level of development of creative thinking of the students participating in this study was examined. It was found that the most important thing about this exam was that more than half of the students were at the average level with 51.09%. At the same time, only 31.9 have a high level, and 17.52 show a low level. What allows identifying the reality in which students find themselves concerning the development of creative thinking.

A program of reading strategies was designed, oriented to developing critical and creative thinking in the students of the educational institution that were part of the research. The most significant thing about the development of the strategies program is that it is based on a philosophical framework, with axiological and epistemological

foundations and a pedagogical framework with educational principles and approaches because it will allow the strengthening of higher-order skills through the development of critical thinking and creativity.

The reading strategies program aimed at developing critical and creative thinking was validated through expert judgment. The most relevant aspect of the validation of the strategy program was that the validating professionals issued a verdict declaring that the program can be applied as it is with an excellent rating due to the concordance and specificity of the proposal.

The lines of work of this research could be expanded and complemented with other experiences. For this reason, it is expected that the contribution of this research will contribute to promoting further research related to the development of critical and creative thinking, due to the importance of its relationship with all disciplines of human activity, especially with education. Furthermore, this will allow the identification and proposal of strategies that provide students with the necessary tools to face the obstacles and challenges of this competitive world wisely.

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Rol de los autores / Authors Roles:

César Muñoz: conceptualización, curación de datos, análisis formal, adquisición de fondos, investigación, metodología, administración del proyecto, recursos, software, supervisión, validación, visualización, escritura - preparación del borrador original, escritura - revisar & edición.

Aurelio Ruiz: conceptualización, análisis formal, investigación, metodología, administración del proyecto, recursos, software, supervisión, validación, visualización, escritura - preparación del borrador original, escritura - revisar & edición.

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