



REVISTA

# CÁTEDRA

## The influence of the ecuadorian education system on the development of critical thinking in Unified General Baccalaureate

### *La influencia del sistema educativo ecuatoriano en el desarrollo del pensamiento crítico del Bachillerato General Unificado*

Alexandra Patricia Chamba-Zarango

Universidad Politécnica Salesiana, Quito, Ecuador

[alexandrachamba@yahoo.es](mailto:alexandrachamba@yahoo.es)

<https://orcid.org/0000-0001-6136-4447>

Floralba del Rocío Aguilar-Gordón

Universidad Politécnica Salesiana, Quito, Ecuador

[faguilar@ups.edu.ec](mailto:faguilar@ups.edu.ec)

<https://orcid.org/0000-0002-9886-6878>

(Received on: 08/06/2018; Accepted on: 29/06/2025; Final versión received on: 10/07/2025)

Suggested citation Chamba-Zarango, A.P. & Aguilar-Gordón, F.D.R. (2025). The influence of the Ecuadorian educational system on the development of critical thinking in Unified General Baccalaureate students. *Revista Cátedra*, 8 (2), 111-136.

### Abstract

Students' limited ability to analyze texts or synthesize information demonstrates a significant weakness in their ability to critically assess reality. This raises questions such as: What is the current state of Ecuadorian education? How does the educational system influence the development of complex skills and critical thinking? The objective of this work is to investigate the impact of the Ecuadorian educational system on the teaching-learning process, in order to propose activities that promote the development of critical thinking at the high school level. The research was based on analytical-synthetic and hermeneutic methods. The analytical method allowed for relating the foundations of the educational legal framework to classroom teaching processes, while the hermeneutic method facilitated the



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

interpretation of pedagogical work through the interview technique, a technique that proved key to exploring teachers' perceptions and practices and identifying challenges and opportunities in the development of critical thinking. The results highlight the urgency of strengthening students' metacognitive skills, implementing teaching strategies that provide lasting tools for identifying truth criteria in discourse, and developing skills for formulating meaningful questions. It is concluded that Ecuadorian education faces difficulties stemming from reforms influenced by government interests, inadequate curriculum management, and insufficient teacher preparation. Overcoming these barriers requires a renewed approach that prioritizes critical education, fosters intellectual autonomy, and revitalizes the commitment of the educational system.

## Keywords

Skills, teachers, strategy, metacognition, critical thinking, educational system.

## Resumen

La limitada capacidad de los estudiantes para analizar textos o sintetizar información evidencia una debilidad significativa en su habilidad para evaluar críticamente la realidad. Esto plantea interrogantes como: ¿cuál es la situación actual de la educación ecuatoriana? ¿cómo influye el sistema educativo en el desarrollo de habilidades complejas y en el desarrollo del pensamiento crítico? El objetivo de este trabajo es: investigar la incidencia del sistema educativo ecuatoriano en el proceso de enseñanza-aprendizaje, con el fin de proponer actividades que promuevan el desarrollo del pensamiento crítico en el nivel de bachillerato. La investigación se apoyó en los métodos analítico-sintético y hermenéutico. El método analítico permitió relacionar los fundamentos del marco legal educativo con los procesos de enseñanza en el aula, mientras que el método hermenéutico facilitó la interpretación del quehacer pedagógico mediante la técnica de la entrevista, técnica que resultó clave para explorar las percepciones y prácticas docentes, y para identificar desafíos y oportunidades en la formación del pensamiento crítico. Los resultados destacan la urgencia de fortalecer las habilidades metacognitivas de los estudiantes, la implementación de estrategias de enseñanza que proporcionen herramientas duraderas que permitan la identificación de criterios de verdad en los discursos y el desarrollo de habilidades para la formulación de preguntas significativas. Se concluye que la educación ecuatoriana enfrenta dificultades derivadas de reformas influenciadas por intereses gubernamentales, inadecuada gestión curricular e insuficiente preparación docente. Superar estas barreras requiere un enfoque renovado que priorice la formación crítica, fomente la autonomía intelectual y revitalice el compromiso del sistema educativo.

## Palabras clave

Destrezas, docentes, estrategia, metacognición, pensamiento crítico, sistema educativo.

## 1. Introduction

Education is facing a serious crisis. On the one hand, the massive amount of information available online prevents educators from establishing criteria of truth or falsehood regarding the content they are learning. On the other hand, legal regulations regarding education focus more on their rights than their duties. Thus, the teaching-learning process fails to meet the skills proposed in the curriculum. It is common to find self-controlled learners who fail to question the criteria expressed in both offline and online media. Their



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

thinking increasingly takes on a simplistic structure, leaving no room for doubt, wonder, or questioning.

The objective of this work is to investigate the impact of the educational system on education in order to propose strategies for developing critical thinking in students enrolled in the unified general baccalaureate program. This research aims to demonstrate that the development of critical thinking is possible as long as educators have adequate resources in the classroom. Therefore, it is argued that there is a relationship between current educational regulations and the actions of professionals in the classroom.

The central problem lies in the absence of critical thinking in education. This manifests itself in recurring difficulties among students, such as the inability to analyze texts, synthesize information, identify main ideas, and a marked lack of interest in reading, among other aspects. International organizations, such as the United Nations Educational, Scientific, and Cultural Organization (UNESCO), highlight education as a key means to foster the development of these skills, urging states to implement timely educational policies adapted to the specific realities of each nation.

In this context, fundamental questions arise: What is the current situation of the educational system? How does this reality affect the development of critical thinking in students? Are educators sufficiently prepared to foster critical thinking? What strategies are effective in promoting critical thinking in the educational process? These questions guide reflection and highlight the need for a renewed approach to education, capable of responding to the cognitive and social demands of the 21st century.

The topic addressed is important because it seeks to demonstrate the context in which teachers operate, the difficulties encountered in implementing skills and abilities, and how to foster the acquisition of logical reasoning. The research is relevant because it analyzes the potential advantages of perfecting this cognitive skill, which may lead to future research on specific strategies to assist educators and students in integrating content.

The methodology of this research is qualitative, supported by the interpretive hermeneutic paradigm. The methods that aided this work are analytical-synthetic and hermeneutic. The analytical method allows for the articulation of the assumptions of the educational legal framework with the teaching-learning processes. The hermeneutic method guides the interpretation of educational work and strengthens critical thinking. Additionally, a case study is used as a specific research method. The interview technique used was a four-question script as a research instrument. The interview was conducted during the 2023-2024 school year with twelve teachers from four institutions in the city of Quito. The research process was also supported by a bibliographic review.

The paper is organized as follows: The first section analyzes the current state of Ecuadorian education. The second section reflects on the influence of educational reform on the development of critical thinking and the difficulties teachers face in generating meaningful learning. The third section presents the methodology, explains the technique, research instrument, and information from the interviewees. Finally, the fourth section presents the results obtained from the application of the research technique and the information obtained from the bibliographic review. It also highlights the advantages of developing critical thinking and presents some strategies to enhance this type of thinking in learners.



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

## 2. The reality of the current Ecuadorian educational system

It is widely known that education has existed since the beginning of humanity. However, the analysis of its purpose and importance in society began with the postulates of the French Revolution, a period in which several universities and schools led by representatives of the Church were closed. From this moment on, pedagogy was reorganized in terms of its purposes, content, learning strategies, teaching methods, sequencing, resources, and evaluation, providing universal guidelines for its process. The educational system is understood as a series of components that determine the teaching-learning process; its regulation depends on the State, an institution that seeks cohesion between different sociopolitical, socioeconomic, and sociocultural spheres for the development of a nation. In the case of Ecuador, several irregularities arise when implementing what is institutionalized in legal regulations within the classroom; a fact that, far from reducing social inequality, markedly differentiates the privileged population from the less fortunate. For this reason, the following section explains the current reality of Ecuadorian education.

To understand the educational task, it is necessary to understand its structure. The educational system contains organizations made up of human beings, whose functioning varies according to the social progress of a nation, country, or state. In the words of Chiavenato (2007), it "provides a more complete and contingent way of studying the complexity of organizations and the management of their resources" (p. 3). It does not isolate external or internal environmental factors, functions, or social levels; everything is integrated into a whole. The system determines human behaviors, values, and forms of reflection. It is closely related to the mode of production, generating complex behavior in the economic sphere, as different organizations attempt to produce what responds to the needs of a given society.

Currently, this type of organization refers to a global society, which involves the behavior of organizations and the motivation of the individual. This reality is defined by Wallerstein (2006) as a world-system: "where we are faced with a space-time zone that crosses multiple political and cultural units, which represents an integrated zone of activity and institutions that obey certain systemic rules" (p. 15), crossing demographic barriers and changing the understanding of space-time. The current global village demands cooperative work between institutions; therefore, if one of them does not participate in this requirement, it is absorbed by other well-founded organizations, capable of influencing learning, motivation, the individual's perception of the world, and even the dynamism of education.

The educational plan is understood in different ways depending on the nation in which it is developed. It depends on power plays defined by developmental theory and the economic market. In the words of Martí-Castro (2003), the educational system "is the organization of education determined and organized by the State" (p. 393). Each country has a different educational organization according to the demands of individuals, it is crossed by religious, political, economic, cultural factors, pedagogical models, technology, among other factors; therefore, educational policies have the obligation to guide their actions in the direction of the current political - economic model, it cannot act independently. According to Freire (1997), this situation is usually visible in countries with low economic resources, this disconnection translates into high rates of unemployment, school dropouts, increasing poverty, violence, corruption, governments incapable of investing adequately in education or others, witnessing a weak State.

From another perspective, Zayas and Rodríguez (2010) define the "educational system as the official conglomerate or grouping of schools and the administrative body that



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

transcends and organizes them" (p. 5). This system offers all kinds of resources, tools, possibilities, and strategies for access to education. It is comprised of students, teachers, administrators, infrastructure, school management, and educational policies. These components, according to Martí-Castro (2003), give rise to various types of educational systems: open, closed, horizontal, vertical, and professionalized. An open educational system occurs when the educational subject can access any type of institution without any obstacles or when the admission of high school graduates to higher education is guaranteed; on the other hand, when access is limited or presents difficulties in the process, it is called a closed educational system.

According to Martí-Castro (2003), the educational system "is horizontal when it allows students to change disciplines without losing the level of education previously achieved" (p. 393). On the other hand, education is delivered vertically when prior knowledge or previously acquired knowledge is not considered. Professionalized education is defined when the learner develops skills specific to the social context, for example, the use of new technologies or artificial intelligence itself. When education does not respond to social demands, it is defined as deprofessionalized education. The implementation of a specific type of educational plan depends on the state's leaders in relation to their interests. Therefore, UNESCO (2022) evaluates governments' implementation of all these elements, components, and educational standards.

Based on the results published in the 2022 UNESCO Global Education Monitoring Report, it is asserted that education is capable of improving the quality of life of human beings. Therefore, it is necessary to pay attention to the standards that ensure adequate progress in the teaching-learning process. The report exposed different educational realities worldwide, as well as the serious consequences left by the pandemic. To do so, it based its approach on the Sustainable Development Goals (SDG4), which were approved by world leaders at the United Nations summit held in September 2015. The SDGs emerged as part of the 2030 Agenda for Sustainable Development and entered into force on January 1, 2016, with the aim of raising awareness of a shared responsibility among nations and generating social progress. Based on this assessment, UNESCO (2022) concluded that there are around ten countries with the best education in the world, including: Canada, Finland, Hong Kong, the People's Republic of China, the Netherlands, Singapore, Germany, Japan, Russia, and South Korea.

UNESCO (2022) emphasizes that the Sustainable Development Goals were based on the following characterizations: First, early childhood education, considering the entry rate to initial levels. Second, primary and secondary education, comparing the proportion of children who entered primary and completed secondary school. In addition, we assessed whether students achieved a minimum level of proficiency in both reading and mathematics. Third, equity, which verifies the gender disparity index in secondary school completion. Fourth, the proportion of qualified teachers for the respective level; the presence of teachers in areas unrelated to their professional training is common; all of these objectives are also addressed through public spending on education.

In the case of Ecuador, there are some improvements in coverage, as mentioned by (Olsen and Prado, 2022), "in Ecuador, at the beginning of the 2020 school year, enrollment in public schools increased by 6.5%, or 120,000 students" (p. 107); however, due to COVID-19, participation in education decreased due to insufficient digital resources or internet coverage. On the other hand, according to the Ministry of Education (2023), there are high



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)



rates of secondary school completion, although there are low rates of entry to higher education institutions.

Ecuadorian education is regulated by the Supreme Statute of the Republic of Ecuador (2008), which includes Bilingual Intercultural Education and Higher Education, both of which aim to guide educational work. Current education is the result of a multitude of social phenomena that respond to the political, economic, and sociocultural needs of the dominant hegemonic sector, as has been the case since the 1990s, when educational investment was scarce, as was the reflection on its pedagogical processes. It was during the administration of former President Rafael Correa (2007-2017) that education was regulated and organized by the Organic Law on Intercultural Education (2011), currently amended in 2023, and the Higher Education Law (LOES).

The Magna Carta of Ecuador (2008) states that education is a universal right for every individual, in which families, authorities, and all of society must participate responsibly. The State is responsible for ensuring its adequate process through the development of relevant educational policies and timely social investment, among others. The State must promote appropriate training to ensure the good life through equity, justice, and social inclusion. The educational process is closely linked to the economic structure; greater investment in education leads to greater professionalization of the population.

Regarding this, UNESCO (2022) states the following: "The pandemic demonstrated that jobs in highly affected and crucial sectors for the economy depend on vocational training, which can meet urgent demand and increase resilience to crises" (p. 268). In the case of Ecuador, the pandemic particularly affected the productive sector, an aspect that brought a series of consequences such as high school dropout rates due to poor connectivity, the massive layoff of workers from different institutions, the lack of resources to cover basic needs, and other similar phenomena that gradually affected different social sectors, mainly the country's middle and lower classes.

Education is centered on the learner, who possesses diverse dimensions. The national education system seeks to integrate a broad intercultural vision, drawing on the country's cultural, geographic, and linguistic diversity. In Ecuador, Intercultural Bilingual Education and Ethnoeducation are primarily targeted at all Indigenous peoples and communities, as well as the Afro-descendant population. This is in compliance with the guidelines established in the Ten-Year Education Plan (2006-2015) regarding the universalization and coverage of education, reaching several rural communities and other communities that were neglected in past decades. Thus, the Constitution of the Republic of Ecuador (2008) defines in Article 343 that: "The purpose of the national education system shall be the development of individual and collective capacities and potential of the population, enabling learning and the generation and utilization of knowledge, techniques, skills, arts, and culture" (p. 106).

In Ecuador's Magna Carta (2008), the educational plan covers modalities, levels of education, resources, plans, types of education, educational support, programs, policies, and actors. Thus, it offers both formal and non-formal education: the former responds to curricular guidelines and the fulfillment of skills; on the other hand, non-formal education concerns the instruction of human beings throughout life; it does not follow a gradual process. This includes formal and non-formal education. There are three modalities: in-person, blended, and distance learning. According to a UNESCO analysis (2022), these modalities have allowed for easy access to education. Ecuador has increased its enrollment rate in both early childhood and higher education; open-access programs have been



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

implemented for those with unfinished studies. At the same time, non-state higher education institutions were suggested to award 10% scholarships to the student population.

The Educational Curriculum (2016) establishes three levels of education: Early childhood education, which covers children between the ages of three and five. Basic education, which consists of ten years of compulsory education, is made up of four sublevels: 1) preparatory, 2) elementary, 3) middle, and 4) upper elementary. Finally, high school, which comprises three years of compulsory education, offers the Bachelor of Science and the Technical Baccalaureate.

The Bachelor of Science is based on the study of a common core of scientific and humanistic subjects, with the goal of achieving the exit profile expressed in the Compulsory Education Curriculum (2012), which focuses on justice, solidarity, and innovation. Consequently, the Unified General Baccalaureate has been applied since the 2011-2012 school year to the present. On the other hand, the technical baccalaureate focuses its studies on technical disciplines that allow for undertaking economic activities. Regarding the type of support, Article 345 of the Constitution of the Republic of Ecuador (2008) states that: "Education as a public service shall be provided through public, fiscomisional, and private institutions. Educational establishments shall provide free social services and psychological support, within the framework of a system of inclusion and equity."

Education is the country's priority; each leader must ensure continuity in the educational process. The State is responsible for allocating economic resources for its investment, creating relevant educational policies, establishing educational plans capable of meeting educational standards, and programs that lead individuals to act in the reality in which they find themselves. The educational field cannot be disconnected from the political, economic, and cultural context; it must be able to respond to the demands of society. The educational process is centered on the Ecuadorian Constitution (2008) and is regulated by other bodies, including the Intercultural Bilingual Education and Higher Education. Their guidelines are based on the Ten-Year Plan (2006-2015) with the goal of ensuring justice, social equity, inclusion, and social progress. However, the guidelines proposed by macro-level bodies are not compatible with the processes carried out in the classroom (micro-level), which generates a disparity between conceptual, attitudinal, and procedural content. Therefore, it is considered appropriate to analyze the reality of educational work and its impact on the development of intellectual thought.

### 3. Impact of educational reform on the development of critical thinking

Education is the result of a global space in which national and international factors intervene, creating their own educational policies according to the social reality in which they operate. On the other hand, the vast majority of countries that make up the less developed economic blocs adapt internationally accepted quality standards to education, unrelated to the regional, cultural, linguistic, political, and economic context. No state remains indifferent to the educational program; this explains the rethinking of Ecuadorian education in the 1990s, a time when the country was experiencing a series of political, social, and economic difficulties. Educational reforms aim to achieve the formation of an ideal type for society, but by not considering a country's idiosyncrasies, the educational level falls short of the desired levels of progress, a fact reflected in the election of its leaders. For this



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

reason, this section analyzes the impact of educational reform on the development of critical thinking.

The creation of any type of policy must be clear, to the point of leaving no room for interpretation. In 1983, the Education Law was enacted; its content presented a simple and poorly developed construction, its results were reflected in the Curriculum Reform of 1996, where there was no articulation between the mandatory minimum content and skills; moreover, evaluation criteria and indicators were not presented. According to Chamba and Aguilar (2022), education "responded to a utilitarian system, conceiving the subject as a means to achieve certain ends. This is how the political-economic-social system entered into crisis and with it the moral norms that guide the educational policies of the Ecuadorian system" (p. 190). The investments made in health or education were insufficient; the neoliberal economic model in force until then focused its gaze on the economic enrichment of its assets, external debt, corruption, unemployment, mobilizations and other events that fractured the country's economy.

The educational plan, until before 2007, presented certain gaps in its very content, not to mention its process within the classrooms. Staff were also not paid promptly, and education was privatized, with a high rate of garage institutions. The educational model applied in the teaching process was traditional, its methods centered on memorization and repetition of content. Similarly, the teacher's actions were based on behaviorism, with punishment or reinforcement being a primary element in evaluation. Once high school was completed, the panorama was similar in universities. There was no authentic reflection on pedagogical processes. This fact demonstrates the reason for the lack of defined student movements, a passive education, and a scarce cultural capital that prevented adolescents and young university students from questioning their reality. If they took to the streets, they did so motivated by a political party or perhaps because the political-economic situation had become unlivable.

From that moment on, the education law was reformed and enacted in 2011. The LOEI (Organic Law on Intercultural Education) is structured with more solid epistemological foundations, aimed at achieving Buen Vivir through the practice of justice, equity, and social inclusion, as manifested in the exit profile of the National Education Curriculum (2016). The institution in charge of monitoring compliance with the LOEI, the application of the Curriculum, and the achievement of learning objectives is the Ministry of Education. As UNESCO (2022) states in its report, "if a center is found to have committed an infraction, sanctions are applied, such as a written warning, a temporary suspension, or a permanent suspension if children's rights are violated." (p. 149).

The 2016 Curriculum is based on socio-constructivist principles and considers the prior knowledge necessary to construct meaningful learning applicable to everyday life to be essential. It revisits the contributions of critical pedagogy and places the individual at the center of all learning. While it is true that attempts are made to implement socio-constructivist principles in the classroom, it is also true that the teaching staff is scarce, an aspect that impedes the production of meaningful learning among students. The pedagogical importance of assessment is once again focused on as a means of verifying content acquisition. The contributions of critical pedagogy to Ecuadorian education are almost nonexistent, both in the teaching-learning process and in curricular planning, largely due to a lack of awareness of its theoretical assumptions. Furthermore, educators do not receive ongoing training; their knowledge has been limited to that acquired at university.



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)



Likewise, in certain institutions, such as those supported by private institutions, the necessary time for timely teacher training is lacking.

This reality prevents educators from being creative when presenting a class, leading an expository class without employing innovative teaching and learning techniques relevant to the development of complex skills in students. This is in constant contradiction with the provisions of the Curriculum (2016), which focuses its methodology "on student activity and participation that fosters rational and critical thinking, individual and cooperative work in the classroom, which involves reading and research, as well as diverse possibilities for expression" (p. 14).

The educational reality of teachers prevents them from developing these types of skills or fostering interest in certain activities such as reading, writing, or research. Their workload is divided into pedagogical and administrative hours, without taking into account the time required for planning, class preparation, resource searches, assessment, and review of assignments, among other activities. Ecuador is one of the countries that has not strengthened its interest in reading. However, at the ministerial level, the inclusion of a reading plan in the educational program has been proposed, with the aim of improving reading comprehension levels.

Reading is an indispensable skill that enhances human learning and involves processes of understanding and interpreting the world as a whole. In accordance with Giroux (1986), reading should offer "opportunities for individual development, social mobility, and political and economic power for the dispossessed and disadvantaged" (p. 2). To the point that all educational agents must question the current reality, learning methods, teaching strategies, institutional management processes, and the national system, and recognize the type of political and economic ideology that is intended to reproduce it. All of this is done with the aim of innovating the educational reality and effectively implementing the foundations of critical pedagogy, which requires action as agents of individual or social transformation.

The educational goal of achieving social inclusion is increasingly distant. This was evident with the COVID-19 pandemic. Social inequality affected thousands of children and young people in the educational field. Private institutions had greater advantages over public or fiscomisional institutions. From 2019 to 2025, educational quality has declined significantly. The knowledge acquired by students is insufficient. The impact of technology on the educational environment has not been considered. The problems faced by families and teachers with the use of digital resources, tools, and devices have also been problematic.

Added to this is the isolated work of each area of knowledge suggested in the curriculum, giving rise to a hierarchy of subjects. From the perspective of Aparici-Marino et al. (2018), "school institutions have always been based on a scale of knowledge in which the arts remain at the bottom of academic relevance, while mathematics and languages reside at the top" (p. 38). This interplay of knowledge has generated a kind of hierarchy in the subjects taught, especially at the high school level. In the national curriculum of the education system, there is a set of subjects linked to the humanities that have been taken into account to fill the school curriculum.

These subjects are given little importance, have a minimal workload, and contain unattractive content that represents no interest to young people, so they are openly undervalued and receive little attention from the various stakeholders. Added to this is the lack of enthusiasm among the teaching staff, the irrational eclecticism of pedagogical



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

models, and the oversaturation of teachers in the constant preparation of reports, which often forces them to neglect other important teaching functions. Teachers neglect their role in strengthening students' skills and superficially focus their attention on addressing curriculum content. As a result of this behavior, education professionals, for the most part, show a lack of critical thinking in everything they read, learn, observe, and hear.

This educational reality is even more critical in indigenous communities and populations of African descent. In this regard, the goal is to improve the quality of education at all levels and modalities, with an intercultural, bilingual, and inclusive approach. According to the UNESCO assessment (2022), "Ecuador approved a National Strategic Plan for Afro-Ecuadorian Ethno-Education for 2020-2025 that establishes the so-called Guardians of Knowledge Educational Units, as well as teacher training and curricular interventions" (p. 317). The National Strategic Plan for Ethno-Education aims, among other things, to make visible in the National Education System and rescue the history of the Afro-Ecuadorian people, their contributions, knowledge, and expertise. Before the pandemic, teachers in these types of institutions were Spanish speakers, unfamiliar with the culture and identity of these peoples and nationalities.

The analysis of educational outcomes after the pandemic led to a reform of the LOEI published on February 22, 2023, in which importance is given to evaluation, being qualitative for early childhood education and quantitative for subsequent levels. Although the LOEI Regulation (2023) establishes in art. 20 that: "[the evaluation] values integral development... and not only academic performance" (p. 318), so far, the grade is important to promote it to the following year, verify the fulfillment of objectives, measure the skills and indicators met. In the same way, the 2021 Prioritized Curriculum was also implemented, this is focused on the acquisition of skills with knowledge of life and for life. Through this curriculum, we aim to strengthen skills that were underdeveloped during the confinement caused by the pandemic, which is why communication skills were proposed, which help in social interaction, the acquisition of comprehensive reading and the production of texts. These include: mathematical skills, digital skills and socio-emotional skills.

The development of current education presents a series of problems, challenges, and challenges since those in power forget the purpose of education, to the point of turning it into a means to achieve certain ends in line with the current economic model. This reality generates school dropouts, a lack of inclusive education, and easy-going behavior, among other things. Even more so with the pandemic that began in 2019, the educational process experienced difficulties with virtual learning. These effects are visible in post-pandemic education, where young people are observed with little critical thinking, a lack of questioning of what they see on social media or what they learn in educational institutions, and have become mechanical subjects.

Added to this is the performance of teachers in the classroom. In the face of so many reforms, they have become mechanical entities, losing their ability to execute processes that lead students to develop complex thinking processes. Teachers have forgotten their role as intellectuals who transform society. According to Giroux (2001), "teachers often occupy themselves with learning how to teach, with which books to do it, or with mastering the best way to transmit a given body of knowledge" (p. 62). What matters is the content, which will be contrasted with the summative assessment.

Educators need to awaken from this lethargy; they must act as political agents in the teaching-learning process, guide and orient the treatment of content, and awaken doubt



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

through the use of strategies that develop different competencies in the learner. At the same time, one of the tasks of pedagogical action is to question the role of the school and its agents, despite the fact that in the context under investigation, there are administrators who do not accept suggestions for change and tend to disengage professionals who do not conform to institutional ideology and guidelines. The educator of recent times in Ecuador must overcome the instrumentalist tendency, focused on mere productivity and mercantilist tendency and instead must contribute to:

... change the cognitive matrix to transform current Ecuadorian society;... revolutionize thinking regarding the specific needs of Ecuadorians by modifying teaching and learning processes that generate analytical, critical and proactive subjects who walk towards their individual and social project... (Aguilar-Gordón and Rosero-Guillén, 2019, p. 31).

This is how mutual recognition is projected for the construction of situated education that responds to the country's specific requirements and needs, where interculturality, geographic, cultural, and linguistic diversity are fully emphasized. The main rule in creating a document is to maintain uniformity and internal coherence. In many respects, spelling and orthotypography allow freedom when writing certain things, so sometimes there is a debate about whether, for example, something should be written in capital letters or italics. But where there is no debate is that, once a writing style has been chosen, it should always be written the same way.

#### 4. Methodology

The approach of this research is qualitative, characterized by a detailed description of the phenomena studied. According to Hernández-Sampieri et al. (2010), "the qualitative approach is selected when the purpose is to examine how individuals perceive and experience the phenomena that surround them, delving into their points of view, interpretations, and meanings" (p. 358), that is, the beliefs, experiences, attitudes, and behaviors of the interviewees.

The work is based on bibliographical research, drawing on books, theses, journal articles, legal documents such as the Magna Carta, LOEI, curricula, and other documents related to the topic. It is an explanatory research because the text details the problems of current Ecuadorian education, identifies the difficulties educators face when implementing strategies for the development of critical thinking, and describes some strategies for strengthening this cognitive skill. Explanatory research, according to Martínez (2010), "seeks, first and foremost, descriptions and relationships between characteristics of the phenomena it studies. Based on the relationships found, it is possible to formulate empirically based generalizations" (p. 5).

The methods that guided the construction of this paper are the analytical-synthetic method and the hermeneutic method. The analytical-synthetic method allows for the articulation of the assumptions of the legal framework, such as the 2008 Constitution of the Republic of Ecuador, the LOEI (Economic Law of Ecuador), its reform, and the curricular assumptions implemented in the classroom. The hermeneutic method facilitates the interpretation of educational processes and their impact on the development of critical thinking.

As this is a qualitative research project, a semi-structured interview with a four-question script was considered appropriate as the research instrument. To achieve this objective, criterion-based sampling was used, which "...involves selecting cases that meet a



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

predetermined criterion of importance" (Patton, 2001, p. 238). For this purpose, professional profile, knowledge of the Ecuadorian educational reality, and years of experience in the field under investigation were taken into account. Ten professionals with undergraduate and graduate degrees at the master's level and two with postgraduate degrees (bachelor's or bachelor's degrees) were selected. It was also necessary to determine the number of questions and the time that would be used to collect, process, analyze, and systematize the information. Three educators were selected from each of the identified institutions.

The interviews were conducted with twelve teachers from four institutions in the city of Quito during the 2023-2024 school year. Considering the country's reality, the four institutions were selected based on their operating nature. One was municipal, one private, one co-financed (self-managed with support from state funds), and one fiscal or public. All participants teach high school or have a relationship with this educational level. Below is a table explaining the informant profiles.

Interviewee (E)	qualification	Workplace	Function
E1	Master's in Education and Development Projects with a Gender Perspective.	Municipal Educational Unit	Vice-Principal of the North Technical Industrial Private School Academic Coordinator of the EBSI project and the Fernández Madrid Municipal Educational Unit
E2	Master's in Educational Leadership Innovation	Municipal Educational Unit	Teaching Academic Coordinator
E3	Master's Degree in Management and Leadership	Municipal Educational Unit	Teaching in Basic General Education
E4	Electronics and Telecommunications Engineer	Private Educational Unit	Teaching
E5	Master's Degree in Management and Leadership	Private Educational Unit	Teaching
E6	Bachelor's Degree in Pedagogy	Public Educational Unit	Teaching and Curriculum Area Head
E7	Bachelor's Degree in Philosophy and Master's Degree in Education	Public Educational Unit	Teaching and Head of Integrative Projects
E8	Bachelor's Degree in Pedagogy	Public Educational Unit	Teaching
E9	Bachelor's Degree in Philosophy and Master's Degree in Educational Projects	Co-financed Educational Unit	Teaching and Inspection of Unified General Baccalaureate
E10	Bachelor's Degree in Philosophy and Pedagogy	Co-financed Educational Unit	Teaching and Head of the Student Counseling Department (DECE)
E11	Bachelor's Degree in Education with a track in Philosophy and Master's Degree in Philosophy.	Municipal Educational Unit	Vice-Rectorate and Teaching



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

E12	Bachelor's Degree in Private Psychopedagogy and Educational Unit	Inspector, teaching, and head of integrative projects.
	Master's Degree in Education.	

Table 1. Interviewee data

The interview was conducted following all the formal aspects necessary for its application, all phases were duly planned to proceed appropriately before, during and after the interview.

## 5. Analysis and discussion

The interview seeks to understand perceptions about the current state of Ecuadorian education and its impact on the development of critical thinking at the unified general high school level. To this end, each question is presented in the following space with its respective analysis.

In the first question, "What is your opinion about the implications of the latest reform of the LOEI for the educational process?" Seven of the interviewees (58%) maintain that there are positive aspects, as this type of institution has been given a certain degree of autonomy, especially in deciding on the curriculum and the teaching of transversal skills (E1). The reform is positive in that it proposes improving educational quality through teacher training and the implementation of new methodologies that promote more inclusive teaching (E5); the reform has positive aspects such as the flexibility of the curriculum, which allows for the adaptation of content to the needs of students and the reality of the national context (E7); The reform has a successful approach because it promotes comprehensive education, although the educational infrastructure and the provision of teaching materials still need to be strengthened (E8). Additionally, one of the positive aspects is the improvement in teacher performance evaluations, which guarantees the preparation of educators and their commitment to teaching in accordance with the needs of today's society (E9). Furthermore, the strengthening of technical and technological education within the reform is positive because it allows young people to prepare for the workforce, providing alternatives for those who do not follow the traditional academic path (E11). The trend toward valuing the inclusion of people with disabilities and the diversification of teaching is also positive, but requires specialized training (E12).

From another perspective, three participants (25%) assert that the latest reform to the LOEI affects the educational process. With the reduction in teaching hours, it is very difficult to achieve skills acquisition in the unified general baccalaureate (E2, E3). The reform has not had a significant impact on the educational process. Although changes are proposed, some of them have not been accompanied by adequate resources or effective teacher training (E4).

One of the informants (8%), when referring to the question, referred to the entire process of reforms experienced in Ecuadorian education in recent times and stated that the educational reform implemented in 2011-2012 eliminated specializations and harmed high school graduates, turning them into generalists without a solid foundation to adequately continue their higher education or confront society (E6).



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)



One of the interviewees (8%) is "skeptical about the benefits of the reform because they think that the issue of administrative overload that we teachers face is still not being effectively addressed, which distracts from teaching itself" (E10).

It is observed that the diversity of responses depends on the experiences each one has in their professional work and the conditions of the respective institutions to which they are attached. They also point out that the LOEI only benefits students, harming the work of educators due to the assigned administrative burden. This situation demonstrates a gap between the two institutions, where private institutions are more likely to prepare their students due to the added benefit added to their academic curriculum; while public education suffers the consequences of a reform that is not in line with its reality. In agreement with Chamba and Aguilar (2022), the country is experiencing a kind of "...commodification of education (...), making clear the inability of the State to make improvements... and thereby overcome the conception that every school or public institution presents a low [educational] quality" (p. 199).

In the second question, does the current educational curriculum respond to the cultural, economic, and political needs of the educational community or society in general? Three of the interviewees (25%) mention that the reformed curriculum of 2016 responds to the reality of the country; the problem is not the curriculum design, but the way it is applied (E1, E4, and E6); for their part, one of the informants (8%) explains that educators focus more on content, neglecting the development of skills, performance criteria, abilities, attitudes, etc. (E3). From another position, two interviewees (17%) indicate that the curriculum does not respond to the country's context; it is a conglomerate of theoretical assumptions adopted from different countries, which is why there are gaps and disagreements regarding the teaching load, the teaching of subjects unrelated to the professional profile for which they were trained (E2, E5), in addition to the reduction in teaching loads in English, social sciences, language and literature; as well as the elimination of computer science as a subject. These facts prevent the educational subject from acquiring digital, communication, or social skills.

In the words of Aparici et al. (2018), "these reproductive models that shape current education must urgently be overcome by logics that enhance horizontal and non-hierarchical communication inside and outside the classroom in order to develop critical thinking" (p. 9).

Three interviewees (25%) agree that the Ecuadorian educational curriculum has some elements that respond to the cultural and social needs of the community, such as inclusion, cultural diversity, human rights, and values (E9), but it lacks a critical-analytical approach, needs to be updated (E7), and needs to establish a greater connection to respond to the social changes, technological challenges, and economic, labor, and political realities facing our society (E12).

Three informants (25%) maintain that "although the curriculum promotes certain cultural values and has an inclusive approach, it is not sufficient to meet the country's economic demands" (E8). There should be greater integration of content related to the local economy (E10), entrepreneurship, and public policies so that students are better prepared to face the future (E11).

In the third question, what is the importance of developing critical thinking in high school students? Four informants (33%) emphasize that the advantages of fostering this type of thinking are multiple, including: it helps them confront their reality, recognize the impact of



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

education on their lives, and identify themselves as individuals with rights and obligations (E2). In the context of people with unfinished education, this type of thinking will help them understand that acquiring a degree does not grant them an ontological existence (E4), therefore, they voluntarily go back to their studies, a practice through which Freire (1997) explains that the student would discover himself critically as a maker in this cultural world, that his actions modify the world, being able to propose solutions from his experience and the simplicity of his life" (p. 106). Another advantage of developing critical thinking focuses on the acquisition of a historical awareness (E1); the subject is able to improve creation and recreation skills, starting from simple situations to complex ones. (E3)

On the other hand, two participants (17%) stated that this type of thinking is simply a social ideal and impossible to achieve due to the lack of training provided by educators, authorities, and even the Ministry of Education itself (E6, E10).

The four informants (E5, E7, E9, and E12), equivalent to 33%, stated that developing critical thinking is essential for young people to be able to analyze and question the information they receive, make informed decisions, and be responsible citizens. It is a skill that will help them face the challenges of the future and be agents of change in society; it allows them to better understand the world around them, to make informed choices and decisions, and to actively participate in social and political affairs. Indeed, by developing this thinking skill, young people will cease to be mere recipients of information and become active and proactive individuals. It is very important to foster critical thinking in high school students, as it gives them the tools to question, reflect, and make decisions based on analysis, not just on emotion or popular belief. This type of thinking is key to students' personal and social development.

In the words of one informant, "Critical thinking is essential for addressing complex problems, enabling them to question established structures and systems. It helps develop more aware young people with the ability to change their environment" (E9).

Despite this, two interviewees (17%) affirm that although this type of thinking is important because it helps young people question what they are taught and make their own decisions, excessive questioning can lead to an attitude of constant distrust of authorities, which could generate unnecessary conflicts in some cases (E8). Therefore, they recommend the need to find a balance. Likewise, (E11) expresses their doubts when they maintain that, "from an educational perspective, critical thinking is a skill that allows us to process and evaluate information efficiently, but it is not always easy to develop" (E11).

Regardless of the above, it can be asserted that critical thinking is a powerful tool that enables academic improvement, the development of human autonomy, the strengthening of ethical and moral values, and contributes to professional and work performance in society.

In the fourth question, do teachers have the necessary tools to work on developing critical thinking skills in their students? Four informants (33%) stated that there are technological tools, digital platforms, and interactive teaching methods that encourage critical thinking (E1, E3).

Similarly, informant (E5) stated that educators have tools such as pedagogical guides, digital resources, and active teaching strategies that promote the development of critical thinking. According to (E7), these tools allow for the application of methodologies such as problem-based learning and debate, which encourage analysis, discussion, and questioning. From



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

another perspective, six interviewees (50%) expressed their concern about the lack of tools to fulfill the announced purpose, they agree that teachers do not have enough tools to develop critical thinking in learners, "...pedagogical tools are often limited and not updated, there is not enough training for teachers in innovative methodologies that stimulate these types of skills" (E9),

likewise, they affirm that although there is an intention to promote critical thinking, "the tools are very general and do not adapt to the different realities and needs of young people" (E11); often "we lack specific resources and training materials that allow us to teach these skills more effectively" (E2, E6). One of the training programs is not always focused on these competencies, the problem lies in the fact that "although the importance of critical thinking is recognized, there are not enough tools or the necessary support to develop them, the activities we can carry out are limited by the lack of materials and the requirement to comply with a rigid curriculum" (E4, E10).

Two interviewees (17%) condition their response to the context, stating that some institutions have sufficient tools, such as digital resources and active methodologies, that allow for the development of critical thinking. However, it often happens that these tools are not fully utilized or are not sufficient for the entire teaching team (E8, E12). This is even influenced by the type of educational institution in which we find ourselves. The existence or lack of resources determines the quality of education, access and availability of tools, resources, technology, teacher training, among others.

As observed, the majority of interviewees (67%) state that they do not have the necessary tools to fulfill their purpose. Additionally, the professor does not read, does not research, does not seek more information, repeats what they were taught long ago during their university studies, does not modify their teaching methodology, is not familiar with new technological tools, and is unaware of new teaching-learning strategies and techniques such as the use of thinking routines, writing essays, graphic organizers, and posters. This situation impedes the development of metacognitive skills, leaving a clear disconnect between what is learned and what is experienced.

## 6. Results

Based on the information obtained from the interviews and the analysis of documents on the topic, it is found that critical thinking must originate with the teacher, who, through their mediation, generates significant contributions from the classroom to society. Teachers must incorporate this intellectual skill; to this end, they must incorporate reading, reflection, and research into their routine; they must participate in research activities, educate themselves, and constantly train themselves to the point of becoming an ethical and political educator. Pretending to be educationally neutral is a crime today. Freire (1997) mentions that: "One of the beauties of educational practice is precisely the recognition and assumption of its political nature, which leads us to truly respect students by not trying to impose our points of view on them, surreptitiously or rudely" (p. 42). The advantages of fostering critical thinking at the high school level are briefly outlined below. The following advantages arise from this:

a. The ability to propose transformative actions beyond the educational community, identify social problems, reflect on their cause and effect, and question the dynamics of sociopolitical and sociocultural settings. Only in this way will the educational subject abandon the convergent thinking imposed for centuries and embrace divergent thinking with new alternatives for knowledge. While it is true, Giroux (1986) points out that: "Schools will not



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

change society, but we can create pockets of resistance within them that provide pedagogical modules for new forms of learning and social relations, forms that can be used in other spheres" (p. 39), such as universities; spaces in which the new high school graduate is expected to participate in groups and social movements in search of justice and social inclusion.

b. Interpretation of language when transmitting content in the media, on social networks, in political discourse, in literary genres, in musical genres, among others. Both educator and student must ask themselves certain questions: Who is sending the message? What do they want to communicate through the message? Who is behind the discourse? According to Vygotsky (1995), "words play a prominent role both in the development of thought and in the historical development of consciousness as a whole. A word is a microcosm of human consciousness" (p. 113), which hides realities or distorts the intentionality of the message to be communicated. Language is one of the main means of manipulating consciences used by the dominant sectors over the oppressed. Thus, it is possible to visualize differences in the educational level between a middle-class institution versus an upper-class institution. The educational institutions of a middle-class social class are educated with the purpose of intellectual consumption, reproducing behaviors and ideologies, to the point of becoming the future working class of the country. While private institutions to which members of the upper class belong are educated to produce content, laws, lead, command over a working class, generally, these types of subjects are supported by policies that in one way or another end up affecting the employee, allowing the greatest economic benefit of business organizations, plunging millions of Ecuadorians into poverty.

c. Acquisition of complex levels of thinking, such as analysis. Analysis is a cognitive activity responsible for breaking down each of the elements of a given reality. According to Cangalaya (2020), "analysis allows us to explain a phenomenon into each of its parts and characteristics, in such a way that the cause-effect relationships between them can be clearly established" (p. 146). Analysis allows us to understand the intentionality of teaching, a text, a speech, or the surrounding information. This requires another cognitive operation, synthesis, which integrates relevant information and discards all trivial and unnecessary content.

d. Constructing contextualized conclusions, which guide the possible implementation of solutions. The skill of analysis aims to raise questions about the knowledge acquired during the teaching-learning process. Analysis must be strengthened and implemented from the earliest educational levels to find its consolidation in higher education through disciplines and strategies that allow for the construction, proposal, and distribution of knowledge. However, from the position of Aparici et al. (2018), "those disciplines least valued by the legal and judicial framework are precisely those that contribute most to this construction of perspective and to this transformation of society. They are subjects related to the arts and philosophy" (p. 111), which in the Ecuadorian case have reduced course loads or have been eliminated from the institutional academic curriculum.

e. An ethical-moral formation of the subject, which implies the cognitive level of evaluation. Evaluation is the human capacity to determine positive or negative actions toward oneself and in one's relationships with others. According to Cangalaya (2018), "evaluation allows one to make the right decisions in the situations that the subject must face throughout one's life" (p. 147), addressing the possible effects or consequences of a certain behavior. Evaluation not only occurs intrapersonally; it must be applied interpersonally, in the educational environment. The evaluation process has become a task of selection and



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

elimination. It is important for the educational agent to go beyond hetero-evaluation and apply peer or self-evaluation; in this way, evaluation will no longer be viewed as a rigid method. The correct application of evaluation expands in the educational subject the capacity to accept responsibility for their actions, the appropriate use of their freedom, and the ability to correct errors—in other words, to broaden the horizon of human consciousness.

f. Strengthening conscience: There are several meanings of conscience; however, the common definition holds that conscience is the act by which the subject perceives themselves, others as their peers, and the world. Like the skill of evaluation, it is related to the subject's moral actions. The development of critical thinking grants individuals the ability to identify social problems, recognize social injustice, or infer when a right has become a privilege. As human beings change the environment in which they operate, Freire (2004) says, "it was no longer possible to exist except by being open to the radical and profound tension between good and evil, between dignity and indignity, between decency and modesty, between the beauty and ugliness of the world" (p. 25). In other words, acquiring awareness means deciding, choosing, judging, fighting, and engaging in politics. It is common to observe teachers who have put aside their struggle, only aspiring to a promotion or reclassification due to economic incentives, thus dissipating their social conscience.

These are just some of the many advantages for society of developing critical thinking in the classroom. This type of metacognitive skill must be present in students, and even more so in education professionals; otherwise, the teaching-learning process will not enhance human metacognitive abilities; it will only respond robotically to social demands, will be at the mercy of the most powerful sector, and will not provoke social transformation. However, the achievement of critical thinking requires certain methods from the teacher to foster students' interest. The following section reflects on teaching methodologies and their relationship with the development of critical thinking.

## 7. Strategies for the development of critical thinking in unified general high school students.

The results obtained from the interview demonstrate educators' limited knowledge of strategies that help enhance critical thinking. Therefore, before proceeding with the corresponding exposition, it is important to understand their concept.

The term strategy (strategia) comes from two Greek roots, stratos (army) and agein (guide), which means the art of conducting military operations. Initially, the concept arose from a warlike concept due to the military campaigns commonly carried out during the Ancient Age. Secondly, strategy is understood as a plan devised to achieve a specific goal. In the educational field, with the aim of achieving the purpose of education, we speak of pedagogical strategies. According to Tennuto et al. (2003), "...they are a set of activities that are designed with a predetermined objective, in accordance with the teaching purposes established" (p. 781) in the educational plan. The timely application of teaching strategies in high school can ensure the development of critical thinking. It is important to clarify that if these types of techniques are introduced from the early stages of school, there is a potential for fostering critical thinking in the classroom.

To develop logical reasoning, it is suggested to be guided by the five cognitive levels proposed by Marzano (2001): retrieval, comprehension, analysis, application, and



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)



metacognition. Below, to contribute to the development of critical thinking in unified high school, some teaching strategies are presented according to their cognitive level.

The first cognitive level, or retrieval, refers to the prior knowledge possessed by the learner. To this end, several activities are proposed: brainstorming. Brainstorming originated in the business world in the 1950s. This involves presenting a topic or question in the classroom so that, within a period of 10 to 15 minutes, learners, drawing on their prior knowledge, individually or in groups, can propose several ideas in a clear and concrete manner and then share the ideas they have developed. According to Delgado (2022), "Brainstorming is based on four fundamental principles: freedom of thought, avoiding pre-emptive critical scrutiny, the more ideas the better, and multiplying the ideas" (p. 58). This type of activity aims to identify real problems and formulate possible solutions through a series of alternatives presented in the brainstorming session. It must be ensured that the learner does not resort to the use of digital devices.

Another strategy is the thinking routine, also known as the S-QS-A strategy (I know-I want to know-I learned). It is used to activate prior knowledge related to a text, topic, or problem. It also generates doubts about knowledge by posing questions or proposing new content. In addition, it allows the student to acquire the ability to contrast between what he or she knows and what he or she has learned. The strategy is used before studying a text, topic, or problem. It is done as follows: using the blackboard, the teacher designs a table with three entries. In the first, the teacher writes the question: "What do I know?"; in the second, "What do I want to know?"; and in the third, "What did I learn?" When sharing the information, it is necessary to record all ideas, both correct and incorrect, and through explanation, the corresponding ideas are discarded. Applying the thinking routine at the beginning of a new topic generates curiosity and interest in learning and understanding. In this sense, Delgado et al., (2020) state that: "this technique not only allows a diagnostic assessment but also a formative one to verify the significant learning achieved" (p. 89). The objective of this technique is to detect prior knowledge of a topic to expand knowledge through questions that allow relating the skills and content learned with their context.

At the second cognitive level, known as comprehension, the learner is able to adapt their prior knowledge with the knowledge constructed in the classroom. To achieve this objective, it is proposed to use graphic organizers (mind maps, conceptual maps, synoptic tables, mind maps). The use of graphic organizers serves to identify central ideas of the text, topic or problem, organize the content, prioritize information, compare theories. The strategy can be used after having studied a topic or read a text. The teacher is required to use various types of graphic organizers when presenting their classes so that the student can relate to the construction of these. According to Delgado (2022), "among the benefits that this strategy provides us we have that: it encourages creativity, increases our analytical capacity, allows us to enrich our communication, allows us to prioritize and organize information" (p. 59). Graphic organizers should initially be created by hand. Once the student has developed the skill of constructing them, they can be created using various digital applications. The objective of this tactic focuses on synthesizing information to elicit relevant ideas rather than trivial or secondary ones.

At this cognitive level, oral presentation is required, which develops communication skills such as observation, listening, speaking, and argumentation. Through presentations, the individual and/or group level of understanding is verified. According to Tennuto et al. (2003), oral presentations "will help organize and categorize both information and important concepts within a meaningful intellectual framework" (p. 787). It is



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

recommended that students be asked to present real-life examples consistent with the topic during their presentations. The objective of this approach is to allow students to clearly explain their understanding of a given piece of content while also being able to relate it to specific cases from their own experience.

At the third cognitive level or analysis, the use of the academic essay and the application of the Q thinking routine (QV – QnV – QI) are proposed. The essay allows the learner to recognize new problems related to a given topic and deepen their knowledge. The subject not only learns the content, but rather apprehends reality. The academic essay has been one of the underused strategies in the classroom; according to Castañeda and Reyes (2020), it constitutes: "a meeting bridge between critical thinking and argumentative theory, as it brings to the fore skills and dispositions to generate deep reflection on the particular point of view regarding a specific aspect of a certain matter" (p. 170). The teacher should guide the construction of the academic essay, which contains three elements: introduction, development, and conclusions. In the development, it is suggested to add the following components: argumentative paragraphs, counterargument paragraphs, and refutation paragraphs. In this way, the student's skills of analysis and synthesis will be enhanced.

Paraphrasing Delgado et al., (2020), the Q thinking routine (QV – QnV – QI), is an uncommon technique within the teaching-learning process, it serves to generate autonomous knowledge, it consists of answering the three questions: What do I see? What don't I see? What do I infer? These must be written at the end of a certain topic and once the learner has developed this skill, they will be able to question the content provided by the teacher, their methodology, the functioning of the institution and the very ideology of hegemonic sectors, forcing them to investigate outstanding aspects about what they cannot see. There is no in-depth research on this technique, however, from Garcito's perspective (2021) with this strategy: "critical sense can be developed much more and problems can be analyzed from other perspectives, paying attention to their causes and most likely consequences" (p. 55). The Q thinking routine is occasionally used in the social sciences to promote reading comprehension. It is recommended that this be used in the different subjects.

The fourth cognitive level, called application, involves collaborative and cooperative work. At this level, the existence of a subject with perceptive skills is assumed, where learning is transformed into meaningful learning. For this cognitive level, the application of debate or project-based learning is recommended. Debate helps persuade through argumentation and involves the development of communication, digital, and socioemotional skills. Implementing this strategy in the classroom, according to Giroux (2001), "involves developing a unique language attentive to the problems experienced in daily life, particularly to the extent that they are related to experiences connected to classroom practice" (p. 66). It requires prior knowledge, an understanding of the subject matter, analysis, as well as the selection of relevant information from the background, and a grasp of the content.

Project-based learning is one of the most common activities in educational institutions, contemplated by the Ministry of Education for implementation at all educational levels, according to Tennuto et al. (2003) this "involves not only the teaching of procedures, skills, and problem-solving strategies, but also the development of value-based activities that are positive for learning, using problem-solving as a strategy" (p. 830). To date, this strategy has not been implemented correctly in Ecuador. First, two PBL projects are required per partial exam; second, teachers propose the topics to be worked on, neglecting the learner's active initiative; third, project-based learning consists of creating an applicable proposal,



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

while in schools, the presentation of a specific product is proposed, with only challenge-based learning.

The fifth cognitive level, also called metacognition, consists of the development of autonomous learning, the interrelation of information, and the ability to argue, write, question, and persuade on a topic or problem. According to Jaramillo and Simbaña (2014), metacognition "refers to the ability to maneuver, regulate, or control cognitive resources or strategies in order to ensure the success of a task or problem solution" (p. 302). At this cognitive level, the learner can answer himself/herself as suggested in the following questions: Did I achieve it? How did I achieve it? When did I achieve it? To do this, the strategy of questioning and research can be carried out. The posing of questions is null or almost absent in the classroom, it is generally carried out by those teachers with a foundation in the philosophy of education, it consists of asking philosophical questions to the text, the topic, or the problem posed, this strategy requires the pertinent intervention of the teacher. Formulating questions is not an easy task; the student is used to asking questions with immediate answers. The approach to this type of questions reveals your capacity for comprehensive, analytical, and synthetic reading of the text and the context.

Once the questions have been posed, they must be shared in class for discussion. In this space, the teacher no longer transmits any type of knowledge; their role is to act as a guide in the discussion. Based on Tuirán (2019), "the purpose is to instigate students' curiosity and imagination, guide their argumentative skills, make them aware of their difficulties and how to overcome them" (p. 18). The strategy of asking questions gives rise to the investigative desire of others, to the inquiry into knowledge, etc. Currently, research is a complex process that has had difficulties being applied in the classroom. It should be emphasized that, research as a subject appears in the third year of high school; if the teacher limits himself only to reaching that level, there will continue to be a lack of interest on the part of students in committing to social transformation. Research must be present in all curricular subjects and must be exercised by teachers.

Critical thinking is not an easy cognitive skill to develop; it requires teacher training and the appropriate application of properly planned strategies. All cognitive levels must be considered to strengthen critical thinking. In this section, according to the cognitive level, those that can help foster the development of critical thinking in high school have been briefly presented. However, there are still several strategies, such as short films, learning narratives, dramatization, gamification, and the inverted classroom, which are intended to be worked on by other researchers or theorists related to learning, teaching, or philosophy.

## 8. Conclusions

The education system influences the development of critical thinking among students in the unified general high school system. It regulates both the role of the teacher and the learner. The current state of Ecuadorian education still presents a series of difficulties due to reforms brought about by the interests of the ruling government. The latest educational reform, the LOEI (Organic Law of Education), sets forth guidelines regarding merit-based and competitive examinations, assessment-related topics, course load, and the epistemological foundations of the curriculum.

Education is mediated by the Curriculum for Compulsory Education Levels, which is based on the achievement of skills with performance indicators. However, the administrative and pedagogical burden assigned to teachers has limited them solely to teaching content that is verified in assessment processes, a situation that sheds light on the gap between what is



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

expressed in the educational plan and what is implemented in the classroom. In a scenario like the one described above, education has recently declined in quality, affecting generations who have had to undergo the so-called "curriculum update" and the implementation of educational reforms unrelated to the context of Ecuadorian basic and secondary education.

The 1996 curriculum reform in Ecuador marked a key change in the education system. Beginning that year, 10 years of compulsory education were established and the curriculum was structured around areas of knowledge. This was the so-called "Consensual Curriculum Reform," which established the general objectives for basic education and the new curriculum. From 2009 to 2012, the reform known as "Updating and Strengthening Basic General Education and the Unified General Baccalaureate, which prioritized know-how and skills," was implemented. In 2016, the so-called "Curricular Adjustment" was introduced for basic general education and the unified general baccalaureate. In 2018, the "Reform of the basic general education curriculum" emerged, which focused on the development of competencies in students; In 2021, the "Consensual Curriculum Reform for Basic Education" was established.

The so-called "Curriculum Update and Strengthening Process" for Basic General Education came into effect in 2009, and in the 2011-2012 school year, the so-called Unified General Baccalaureate (BGU) was established.

Regarding Basic General Education, in documents from the Ministry of Education (2016), it was characterized as "...being a skills-based mesocurriculum, structured in curricular blocks conceived as learning units, (...) which presents the characteristics of an annual program for each of the areas of knowledge, with all the necessary elements for teaching action" (p. 6). The intention was good in the sense that it relied on the principles of critical pedagogy, revaluing the role of the student as the protagonist of their learning, and because it sought to comply with Article 343 of the 2008 Constitution and Article 2 of the Organic Law on Intercultural Education, a regulation that, as a whole, raises the need to prepare individuals to face and solve everyday problems.

Regarding the update and implementation of the Unified General Baccalaureate, the same document from the Ministry of Education (2016) indicates that one of the purposes was to provide:

.... a general education appropriate to their age.... came to replace the set of plans and programs for specializations that were used until then for this educational level, articulating this training offer with the current curriculum of Basic General Education and responding to the same structure (p. 6).

However, despite the intentions described for both cases, the results were not as expected. Thus, in 2016, based on teachers' experience and information regarding the implementation of the proposed curriculum and previous curriculum designs, the so-called "curricular adjustment" was implemented for Basic General Education and the Unified General Baccalaureate. A "more open and flexible proposal was presented, with the aim of providing better tools for addressing the diversity of students in different educational contexts (...) in accordance with Article 10 of the Regulations of the Organic Law on Intercultural Education" (Ministry of Education, 2016, p. 7).



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

The reforms since 2016 have followed the same trend without achieving a major impact on the main local educational stakeholders. They continue to use classroom practices and curricular models from other countries unrelated to Ecuadorian reality as references. The consequences of these reforms, which have clearly impacted training, are still being felt. In the intellectual, procedural, and attitudinal aspects of students, there is a clear gap between secondary and higher education. There are problems with comprehension, little interest in research, "don't-care" attitudes, poor analytical, critical, and reflective capacity for problem-solving, etc.

There is a lack of coordination between the mandatory minimum content and the skills that must be developed throughout the educational process until the completion of high school, resulting in a low-quality education where learners struggle to analyze, argue, reflect, question, and classify information. Educational reforms must be oriented toward the teaching-learning process, must be consistent with the reality of the classroom, must contribute to reducing student passivity, reducing the number of teachers who act mechanically, responding to the models under which they were trained, and reducing the administrative and management burden currently placed on education professionals.

The presence of tired teachers prevents them from developing certain cognitive skills in their learners, which are essential for reflecting on the Social injustice and inequity. The Ecuadorian educational space requires sound, timely, and pertinent policies centered on both the teacher and the student. Teachers, as intellectual transformers, have the obligation to awaken critical thinking in their learners. Critical thinking inherently encompasses complex cognitive operations such as analysis, reflection, argumentation, questioning, and cooperative work. The development of these skills brings with it a series of advantages for society in the classroom, including the development of awareness, reflection on ethical and moral behavior, recognition of the Other, Good Living, social inclusion, and so on. To participate in these types of advantages requires a well-prepared teacher, since an education professional who does not read or research will have difficulty fostering the development of critical, reflective, and creative thinking in others. In general, in the Ecuadorian educational context, as recommended by Aguilar-Gordón and Rosero-Guillén, it is essential to (2019):

...Assess and apply the principles stipulated in the Constitution of the Republic of Ecuador and in all the regulations established in the derived laws: Organic Law of Higher Education, Law of Intercultural Education and make a reality all the provisions that promote the construction of a comprehensive and holistic education (p. 35).

An education that promotes critical, reflective, and proactive thinking that allows for the appreciation of each individual by examining themselves, understanding others, and constructively undertaking social transformation.

Finally, education professionals must not only ensure the development of thinking but also implement relevant methodologies to generate critical thinking. Teachers need to create means to acquire this type of thinking, and it is advisable that these be applied from lower levels. However, there are certain strategies that can be applied with high school students, according to the cognitive level formulated by Marzano (2001). Five cognitive levels were considered, with certain proposals to be developed in the classroom: 1) retrieval, including brainstorming or thinking routines; 2) comprehension, with graphic organizers or oral presentations; 3) analysis, through the development of an academic essay or an exercise



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)



applying the three Qs; 4) application, through debate skills or project-based learning. 5) metacognition, a more complex level, requires formulating questions with a philosophical character and research.

## Bibliographic references

- Aguilar-Gordón, F., & Rosero-Guillén, B. (2019). Cambio de la matriz cognitiva como arista para la formación de la persona en el Ecuador. *Revista Cátedra*, 2(2), 15-38. <https://doi.org/10.29166/catedra.v2i2.1684>
- Aparici-Marino, R., Escaño, C., & García-Marín, D. (2018). *La otra educación. Pedagogías Críticas para el siglo XXI*. UNED - Universidad Nacional de Educación a Distancia.
- Asamblea Nacional. (2008). *Constitución de la República del Ecuador*. Montecristi: Asamblea Nacional.
- Cangalaya, L. M. (2020). *Habilidades del pensamiento crítico en estudiantes universitarios a través de la investigación*. Desde el Sur, 12(1), 141-153. <http://dx.doi.org/10.21142/des-1201-2020-0009>
- Castañeda, J., & Reyes, E. (2020). Cap. 7: El ensayo académico, una puesta en práctica del pensamiento crítico. Itinerario de una experiencia de investigación. En P. Oviedo y R. Páez [coord.], *Pensamiento crítico en la educación : propuestas investigativas y didácticas* (págs. 163-186). Universidad de La Salle. Facultad de Ciencias de la Educación, CLACSO. <https://biblioteca.clacso.edu.ar/Colombia/fce-unisalle/20210211051501/Pensamiento-critico-educacion.pdf>
- Chamba, A., & Aguilar, F. (2022). Contribuciones de la Filosofía Poítica Latinoamericana para la educación superior ecuatoriana del año 2000 hasta la actualidad. *Revista de Ciencias Sociales y Humanísticas Societás*, 24(2), 182-209. <https://revistas.up.ac.pa/index.php/societas/article/view/3008/2678>
- Chiavenato, I. (2007). *Administración de recursos humanos: El capital humano de las organizaciones* (8ª ed.). McGrawHill.
- Delgado, C. (2022). Estrategias didácticas para fortalecer el pensamiento creativo en el aula. Un estudio metaanalítico. *Revista Innova Educación*, 4(1), 51-64.
- Delgado, E., Gutierrez, G., Livier, G., Flores, L., & Hermosillo, E. (2020). Evaluación del aprendizaje con SQA al aplicar técnicas de Enseñanza-Aprendizaje según el estilo de aprendizaje. *Revista de Educación y Desarrollo* (56), 87-94. [https://www.cucs.udg.mx/revistas/edu\\_desarrollo/anteriores/56/56\\_Delgado.pdf](https://www.cucs.udg.mx/revistas/edu_desarrollo/anteriores/56/56_Delgado.pdf)
- Freire, P. (1997). *La educación como práctica de libertad*. Siglo XXI Editores.
- Freire, P. (1997). *Política y Educación*. Siglo XXI Editores.
- Freire, P. (2004). *Pedagogía de la Autonomía: Saberes necesarios para la práctica educativa*. Paz e Terra S.A.
- Garcito, A. (2021). *Estrategia metodológica para el desarrollo de la comprensión lectora en el área de lengua y literatura*. [Tesis de licenciatura, Universidad Regional Autónoma de los Andes]. Repositorio Digital UNIANDÉS.



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

<https://dspace.uniandes.edu.ec/bitstream/123456789/13051/1/TUAEXCOMLCE001-2021.pdf>

- Giroux, H. (1986). Teorías de la reproducción y la resistencia en la nueva sociología de la educación: Un análisis crítico. *Polémicas* (17), 36-65. <https://doi.org/10.17227/01203916.5140>
- Giroux, H. (2001). Los profesores como intelectuales transformativos. *Profesión docente* (15), 60-66. <https://campusacademica.rec.uba.ar/mod/resource/view.php?id=4245>
- Hernández Sampieri, R., Fernández Collado, C., & Baptista, P. (2010). *Metodología de la Investigación* (5ª ed.). McGrawHill.
- Jaramillo, L., & Simbaña, V. (2014). La metacognición y su aplicación en herramientas virtuales desde la práctica docente. *SOPHIA: Colección de la Filosofía de la Educación* (16), 1, 299-313. <https://doi.org/10.17163/soph.n16.2014.13>
- Martí-Castro, I. (2003). Sistema. En *Diccionario Enciclopédico de Educación*. Grupo Editorial Ceac S.A (LEXUS).
- Martínez, J. (2010). Métodos de Investigación Cualitativa. Silogismo: *Revista de la Corporación Internacional para el Desarrollo Educativo*(8), 1-34. <http://www.cide.edu.co/doc/investigacion/3.%20metodos%20de%20investigacion.pdf>
- Ministerio de Educación. (2016). *Currículo de los niveles de Educación Obligatoria*.: Ministerio de Educación. <https://educacion.gob.ec/wp-content/uploads/downloads/2016/03/Curriculo1.pdf>
- Ministerio de Educación. (2021). *Currículo Priorizado con énfasis en competencias comunicacionales, matemáticas, digitales, socioemocionales: Nivel Bachillerato*. Ministerio de Educación. <https://educacion.gob.ec/wp-content/uploads/downloads/2021/12/Curriculo-priorizado-con-énfasis-en-CC-CM-CD-CS-Elemental.pdf>
- Ministerio de Educación. (2023). *Estadística educativa Volumen 4*. <https://educacion.gob.ec/wp-content/uploads/downloads/2023/11/Estadistica-Educativa-Volumen-4.pdf>
- Olsen, A. & Prado, J. 2020. COVID-19 y la transición de la educación privada a la pública en Ecuador. <https://blogs.iadb.org/educacion/es/covid-19-y-la-transicion-de-la-educacion-privada-a-la-publica-en-ecuador>
- Reglamento General a la Ley Orgánica de Educación Intercultural, Decreto Ejecutivo No. 675, Registro Oficial, 2.º Supl. No. 254 (22 feb. 2023). <https://recursos.educacion.gob.ec/red/reglamento-a-la-loei/>
- Patton, M, Q. (2001). *Métodos de investigación y evaluación cualitativos* (2ª edición). Thousand Oaks, CA: Sage Publications.
- Tennuto, M., Hernández, M. & Falieres, N. (2004). Escuela para Maestros. *Enciclopedia de Pedagogía Práctica*. Círculo Latino Austral. Lexus .



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

Tuirán-Hernández, B. (2019). *La "comunidad de indagación" en la filosofía para niños de Mathew Lipman*. [Tesis de licenciatura, Universidad de Cartagena]. Repositorio Digital. <https://hdl.handle.net/11227/9827>

UNESCO. (2022). *Informe de seguimiento de la educación en el mundo 2021/2: Los actores no estatales en la educación ¿quién elige? ¿quién pierde?* UNESCO. <https://doi.org/10.54676/KDWS4430>

Vigotsky, L. (1995). *Pensamiento y Lenguaje: Teoría del desarrollo cultural de las funciones psíquicas*. (M. M. Rotger, Trad.) Ediciones Fausto.

Wallerstein, I. (2006). *Análisis de sistemas - mundo*. Siglo XXI.

Zayas, F., & Rodríguez, A. T. (2010). Educación y Educación Escolar. *Revista Electrónica "Actualidades Investigativas en Educación"*, 10(1), 1-21. <https://archivo.revistas.ucr.ac.cr/index.php/aie/article/view/10097/17951>

## Authors

**ALEXANDRA PATRICIA CHAMBA-ZARANGO** earned her Bachelor's degree in Philosophy and Pedagogy from the Salesian Polytechnic University/Ecuador. She earned her Master's degree in Education with a major in Management and Leadership from the Pontifical Catholic University of Ecuador. She earned her Master's degree in Education with a major in Thought Development from the Salesian Polytechnic University/Ecuador. She is a member of the Philosophy of Education Research Group (GIFE). She is an educational innovation analyst at the Ministry of Education, Recreation, and Sport. She has worked as a teacher in both regular and extraordinary education.

**FLORALBA DEL ROCÍO AGUILAR-GORDÓN** Postdoctoral Fellow in Qualitative Research. Postdoctoral Fellow in Science. PhD candidate in Education and Innovation from the Research and Innovation University of Mexico. PhD in Philosophy. PhD in Research and Teaching. Master's degrees in Education, major in Higher Education; in Applied Technology in Education; in Distance Education; in Teaching Philosophy. Expert in Knowledge Analytics. Specialist in Curriculum Planning and Organization of Distance Education Systems. Advanced Diplomas: Curriculum and Didactics; Educational Transformation; e-learning; Educational Research; Foundations of Distance Education and Research; Cooperative Learning; Management, Technology, and Leadership. She holds various international certifications as an accredited international tutor. She holds bachelor's degrees: one in Philosophy and another in Social, Political, and Economic Sciences. She also holds a law degree. She is currently a full professor at the Salesian Polytechnic University; editor-in-chief of Sophia Magazine: Collection of Philosophy of Education published by the Salesian Polytechnic University of Ecuador and coordinator of the Philosophy of Education Research Group (GIFE). Member of the Scientific Council and international reviewer for important journals in Ecuador, Spain, Colombia, Uruguay, Chile, Mexico, and Costa Rica.

## Declaration of authorship-CRediT

**ALEXANDRA PATRICIA CHAMBA-ZARANGO:** Data collection, conceptualization, data analysis, methodology, and drafting of the original draft.

**FLORALBA DEL ROCÍO AGUILAR-GORDÓN:** Definition of the central theme and structure of the research, supervision of the research process, formal and conceptual review of the original draft, rewriting, in-depth research, editing, and final adjustments.



[Licencia Creative Commons Atribución 4.0 Internacional \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)