

## Critical Thinking in Educational Context: A Systematic Review

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### ABSTRACT

Critical thinking has been a field of great need within society, so preparing the citizens of the XXI century is very important that it is promoted in the educational context, although the educational practices of critical thinking have gradually increased in university education centers they resort to being desires implicitly, unintentionally and of short duration, devaluing the development of this ability of higher thinking. This research aims to determine the contributions based on scientific research on the development of critical thinking in the educational context during the period from 2017 to 2020. It is quantitative, retrospective and bibliometric design; the sample is of 26 scientific articles published in journals indexed and verified in the Scimago Journal and Country Rank ranking, selected from the academic database SCOPUS, EBSCO, Academic one life and Eric, performing the search by descriptor terms and synonyms selected from Eric and UNESCO thesauri: Thinking, critical thinking, education, with the Boolean operators "AND" to exclude and "OR" include, likewise the quality standards of the PRISMA flowchart were considered for systematic reviews. A search was made with analysis criteria such as: code, authors who investigate, methodology used, concepts, conclusions and the journal that publishes the articles. It is concluded that the majority used the qualitative approach of interpretative documentary type and followed the mixed type of action and experimental research, detecting that most do not require the design, concluding that the development of critical thinking is achieved with strategies according to the level of studies.

**Keywords:** Thinking, critical thinking, student, education.

### INTRODUCTION

Critical thinking becomes one of the four competences necessary today, because it allows to prepare the citizens of the XXI century, in this scenario, must pass, from secondary actor to protagonist. It is considered an inescapable necessity for any educational action. In this sense, critical capacities and attitudes represent a fundamental role in the project of analyzing and mastering the large amount of information that characterizes the current social context. The development of critical thinking is a first-class educational purpose, however, in our educational system it is not sufficiently encouraged. Teaching practices are still reluctant to practice active teaching. In this context, (Gómez and De La Herrán, 2018) point out that there is a need for learning in students of different educational levels, that is, "The development of critical thinking", so that our students are competent and can perform in any context.

Thought originates and is built in the self, based on the accumulated and created experience; being the result of thinking, innovating, creating and allowing to spread culture (Posso and Montoya, 2017). When a social group perceives reality and reflects on its actions, its vision, its culture and the

institutions are generating ideas, these are cohesive, which leads to be built in thought of some aspect treated (Guadarrama, 2019). When working with students, one should consider skills such as levels of attention and concentration, contribute ideas and establish logical relationships, make synthesis and generalizations; all this implies adopting certain styles of thought (Reyes et al., 2018). "Thought is the idea or ideas that the person has" (Núñez et al., 2020, p.38).

The critical expression seems in the philosophical field and goes to the educational field as "critical pedagogy", in 1922, in Germany it is founded in the University of Frankfurt, represented by Kurt Albert, an organization that founds the "critical theory" whose discourse encloses libertarian, humanist, democratic principles to face a complex, pluralistic and disembodied society (Durán, 2018). Philosophically, he asserts that society does not move in a mechanical, capitalist, inhumane way; rather there is protest against that order to banish the mechanical and promote self-determination, with autonomous and free human decision-making actions (Horkheimer, 2003, as quoted in Ruffini, 2017). Talk about criticism is to give points of view from different perspectives on a topic or aspect to be treated, if it is taken to the educational field, critical education awareness, liberates, emancipates (Ernesto et al., 2020).

Critical thinking in the ontological has its origin in philosophy, because criticism is philosophical reflection; Socratic and Platonic ideas are rationalist in style. Subsequently, Descartes gives his position that critical thinking is an innate quality of the human being (Rodríguez, 2018). In the philosophy initiated by Socrates, the thought of questions was already practiced, through his method the mayeutics, dialogue was made by putting critically to judgment and doubt what is known (Bezanilla et al., 2018). For the educational field, Dewey (1910) promoted reflective thinking, currently the curricula of the world are incorporating knowledge, attitudes and skills that promote critical thinking (Mena, 2020). This cyclical process of thought when it reaches a conclusion, is said to be reflective or critical, because it generates a new idea and reason for new reflections.

There are different definitions of critical thinking, they conceive that critical thinking is a process that includes levels of development, so it is essential to have a model of organization of this type of thinking, to be able to adapt it to the maturity of children, thus, the teacher will look at critical thinking with its real dimension and can apply the coherent strategy for teaching-learning (Bezanilla et al., 2018).

Critical thinking, is a judgment with wisdom, is acting rationally and logically, making it sharpen certain cognitive skills, such as reasoning to what seems fair or not, arguing your point of view and reflecting on what you learn or do, evaluating, interpreting, analyzing criteria to reach a certain conclusion, or problem solving (Facione, 2017). It is a process of analyzing and evaluating thought to improve it, starting from knowing the basic elements and then the intellectuals of the best level that allows to restructure it by doing analysis and evaluation (Elder and Paul, 2005). It is a set of aptitudes and abilities that allows the person using reflection and rationality to make decisions about what to do and what to believe in (Gaete, 2019). Critical thinking is defined as: "the intellectually disciplined process of conceptualizing, applying, analyzing, synthesizing, and/or evaluating, in an active and dexterous manner, information gathered from, or generated by, experience, reflection, reasoning, or communication, as a guide to belief and action" (Elder and Paul, 1994, as quoted in Lévano, 2020, p. 78).

Other studies suggest that critical thinking has two dimensions, the substantive one that comprises reasons and evidence to support divergent points of view (Silva, 2019). It is constituted from two dimensions, the first is domain of action that are observed as specific actions, the second is textual typology, as for the first are 5: application of informal logic, problem solving in the sciences, problem solving in citizen life, understanding and creation of media content, metacognition; the second dimension comprises textual typology, which is marked by 5 categories: narration, description, explanation, argumentation and dialogue (Mena, 2020). A good level of critical thinking is observed in a person when "whose decisions are based on arguments, who is more able to understand different contexts, to relate better to others and to make a more authentic contribution to society" (Campos, 2007, as quoted in Meneses et al., 2018, p. 32). Student is synonymous with student, comes from the Latin *alumnus*, is the individual who learns from other people, being educated; the terms student, disciple, student, apprentice refer to the same thing (Toapanta et al., 2019). The student is the one who participates in his formation, a process by which he begins to responsibly direct his own constitution as a human being; thus it will reach self-formation, cultivation and self-formation (Loaiza et al., 2019).

In today's school life, when students act democratically, they are regarded as the center of the school's attention, they feel that the facilities belong to them, they feel important and valued and they view with good judgment the participation of parents (Perines and Hidalgo, 2018). They are organized according to criteria of each country, in Peru in regular basic education and higher education (Vargas et al., 2020). Education is a human and cultural process; they maintain an intrinsic relationship with the condition and nature of man and culture as a whole; it establishes the link between the being of education and the existence of man. Nowadays, Education must be demanding, from the point of view that the subject must do more of his part to learn and develop his full potential (Navarro, 2004: 4, as quoted in Ortega y Fernández, 2014). It usually focuses on the productive aspects of the workplace, it is necessary to claim the value of the dual field "philosophy-education" more than ever, because "education must be attended as a way of forming a person, learning to live as an intelligent, creative, free and conscious individual" (Armendáriz, 2004 p. 69, as quoted in Pallar, 2016).

In education, norms, rules, even physical limitations are fundamental because they are an essential part of reality and the human condition, rules not only order or regulate from the outside a human activity, but also operate from the root of it that arises as an expression of the peculiar rationality of the human being and his way of being in the world (Reyero and Gil, 2019). In the current context it is focused on competences, very positive that allow to achieve good results; however, education in virtues is rich, it has been given since before, important because it perfects man in intelligence, will and affectivity making more integral in all dimensions of the human being (Herrera, 2020). Finally, we can say that it is a necessity that in the educational context that the development of critical thinking is promoted in students of any context, that the educational authorities and teachers, update their role as facilitators in the teaching of learning based on this level of higher thought. Most of the authors reviewed so far argue that critical thinking develops capabilities for problem solving in any situation or context and for understanding their nature" (Pacheco, 2019). The Ministry of Education since 2017 proposed in the evaluation of teaching performance to evaluate the Rubric: Promotes reasoning, creativity and / or critical thinking. In this sense, the objective of this research is to

determine the contributions based on scientific research on the development of critical thinking in the educational context during the period from 2017 to 2020.

## **METHODOLOGY**

The research was of quantitative, retrospective, bibliometric design, not experimental approach. For the collection of information, we opted for comprehensive reading under an analytical logic, taking into account the databases Scopus, Ebsco, Academic Onefile and Eric. It started with a general search and then opted for the advanced search making use of the descriptor words "Thought", "critical thinking", "education" using the Boolean operators "AND" whose function is to show only results that contain the search terms indicated; this operator was used to reduce the number of items obtained in the search for each of the selected bases; "OR" displays results that contain at least one of the terms, to give the search a logical order (Gutiérrez and Serrano, 2018).

Likewise, the quality standards of the PRISMA flowchart were considered for systematic reviews, a tool designed for the sole purpose of improving and clarifying the publications (Urrútia and Bonfil, 2010). in this way the legitimacy of the information is guaranteed with scientific rigor that allows the selection of articles that meet the inclusion criteria, taking into account the relevance, open access, language, topic and taking into account the period of years between 2017 and 2020.

## **RESULTS**

The flowchart of the prism (Figure 1), allowed to exclude research files from a total of identified a number of 7559 articles, with criteria of elimination by eligibility of the required information, by duplication, that is to say that they are located in several databases, by evaluation of title and summary, articles excluded after the evaluation to full text, eliminated by not being scientific article, selecting with the name of the variables in study "Development of critical thinking in the students of the educational context"; forming the database of 50 for the respective systematic review for comparative analysis (Caicedo, 2019). Finally, the selection of quality of the articles according to the criteria established in the CEBMa tool, was considered 50 % plus 1 of the criteria in majority, equivalent to 26 articles.

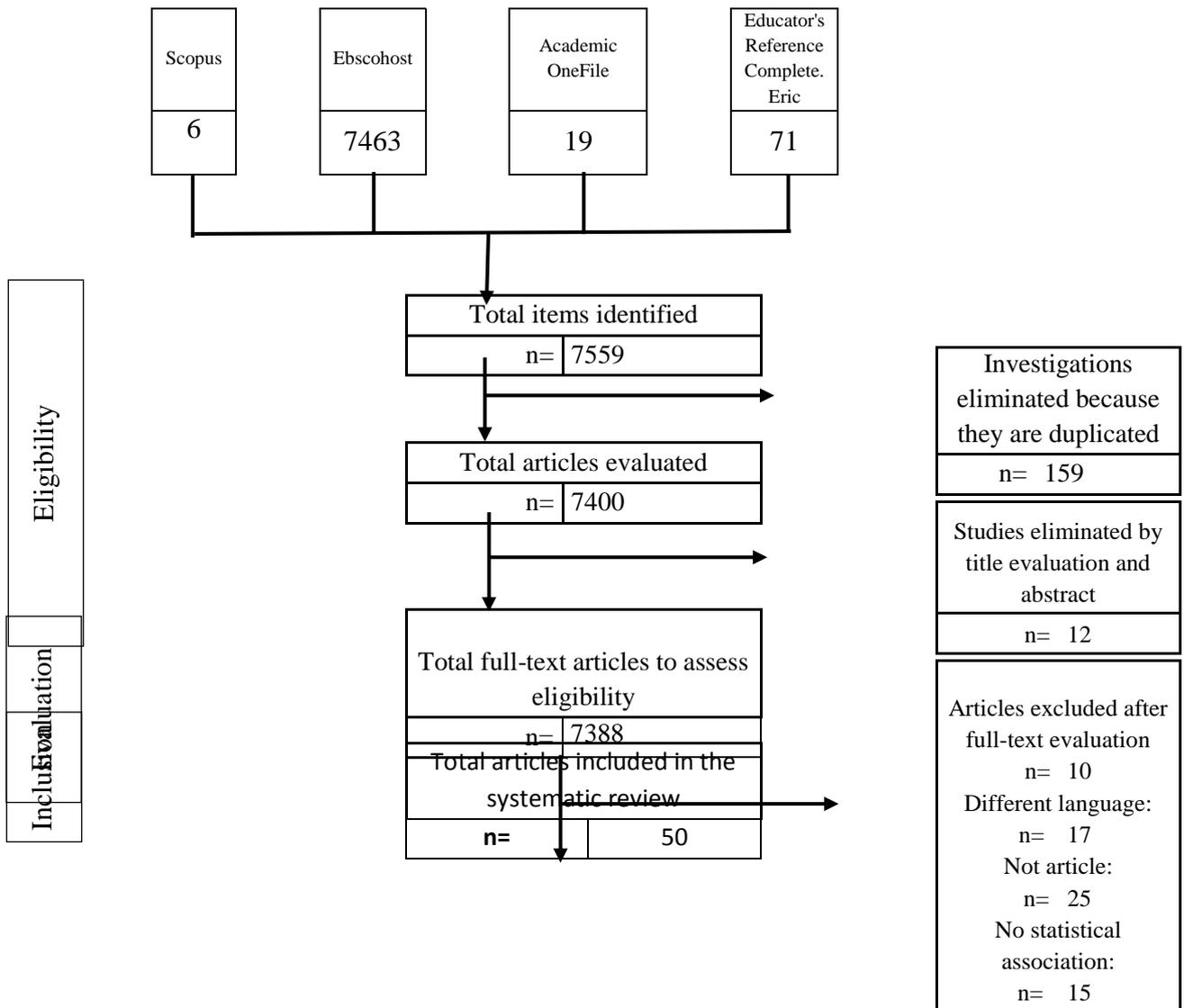


Figure 1. Prism diagram.

Table 1. Conceptual analysis of creole thought.

Code	Author	Critical thinking
1	Susana Núñez-Lopez; José-Enrique Olivares; Palet, Silvia-Lizett Olivares (2017).	Critical thinking (PC) goes beyond Bloom's taxonomy in the following cognitive skills: infers the consequences of decisions, argumentation with explanation, self-regulation of learning.
2	Palacios-Mena, N.; Chaves-Contreras, L.Y. y Martín-Moreno, W. A. (2020).	Of historical thought, it is said that, in learning activities as evaluation processes, it is pertinent to incorporate knowledge of the first and second order (first = knowledge, second = historical interpretations), in historical interpretations critical thinking (PC) is given, by the elements contained in

		this learning competence.
3	Martínez, P., Ballester, J. e Ibarra, N. (2018).	Critical thinking manifests itself in one's own thinking, it is one's own opinion in a free exhibition, it justifies and argues on the basis of a reading, its experience, its ideas and previous knowledge.
4	Cristián Silva Pacheco, (2019).	To think is to represent, this can be questioned, the representative is given in art and is questionable, which leads to critical thinking in the work of art, is conceived as representational criticism or criticism of thinking.
5	Óscar Donaldo Zorrilla Valdés, (2018).	In school, reflective and critical spaces should be promoted, linking the daily life of the child in society and in school; for this it is necessary a critical reading of the school reality, which will serve to intervene and claim it within a process of transformation.
6	María José Bezanilla Albisua; Manuel Poblete Ruiz; Donna Fernández Nogueira; Sonia Arranz Turnes, Lucía Campo Carrasco, (2018).	The PC is oriented to the understanding and resolution of problems, to evaluate alternatives and to make decisions; this implies: understanding, evaluating and resolving; it's also self-assessment, thinking about thinking, giving the right foundation and coming to conclusions.
7	Angélica María Rodríguez Ortiz, (2018).	Critical thinking is a higher-level process, its origin is in philosophy: dialectics, inquiry, irony, Socratic mayeutics, the syllogisms of formal logic and the approaches of Aristotelian ethics; later in Cartesian rationalist theory; then follows the postulates of Kant, the Hegelian and Marxist dialectics.
8	Hilda Guerrero, Shirly Polo; Judith Martinez Royert y Paola Ariza; (2018).	One of the teaching strategies is collaborative learning, the group is committed to jointly planning, monitoring and evaluating activities to learn; there is a lot of interaction and debate. This strategy is powerful to use in the development of critical thinking, because this type of thinking requires cognitive, volitional and affective processes, in addition to skills already mentioned; therefore, collaborative work if the PC allows.
9	Pamela Reyes-Santander, David Aceituno y Pablo Cáceres, (2018).	All individuals have their differences and particularities in their way of thinking, which places them in a cognitive characteristic; which leads him to define himself with his own style of thought, involves different representations and productions. Therefore, there is mathematical thinking, creative-divergent thinking, critical thinking, artistic thinking, linguistic thinking, etc. Therefore, when you are going to solve problems, you will resort to

		a certain style of thinking that one can master more than another.
10	Fredy León Díaz / Erika Duque Bedoya / Paola Escobar Ibarra, (2018).	The formulation of researchable questions in the model of teaching by inquiry. It makes it possible that the student in the area of natural sciences allows competences of "identify", "inquire" and "explain", the latter referred to build and understand arguments, representations or models to give reason to phenomena, in these phases there are sequences to build critical thinking, therefore, much depends on the questions that are formulated.
11	Ortega-Quevedo, V., & Gil, C. (2020).	The ability of the PC to have a cognitive component is in Halpern's taxonomy: verbal reasoning, argument analysis, and hypothesis testing. These capacities are allowed to be built by applying the formative evaluation model because its central axis is to improve the teaching-learning process.
12	Doris Lilia Torres Cruz, Widy Patricia Fonseca Villamil, Blanca Nieves Pineda Jaimes, (2017).	It specifies the levels of the PC, resorts to those proposed by Priestley, the first level, the literal, then goes the inferential, the third and last level is the critical. These levels are made in a teaching process, applying the principles of critical pedagogy, which becomes a pedagogical approach, in which the teacher teaches to question, analyze and interpret the reality in which they live, seeking teacher and student to assume a reflective and critical role.
13	Antonio, A., Aclé, G. y Reyes, N. G. (2020).	It is possible to develop critical thinking skills in primary school, for that you have to identify levels of performance of PC skills, so you can apply instruments in any intervention program; these skills for sixth grade are analysis, evaluation and argumentation at the inferential and critical level of assimilated information.
14	Begoña Oliveras y Neus Sanmartí, (2009).	Reading to be critical requires contextualizing and inferring the intentions of author and active construction of new knowledge. It is also critical when the reader based on his previous ideas makes interactive negotiation between the text and his beliefs or opinions, achieving a consistent and complete interpretation.
15	Laura Triviño Cabrera; Carmen Vaquero Cañestro (2019).	It is a case study, where a video clip is analyzed to develop critical, creative and social thinking in the initial training of teachers; The strategy of using images in educating is effective, even more so when they are audio-visual in technological tools,

		these should be a focus of interest to promote critical thinking in students of any educational level.
16	Claudia Patricia Cubides Ávila, Marianela Rojas Higuera, Ruth-Nayibe Cárdenas-Soler, (2017).	Critical reading seeks to form critical and purposeful citizens, Freire believes that the human being when analyzing and seeking the truth, one of the ways is with critical reading, there is a displacement of thought to social action. In critical reading there must be four phases: literal, inferential, critical, meta-understanding.
17	Sara Mariscal Vega, (2018)	In children when developing their critical thinking should be oriented to develop a form of their philosophy, it is to promote hermeneutics in the dialogue and philosophical understanding of children; thus, the relationship between students and student-teacher becomes deep and vital, making of course an active criticism of one's own culture, prejudices and assumptions. This article proposes Philosophy for Children.
18	Máster. Mariana López Victoriano, (2018).	To the students of superior when they carry out their professional practices, it is important to provide them with accompaniment that promotes their critical thinking, because it is within their formative process, when recreating their educational practice, they will reflect finding themselves, also, managing to give meaning to their practice as a teacher; throughout this process you will think critically of your performance as a class driver in your professional practice.
19	Felicita Dora Guevara Dávila, Yenifer Milagros Pérez Moreano, Dante Manuel Macazana Fernández, (2019).	The PC provides tools to internalize content and evaluate locality of internalization, there are skills and sub-skills that are located in the dimensions of: open mind, intellectual humility, freedom of thought, intellectual integrity, trust in reason, motivation and disposition.
20	Núñez, L. A., Gallardo, D. M., Aliaga, A. A. y Díaz, J. R. (2020).	Educational institutions must pursue a variety of strategies to promote critical thinking: by reading and writing texts; using active teaching aids; accompaniment and monitoring in class; formulation of problems for argumentation; induction and deduction for reasoning; decision-making strategies. The teaching community must prioritize in the teaching of different areas.
21	Daniel Albertos Gómez,	Developing critical thinking in high school students is possible by applying an intervention program, the program is designed taking into account criteria of quality, viability and evaluability with the infusion

	Agustín De la Herrán Gascón, (2018)	approach; the programme is then evaluated for improvement and to verify achievements; in the end we observe result in case study in order to understand in depth the development of process.
22	Andrea S. Taverna , Douglas L. Medin & Sandra R. Waxman (2020).	By studying children's thinking, it can be followed from the socio-ecological approach, because it allows them to understand nature, their world; this puts into practice the approach of culture as an ecosystem; that is; children make mental representations of their beliefs, values, customs, views and reflective opinions of their ecology; forming your critical thinking of your ecological context.
23	Aarón Elí Mena Araya, (2020).	In this article there is the proposal of a taxonomy to measure the development of critical thinking, proposes two dimensions, the first is the central components of critical thinking and the second gives five textual typologies as an educational means to develop the PC. It is also important that educators and producers find common spaces to create educational media that promotes the PC.
24	Lengua Cantero, C., Bernal Oviedo, G., Flórez Barboza, W. & Velandia Fera, M. (2020).	Currently technologies are used to develop the PC, because this higher order skill is very topical to have competent students, emerging technologies in education are tools, innovations, concepts and advances used for educational purposes. These give rise to artificial intelligence, as an example: Horizon Report, meet, mobile, and analytics.
25	Meneses Alba, J. X., Osorio Castañeda, K. y Rubio Quintero, A. M. (2018).	This study proposes to improve the reading comprehension of argumentative texts, understanding as argumentation to a powerful element of the PC, is to support an idea or hypotheses with logical reasoning, relying on rational criteria and general and particular axioms.
26	Carvalho DPSRP, Vitor AF, CogoALP, Bittencourt GKGD, Santos VEP, Ferreira Júnior MA, (2020).	With this study we measure the PC in general to students of superior (nursing), the instrument used for this variable is California Critical Thinking Skills Test (CCTST). As general skills are considered to analyze and interpret problems, evaluate evidence, make inferences, draw conclusions, implement interventions.

**Table2.** Analysis of critical thinking conclusions.

CODE	Author	Conclusions
1	Susana Núñez-Lopez, José-Enrique Olivares-Palet, Silvia-Lizett Olivares (2017).	According to the results obtained that answers the question of the research posed Does the ABP promote the development of the PC in undergraduate students of Nutrition of a private university? it could be said that, according to the results obtained, the study did not affect the development in a significant way; however, pc is achieved when there is active learning internalizing concepts, valuing them and self-evaluating them.
2	Palacios-Mena, N., Chaves-Contreras, L. Y. y Martin-Moreno, W. A. (2020).	As an alternative to the problem of low level of evaluation of historical thought, it is to replace simple classes, by complex units, such as didactic units or problem-based learning, starting from social problems, also rethinking the way to evaluate.
3	Martínez, P.; Ballester, J. e Ibarra, N. (2018).	The self-critical thinking shown by the experimental group is better than the control one, but it is not enough; it is also linked to divergent thinking, in the first phase the latter with diverse proposals presented to students.
4	Cristián Silva Pacheco, (2019).	The curricular programs of Chile, are designed to develop critical thinking, what is missing is coherent methodological guidelines and that these are put into practice in art education classes.
5	Óscar Donald Zorrilla Valdés, (2018).	There is a need to shorten the distance between school life and daily life, to see the student as human and sociable, therefore, there must be didactic strategies that involve the culture of the street in school activities and that, at the same time, echo the student voice (their interests, fears, experiences and knowledge) within an institution traditionally regulated by the voices of adults.
6	María José Bezanilla Albisua, Manuel Poblete Ruiz, Donna Fernández Nogueira, Sonia Arranz Turnes, Lucía Campo Carrasco, (2018).	After the analysis of the definitions have been able to determine some categories that include the different conceptions of critical thinking that teachers have and that can help. It also shows that it is essential to promote the PC in university education and in every student, it is a complex thought, seen in different ways by the teachers investigated.
7	Angélica María Rodríguez	The ontological recognition of critical thinking

	Ortiz, (2018).	requires the teacher to leave formative processes based on logical rules, to give training in social spaces, which will give situations where contextual and problematic discussions take place; thus will use mental tools to give argued solutions, reaching consensuses that transform society.
8	Hilda Guerrero; Shirly Polo; Judith Martinez Royert y Paola Ariza; (2018).	The descriptive research concludes that the teachers do not know the strategy of collaborative work in its application as it should be, rather they practice the group technique; thus, the students only meet to give themselves tasks in parts and expose, implies that there are not enough elements that the teacher gives to strengthen the skills of the PC.
9	Pamela Reyes-Santander; David Aceituno y Pablo Cáceres, (2018).	Although the vast majority of students in the sample declare integrated mathematical thinking styles (EPM) as a preference, only 19% develop according to this style in problem 1. only 56% of the sample solves problem 3 in a formal way with correct result, this is because the problem already presents iconic information explicit in its statement.
10	Fredy León Díaz;Erika Duque Bedoya;Paola Escobar Ibarra, (2018).	Quality questions mediated by reality is a strategy to promote scientific thinking, the student is led to do higher cognitive processes, it is intended that the student are critical individuals of scientific knowledge, it is convenient to ask questions that relate to age and context within the criterion of quality.
11	Ortega-Quevedo, V., y Gil, C. (2020).	It is observed, through the constructions of the students' responses, that the evaluative-communicative interactions carried out during the debate processes are the key element for the reconstruction of the students' knowledge. In addition, it is observed how these processes and conceptions allow the student body to contextualize their discourse and knowledge about energy.
12	Doris Lilia Torres Cruz, Widy Patricia Fonseca Villamil, Blanca Nieves Pineda Jaimes, (2017).	It was possible to strengthen critical thinking by working on topics related to the experience and context of the student, to the PC was added the oral argumentation strengthened based on procedures that use observation, reflection, evidence and communication. The student applied the learned, interacted and was manager of his own knowledge.
13	Antonio, A., Acle, G. y Reyes, N. G. (2020).	"The students evaluated in 6th grade do not show that they have developed the right skills to argue effectively." Consider that it is essential to equip, transmit to the student to demonstrate performances of all the skills that are involved for the

		development of the PC.
14	Begoña Oliveras y Neus Sanmartí, (2009).	It has promoted readings for critical comprehension, each reading in three criteria: (1) designed based on a questionnaire C.R.I.T.I.C. adapted from Bartz, (2) considering the three phases of the reading process, (3) then cooperative reading. It is found that they are motivated when there is connection in looking for information with their reality, they have difficulty recognizing evidence in the text that is significant.
15	Laura Triviño Cabrera, Carmen Vaquero Cañestro, (2019).	Currently educators and learners live in the rise of ICTs, they must appropriate technologies for the internalization of learning, audiovisual strategies in teaching can be interpreted and thought critically, as well as produce critical texts (argumentative), being a challenge for teachers of this time.
16	Claudia Patricia Cubides Ávila, Marianela Rojas Higuera, Ruth-Nayibe Cárdenas-Soler, (2017).	Preference should be given to metacognitive activities, such as: abstraction, analysis, synthesis, induction of inference, comparison and association; consider that critical reading is an understanding at a high level, so the reader can raise new theories or reaffirm existing ones, for this purpose it is necessary to have a variety of textual typology and educational materials.
17	Sara Mariscal Vega, (2018)	Fundamentally, children must be educated in criticism, that this is a supreme value in an inclusive, pluralistic, responsible and committed citizenry. Schools must use criticism as the axis of learning. Also be aware that peace education must be framed by opening dialogue to recognize the reasons for cultural prejudices.
18	Máster. Mariana López Victoriano, (2018).	It is a pedagogical research that consists of how to give the accompaniment to the student in his professional practice, since there is the current that the PC is a priority to develop in all students and from an early age, for this achievement the students who are going to carry out their professional career as teachers, must develop critical thinking skills.
19	Felicita Dora Guevara Dávila, Yenifer Milagros Pérez Moreano, Dante Manuel Macazana Fernández, (2019).	Between critical thinking and academic performance there is a close relationship, the probability is that your learning will be effective, build your knowledge by arguing it from the students who have developed their PC. One way to promote what has been achieved is through formative evaluation where better performance is reflected in academic performance.
20	Núñez, L. A., Gallardo, D. M.,	Educational policies must be rethought, because the

	Aliaga, A. A. y Díaz, J. R. (2020).	results are not at all flattering, because teachers and students have not developed required skills; has found itself in this situation with limited pedagogical abilities, since students have not developed cognitive tools that allow them to develop the PC.
21	Daniel Albertos Gómez, Agustín De la Herrán Gascón, (2018)	The PC is a first-class end of the educational communities; teaching practices have difficulty in designing and didactically applying strategies for this purpose. The implementation of specific PC programmes is necessary; in this case the CSI program its contribution in quantitative achievements, in the qualitative there are difficulties with content of scientific, social, some types of reasoning.
22	Andrea S. Taverna, Douglas L. Medin & Sandra R. Waxman (2020).	The approach of the culture of a people as an ecosystem or socioecological and observing the Wichí culture of Argentina, allows to build a theoretical basis, whose relevant aspects are: (a) socialized perspective on life, (b) socioecological interactions as a principle to organize. This implies that researchers consider culture as the central axis of the development of thought.
23	Aarón Elí Mena Araya, (2020).	Critical thinking due to its multidimensional nature is very difficult to address in its entirety with a single educational medium, which requires coordinated use of different means and with a specific role when addressing the PC. It is important to set out criteria for determining the appropriate means to design and classify them to promote thought.
24	Lengua Cantero, C., Bernal Oviedo, G., Flórez Barboza, W. & Velandia Feria, M. (2020).	Emerging technology (TEs) are constantly evolving and are adaptable and prospective for any utility, currently used in education to confront traditional teaching; the most evolutionary is artificial intelligence, there are comprehensive tutoring systems for personalized and remote class. The technological mediations used are web 2.0 tools, the design and development of multimedia educational applications, discussion forums, blogs, social media chats, newsgroups, bulletin boards, network games, forms, online surveys, email and file transfer programs.
25	Meneses Alba, J. X., Osorio Castañeda, K. y Rubio Quintero, A. M. (2018).	This paper sought to improve the reading comprehension process based on the critical analysis of argumentative texts. It is important that teachers and educators are aware of the need to

		solve the difficulties that students present when working on an argumentative text.
26	Carvalho DPSRP, Vitor AF, CogoALP, Bittencourt GKGD, Santos VEP, Ferreira Júnior MA, (2020).	Mind maps were used as learning strategies to promote overall critical thinking and skills. They recommend that constructivist learning strategies be promoted because it plays an active role in learning and thinking critically.

These results show the significant contributions of the authors of the 26 articles reviewed, showing the relationship between the development of critical thinking and the acquisition of the skills and processes of higher thought mentioned. It is achieved when there is active learning internalizing concepts, valuing them and self-evaluating them, replacing simple classes, with complex units, based on problems, starting from social problems, rethinking the way to evaluate, implementing coherent methodological guidelines, developing didactic strategies that involve the culture of the street in school activities; affirm the importance of teachers being well trained, if they manage to develop their thinking and modify their teaching practices it will be possible to train enterprising, creative and critical students; to promote the strengthening of critical thinking and the proper use of strategies. For students to be critical individuals of scientific knowledge, it is convenient to ask questions that relate to age and context within the quality criterion. Strengthen critical thinking when working on topics linked to the experience and context of the student, we must appropriate technologies for the internalization of learning, audiovisual strategies in teaching can be interpreted and thought critically, as well as produce critical texts (argumentative), We are recommended to give preference to metacognitive activities, such as: abstraction, analysis, synthesis, induction to inference, comparison and association; consider that critical reading is an understanding at a high level, so the reader can propose new theories or reaffirm existing ones, for this purpose it is necessary to have a variety of textual typology and educational materials; critical thinking is a priority to develop in all students and from an early age since it reflects better performance in academic performance , therefore, schools must use criticism as the axis of learning, the results are not at all flattering, because teachers and students have not developed required skills so they must rethink educational policies. It is important to set out criteria to determine the appropriate means in order to design and classify them to promote critical thinking. improve the reading comprehension process from the critical analysis of argumentative texts, manage learning strategies to mind maps to promote thinking and general critical skills helped by technology by developing multimedia educational applications, discussion forums, blogs, social media chats, newsgroups, bulletin boards, network games, forms, online surveys, email and file transfer programs.

## DISCUSSION

At present it is considered very important to develop and strengthen critical thinking skills in all educational contexts in order to stimulate the structures that allow students to acquire complex thinking, improving their performance at an academic and social level, we observe that students have difficulty in analyzing everything they read, problem solving and decision-making. (Cañongo et al., 2020).

When talking about concepts, ontologically we are talking about the origin of critical thinking, which is in philosophy, in the fields of dialectics, irony, Socratic majeutics and that in children it is possible

to promote hermeneutics in dialogue and understanding that will make active criticism develop, seeing the similarity in the articles of code 07,17 and 33 when it is said that critical thinking has its roots in philosophy and that it can be taken to the educational field because it is indispensable for the integral formation of the student; they define critical thinking as one's own opinion in a free way that the person makes, justifies it and argues it based on their experience and knowledge. He is also said to be on trial for problem solving, evaluating alternatives and making decisions; the cognitive skills that he has to develop are to infer, analyze, understand, evaluate, resolve, argue, judge, self-regulation and metacognition, is the definition of three authors of articles 1, 3 and 6, where the similarity is observed that to develop critical thinking there are cognitive processes and that the individual builds his knowledge until he reaches his own argumentation; when we find information about structure or components of critical thinking, we talk about dimensions: Verbal reasoning, documentary analysis, hypothesis testing, levels are also named: literal, inferential, critical and, skills and sub-skills located in the dimensions of open mind, intellectual humility, freedom of thought, intellectual integrity trust in reason, motivation and disposition, there are differences to my point of view that in the first structuring would work in different areas of study, in the second would be specified in reading comprehension and in the third covers in all the integral formation of the person and finally to develop critical thinking has to use different strategies, making the analysis of the articles we can say that the strategies are similar because they are didactic resources to conduct teaching-learning processes; there are strategies that are flexible looking at each student in terms of their pace and style and cognitive level; the differences that there are, some strategies that are more viable for early-age students and there are other strategies that are more viable for higher level students and the differences that there are strategies that do allow collective group work such as collaborative work and others and there are other strategies that are for the process of individual learning.

## CONCLUSION

The development of critical thinking is a first-class educational purpose, as pointed out by numerous studies and international institutions. Teaching practices still resist active teaching. In educational contexts specifically in basic education should assume the responsibility of developing critical thinking in the student, more information is found on the development of critical thinking at university levels. Formative research contributes to the development and strengthening of higher-order thinking skills, i.e., cognitive mental processes to have critical people, with the power of argument, criticize and be reflective people. In the educational context, criticism must be used as the main element for the reflective development of students, it is to accept that the ultimate object of the teacher is to teach to think, providing students with tools, useful strategies to reflect on ideas before admitting them. Critical thinking is currently becoming a phenomenon of innovative study because in institutions it is not being promoted in a convenient way, due to two basic factors: The pedagogical model they propose has traditional elements and teachers do not assume it because they are not prepared to apply strategies for the development of this higher skill.

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