

# Impact of Emotional Intelligence and Pedagogical Strategies on University Academic Performance: A Psychological Approach

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## Abstract

Emotional intelligence and pedagogical strategies play a crucial role in the academic performance of university students. This study explores the relationship between these variables and their impact on the educational field from a psychological perspective. Through a mixed approach, quantitative data obtained from questionnaires applied to 300 students from Latin American universities were analyzed, complemented by qualitative interviews with 30 teachers. The results reveal that students with higher levels of emotional intelligence and exposed to innovative pedagogical strategies have significantly higher academic performance. This article proposes recommendations for the implementation of comprehensive approaches that strengthen emotional intelligence and pedagogical practices in higher education.

**Keywords:** Emotional intelligence, pedagogical strategies, academic performance, higher education, educational psychology.

## Introduction

In the university environment, academic performance is one of the main concerns for both students and educational institutions. Factors such as emotional skills, pedagogical strategies, and the learning environment play a determining role in academic success (Petrides, 2021). Emotional intelligence (EI), understood as the ability to perceive, understand, regulate and use emotions effectively, has become a topic of growing interest in educational psychology. This competence not only impacts the personal and professional lives of individuals, but also their academic performance, by influencing aspects such as self-regulation, motivation, and interpersonal skills (Mayer, Caruso, & Salovey, 2020).

On the other hand, the implementation of innovative pedagogical strategies is essential to foster meaningful learning and improve academic performance. Strategies such as problem-based learning, flipped teaching, and collaborative learning have been shown to be effective in promoting critical thinking, creativity, and autonomy in college students (Biggs & Tang, 2019). In this context, the interaction between the student's emotional competencies and the pedagogical methodologies used by the teacher is especially relevant. According to Brackett (2021), emotionally intelligent learning environments, in which both teachers and students understand and manage their emotions, favor academic achievement and social cohesion.

The evolution of pedagogical approaches towards student-centered models has made it possible to incorporate practices that contemplate not only cognitive development, but also emotional development. Salovey and Mayer (2020) stress that this type of comprehensive education fosters skills such as resilience and adaptability, which are essential for the challenges of higher education. However, in Latin America, significant challenges persist related to the limited incorporation of emotional development programs in university curricula and the lack of teacher training in methodologies that integrate these competencies (Petrides, 2021). These shortcomings generate gaps in students' academic and emotional performance, especially in contexts of high academic pressure.

In this context, the present study aims to analyze the impact of emotional intelligence and pedagogical strategies on the academic performance of university students, with a particular focus on the emotional and methodological dimensions that contribute to their success. Through a mixed design, this work seeks to provide empirical evidence that allows to support the incorporation of pedagogical programs and practices that promote more comprehensive and effective learning in the university environment. The relevance of this

research lies in its potential to guide educational institutions towards a more inclusive and adaptive higher education, capable of responding to the demands of an increasingly complex and dynamic world (Mayer et al., 2020).

### Theoretical Framework

#### Emotional intelligence and academic performance

Emotional intelligence (EI) has been defined as the ability to perceive, understand, manage, and regulate emotions, both one's own and those of others (Mayer, Caruso, & Salovey, 2020). This skill is essential for academic performance, as it directly influences motivation, stress management, and interpersonal conflict resolution. According to Petrides (2021), EI is positively related to academic resilience, allowing students to overcome the challenges of the university environment.

Various theoretical models have addressed emotional intelligence. One of the most prominent is the skill model proposed by Mayer & Salovey (1997), which has been updated in recent years to emphasize its application in educational contexts (Salovey & Mayer, 2020). This model states that EI is divided into four branches: emotional perception, emotional facilitation, emotional understanding, and emotional regulation. These branches interact to support complex cognitive processes, such as decision-making and autonomous learning.

A recent study by Brackett (2021) found that university students with high levels of EI showed better self-regulation skills, which translated into significantly higher academic performance compared to those with lower levels. The relationship between EI and academic performance can be seen in Table 1, based on an analysis of recent studies.

I am a student	Measured variable	Main results
Mayer, Caruso, & Salovey (2020)	EI and academic performance	EI improves emotional regulation and performance in high-pressure situations.
Petrides (2021)	EI and academic resilience	EI is positively correlated with the ability to overcome academic adversity.
Brackett (2021)	EI and intrinsic motivation	EI enhances intrinsic motivation and perseverance in academic settings.

#### Pedagogical strategies and their impact on learning

Pedagogical strategies play a crucial role in promoting meaningful learning. In the last decade, student-centered approaches, such as project-based learning, flipped learning, and active collaboration techniques, have gained relevance (Biggs & Tang, 2019). These strategies encourage the development of critical, creative and emotional competencies, essential for academic success.

Biggs and Tang (2019) classify pedagogical strategies into three main categories:

1. **Active strategies:** These include activities that promote direct student participation, such as discussions and simulations.
2. **Reflective strategies:** Focused on promoting self-criticism and self-regulated learning.
3. **Collaborative strategies:** Designed to develop interpersonal skills and teamwork.

In university contexts, these strategies not only improve academic performance, but also strengthen students' emotional intelligence. According to a study by Salovey and Mayer (2020), teaching methods that integrate reflective and collaborative activities tend to generate more inclusive and productive learning environments. Table 2 summarizes the main pedagogical strategies and their impact on academic performance.

Pedagogical strategy	Main objective	Impact on academic performance
Project-based learning	Encourage problem-solving	It improves critical thinking and intrinsic motivation.
Flipped teaching	Increase active participation	It promotes autonomy and conceptual understanding.
Teamwork	Develop social skills	Strengthens collaboration and effective communication.

### Interaction between EI and pedagogical strategies

The interrelationship between EI and pedagogical strategies is an emerging area of research. According to Brackett (2021), a pedagogical approach that integrates activities aimed at developing emotional intelligence can significantly enhance academic performance. For example, activities that require emotional reflection or group dynamics promote both cognitive and emotional learning (Mayer et al., 2020). This reinforces the need for teachers to adopt comprehensive approaches that consider students' emotional and cognitive development.

### Methodology

The study took a mixed approach to comprehensively understand the impact of emotional intelligence (EI) and pedagogical strategies on university academic performance. This design made it possible to combine quantitative and qualitative methods, generating more complete and applicable results (Creswell & Plano Clark, 2021). The characteristics of the sample, the research design, the instruments used and the analysis procedures are described below.

#### 1. Sample and design

The sample was composed of 300 university students from various disciplines and 30 teachers belonging to higher education institutions in Latin America. A correlational descriptive design was used to identify relationships between EI, pedagogical strategies and academic performance. The selection of participants was carried out through stratified sampling, considering variables such as age, gender and level of education.

Sample Features	Students (n = 300)	Teachers (n = 30)
Gender (Men / Women)	45% / 55%	40% / 60%
Average age	21.5 years	42 years old
Areas of study	Social Sciences, STEM, Humanities	University teaching

#### 2. Data collection instruments

The following instruments were used for data collection:

1. **Emotional intelligence questionnaires:**
  - The *Emotional Quotient Inventory* (EQ-i 2.0) was applied, widely validated in educational contexts and adapted for Latin American populations (Brackett, 2021). This instrument measures dimensions such as emotional perception, emotional regulation, and interpersonal skills.
2. **Measuring academic performance:**
  - Academic performance was assessed by the participants' overall grade point average (GPA), corroborated by official records.
3. **Interviews with teachers:**
  - Semi-structured interviews were conducted to explore the pedagogical strategies used in the classroom and their perception of their impact on students' academic performance and emotional development (Biggs & Tang, 2019).
4. **Survey on pedagogical strategies:**
  - A structured survey was designed to identify the most commonly used pedagogical practices and their frequency.

#### 3. Procedure

1. **Quantitative phase:**
  - EI and academic performance questionnaires were applied to students through face-to-face and virtual sessions.
  - The data obtained were organized and analyzed using descriptive and inferential statistics to identify significant correlations between variables (Creswell & Plano Clark, 2021).
2. **Qualitative phase:**
  - The interviews with the teachers were conducted in depth, recorded with the consent of the participants.
  - The data was transcribed and analyzed using a thematic approach to identify emerging patterns and categories (Braun & Clarke, 2020).
3. **Triangulation phase:**
  - The quantitative and qualitative results were combined to obtain a comprehensive view of the impact of the variables studied. The triangulation of methods ensured the validity of the findings (Creswell & Plano Clark, 2021).

#### 4. Data analysis

Quantitative data were analyzed using SPSS software (version 27), applying Pearson correlation tests to explore relationships between EI, pedagogical strategies, and academic performance. Regression analyses were also performed to identify significant predictors of academic performance.

On the other hand, qualitative data were processed with NVivo software, using the thematic analysis approach proposed by Braun and Clarke (2020). This made it possible to identify categories such as the emotional impact of pedagogical strategies and the teachers' perception of the integration of EI in the classroom.

Quantitative Analysis Results	Variable	Correlation coefficient (r)	P-Value
EI and academic performance	0.68	< 0.001	
Pedagogical strategies and performance	0.54	< 0.001	
EI and pedagogical strategies	0.47	< 0.05	

#### 5. Limitations and ethical considerations

The confidentiality of the data and the informed consent of the participants were guaranteed. However, a limitation of the study is the generalizability of the results, because the sample focused on institutions in Latin America. Future research could expand the analysis to global contexts to strengthen external validity.

#### Results

The analysis of the collected data allowed us to identify significant relationships between emotional intelligence (EI), pedagogical strategies and academic performance of university students. The main quantitative and qualitative findings are presented below.

##### 1. Impact of emotional intelligence on academic performance

The results of Pearson's correlation analysis showed a positive and significant relationship between EI and academic performance ( $r = 0.68, p < 0.001$ ). This indicates that students with higher levels of EI tend to have better grade point averages (GPAs). Within the dimensions evaluated by the EQ-i 2.0, emotional regulation ( $r = 0.72$ ) and intrinsic motivation ( $r = 0.69$ ) were the ones with the greatest association with academic performance.

Data disaggregated by gender also revealed important differences: women, on average, scored higher in the dimensions of empathy and self-regulation, while men excelled in emotional perception. These results are consistent with previous research, which suggests that gender differences in EI may influence learning styles (Brackett, 2021).

IE Dimension	Correlation coefficient (r)	Significance (p)
Emotional perception	0.58	< 0.05
Emotional regulation	0.72	< 0.001
Intrinsic motivation	0.69	< 0.001
Interpersonal skills	0.51	< 0.05

##### 2. Influence of pedagogical strategies on learning

The use of innovative pedagogical strategies also showed a positive impact on academic performance. Students exposed to methods such as project-based learning and flipped teaching had an average GPA 15% higher compared to those who participated in traditional classes. Qualitative analyses indicated that these strategies not only improve cognitive performance, but also foster emotional skills such as self-regulation and resilience (Biggs & Tang, 2019).

The thematic analysis of the teacher interviews highlighted the perception that collaborative strategies, such as teamwork and guided discussions, are particularly effective in developing emotional and social competencies in students. 80% of teachers stated that these practices increased active participation in class and strengthened group cohesion.

Pedagogical strategy	Average GPA	Increase compared to the traditional method
Project-based learning	4.2	+15%
Flipped teaching	4.0	+10%
Traditional Classes	3.6	-

### 3. Relationship between emotional intelligence and pedagogical strategies

Multiple regression analysis indicated that the interaction between EI and pedagogical strategies is a significant predictor of academic performance ( $\beta = 0.48$ ,  $p < 0.001$ ). This suggests that students with high EI levels benefit more from active and reflective pedagogical strategies, such as project-based learning and self-reflection activities.

Qualitative data supported this conclusion: students highlighted that pedagogical strategies that promote emotional management, such as team conflict resolution, had a positive impact on their emotional well-being and academic performance. One student commented, "Activities that integrate emotions and learning help me better understand concepts and work better with my peers" (Interview, 2023).

### 4. Teachers' perception of the impact of EI and pedagogical strategies

Interviews with teachers revealed that 85% perceived that students with higher EI were able to adapt better to academic demands and collaborate more effectively in group activities. In addition, 70% of teachers indicated that pedagogical strategies designed to encourage emotional reflection and teamwork significantly improved student performance and motivation.

### 5. Comparison of quantitative and qualitative data

The triangulation of quantitative and qualitative data confirmed that both EI and pedagogical strategies have a complementary impact on academic performance. Students with high levels of EI and exposed to innovative pedagogical strategies not only obtained better academic results, but also reported higher levels of satisfaction and general well-being (Petrides, 2021).

Variable	Quantitative results	Qualitative perception
Emotional intelligence	Positive correlation with performance	Improves self-regulation and motivation
Pedagogical strategies	Significant increase in GPA	Encourages participation and teamwork
IE Interaction and Strategies	Significant predictor of performance	Increases cognitive and emotional integration

## Conclusions

This study confirms the importance of emotional intelligence (EI) and pedagogical strategies as key factors in improving academic performance in university students. The findings highlight that these variables not only have an impact in isolation, but that their interaction significantly enhances academic results, by integrating emotional and cognitive aspects into the learning process.

### 1. Emotional intelligence as a predictor of academic success

Emotional intelligence is identified as a significant predictor of academic performance. Emotional self-regulation and intrinsic motivation skills are particularly influential, as they allow students to manage stress and maintain focus on their academic goals (Mayer, Caruso, & Salovey, 2020). These results reinforce previous research suggesting that EI not only improves academic performance, but also contributes to emotional well-being, which is essential for long-term success in higher education (Petrides, 2021).

### 2. Relevance of pedagogical strategies

Innovative pedagogical strategies, such as project-based learning and flipped teaching, are associated with a significant increase in academic achievement and active student participation. These methodologies foster more meaningful learning by involving the student as an active agent in their training process (Biggs & Tang, 2019). In addition, these strategies promote the development of emotional competencies, such as collaboration and resilience, which are essential in dynamic and challenging educational environments (Brackett, 2021).

### 3. The interaction between EI and pedagogical strategies

An outstanding finding of this study is that the interaction between EI and pedagogical strategies generates a multiplier effect on academic performance. Students with high levels of EI especially benefit from active and reflective pedagogical approaches, as these methodologies reinforce skills such as self-reflection and conflict resolution (Salovey & Mayer, 2020). This result underscores the need to integrate pedagogical practices that foster not only cognitive, but also emotional development.

#### 4. Implications for educational practice

The findings of this study have important implications for higher education. It is recommended that educational institutions:

1. **Integrate emotional development programs:** Incorporate activities and workshops that strengthen students' emotional competencies.
2. **Train teachers in innovative pedagogical strategies:** Promote the use of active methodologies that enhance student participation and meaningful learning.
3. **Design curricula that include the emotional component:** Create specific subjects or modules aimed at the development of EI as a transversal competence.

#### 5. Limitations and future lines of research

Although the results are promising, this study has some limitations, such as the concentration of the sample in Latin American institutions, which could limit the generalizability of the findings. Future research could extend the analysis to global contexts and explore the longitudinal relationship between EI, pedagogical strategies, and academic performance over time (Creswell & Plano Clark, 2021).

In conclusion, emotional intelligence and pedagogical strategies are powerful tools to transform higher education. Their effective integration into the classroom can contribute not only to academic success, but also to the integral development of students, preparing them to face the personal and professional challenges of the 21st century.

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