

Didactic strategies to foster critical thinking in the development of communication competencies: A systematic literature review using the SALSA method

Estrategias didácticas para fomentar el pensamiento crítico en el desarrollo de competencias comunicacionales: Una revisión sistemática de literatura con el Método SALSA

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Abstract

The evolution evidenced worldwide has generated a new way of acting on the part of human beings, to the point that all strategic sectors of society need to assimilate and implement new methodologies and strategies that allow them to optimally leverage resources and human talent. Education is a fundamental pillar that has benefited from these updates; a clear example is the application of didactic strategies to foster critical thinking and the development of communication skills.

The implementation of innovative strategies allows students to improve their reasoning, analysis, synthesis, and other skills that contribute to their academic, personal, and professional growth. Different social contexts require individuals to adequately articulate the various concepts and ideas that arise from the assimilation of information. In this sense, the present study conducts a systematic literature review on didactic strategies to promote critical thinking in the development of communication competencies; the SALSA method is used to develop the proposed work, which consists of four important stages to identify the current situation of the topic.

Keywords: education, didactic strategies, critical thinking, communication competencies

Resumen

La evolución que se evidencia a nivel mundial ha generado una nueva forma de actuar por parte del ser humano, a tal punto que todos los sectores estratégicos de la sociedad necesitan asimilar e insertar nuevas metodologías y estrategias que les permitan aprovechar de manera óptima los recursos y el talento humano. La educación es un pilar fundamental que se ha beneficiado con estas actualizaciones, muestra de ello es la aplicación de estrategias didácticas para fomentar el pensamiento crítico y el desarrollo de las competencias comunicacionales.

La implementación de novedosas estrategias permite a los estudiantes mejorar su razonamiento, análisis, síntesis y otras habilidades que les ayudan a su crecimiento académico, personal y profesional. Los distintos contextos sociales exigen que las personas necesiten exteriorizar de manera adecuada los distintos conceptos e ideas que surgen a partir de la asimilación de la información. En tal sentido, el presente estudio realizó una revisión sistemática de literatura sobre las estrategias didácticas para fomentar el pensamiento crítico en el desarrollo de competencias comunicacionales; se utilizó el método SALSA para desarrollar el trabajo propuesto, el mismo que constó de cuatro etapas importantes para identificar la situación actual del tema.

Palabras clave: educación, estrategias didácticas, pensamiento crítico, competencias comunicacionales

Introduction

Education is a means to develop the capacities of every individual who is part of society. During the teaching-learning process, human beings receive and generate information that facilitates the construction of knowledge. The implementation of didactic strategies in academic training is important to foster critical thinking in students, whose academic path is oriented toward increasing their potential based on the way in which they resolve and respond to social problems. Chancusig and Granja (2023) pointed out that it is important to implement strategies in the classroom that stimulate critical thinking, since "it is essential to promote enriching learning and prepare students for the challenges of the contemporary world" (p. 33).

Academic training requires ongoing preparation and updating of knowledge. The more advanced the educational level, the more educational strategies must be implemented that are tailored to the needs and abilities of students. The cognitive evolution of human beings, developed in educational institutions, encourages information-based analysis, debate, problem-solving, and the externalization of critical thinking generated by the exchange of concepts.

The methodologies used in education have improved over the years. The application of innovative pedagogical strategies has helped foster critical thinking among students and developed communication skills that allow them to communicate concepts in a clear, reasonable, and understandable manner. Communication skills encompass verbal, nonverbal, and digital expressions, which are essential for improving the teaching-learning process, as they foster better and more effective interaction between teachers and students, which promotes participation, critical thinking, and reflection (González and Robalino, 2024).

The current generation's learning is based on new technologies and methodologies that seek to exploit each student's cognitive capacity. The better the content is assimilated, the better responses are developed. Professionals' use of teaching strategies and new information and communication technologies should be student-centered to stimulate an interactive learning environment (Morales, 2023). Students receive information, analyze, synthesize, and reasonably express new content. With a large amount of information available, educators apply teaching strategies to develop critical thinking in students. They are also responsible for fostering communication skills so that each individual is able to express their ideas, whether orally or in writing. It is important to consider that the reception and transmission of knowledge must be carried out in such a way that the information is easy to understand and transmit, and that those involved in the teaching-learning process use the same language and have prior knowledge that allows them to continue developing their critical thinking and improving their skills to perform adequately at an academic, personal, and professional level.

Modern education requires teachers to develop critical thinking skills that enable them to analyze situations and solve problems. The development of reasoning relies heavily on the didactic strategies applied during the teaching-learning process, in which educators, in addition to transmitting knowledge, instruct and guide students on how to express ideas and thoughts to generate debate, seek solutions, and convey new information in an understandable manner.

Teaching strategies foster critical thinking and contribute to communication skills when externalizing or sharing knowledge developed during the teaching-learning process. The importance and influence of this topic in the academic field and its social interest motivated the development of this work. Through a systematic literature review using the SALSA Method, the study of teaching strategies to foster critical thinking in the development of communication skills will be developed.

The proposed study was organized in such a way that the methodology to be used was defined in the following section and subsequently a literature review was developed, the most important aspects were discussed, and finally, the general conclusions based on the proposed work were presented.

Methodology

The present study was developed using the SALSA Frameworks; Noboa (2023) stated that this method “considers four components in a systematic review: search, evaluation, synthesis, and analysis” (p. 4412). The application of this methodology enriched and facilitated the development of the proposed work.

2.1. Search

The abundant information available on teaching strategies to foster critical thinking and communication skills prompted a search for studies indexed in recent years for review. This is because knowledge and research are updated over the years, and new information emerges, which is immediately available and contributes to a large database generated thanks to the digital age. The search for research papers of academic and scientific relevance benefited the support of this paper.

Currently, new technologies have facilitated the creation of multiple resources that house large databases, which are available to researchers to support the development of their respective studies. Physical and, primarily, digital resources contain important information; however, an organized search for up-to-date scientific content was required to support this study. Reliable bibliographic sources were found on sites such as SCOPUS, SciELO, ScienceDirect, and other digital platforms that contain abundant credible studies and contribute to the academic and scientific fields, which contributes to the development of this work.

2.2. Evaluation

The search for works that contributed to the research yielded a wealth of information. Therefore, the studies considered in the initial phase had to comply with inclusion and exclusion criteria to evaluate and select the content that most contributed to the development of the proposed work. For this reason, certain parameters were applied at this stage, such as the relevance, interest, and influence of the selected research. The evaluation of the works obtained from the search on the websites and platforms mentioned in the first component of the SALSA Frameworks was

fundamental, as it was necessary to assess which studies would be included in the research and which would be excluded. The quality and interest of the research are important requirements when considering which studies will contribute to an adequate synthesis and analysis.

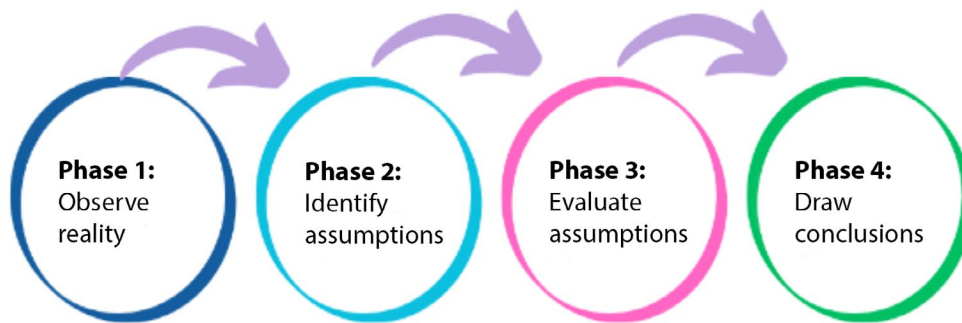
The information obtained for this study was selected based on the contributions and results demonstrated in their respective research. Similarly, to provide up-to-date content, we chose to consider works from the last five years that delve into relevant data related to teaching strategies to foster critical thinking and the development of communication skills. The aforementioned platforms and websites were chosen because these digital resources have gained credibility and recognition in the research field. They also offer studies in different languages, which generate different perspectives and analyses. However, for the proposed work, studies with assimilable and understandable content were prioritized to avoid potential distortion of the message.

Because the teaching strategies influenced critical thinking in the development of communication skills, the contribution that these studies have had on academic and scientific development was also considered when evaluating the information that will contribute to this work.

2.3. Synthesis and Analysis

In these two final stages of the SALSA Frameworks, the studies selected through inclusion and exclusion filters were gathered and compared to continue developing this work. The synthesis and analysis of the content allowed the information obtained to be relevant to teaching strategies to stimulate critical thinking in the development of communication skills. The synthesis and analysis could be presented through the extraction of important information and the use of tables or narrative summaries (Codina, 2023). However, in the present study, a systematic literature review was developed using the SALSA method to address issues related to teaching strategies to promote critical thinking in the development of communication skills.

The academic training of human beings has been developed with the objective of instructing and training them to face the eventualities that develop at the level of society, such that teachers are the main actors in charge of guiding and developing the reasoning of students. Over the years, it has been evident how the complexity of situations and knowledge are developed in each person and are fostered in a basic way until they reach the necessary complexity for students to be capable of acting at the level of higher education. Vera (2023), from a qualitative approach, proposes a work referring to "Active learning and critical thinking: Promoting student development in a private Chilean university" (p. 35). This study took into consideration the importance of active learning and critical thinking, adding that: "including the development of critical thinking in professional training generates a positive impact on academic success and the formation of committed citizens." Additionally, the author proposed a four-phase critical thinking model, which is evidenced in *Figure 1*.

Figure 1*Critical Thinking Model.*

Nota. From “Active Learning and Critical Thinking: Promoting Student Development at a Private Chilean University,” by Vera (2023)

Classrooms are appropriate spaces for teachers to apply strategies that encourage students’ critical thinking and reinforce these tactics through homework and activities or by applying virtual methods to improve reasoning and analysis. Arango et al. (2024) in their work regarding “New generations, new challenges: Innovating education in emergency medicine through technology”, applied a descriptive study of the systematization of experiences to present a resource for the benefit of education focused on virtual simulation that sought to improve the methods applied in traditional education, the authors added that: “Implementing innovative educational strategies that promote curiosity and motivation are elements that can significantly improve active participation and commitment in the educational process” (p.6).

Delgado (2022) in his work on “Teaching strategies to strengthen creative thinking in the classroom”, reviewing scientific literature in indexed journals, carried out a meta-analytical study, in which he argued that: “The most effective way for teachers to stimulate creative thinking in their pedagogical practice is by being creative themselves” (p. 52). For his part, Kwan (2022) in his work on “Teaching role and innovative teaching strategies with an emphasis on research”, stated that teachers should not stagnate in implementing traditional teaching strategies, but “should use creativity to make classes fun and enjoyable, thus continuing to promote critical thinking in students” (p. 8).

By stimulating creativity, participants in the teaching-learning process are provided with alternatives that allow them to think critically and discuss possible problems and solutions. Additionally, educators must build appropriate scenarios to develop communication skills and be able to externalize information. This requires those involved in the teaching-learning process to adapt to the required means of expression and be prepared for each social moment and express their criteria (Rodríguez et al., 2023). The use of signs or symbols known to both the sender and the receiver reflects that the language must be understood by those involved to generate effective, two-way communication (Muevecela and Fuentes, 2024).

Among the teacher's competencies, there is also mainly the promotion in their students of the appropriate forms of oral, written or gestural expression, specific areas such as language and literature are academic spaces responsible for the management of this type of communication skills. Cabrera and Tapia (2023) in their work regarding "Collaborative learning applied in the teaching of language and literature: enhancing participation and the development of skills", through documentary research, their analysis reflected that the integration of collaborative work improves the teaching-learning process because currently a better interrelation between students is sought, the authors maintained that: "Learning in the area of Language and Literature focuses on improving reading, writing, comprehension and literary analysis skills" (p. 3270), which allows the development of a communication competence that allows improving understanding in any communicative context. On the other hand, Tabernero and Colón (2023) set as their objective the reading of non-fiction books that favor critical thinking and other skills and propose the work: "Reading to think. The illustrated non-fiction book in the development of critical thinking" and added that in the subject of Spanish Language and Literature "the training of a competent, autonomous and critical reader is highlighted, capable of understanding and interpreting written and multimodal texts that allow him to face the challenges of today's information society" (p.4).

Valdez and Pérez (2021), in their study "Communication skills as a fundamental factor for social development," added that "it is essential to include the development of communication skills in teaching" (p. 436). This work, which applied a non-experimental design methodology and a systematic review with a qualitative descriptive level, concluded that with proper training in communication skills, they can be enhanced and, in turn, become an important resource for contributing to the advancement of society.

The strategies that have been frequently applied in the academic field to foster critical thinking are problem-based learning, analysis of written texts, case studies, and challenges. Applying these strategies has sought to develop skills such as analysis, comparison, synthesis, and evaluation, which allow students to solve problems and make better decisions (López et al., 2022). Furthermore, strategies such as critical reading in pairs, collaborative work, analysis of information from social and communication media, among other ways of fostering critical thinking in the development of communication skills, have been inserted into education. A clear example is the false content evident in social media, as these are highly valued elements when fostering critical thinking through the analysis of information and the teacher's guidance to differentiate between reality and malicious intent (Garcés et al., 2023).

Critical thinking involves a process with interrelated stages. It begins with an analysis of information to understand the situation or problem, then the information is interpreted and conclusions are drawn based on evidence and logic. The quality of the information content is then assessed, and finally, the arguments generated to seek problem resolution are clearly communicated, based on analysis and reasoning (Ilbay & Espinosa, 2024).

"The Importance of Critical Thinking and Problem-Solving in Contemporary Education" is a work carried out by Ilbay and Espinosa (2024) that aimed to analyze how critical thinking and problem-solving can be cultivated in the current educational field. Below, *Table 1* shows important

information from Ilbay and Espinosa (2024, pp. 13-14), which pointed out important information about how important critical thinking and problem-solving are in today’s educational environment.

Table 1
Important Aspects of Critical Thinking and Problem Solving.

Aspect	Description
“Relevance of critical thinking”	“Critical thinking skills are fundamental to academic success and preparing students to face the challenges of the modern world.”
“Analysis and questioning”	“The ability to analyze information thoughtfully and challenge preconceived ideas is essential in an environment of rapidly evolving information and complex problems.”
“Understanding and participation”	“Critical thinking enables students to better understand the world and make informed decisions, enabling them to actively participate in society.”
“Challenges in education”	“Promoting critical thinking faces challenges such as the need to adapt teaching practices and overcome traditional approaches focused on memorization and repetition.”
“Interrelation with problem solving”	“The ability to effectively identify and address problems requires strong critical thinking and practical skills to develop innovative solutions.”
“Pedagogical strategies”	“It is essential to integrate pedagogical strategies that foster both critical thinking and problem-solving to prepare students for the challenges of the 21st century.”

Nota: The table emphasizes important aspects of critical thinking and problem-solving, also highlighting challenges and strategies. From “The Importance of Critical Thinking and Problem-Solving in Contemporary Education,” by Ilbay and Espinosa (2024).

Teachers, being prepared to manage the teaching-learning processes, need to establish didactic strategies that allow students to identify, select, evaluate, and analyze relevant information and consequently learn from it (Soto and Chacón, 2022). The application of this type of strategies stimulates students’ skills and encourages critical thinking, since, through academic participation, better cognitive development of the human being is achieved. Cárdenas et al. (2022) in their work regarding “Development of critical thinking: Methodology to promote learning in engineering”, using a methodology called Desk Research, conducted a study in which they sought to formulate a methodological proposal to promote the development of critical thinking in engineering students. The authors maintained that: “The didactics of critical thinking requires active learning for the construction of knowledge” (p. 515). Therefore, the teaching-learning process plays an important role in the exchange of information and feedback between teachers and students.

During the teaching-learning process, a large amount of information is exchanged, which is why specialist teachers or research experts must assume a role in the academic system to innovate and improve the teaching strategies used in classrooms, or in turn adapt existing strategies through new methods, instruments, techniques and procedures (Mendoza and Rangel, 2022) that are beneficial to foster critical thinking in the development of communication skills.

Jiménez et al. (2021) proposed “Case studies to develop critical thinking” (p. 522) as a teaching strategy. In this work, a quantitative approach and quasi-experimental design were applied, in which 100 students were considered so that the aforementioned strategy could be applied through 18 learning sessions. It was evident that a high percentage of students reached an expected

level of achievement in the dimensions of critical thinking such as inference, explanation, and evaluation. The same authors added that thinking is of great relevance among the most essential competencies of the 21st century, for this reason "students are required to develop skills such as: Reasoning, argumentation, and problem-solving, which allow them to promote urgent changes in today's society" (Jiménez et al., 2021).

Teaching strategies have also been influenced by new technologies, as exemplified by GPT Chat. This technological resource can benefit participants in the teaching-learning process as long as it is used appropriately. This artificial intelligence functions as an educational aid, and above all, with its fluent language and close resemblance to human speech, it is ideal for fostering critical thinking in the development of communication skills (Atencio et al., 2023).

Continuing with teaching strategies, Gutiérrez (2021) proposed an "Active methodology as a teaching strategy in the development of critical thinking" (p. 8545). His research was applied under the scientific method and an experimental design with an explanatory level. The aforementioned author applied the strategy in a sample of 103 high school students and concluded that the active methodology significantly influences the development of critical thinking, in such a way that "when talking about critical thinking, it is necessary to understand that it is related to the intellectual character which is determined by the allusion to obtaining an open mind to different positions" (Gutiérrez, 2021). By applying this teaching strategy, students can develop skills such as interpretation and analysis when assimilating the information they are perceiving and questioning reasonable doubts and scientific truths.

Teachers must keep in mind that the selected teaching strategies need to have the student as their central axis, therefore, planning should focus on achieving academic objectives that favor the development of critical thinking (Morales, 2023). The appropriate selection of teaching strategies improves learning, since it encourages student participation in reasoning, analyzing, thinking and externalizing their ideas in a more structured and understandable way. González (2021) in his work regarding "Alternate realities: teaching strategies for the promotion of critical thinking in the face of educational hybridization" (p. 7) applied a qualitative methodology with an interpretive analytical method. His study concluded that education is experiencing modifications due to the arrival of a changing system and it is necessary to insert these new practices into the academic field; Furthermore, it was added that: "Through didactic strategies, which make use of digital and communication tools, the diagnosis of the context is facilitated for the development of critical thinking" (González, 2021), the dialogue and contextualization of situations or problems stimulates students' reasoning to provide better answers and solutions.

Teaching strategies have become important resources in education because they influence the development of critical thinking by stimulating reasoning, analysis, synthesis, reflection, and other skills that students develop throughout their academic careers. Activities such as reading comprehension, collaborative work, and information analysis, among others, foster critical thinking in humans. Teachers, as those responsible for guiding the teaching-learning process, are also responsible for developing communication skills so that students are prepared to respond and appropriately express concepts and ideas, ensuring that their messages are understood in different communication settings.

Results

Fostering critical thinking in humans leads to a better ability to respond to problems and situations that arise in society. Therefore, teachers need to implement teaching strategies that foster students' critical thinking and develop their communication skills so they can express and express their ideas and concepts clearly.

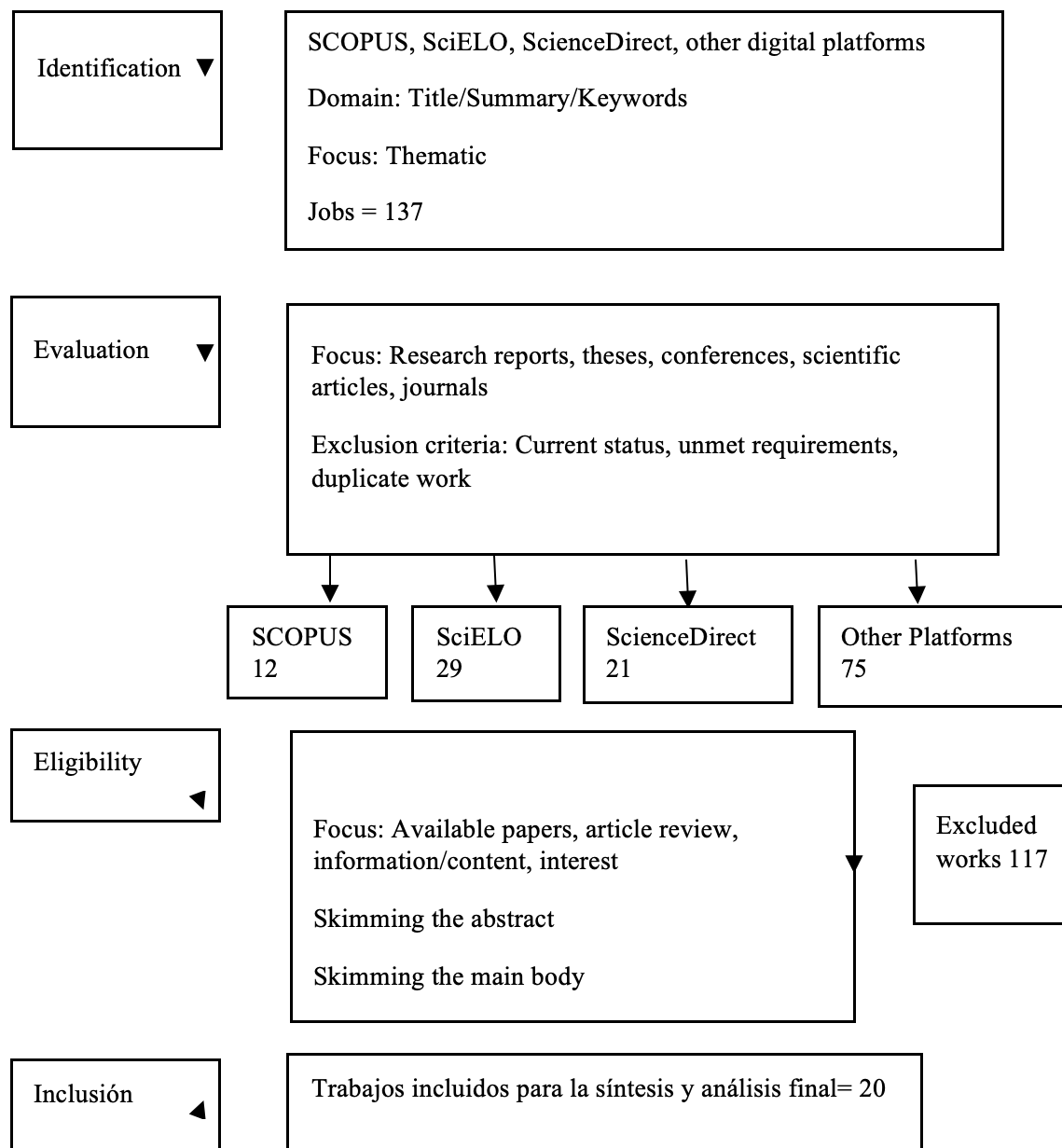
Teaching strategies applied in academic institutions need to stimulate students' abilities and intellect, ensuring that their activities are participatory, communicative, and foster critical thinking and the development of communication skills. By knowing how to reason and adequately analyze information, students need to externalize what they have learned in such a way that the message is structured in an understandable way. In certain contexts, they need to simplify or technicalize the content of the information so that the audience feels familiar with the terms and there is adequate feedback.

To understand the impact of teaching strategies on fostering critical thinking in the development of communication skills, 137 studies were initially obtained through a general search using the search engines and websites mentioned in the SALSA Frameworks. These studies, which contribute to the development of the proposed work, are shown in *Figure 2*.

In the information evaluation stage, applying the inclusion and exclusion criteria mentioned at the beginning of the systematic literature review process, 20 works were selected whose content is of great interest to support the present study and can be found in *Table 2*. These investigations enriched the present work, and the studies that were not selected were excluded due to outdated information or because the content did not contribute to the guidelines and requirements sought to develop the research. The results of this review show that it is necessary to periodically review and update the information regarding teaching strategies that help promote critical thinking in the development of communication skills, since their application influences the academic, personal and professional growth of human beings.

Figure 2

Studies Considered for Research.



Nota. The figure represents the selection process for the final papers that contribute to the development of the proposed study.

Table 2
Selected Studies.

#	Title	Author	Year	Thematic area
1	"Active Learning and Critical Thinking: Promoting Student Development at a Private Chilean University"	Vera	2023	Education
2	"New generations, new challenges: innovating emergency medicine education through technology"	Arango et al.	2024	Education and Medicine
3	"Teaching strategies to strengthen creative thinking in the classroom. A meta-analytic study."	Delgado	2022	Educación
4	"Teaching Role and Innovative Teaching Strategies with an Emphasis on Research"	Kwan	2022	Education
5	"Educational innovation with social networks applied to the subject of Public Health"	Rodríguez et al.	2023	Education and Health
6	"Weaving Bright Futures: Innovative Pedagogical Strategies to Enhance Mathematical and Communication Skills, Promoting Community Tourism that Supports Local Development"	Muevecela y Fuentes	2024	Education
7	"Collaborative learning applied to language and literature teaching: enhancing participation and skills development"	Cabrera y Tapia	2023	Education
8	"Reading to Think: The Nonfiction Picture Book for Developing Critical Thinking"	Tabernero y Colón	2023	Education
9	"Communication skills as a fundamental factor for social development"	Valdez y Pérez	2021	Communication
10	"Developing Critical Thinking in the Classroom: Testimonies from Excellent Ecuadorian Teachers"	López et al.	2022	Education
11	"Using social media to foster critical thinking in university students during COVID-19"	Garcés et al.	2023	Education and Communication
12	"The importance of critical thinking and problem-solving in contemporary education"	Ilbay y Espinosa	2024	Education
13	"Methodological strategies to promote critical thinking in students"	Soto y Chacón	2022	Education
14	"Developing Critical Thinking: A Methodology for Promoting Learning in Engineering"	Cárdenas et al.	2022	Education
15	"Foundation of research variables on the design and validation of a teaching strategy that applies critical thinking to learning development"	Mendoza y Rangel	2022	Education
16	"Case studies to develop critical thinking"	Jiménez et al.	2021	Education
17	"GPT Chat as a resource for learning critical thinking in university students"	Atencio et al.	2023	Education and Technology
18	"Active methodology as a teaching strategy in the development of critical thinking"	Gutiérrez	2021	Education
19	"Teaching strategies and the use of ICT in teaching practice"	Morales	2023	Education
20	"Alternate Realities: Teaching Strategies for Promoting Critical Thinking in the Face of Educational Hybridization"	González	2021	Education

Nota. The table represents the papers selected for the systematic literature review.

The selected literature revealed research that demonstrates that teaching strategies are necessary to foster critical thinking and develop communication skills. Their academic and scientific influence makes them a topic of high interest, as they are responsible for stimulating students' reasoning, abilities, and skills. The systematic literature review revealed information showing activities that help foster critical thinking, including collaborative work, reading comprehension, and analyzing information to identify truth and malice. Overall, the authors of the selected papers agreed that fostering critical thinking helps individuals develop and empower them to function and express their reasoning in society.

The review also yielded important information regarding how teachers guide the teaching-learning process so that students develop skills and, through activities, communicate different concepts. However, there is limited information regarding how each academic area contributes to the development of critical thinking. Similarly, there is little information on how other types of communicative resources, such as gestures, should be managed, since most studies related to communication skills prioritize oral and written language. The fields of knowledge most closely related to the proposed work and identified in the systematic review were mathematics, language arts, and literature, as these are two areas directly related to the development of critical thinking and communication skills.

Updating information regarding teaching strategies to foster critical thinking and the development of communication skills is important for improving student performance. Over the years, it has become evident that new teaching strategies are being developed and adapted, even more so with technological advances and the digital age.

To conclude the synthesis and analysis of the proposed work, it was determined that the development of critical thinking and communication skills influence how a person develops in society. The procedures implemented in response to situations and problems depend on the analysis and reasoning the individual develops, and this is largely influenced by their academic background.

The 20 papers were selected because their research content was of academic and scientific interest, which helped inform the development of this study. The information available to the community aids in knowledge building, and it is necessary to generate or consume updated content to understand and apply new teaching strategies, with the goal of fostering critical thinking and developing communication skills to clearly and understandably communicate messages generated through reasoning and analysis. The information generated in this study demonstrated the impact of teaching strategies in the academic field and how their activities foster the development of critical thinking and communication skills. The studies prompted a systematic review of the literature due to their impact on strategic sectors such as education.

Conclusion

Education is oriented toward the academic, personal, and professional development of each individual, which is why it is necessary to implement teaching strategies that allow each student to unleash their potential. Collaborative work, reading comprehension, and other activities are used to foster critical thinking and develop communication skills.

Critical thinking influences how each person reacts to situations or problems that arise in society. To foster this capacity, teachers must intervene in the teaching-learning process with actions that encourage reasoning, analysis, synthesis, and other skills that aid in the construction of knowledge. By stimulating a person's cognitive capacity, it is possible to analyze and synthesize important information to subsequently act in different contexts and provide a more appropriate response to situations.

Communication skills provide students with the necessary foundation to express their ideas and concepts, developed through their reasoning and analysis, in a clear and understandable manner. This is why students need to navigate different scenarios throughout their academic careers to assimilate information and express their conclusions and responses orally, in writing, or through gestures.

People's cognitive abilities need to be stimulated through teaching strategies that develop critical thinking and communication skills. By fostering these abilities, students in their academic years are equipped to have the necessary resources to address social situations and problems in the most appropriate manner. They are also capable of expressing their opinions in an understandable and reasonable manner.

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