HEART AND MIND: EMOTION AS AN ALLY IN LEARNING

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ABSTRACT

This study addressed the question of how emotions, as allies in the learning process, can be effectively integrated into the school environment, promoting the integral development of students. The general objective was to analyze the evidence on the integration of emotions in learning, highlighting the relevance of socio-emotional education and pedagogical strategies that involve feelings and emotions in learning. The research was of a bibliographic nature, based on a critical review of studies, articles and books on the relationship between emotions and cognition in the educational context. The results showed that the integration of emotions into teaching is essential for academic success, as it contributes to student motivation, improves concentration and reduces disruptive behaviors. The analysis revealed that social-emotional education programs have shown positive results, promoting emotional skills that facilitate students' learning and social development. However, the survey also highlighted challenges in implementing these strategies, such as the lack of specific teacher training and the resistance of some schools. The final considerations indicated that, although the results were promising, research is needed to broaden the understanding of pedagogical practices that integrate emotions in teaching. It is essential to invest in the training of educators and in public policies that promote an emotionally intelligent and inclusive education.

Keywords: Emotions. Apprenticeship. Socio-emotional Education. Teaching. Development.

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INTRODUCTION

The theme addressed in this research is "Heart and Mind: Emotion as an Ally in Learning", which seeks to understand the intrinsic relationship between emotional and cognitive processes in the educational context. The integration of emotions into the learning process has been the subject of study in recent decades, with growing evidence that affectivity plays a fundamental role in the cognitive development of individuals. Emotion, often considered an external or secondary factor to learning, is actually an essential component that influences memory, attention, motivation, and other cognitive functions crucial for effective learning. This field of study gains importance as humanized teaching is sought, capable of considering the student as an integral being, whose emotion must be valued and recognized as part of the educational process.

The justification for this study is based on the need to broaden the understanding of how emotions can be incorporated in a structured and positive way in the educational environment, optimizing learning. In recent years, education has moved away from a traditional model centered only on the cognitive aspect and, gradually, has incorporated pedagogical practices that consider students' emotions, recognizing their relevance in the process of knowledge construction. Studies show that an emotionally safe and stimulating environment can improve academic performance and student well-being. However, despite the increasing integration of practices involving emotional education, there is still a gap in the understanding of how emotions act in the different phases of learning and how these emotions can be used strategically to promote better educational outcomes.

The problem question that guides this research is: How can emotion, as an ally of the learning process, be effectively integrated into the school environment, promoting the integral development of students? The research will seek to investigate, based on the literature review, how emotions influence learning and how educators can integrate these emotions into pedagogical practices effectively, aiming at improving the educational process and developing socio-emotional skills.

The overall objective of this research is to analyze the scientific evidence on the integration of emotions in learning, highlighting how the recognition and appreciation of emotions can contribute to the cognitive and socio-emotional development of students. To achieve this goal, studies that address the neuroscience of emotions, educational methodologies that involve emotion, and pedagogical practices that promote social-emotional education will be reviewed.

The text is structured as follows: in the first part, the theoretical framework will be presented, with a review of the main theories about emotions and cognition, highlighting the connection between mind and heart in the learning process. Next, three development topics will be discussed, focusing on the relationship between emotions and learning in different age groups, the importance of affectivity in the school environment and pedagogical strategies that use emotion to promote learning. The methodology will be described in sequence, detailing the selection process of the reviewed studies and the analysis of the data. In the last part, three topics of discussion and results will be presented, addressing the impacts of emotions on learning, the challenges of implementing pedagogical practices based on emotion, and the implications of these practices for contemporary education. The final considerations summarize the main conclusions of the research and will suggest paths for future investigations.

THEORETICAL FRAMEWORK

The theoretical framework of this research is structured in order to provide a broad understanding of the role of emotions in the learning process, addressing different theoretical perspectives and relevant studies in the area. At first, a discussion will be presented on the main theories of cognition and emotions, with emphasis on the interactions between these two aspects and how they influence learning. Next, the neuroscience of emotions will be explored, highlighting how the brain processes and responds to emotional stimuli, influencing cognitive performance. The theoretical framework will also address socio-emotional education, analyzing how the integration of emotions in pedagogical practice can promote the integral development of students and improve educational results. Throughout this section, special attention will be given to the relevance of emotions for teaching, emphasizing the implications for the training of educators and the creation of affective and inclusive learning environments.

THE CONNECTION BETWEEN BRAIN AND HEART IN LEARNING

The connection between the brain and the heart in learning has been the subject of several studies, which indicate that emotions play an essential role in cognitive functions, such as memory, attention, and decision-making. Neuroscience has shown that emotions are processed in the brain, and their effects can be both beneficial and harmful to learning, depending on the nature and intensity of these feelings (Santos, 2017). According to

Fernandes, Alves, and Schlieper (2022), positive emotions, such as pleasure and motivation, are capable of improving the ability to concentrate and facilitate the retention of information, creating an environment conducive to learning. On the other hand, negative emotions, such as stress and anxiety, can impair attention and memory, hindering the learning process and reducing student performance (Reis; Prata, 2012).

Studies in the area of social-emotional education also show that, by integrating the understanding of emotions into the school environment, it is possible to improve the way students deal with their feelings, promoting greater emotional resilience and effective learning (Costa *et al*., 2020). Affectivity, for example, plays a significant role, because when students feel emotionally safe, they become more likely to engage with the academic content and to actively participate in the proposed activities (Santos; Louro, 2017). Colagrossi and Vassimon (2017) argue that social-emotional learning, by providing students with the tools to recognize, understand, and manage their emotions, contributes to greater effectiveness in learning, as it allows feelings to be used positively in the cognitive process.

In addition, the research by Matosinho and Abed (2024) reinforces the idea that the integration of emotions in learning should not be seen only as a pedagogical strategy, but also as a necessary response to the understanding that the brain and heart are interconnected in the educational process. When educators recognize and validate students' emotions, these feelings become allies for learning, promoting a holistic and inclusive approach to teaching (Sarnovski, 2014). Thus, the connection between emotions and cognitive functions not only facilitates learning, but also contributes to the formation of a humane and welcoming educational environment, in which students feel motivated and prepared to learn.

IMPORTANCE OF AFFECTIVITY IN THE EDUCATIONAL PROCESS

Affectivity plays a central role in the educational process, influencing the relationship between students and teachers, as well as academic performance. Creating an affective and safe environment in the classroom can promote student confidence, facilitating learning and the development of cognitive and socio-emotional skills. When students feel emotionally supported, their willingness to actively participate in academic activities increases, which contributes to better school performance (Reis; Prata, 2012). According to Fernandes, Alves, and Schlieper (2022, p. 349), a positive affective environment has the

potential to stimulate students' intrinsic motivation, promoting greater dedication to studies and learning.

In addition, students' emotions influence how they interact with teachers, impacting classroom dynamics. According to Colagrossi and Vassimon (2017, p. 19), when educators establish a genuine emotional connection with students, creating an environment of respect and empathy, students tend to feel comfortable expressing their doubts and opinions, which favors active and collaborative learning. Affectivity also facilitates the construction of bonds of trust, which are fundamental for educational success, as they promote a space where students feel valued and respected (Santos; Louro, 2017).

The importance of affectivity in academic performance is also highlighted by Matosinho and Abed (2024), who argue that students who experience positive affective relationships at school demonstrate greater emotional resilience, which helps them better cope with academic and personal challenges. In addition, affectivity is not limited only to the relationship between student and teacher, but also involves the construction of a school climate that values emotions, creating an environment conducive to learning. Costa *et al*. (2020) state that, by integrating pedagogical practices that recognize and validate students' emotions, educators contribute to the formation of an inclusive and effective learning environment, which results in better educational results. Therefore, affectivity, when cultivated in the classroom, is a decisive factor for improving students' academic performance and for building a healthy and stimulating educational environment.

PEDAGOGICAL STRATEGIES TO INTEGRATE EMOTIONS INTO TEACHING

The integration of emotions into teaching has been increasingly recognized as an effective pedagogical strategy to promote students' integral learning. Social-emotional learning emerges as one of the relevant approaches in this context, as it aims to develop emotional and social skills that favor learning. Costa *et al*. (2020) highlight that social-emotional education programs in schools have shown positive results, as they help students to recognize, express, and manage their emotions, which facilitates participation in school activities and strengthens their ability to deal with academic challenges. These pedagogical strategies, by engaging emotions in a positive way, contribute to the construction of a welcoming and inclusive learning environment, where students feel safe to explore their feelings and learn effectively.

In addition, the integration of activities that involve feelings and emotions in pedagogical practices has been pointed out as a way to engage students and improve their performance. According to Matosinho and Abed (2024), activities that stimulate reflection on emotions, such as oral narratives, games, and group dynamics, help students develop a deep understanding of themselves and others, which results in meaningful learning. Such activities provide a space in which emotions can be recognized and worked on in a constructive way, which favors collaborative learning and the development of social skills essential for the school environment. The implementation of such strategies, as argued by Santos and Louro (2017), also contributes to strengthening the bond between students and their teachers, creating a climate of trust and mutual respect that enhances learning.

Finally, it is important to emphasize that the use of emotions strategically in pedagogical activities is not limited to socio-emotional education, but can be applied to various aspects of teaching. Colagrossi and Vassimon (2017) state that, by incorporating emotions into different subjects, educators can make learning relevant and engaging, enabling students to establish emotional connections with the contents. This not only enriches the learning process, but also contributes to the development of emotional and social skills that are essential for the formation of conscious and empathetic citizens. Therefore, the integration of emotions into teaching, through pedagogical methods such as social-emotional learning and activities that involve feelings, represents a fundamental approach for academic success and the integral development of students.

METHODOLOGY

The methodology used in this research is bibliographic, according to the precepts of Narciso and Santana (2024), characterized by the analysis and review of existing studies and publications on the subject. The research adopted a qualitative approach, as it seeks to understand the interactions between emotions and learning in a conceptual way, without the application of quantitative data.

The instruments used for data collection were the consultation of academic articles, books, dissertations, theses and other scientific materials related to the theme, accessed through databases such as *Google Scholar*, *Scielo*, and other digital academic sources. The research focused on the selection of publications that address the relationship between cognition and emotions, the implications of social-emotional education, as well as the impacts of emotions on the teaching-learning process. The procedures adopted involve

the analysis of the selected works, with emphasis on the critical review of the theories and results presented by the authors, in order to build a vision on the subject. The analysis techniques used were the critical reading and synthesis of the information extracted from the studies, allowing the organization of the main ideas and the construction of a cohesive and reasoned argumentation (Santana; Narciso, 2025).

The table below, following the suggestions for bibliographic reviews by Santana, Narciso and Fernandes (2025) presents the references used in this research, organized by author(s), title as published, year and type of work. These sources were selected due to their relevance and contribution to the understanding of the function of emotions in the educational process and their application in teaching.

Chart 1 - Main Authors

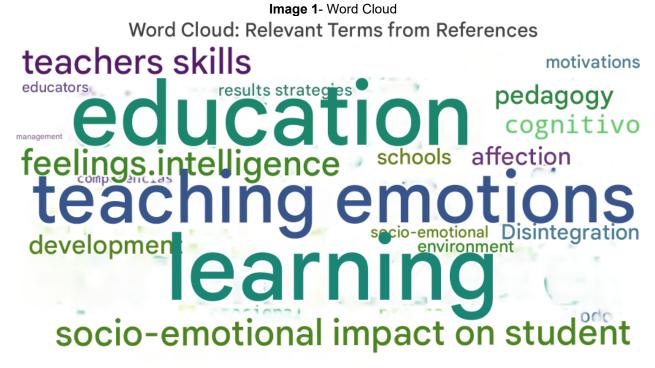| Author(s)	Title as published	Year	Type of Work
PERIUS, A. A. B.	Technology combined with mathematics teaching	2012	Article
REIS, V. T. da C.; PRATA, M. A. R.	Social skills and affectivity in the school context: Perspectives involving teachers and teaching-learning	2012	Article
SARNOSKI, E. A.	Affectivity in the teaching-learning process	2014	Article
SANTOS, E. A.; LOURO, V.	Neuroscience as an ally in the process of musical learning and global development of people with autism spectrum disorder: an experience report	2017	Article
COLAGROSSI, A. L. R.; VASSIMON, G.	Social-emotional learning can transform early childhood education in Brazil	2017	Article
COSTA, B. B. D. *et al*.	Social-emotional education at school	2020	Article
FERNANDES, R. A. S.; ALVES, S. S.; SCHLIEPER, M. D. M. J.	The importance of socio-emotional skills in schools – a comparative study between private and public schools	2022	Article
MATOSINHO, V. S. A.; ABED, C. Z.	We are made of stories: children's oral narratives as allies of learning	2024	Article

Source: authorship.

The references presented in the table above were carefully selected to offer a broad and grounded view of the different approaches that argue the function of emotions in the teaching-learning process. These works provide the necessary foundations to understand how the integration of emotions into the educational environment can improve student performance, develop socio-emotional skills, and contribute to the creation of a humanized and effective learning environment.

RESULTS AND DISCUSSION

The word cloud presented above visualizes the frequent and meaningful terms extracted from the frame of reference used in this research. These terms emerged as highlights and will be addressed in the following topics, as well as in the results and discussions.

Image 1- Word Cloud

Word Cloud: Relevant Terms from References

teachers skills

motivations

educators

results strategies

pedagogy

education

cognitivo

management

feelings.intelligence

schools   affection

competencias

teaching emotions

development

socio-emotional   Disintegration
environment

learning

socio-emotional impact on student

Source: authorship.

The presence of words such as 'emotions', 'learning', 'socio-emotional', 'education' and 'skills' reinforces the importance of the function of emotions in the teaching-learning process and their integration into pedagogical practices. These elements will be deepened throughout the research, highlighting how each one contributes to the academic and emotional development of students.

IMPACT OF EMOTIONS ON DIFFERENT AGE GROUPS

The impact of emotions on learning varies according to the age group of students, reflecting the different needs and emotional capacities of each stage of development. In childhood, emotions play an essential role in cognitive development, as they are the basis for the formation of learning skills. According to Colagrossi and Vassimon (2017), young children tend to learn effectively when they feel emotionally safe, since their emotions

influence the way they process information. At this stage, affection with teachers and classmates creates a favorable environment for learning, promoting interaction and curiosity, essential elements for early cognitive development.

With advancing age, the impact of emotions on learning continues to be significant, but with characteristics specific to the phase. In adolescence, for example, the brain undergoes intense changes and young people experience an increase in emotional intensity, which can affect both their motivation and their behavior in the classroom. Fernandes, Alves, and Schlieper (2022) point out that, in adolescence, emotions, such as fear and anxiety, can interfere with students' ability to concentrate and process information, especially in moments of evaluation. During this period, managing emotions becomes essential to ensure that adolescents can deal with academic and social challenges effectively. On the other hand, when emotions are well managed, such as in social-emotional education programs, academic performance tends to improve, as students feel confident and motivated (Santos; Louro, 2017).

Therefore, the way emotions influence learning is not static, but transforms according to the development of students' emotional and cognitive capacities. Childhood and adolescence represent distinct but important periods in which the function of emotions must be recognized and worked on appropriately. Matosinho and Abed (2024) state that the application of pedagogical strategies that consider emotions in both phases can result in better educational results, as it allows learning to develop in an integral way and aligned with the emotional needs of students. By recognizing the emotional specificities of each age group, educators can offer personalized and effective teaching, promoting both cognitive and emotional development in students.

RESULTS OF EMOTION-BASED PEDAGOGICAL APPROACHES

Pedagogical approaches that integrate emotion into learning have shown positive results, especially when considering the implementation of social-emotional education programs. These programs aim not only at the cognitive development of students but also at the promotion of emotional skills that are critical for academic success and building a healthy school environment. Costa *et al*. (2020) highlight that social-emotional education has been effective in improving students' motivation, since they feel safe and able to deal with their emotions, which contributes to their engagement in school activities. In addition,

these programs favor the construction of a culture of mutual respect and collaboration, which strengthens the learning environment and contributes to better academic results.

According to Fernandes, Alves, and Schlieper (2022), the implementation of educational strategies that address emotions has also shown a positive impact on reducing disruptive behaviors and improving student concentration. This is because, by learning to recognize and manage their emotions, students become able to stay focused on school activities and resolve conflicts peacefully. By promoting self-regulation and empathy, social-emotional education helps students deal with emotional challenges that could harm their academic performance (Santos; Louro, 2017). These approaches are also especially effective in preventing *bullying* and creating an inclusive school environment where students' emotions are respected and validated.

The results obtained with these pedagogical approaches confirm the importance of integrating emotion into the learning process. According to Matosinho and Abed (2024, p. 62), students who participate in social-emotional education programs demonstrate an increase in school performance, in addition to showing improvements in the development of social skills, such as communication, empathy, and collaboration. In addition, these strategies favor a greater connection between students and educators, creating a strong bond and an atmosphere of trust, essential for successful learning (Colagrossi; Vassimon, 2017). Therefore, the findings on the effectiveness of these pedagogical approaches demonstrate that, by integrating emotions into teaching, it is possible to improve both academic performance and emotional well-being of students.

CHALLENGES AND LIMITATIONS IN EMOTIONAL APPROACHES IN TEACHING

Implementing pedagogical approaches that engage students' emotions faces a number of challenges and limitations, both for educators and schools. One of the main obstacles is the lack of specific training of teachers in the area of social-emotional education. Many educators do not feel fully prepared to deal with students' emotions effectively, which can compromise the success of these approaches. According to Costa *et al*. (2020), the lack of continuous and specialized training in emotional education for teachers is a factor that hinders the proper application of methods that promote emotional intelligence in classrooms. This problem is especially relevant in contexts where teachers are overloaded with the workload and management of large classes, which can lead to superficial or ineffective implementation of these practices.

In addition, the lack of adequate resources in schools is also a limiting factor. Many educational institutions do not have materials or infrastructure that favor the promotion of emotional education. Santos and Louro (2017) point out that, in many cases, schools are unable to invest in structured socio-emotional education programs, which can result in fragmented and disjointed initiatives, without the necessary continuity to generate significant impacts on the emotional development of students. The challenge of integrating emotions into the school curriculum is also related to the resistance of some institutions and educators who see these approaches as something secondary to the teaching of academic content. Colagrossi and Vassimon (2017) state that, in some contexts, the valorization of emotional education is seen as a challenge to the tradition of teaching centered on cognitive content, making it difficult to adopt these practices in everyday school life.

Another significant challenge is the emotional diversity of students, which can make it difficult to apply pedagogical methods that integrate emotions. As highlighted by Matosinho and Abed (2024), the differences in students' emotional development and life experiences require a differentiated approach, which demands great flexibility and adaptability from educators. The emotional heterogeneity of students can result in difficulties in identifying and meeting the emotional needs of each individual effectively, which can compromise the success of the implementation of pedagogical strategies that involve emotions. In addition, as Fernandes, Alves, and Schlieper (2022) note, the emotional management of students with intense emotional difficulties, such as anxiety or trauma, may require the involvement of specialized professionals, such as psychologists and social workers, which is not always available in all schools.

Therefore, the challenges faced by schools and educators in implementing effective emotional approaches are diverse and multifaceted. The lack of adequate training, the limitation of resources and the resistance to the emotional teaching model, together with the emotional diversity of students, constitute significant obstacles that hinder the full integration of emotions in the learning process. Overcoming these limitations requires continuous investments in teacher training, institutional support, and the creation of a school environment that values emotional education as a fundamental part of the integral development of students.

FINAL CONSIDERATIONS

The final considerations of this research aim to synthesize the main findings obtained throughout the study, highlighting the relevance of the integration of emotions in the learning process and answering the central question of the research: how can emotion, as an ally of the learning process, be effectively integrated into the school environment, promoting the integral development of students? Throughout the literature review, it was possible to realize that emotions play an essential role in learning, impacting the motivation, attention, memory and other cognitive functions of students. The integration of emotions into teaching, especially through social-emotional education programs and activities that involve feelings in a positive way, can facilitate learning and promote a complete and humanized educational experience.

The analysis revealed that emotions should not be seen only as an external factor, but as fundamental components for the academic and socio-emotional development of students. The main findings indicate that the creation of an affective and safe environment is essential for students to feel motivated and prepared to learn. In addition, studies point out that the implementation of pedagogical strategies that involve emotional education can contribute to the reduction of disruptive behaviors, improved concentration, and increased empathy among students. When educators recognize and address students' emotions in a constructive manner, students tend to develop emotional and social skills that help them not only in school learning, but also in their personal and social lives.

By answering the survey question, it was clear that emotion can and should be integrated into the learning process effectively. Emotional integration should not be considered a secondary or parallel activity to the teaching of academic content, but rather an essential part of the pedagogical process. Social-emotional education, by promoting the development of skills such as self-regulation, empathy, and conflict resolution, contributes to the formation of an inclusive, collaborative, and respectful learning environment. In addition, strategies that involve affectivity and understanding of students' emotions promote intrinsic motivation and engagement in school activities, which results in effective academic performance.

The contributions of this study are significant to the field of education, as they offer an in-depth understanding of how emotions influence learning and how they can be integrated in a practical and effective way into pedagogical practices. This study highlights the importance of creating a school environment that values students' emotions, allowing

these emotions to become allies in the learning process. It has also become evident that training educators to deal with students' emotions is critical to the success of this approach, as many educators still face challenges in integrating emotions into their pedagogical practices effectively.

However, the survey also pointed out that there are challenges and limitations in the implementation of these strategies, such as the lack of specific teacher training, the resistance of some schools to adopt emotional education programs, and the lack of adequate resources. Such issues indicate that it is necessary to continue advancing in the development of training programs for educators, as well as in public policies that encourage the implementation of pedagogical practices that integrate emotions in a structured and effective way.

While this study provided a comprehensive overview of the integration of emotions into learning, it also suggests that research is needed to broaden understanding of how emotions affect learning in different contexts and age groups. The need for studies is reflected in the diversity of results observed in different educational contexts, as well as in the importance of investigating how emotions can be worked on in a practical way in different disciplines and learning environments. Finally, the continuity of this line of research may provide important subsidies for the creation of educational policies that promote an inclusive, emotionally intelligent and effective education for all students.

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