

PEDAGOGICAL PRACTICE OF CRITICAL THINKING FROM CULTURAL PSYCHOLOGY

Práctica pedagógica del pensamiento crítico desde la psicología cultural

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Abstract

Critical thinking is an essential competence in current educational approaches; however, it has been the subject of diverse definitions, requiring a comprehension from its epistemology, theorization, and praxis. The objective of this research was to analyze notions about critical thinking and pedagogical practices in a group of Latin American teachers. The qualitative-critical paradigm was used through the hermeneutic method. The selection of participants was carried out through theoretical saturation sampling, obtaining a group of eight teachers to whom in-depth non-directive interviews were applied. In the analysis of results, 5 categories emerged: 1) Notions about critical thinking, in which the tendency towards a cognitive and rational emphasis is evident; 2) Didactic praxis, expressing greater mastery of linguistic content subjects as appropriate to promote critical thinking; 3) Self-assessment and need for greater reflection and training on teaching praxis in the area, 4) Curriculum and educational policies, in which inconsistencies between curricula and classroom practice are exposed, and 5) Critical thinking and performance academic, which exposes a non-linear relationship between both concepts. It is concluded that it is essential to avoid determinisms based on skills that express critical thinking and instead promote complex approaches that allow including cultural, social and ethical experiences also inherent to the process.

Keywords

Critical thinking, pedagogical practice, reasoning, determinism, language, culture.

Suggested citation: Escobar Domínguez, María Gisela. 2024. Pedagogical practice of critical thinking from cultural psychology. *Sophia, Colección de Filosofía de la Educación*, (36), pp. 287-310.

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Resumen

El pensamiento crítico es una competencia fundamental en los actuales enfoques educativos, sin embargo, ha sido objeto de definiciones diversas, exigiendo un abordaje desde su epistemología, teorización y praxis. Esta investigación tuvo como objetivo analizar las nociones sobre el pensamiento crítico y las prácticas pedagógicas aplicadas en el aula por docentes latinoamericanos. Se acudió al paradigma cualitativo-crítico a través del método hermenéutico. La selección de participantes se realizó mediante el muestreo por saturación teórica, obteniéndose un grupo de ocho docentes a quienes se aplicaron entrevistas no directivas a profundidad. En el análisis de resultados emergieron cinco categorías: 1) nociones sobre pensamiento crítico, en las cuales se evidencia la tendencia a un énfasis cognitivo y racional; 2) praxis didáctica, expresando mayor dominio de las asignaturas de contenido lingüístico como adecuadas para promover el pensamiento crítico; 3) autoevaluación y necesidad de mayor reflexión y capacitación sobre la praxis docente en el área; 4) currículo y políticas educativas, en la cual se exponen incongruencias entre los currículos y la práctica de aula; 5) pensamiento crítico y rendimiento académico, que expone una relación no lineal entre ambos conceptos. Se concluye que es fundamental evitar los determinismos basados en habilidades que expresan el pensamiento crítico y en su lugar promover aproximaciones complejas que permitan incluir experiencias culturales, sociales y éticas que son también inherentes al proceso.

Palabras clave

Pensamiento crítico, práctica pedagógica, razonamiento, determinismo, lenguaje, cultura.

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Introduction

The new educational trends propose the development of critical thinking in the classroom. This interest is related to the identification of current needs linked to sustainable development and democratic citizenship (Diez *et al.*, 2021; Noula, 2018), which require skills and abilities to act in the face of complex social and cultural dynamics, as well as solving everyday problems using technology. For this reason, educational policies around the world are increasingly oriented to foster critical thinking as a competence that includes skills that allow the active and effective application of academic knowledge in real contexts, giving as much importance to argumentative and participatory aspects as to cognitive processes acquired through learning (García, 2018).

However, the training of critical students is not a recent need in education. Although since 2000 there has been interest to empirically address this process through scientific research (Cebotarev, 2003), critical epistemology and pedagogy have been used in Latin American school for several decades, raised as transformative processes that emerge from the awareness of reality itself in front of structural elements, such as social class, power or domination (Freire, 2009; Giroux, 2001), in the end, with a political sense. Such knowledge has been decisive to consider critical thinking from a historical, cultural and ethical perspective. On the other hand, critical pedagogy considers not only a student active in the trans-

formation process of his own knowledge, but also a teacher prepared to generate challenges and questions that motivate the student to look at reality in unconventional ways. However, this implication of the teacher in a transformative critical practice is a matter that seems to be dismissed in the recent dominant approaches of educational policies and also in classroom work.

Considering the above, three fundamental questions have been taken into account to enunciate the research problem: how do Latin American teachers conceive and define critical thinking? How do they promote it inside the classroom? Do definitions of critical thinking that teachers have determine the specific ways of dynamizing work in the classroom?

Although the idea is not to make an analysis of the contributions of Latin American critical pedagogy, the research aims to know the current conceptions, definitions or notions of Latin American teachers on critical thinking and its development in the classroom facing the current educational demands, in order to reflect on the gaps or needs that may be present, in addition to continuing to pay in the research field to enrich the concept. For this reason, the objective of this research was to analyze the notions of critical thinking possessed by Latin American teachers and the pedagogical practices applied in the classroom for its development in students.

In this context, it is interesting to know how critical thinking is defined from the teaching practice in Latin America, which are the dominant approaches and strategies for its dynamization in the classroom, considering that it is not possible to assume the new educational trends towards a paradigm shift oriented to the promotion of critical competences if there is not previously a reflective teaching exercise from the epistemological, theoretical and procedural, which consciously encompasses the complexity of a process that integrates bidirectionally the student and teacher. It is necessary to consider that classroom practice requires a dialogic and innovative attitude that clearly promotes discussion and argumentation based on experiences as well as academic knowledge. Hence the relevance of this research and the need to deepen in these topics.

Then, three dominant trends that explain critical thinking are reviewed in the following section, the first two related to qualitative approach, and the third to the positivist-quantitative approach. This review presents specific versions of critical thinking and its applications in teaching practice.

Subsequently, to fulfill the objective of this research, the qualitative method used is described, which is aligned with the sociocritical paradigm (Denzin and Lincoln, 2012), through interviews with eight teach-

ers of primary and secondary education institutions in different Latin American countries, considering the need to address their personal conceptions and pedagogical experiences around the development of critical thinking in their students. This approach allowed recovering and understanding the meaning of the teachers' stories, through the reflexive, culturally situated and transformative interpretation. Finally, the results achieved (following the process of qualitative categorization) and the discussion of these results in the light of the theoretical and empirical elements considered are stated.

Trends in the study of critical thinking

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As pointed out, it is possible to specify through the consultation of the literature that, in current understandings about critical thinking, educational work has been underestimated based on ethics, questioning and transforming; instead, the approaches are oriented to the objectification and identification of observable and measurable categories in the classroom. According to the above, in the literature review carried out for this research, three major trends that guide current studies on critical thinking were identified, which have effects in Latin American pedagogical practice.

First, constructivism, which is undoubtedly a dominant trend today, which conceives critical thinking as a superior cognitive ability, oriented towards the search for tangible results that can have an impact on academic performance (Cubides *et al.*, 2017, Ossa-Cornejo *et al.*, 2017; Oliertas and Sanmartí, 2009; Campos, 2007). In this trend, reading and writing have been considered as the process that objectifies critical thinking, as a skill that enables and evidences conceptual structures acquired on the basis of the dynamic interrelation between reader, text and context (Solé and Castells, 2004). From this perspective, critical thinking is constructed when the reader stands in front of the information offered by the text, transcending literal language through the formulation of inferences and the elaboration of new meanings (Cassany, 2017), either through critical reading or writing, for example, essays or research. In summary, the constructivist line supports the concept of critical thinking as language, omitting the diversity of other knowledge experiences.

Secondly, there is another epistemological and theoretical line that considers critical thinking as an integrative process in which the acquired learning in the educational context, articulated with the experiences of personal, citizen or work life, participate and dialog (Ross and Gautreaux,

2018; Saiz and Fernández, 2012; López Aymes 2012). This process has a social and cultural sense, in addition to the one learned at school, since it emerges from the problematization of experiences applied to daily life thanks to the development of research and creative skills. Therefore, it crosses the different areas of knowledge whenever a problematizing and dialogic environment is established in teaching. From this approach there is an understanding of critical thinking as a competence that develops through problematizing situations in areas such as mathematics (Cornejo-Morales and Alsina, 2020), history (Moreno-Vera, 2018; Grez, 2018), the arts (Poce, 2021) or the natural sciences (Blanco *et al.*, 2017), on which there should be focus on the different educational stages and even at the university level. This approach relates with the perspectives of critical thinking established from a complex and ecological-cultural understanding, in addition to the evident legacy of critical pedagogy.

A third line is positivist-quantitative approach, which is determined by the measurable properties of critical thinking. This line tries to consider this construct as a variable that is expressed in students' responses to validated and established dimensions in a specific instrument (Manassero-Mas and Vázquez-Alonso, 2020; Saiz and Fernández, 2012), which is usually theoretically supported by a direct relationship between critical thinking skills and scientific reasoning (Palma *et al.*, 2021). The quantitative trend of critical thinking, although less powerful in classroom teaching, finds methodological usefulness in educational research, as well as in quality evaluations that govern educational policies in most countries of the world, as is the case of international PISA tests. In these tests, critical thinking is measured from three dimensions:

- *Knowledge and understanding*, assessed through tests that inquire about the resolution of problems and dilemmas.
- *Skills*, including analytical and critical thinking, through cognitive instruments.
- *Attitudes*, which are evaluated by a context questionnaire, and includes components such as openness to other cultures, respect for otherness, global awareness and responsibility (OECD, 2018).

It is worth mentioning that this perspective defines the criteria for designing and implementing educational policies in favor of the quality of education in most Latin American countries. However, quantitative standards have also made evident the inconsistencies between international evaluation processes, educational policies on critical thinking in the countries of the region, and finally, the performance in classroom practice.



Current Challenges in Teaching Critical Thinking

It has been found that the expectations to develop critical students in Latin American classrooms are still far from being met (Rodríguez, 2018). It has been exposed not only difficulties in the standardization of educational policies in the educational institutions in *Latin America*, but also the need for teachers to have clear curricular and didactic lines that allow materializing critical thinking in education (Castillo, 2020; Niño-Arteaga, 2019), considering the diversity and inequality that characterize the students. This leads to the first challenge that must be taken into account, since one of the difficulties reported in the literature and which may be linked to the detection of low performance levels associated with critical thinking, is that teachers should make decisions about the strategies to develop these competences (Cruz *et al.*, 2019; Noula, 2018), since they have been given autonomy in the design, planning and development of activities aimed at achieving these objectives.

In this sense, the teacher faces not only to generate strategies in didactic practice to promote critical thinking but must generate a personal process of selection and adaptation of the epistemological and theoretical principles that he considers relevant to establish the conceptions of critical thinking that support classroom practice, which requires a pedagogical training (Avendaño, 2016) — which is not always fulfilled—. As pointed out, the three epistemological tendencies on critical thinking that have been previously identified can lead to specific forms of pedagogical approach and it is necessary that the teacher knows them to choose the most appropriate options.

The second challenge has to do with the preference of teachers for traditional and memoristic teaching methods in the different contents, hindering critical practice in the classroom (Noula, 2018), hence, although there are good intentions, often the teaching strategies implemented are not relevant and effective for problematizing (Gámez, 2012). Here it is necessary to reconsider the proposal of Freire (2009) who points out that the school should invite to an education based on dialog and reflection, or Bruner (2006), from constructivism who emphasizes the construction of meanings, since it allows to familiarize with new information and to question the normative, which is essential in the formation of critical thinkers.

When education promotes the repetition of content, it limits the possibilities of the student to establish connections and associations between the known, the learned and the experiences, as well as it hinders the possibility of questioning, diverging and generating alternatives to the challenges. For this reason, repetition and memorization reduce students'



abilities to face social demands, since it forms them in basic instrumental skills, but it does not provide opportunities to transcend an unequal and dependent productive model. This is clearly linked to the conditions of inequality that characterize the Latin American region and are closely related to educational quality, since inequality in access to teaching resources provides fewer opportunities for students from urban and rural areas to access innovative pedagogical models that promote critical competences (Huanca-Arohuanca and Canaza-Choque, 2019).

This leads to the third challenge, since the teaching of critical thinking must be culturally situated, considering the processes of each group and the understandings that individuals build about the cultural environment. It should be emphasized that critical thinking is not only a linguistic expression but is linked to the solution and understanding of the daily life problems, which are not only instrumental, but also social. So, establishing standardized systems for the development of critical thinking, and even more, making them quantifiable, limits the possibility of expressing the different possible forms and strategies in the construction of concepts that are elaborated from personal experiences, in interrelation with the challenges and options provided by teachers and peers. In this sense, it is essential to follow the contributions of historical-cultural psychology (Bruner, 2006; Vygotsky, 1995), and to consider that critical thinking is built thanks to the exchange of meanings between the individual and his culture. It is necessary that the teacher, in addition to providing the contents established in the educational curriculum, be able to situate them in the realities of the group, so that the student can incorporate them, rework them and return them critically through the experiences.

Methodology

The objective of this research was to analyze the notions of critical thinking and pedagogical practices applied in the classroom by Latin American teachers. To achieve this objective, a qualitative approach was considered to the experiences of basic education teachers in several Latin American countries.

As mentioned, qualitative research follows a methodological design in which the experience built between the researcher and the participant is privileged through the stories obtained in the interviews (Charmaz, 2006). Therefore, interaction is essential to make these stories sufficiently explicit to achieve the greatest argumentative and, finally, interpretative richness.

The research was carried out in the context of a virtual training course at an internationally professional training institute, in which 31 teachers from Peru, Mexico, Costa Rica, Ecuador, Colombia, Panama, Paraguay and Chile were enrolled, working at different educational levels. For selecting the participants, it was established as inclusion criteria that teachers were active in practice at the primary or secondary levels of education in their respective countries. University professors were excluded.

Once the inclusion and exclusion criteria were defined, a group of 18 teachers who met the pre-established requirements was obtained. Then, the sample of participants was chosen through the procedure of theoretical saturation proposed in grounded theory (Strauss and Corbin, 2002). This sampling procedure combines the progressive selection of participants, the collection of stories and the analytical process of the collected information, allowing the researcher to progressively expand the range of respondents, while defining emerging categories, until they have been theoretically saturated. When applying the theoretical saturation, a definitive sample of eight (8) teachers as key participants was obtained, whose characterization is as follows:

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Table 1
Sample Participants Settings

| Participant | Country | Age | Level of education | Service Time |
|-------------|----------|-----|---|--------------|
| Teacher 1 | Peru | 52 | Bachelor of Primary Education Specialization in Pedagogical Evaluation | 16 years |
| Teacher 2 | Peru | 62 | Bachelor of Social Sciences Master in Education | 38 years |
| Teacher 3 | Mexico | 30 | Bachelor of Social Sciences | 2 years |
| Teacher 4 | Colombia | 53 | Bachelor of Primary Education Master in Technology | 13 years |
| Teacher 5 | Peru | 42 | Bachelor of Modern Languages Master in Education | 14 years |
| Teacher 6 | Colombia | 52 | Bachelor in Spanish Specialist in Colombian Literature | 25 years |
| Teacher 7 | Ecuador | 40 | Bachelor of Social Sciences | 12 years |
| Teacher 8 | Peru | 43 | Bachelor of Primary Education Master in Natural Sciences | 12 years |

Source: own elaboration

The study was conducted virtually during September and October 2021, during the development of the training course mentioned above. In order to count with the participation of the teachers, each potential participant was requested, individually by mail, to collaborate in the research. Upon obtaining the affirmative answer, informed consent was sent and a day and time was agreed for an interview meeting via the Zoom platform. The interviews lasted between 60 and 90 minutes, following an open unstructured guide, which was developed previously. It considered the following topics:

- Definitions and theorizing on critical thinking.
- Strategies and didactics used in the classroom.
- Spaces and contexts of application of critical thinking by students.
- Relationships with academic performance.
- Critical thinking in the implementation of the curriculum.

Non-directive orientation prevailed in the development of the interviews, allowing the participants to develop their arguments freely and without limiting the information according to the preconceptions of the researcher. The sessions were recorded with the informed consent of the participants. The textual corpus from each interview was analyzed independently to comply with the theoretical sampling procedure and establish the saturation point that implied the completion of the data collection.

In the theoretical saturation process, which guided the methodological process, open coding and organization in central categories starts from the first interview, therefore, the partial analysis of each interview opens the way to the next, in a dynamic and concatenated process that combines inductive and deductive reasoning. Once the saturation point of the information collection was obtained, the definitive emerging categories were established and the interpretative process was given way to give meaning to the textual corpus, according to the objectives and the reading of empirical references that guided the research.

Results and discussion

Notions about critical thinking

This category integrates the notions and knowledge that teachers have about critical thinking, taking into account that the definitions of this process are essential in the orientation of educational praxis.

It can be said that teachers do not have a notion of homogeneous critical thinking, which shows the polysemic nature of the concept and is possibly linked to ambiguities in the application of strategies in the classroom. This situation has been identified by Gámez (2012) and will be analyzed in a next category. However, all the definitions presented by the eight teachers interviewed express that critical thinking is a cognitive and rational ability. They use expressions such as “ability to analyze”, “inference and self-regulation”, “problem-solving” and “argumentative ability”. This notion is evidenced in definitions such as:

Cognitive ability that brings together interpretation, analysis, evaluation, inference, explanation and self-regulation, allowing to discern and establish a position from the arguments (Teacher 1).

It is a cognitive process that leads to the development of skills such as reflection, analysis, synthesis, contrasting contents for decision making and problem solving (Teacher 2).

It should be noted that all the notions provided are established on the basis of the discursive and argumentative character of critical thinking, which places the trend in a rational and constructivist approach based on language. Some characteristics that are pointed out in these notions are:

- Endorsing or undermining the credibility of a situation with strong and convincing arguments.
- Generate own opinions and positions with knowledge criteria.
- Understanding the context.
- Evaluate the reasoning from bases considered as true.

As expressed in the responses of two teachers, an approach to these understandings can be evidenced:

It is important to use the knowledge and the ability to observe, analyze and interpret a situation and to endorse or discredit it with convincing arguments (Teacher 4).

Critical thinking consists in analyzing and evaluating the consistency of reasoning [...] especially those statements that society accepts as true in the context of everyday life (Teacher 6).

The notion of critical thinking fundamentally oriented to a rational-cognitive basis is also the predominant orientation in the literature review carried out for this research, a finding also highlighted by Lorencová *et al.* (2019) In addition, it is evident that these notions of teachers link critical



thinking with argumentative and linguistic competences (Ospina-Carmona *et al.*, 2022; Cassany, 2017; Cubides *et al.*, 2017), enabling an objective record of the processes and their subsequent evaluation, a trend that also predominates in the approaches consulted in the literature.

On the other hand, a notion of critical thinking emerged from the speeches of two teachers as an integrative process in which different spheres of the person's life participate:

It integrates capabilities that allow to solve the various situations of daily life, having the opportunity to interpret, deepen, reflect (Teacher 7).

An integrative perspective is suggested by Ross and Gautreaux, (2018), who focus the practical applications of critical thinking and propose to overcome the excessive emphasis on the rational and cognitive that has been established to understand the process.

It is important to note that in the notions presented by teachers, there is little emphasis on experiences, emotions and socializations as important promoters of critical thinking (Guzmán, 2014). These are processes that also enable the individual to generate criteria of understanding and choice based on his or her own worldview. Therefore, it is necessary to strengthen a notion of critical thinking linked to social, ecological, ethical and cultural problems, which allow a positioning against the current dilemmas and diversity of society. In this way, practice in the classroom is not limited to objectifying and reducing critical thinking to specific skills and linguistic or argumentative indicators, without providing them with the problematizing content necessary to understand their context of reference.

Didactic praxis

One of the conceptions reflected in the discourses of the interviewed teachers is to associate the didactic practice for the development of critical thinking with subjects of linguistic mastery, particularly Spanish and social studies. Only two teachers suggested that critical thinking can be encouraged in all subjects of the curriculum:

[...]critical thinking can be developed in any area or subject. The idea is to look for activities and strategies that lead to reasoning, draw conclusions, obtain their own information (Teacher 3).

Teacher 8 contributes that, from his perspective, mathematics, computer science and natural sciences promote critical thinking, since they develop logical reasoning and appropriate decision-making, thus linking didactic practice with their area of competence, which is the natural sciences.



Personally, I believe that critical thinking should strengthen the criteria and autonomy regarding decision-making in each moment and place, that the student should choose ways of thinking and acting (Teacher 8).

Certainly, the proposals of Cornejo-Morales and Alsina (2020) and Blanco *et al.* (2017) focus on the importance of developing critical thinking through the generation of relationships between abstract concepts and everyday experiences, in the learning of mathematics and natural sciences, so that the contents are related with the reality lived, or through paradoxes (Mora-Ramírez, 2023). However, the prevailing trend in the interviewed teachers links didactic praxis with the linguistic-based subjects, confirming that according to their conceptions, classroom work should guide the formation of argumentative skills rather than the development of integral skills to act in diverse and problematizing contexts, not to mention other competences that are also inherent to critical thinking, such as autonomy and ethics in decisions (Rodríguez *et al.*, 2018).

These results allow us to consider the importance that teacher education and training incorporate critical thinking as a transversal axis to all subjects in educational curricula, as it is intended in the conception of global competences (Molina-Patlán *et al.*, 2016). Most importantly, these conceptions materialize in classroom practice through appropriate strategies.

When inquiring into the preferred strategies used by the interviewed teachers to develop critical thinking in the classroom, the following were collected:

- Encourage discussions on current issues (teacher 1,4, 7).
- Encourage the use of the question to himself and others (teacher 5).
- Present motivating activities to get the interest of the group (teacher 2, 6).
- Develop skills in problem solving, deduction and induction (teacher 3, 8).
- Encourage collaborative work (teacher 3).
- Stimulate adequate oral expression (teacher 4, 6).
- Create inventions and artifacts in science and technology (teacher 4, 8).
- Relate the work in classes with experiences (teacher 7, 8).

As seen, the strategies are diverse, which is a sign of the ability to innovate to achieve the stated goal. Indeed, Lorencová *et al.* (2019) found that there is a wide body of knowledge about effective didactic strategies to promote critical thinking, which are available in the scientific acquis.



However, it is important to note that it is not only required to pay in the field of strategies without having an epistemology and methodology that allows consolidating true critical education.

The discourses of the interviewed teachers do not express clear objectives or didactic procedures that allow determining which specific competences are intended to develop through these strategies. This leads us to think that the procedure is privileged over the end. At this time, it is interesting to consider the proposal of Ross and Gautreaux (2018), who argue that didactic praxis to promote critical thinking should not be limited to developing isolated skills, but complex processes. Therefore, it must be crossed by dialectics instead of formal logic. The latter is the dominant perspective in the notions of the interviewed teachers, as expressed in the previous categories. In other words, while it is essential to innovate and create spaces that foster opportunities to think critically, these must be accompanied by a pedagogical style that problematizes and promotes complexity as an ability to integrate the parts of the whole, instead of simplification and determinism.

Training and practice self-assessment

Another category emerges that allows interpreting the assessments made by teachers about their own practice in the classroom to develop critical thinking in students, taking into account that critical competence should be among the competencies that integrate the professional profile of teachers (Zelaieta and Ortiz, 2018). From the interpretation of the speeches of the interviewed teachers, a common consideration about the lack of professional preparation is evident, coupled with the lack of clear curricular guidelines to face effectively this pedagogical task. Teacher 1 considers that not all teachers promote critical thinking in the classroom:

Honestly, they are very few, since, to train critical students, they must be highly investigative, informed teachers who can put into perspective the information that is received, trying to maintain an open mind (Teacher 1).

Teacher 5 agrees, pointing out that it is essential that there is more training on the relevant teaching strategies to carry out the task. This situation has been identified by Cruz *et al.* (2019), by observing failures in the professional training of teachers on pedagogical strategies to promote critical thinking and the delegation of a wide responsibility to make decisions regarding this task in the classroom, without the necessary curricular guidelines.

On a more self-evaluation level, teacher 8 points out that it is necessary for teachers to carry out a reflective process of their own practice. Precisely, in this level is located teacher 3, who observes the need to create suitable spaces and dispense with the knowledge promoted through memorization:

I have tried to make learning less memorizing by using one that is more dynamic, creative, stimulating and conscious, giving relevance to children's abilities and interests. More focus and functionality need to be given to skills development [...]. I think that there are no well-established guidelines, nor adequate preparation by the teacher (Teacher 3).

It has been pointed out that the role of the teacher should not be limited to reproducing cognitive skills and competences but promote the transformative action that underlies critical thinking through the questioning and empowerment necessary for a true citizen and democratic exercise (Noula, 2018), this being a fundamental requirement in today's diverse and multicultural societies. A teacher who is limited to reproducing contents and strategies in the classroom does not fulfill the required function, therefore the reflective process in the teacher, as a starting point in the own critical and pedagogical reflection, acquires a fundamental value.

According to what can be extracted from this category, it is understood that it is a personal choice of the teacher to use certain approaches, methods and didactic guidelines. This allows us to affirm that, on the one hand, there is not adequate training of teachers on this process, but also and not least, the educational curriculum is not entirely clear when defining lines of action to develop critical reflection.

Curriculum and educational policies

The teachers participating in the study belong to different countries of Latin America, in which the common denominator is that educational policies consider critical thinking as a competence to promote from the initial education, in line with what is established by international organizations in the field of education. This is established by the Ministries of Education of Peru (Núñez-Lira *et al.*, 2021), Colombia (Madrid, 2018), Mexico (Flores *et al.*, 2019) and Ecuador (Toscanini-*et al.*, 2016), to mention only those represented in this research. In this sense, this category considers the discourses of teachers regarding critical thinking as a dimension that is addressed in recent educational policies and in the curricula of each country.

Teacher 5 indicates that the function of incorporating critical thinking as a focus of educational policies is:



To structure a more reflective thought in children and young people improving their life expectancy, breaking with the paradigms and mental schemes imposed by the social, cultural and political environments in which they are immersed (Teacher 5).

However, there is also the idea that the function of critical thinking in the curriculum is to achieve a better performance in national and international tests, as stated by teacher 2, fulfilling the indications of multilateral organizations in education, even if the results for Latin America in this area are below what is expected, as stated by Rodríguez (2018). This researcher has found differences between international educational policies and strategies for critical reflection in the classroom.

In accordance with the above, the argument that stands out in this category in most of the interviewed teachers (five teachers) are the inconsistencies between the educational policies emanated by the ministries of Education in their respective countries and the materialization of strategies for the development of critical thinking. Teacher 3 indicates that he has doubts about the interest of educational policy institutions in the development of critical thinking in schools, since developing this competence is also related to a more autonomous youth and less susceptible to manipulation. In this regard, he states:

I am not so sure of this kind of interest in educational policies to develop conscious and reflective thoughts, nor that one wants to break with mental schemes [...]. If we have young people who think, who analyze, who look for the background of situations, their true intention, who reason, evaluate and recognize with the truth the deception, they are less likely to be manipulated, acquiring autonomy (Teacher 3).

Professor 4 agrees with this position stating that:

The State demands critical thinking, but its policies tend reduce the knowledge in the person, because in that way the person is easier to be manipulated (Teacher 4).

On the other hand, teacher 7 explains that there is a disarticulation between what his country's educational policies regarding critical thinking point to and the reality in the classroom:

Strategies to develop critical thinking have been proposed in my country in the educational policies, but when analyzing reality is something that is still far from properly developed [...] there is still a lot missing in the way to start interpreting fully critical thinking in the classroom so that students analyze and question about their reality (Teacher 5).

As interpreted, there is a tendency among the interviewed teachers to question the effectiveness of educational policies on critical thinking in their application to the classroom, which can also be explained in the situations of inequality and access to educational quality, that many of these teachers find in their daily practice and that require them in many cases to meet urgent needs for schooling. Secondly, it is interpreted -respecting the differences in the policies of each nation- that the guidelines have not been adequately materialized in a clear curriculum, conceptually and methodologically, as Castillo (2020), Niño-Arteaga (2019) and Rodríguez (2018) find in their studies in Latin American countries.

Critical thinking and academic performance

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Although it is generally considered that critical thinking has a positive impact on academic performance, there is no quantitative evidence to support a direct and significant relationship between both variables, as stated by Enríquez *et al.* (2021) and Barca-Lozano *et al.* (2013), who find that the statistical correlation between critical thinking and academic success is weak. Ren *et al.* (2020) point out that while there is a predictive relationship between critical thinking and academic performance, it is not necessarily reflected in higher numerical scores. Therefore, it can be stated that the relationship between critical thinking and academic performance has not yet been established quantitatively (Pineda and Cerrón, 2015), being the conceptual heterogeneity inherent to the concept, one of the elements that hinders this process.

However, qualitatively, there is documented information on better school performance of students who are more reflective and critical (Niu *et al.*, 2013). This topic is also debatable, since often students who possess critical competencies also tend to have higher levels of self-efficacy, which puts us back in the realm of a comprehensive understanding of this process and not as a sum of skills that can be evaluated independently.

One category that emerges from the interviews with teachers refers to their conceptions regarding the relationship between critical thinking and academic performance and, in general, learning in the classroom. As seen, academic performance is often associated with a numerical assessment and, in this sense, most of the interviewees (seven teachers) consider that students with good critical thinking skills also obtain better grades.

It is interesting to highlight the argument of teacher 7, who introduces a moral assessment in this relationship, indicating that the critical capabilities that the student possesses allow him to discern the positive

consequences, a good academic performance, leading them to be more interested in their grades:

Since they know the consequences, especially personal and academic, of not studying a certain subject and obviously the benefits of having good grades (Teacher 7).

It also points out, as an argument, that students with critical competencies have a greater awareness of what they do and say, which leads to having security and ease for learning and academic performance. In this regard, Suárez and González (2021), consider that critical thinking also refers to a metacognitive component -known as moral judgment- in ethical decision-making, a matter that is fundamental to understand the implications of this process.

On the other hand, teacher 5 shows disagreements with establishing a linear interdependence between critical thinking and academic performance. It points out that although there is some relationship, academic performance in students with high critical competencies is not necessarily better than that of students with lower skills and holds it as follows:

In most cases there is a balance between academic performance and critical thinking, but in other cases there are students who analyze, question and question social situations but their academic performance is regular. In other cases, critical capacity is not related to a true understanding of the content taught in classes and this is demonstrated in evaluations (Teacher 5).

According to what is expressed by teacher 5 and as already pointed out at the beginning of this category, the research reflects that there is no consistent relationship between numerical academic performance and critical thinking, although it can be considered that the application of metacognitive skills, moral judgment and autonomy expressed in students with such competence tends to improve performances in the classroom.

Conclusions

The research aimed to analyze the notions of critical thinking and pedagogical practices applied in the classroom by Latin American teachers. To present these conclusions, we will provide answers to the three problematic questions raised at the beginning.

How do teachers conceive and define critical thinking?

The notions of critical thinking expressed by the interviewed teachers show a cognitive, rational and objective emphasis on language, this being the prevailing trend in the scientific literature consulted and in most teacher training programs. Clearly, teacher training in the constructivist approach has allowed to lay the ground for these conceptualizations, however, it is necessary to avoid excessive determinisms in the possible definitions, since this has led to understand the process as a sum of skills that can be promoted solely from the discursive, and therefore, the consideration that only students able to argue about a topic, show evidence of being critical students.

Likewise, some teachers reduce these definitions to scientific rationality based on mathematical logic without considering other forms of expression, which implies a simplification of the notion of critical thinking and, therefore, neglects the possibility of deepening in integral conceptions that incorporate to teaching practice the development of competences based on cultural and ethnic domains, socialization and collaboration capabilities, creative and innovative processes, among others, without neglecting the ethics that also underlies critical reflection. This integral perspective is oriented to a true action from experience and from dialog, instead of the assessed and unilateral argumentation that prevails in Latin American classrooms.

Do the definitions of critical thinking that teachers have determine specific ways of dynamizing work in the classroom?

A greater epistemological reflection on critical thinking and its practical importance in the educational system becomes evident, because the notions or conceptions guide the pedagogical practice. This implies more effort of theoretical and epistemological training and teacher training from higher education centers, in addition to a permanent self-evaluation process on the practice. It is worth noting that it has been the teachers interviewed who have noticed these needs and expressed their concern about the ways of developing these competences in the classroom, which highlights gaps that need to be considered, as the need to take back the fundamental principles of critical pedagogy.

Indeed, critical reflection can only be developed within an educational culture designed for that purpose, in which everyday situations are problematized and the ability to reflect on them is promoted in the student, so that learning is generated from experiences directed towards



the active understanding of the world around him. Therefore, this is not a learning that reiterates information content in which teachers frequently insist, possibly based on the need for more critical training, but a set of knowledge built from a complex, problematizing, transforming and flexible knowledge principle.

How do teachers promote critical thinking inside classrooms?

The strategy that could be evidenced with more emphasis in the speeches of the interviewed teachers was to associate the didactic practice only with linguistic subjects, particularly Spanish and social studies, leaving out the possibilities of establishing active relations with the different areas of knowledge, as well as contributing to the determinism and division of learning competences in specific areas. In this sense, it is necessary to pay and devote more effort to highlight the relationships between the natural sciences and the pure sciences with the formation of critical thinking, especially focused on the applications of areas of formal and abstract thinking to the real and concrete problems of societies. A fundamental challenge.

Teachers consider that students with good critical thinking skills also obtain better grades, however, it seems that this trend is being discussed within teacher training, since different conditions are alleged in which critical thinking is not necessarily associated with high academic performance. One of the results that has been interesting for this research is the consideration of ethics and moral judgment as a value that crosses the relationship between critical thinking and academic performance, expressed in the autonomy of the student to discern the advantages and positive consequences of good school performance and commitment to his own learning.

Inevitably, the teaching practice is attached to the curriculum and educational policies of each country, however, the interviewed teachers highlight the inconsistencies between these frameworks and the development of critical thinking in the classroom, considering the lack of clear guidelines, as well as little training in convenient and viable strategies for it. It may be proposed that educational curricula do not go beyond establishing guidelines and expected lines of fulfillment, however, it is up to the teachers the decision and autonomy as to their action for the promotion of critical thinking. Therefore, this research emphasizes the importance of critical teacher training and principles of pedagogical praxis that are being forgotten.

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Document reception date: August 26, 2022

Document review date: October 20, 2023

Document approval date: December 22, 2023

Document publication date: January 15, 2024