

**Critical Thinking Strategies to Reduce Academic Stress Levels in Pre-service  
English Teachers**

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### **Abstract**

This research project addresses the issue of academic stress among pre-service English teachers. Academic stress, which stems from the demands and expectations of both school and work environments, can have a negative impact on student's mental health and academic performance. As a cognitive skill, critical thinking allows individuals to analyze, evaluate, and synthesize information objectively and rationally, so it plays a vital role in problem-solving and decision-making. This study aims to analyze the effects of critical thinking strategies on pre-service English teachers' academic stress levels. The research follows an interpretive paradigm and utilizes a co-constructed autoethnography methodology. Data was collected through a stress measurement test, teachers' journals, and collaborative dialogue. The findings of this study contribute to understanding how critical thinking strategies can assist pre-service English teachers in managing academic stress effectively.

**Keywords:** academic stress, pre-service English teachers, critical thinking, cognitive skills, educational environment.

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## Table of Contents

2. Introduction .....	6
2.1 Statement of the Problem .....	6
2.2 Conceptual Framework.....	7
2.2.1 Academic Stress .....	7
2.2.2 Critical Thinking.....	8
2.3 Research Question .....	9
2.4 Objectives .....	9
2.4.1 General Objective .....	9
2.4.2 Specific Objectives .....	10
3. Method .....	11
3.1 Paradigm and Methodology.....	11
3.2 Research Design .....	12
3.3 Participants and Sampling .....	12
3.4 Ethical Protocols.....	13
3.5 Context.....	13
3.6 Data Collection .....	14
3.6.1 Test.....	14
3.6.2 Journals .....	14
3.6.3 Collaborative Dialogue .....	14
3.7 Data Analysis.....	15
3.8 Measures for Trustworthiness and Validity.....	15
4. Findings.....	17
4.1 Stress Factors.....	17

4.2 Consequences of Academic Stress .....	17
4.3 Strategies to Cope with Academic Stress .....	18
4.4 Evolution of Academic Stress .....	19
5. Discussion .....	20
5.1 Implication and Interpretations.....	20
5.2 Limitations and Suggestions for Further Research.....	21
5.3 Recommendations and Conclusions .....	22
References .....	24

## **1. Introduction**

### **1.1 Statement of the Problem**

Stress is a problem that affects people's daily life as it can cause serious physical, behavioral, and mental health problems when effective strategies to manage it are not implemented. One serious form of stress has been directly linked to people's academic life. Academic stress can inhibit academic success. However, many people ignore this problem and do not know how to handle it. Although set in the academic field, academic stress can also impact college students' home, work, personal, and social life.

Teaching is a stressful activity. Novice teachers often experience high levels of stress as they learn the ropes of the profession, so they face the constant challenge of keeping their academic stress levels under control. Within the field of language education, stress is one of the most common problems. Several stress factors affect pre-service English teachers; discouragement, for example, is caused by work-related problems and the fear of making mistakes that may misinform students.

Beyond the training of cognitive skills, the progress of future pre-service English teachers depends on personal factors such as reflexivity, open-mindedness, and sensitivity. In addition, the attempt to be mentally and physically well is also determined by beliefs, feelings, knowledge, and willingness to face life's challenges. All these elements can contribute to reducing stress levels.

We carried out this project to understand how pre-service teachers can improve their emotional health through critical thinking strategies that may help reduce high academic stress levels. In the case of the present text, the objective will be to analyze how critical thinking as a means of reflection influences the reduction of high levels of academic stress.

## 1.2 Conceptual Framework

### 1.2.1 Academic Stress

Academic stress can be defined as the pressure and tension that students experience due to the demands and expectations of the school environment. This includes, among other things, excessive workload, competition with other students, the need to maintain high levels of performance, and a concern for the future. Academic stress can have a negative impact on student's mental health; it can also affect their academic performance and general well-being.

For Águila et al. (2015) academic stress is a widespread problem in which students face various situations, from mental to physical. These researchers like Selye (2006, as cited in Águila et al, 2015) re-defined stress as “the sum of all the non-specific effects of factors (daily activities, disease-producing agents, drugs, inadequate life habits, abrupt changes in the work and family environment), which can act on the person” (p. 166).

Academic stress is also defined as a systemic process of an adaptive and essentially psychological nature, which is presented descriptively in three moments: First, the student is subjected, in school contexts, to a series of demands that, under the student's own assessment, are considered stressors. Second, these stressors provoke a systemic imbalance (stressful situation), manifesting in symptoms (indicators of the imbalance). Third, this systemic imbalance forces the learner to perform coping actions to restore systemic balance. (Barraza, 2005, as cited in Díaz, 2010, p. 4)

Different factors can increase the levels of academic stress. Academic overload is among the factors that generate more stress in undergraduate students. According to Okechukwu et al. (2021) other common stressors at the university include “strikes, lack of holidays, noisy environments, lack of laboratory equipment, congested classrooms, and financial, health, and family problems” (p. 1).

Academic stress can have devastating effects on pre-service English teachers. When pre-service teachers are faced with an accumulation of academic commitments, they experience

negative feelings such as sadness and depression, which may compromise students' learning. As a result, academic stress can affect students' commitment to their studies and lower their academic performance. Some additional effects of academic stress among pre-service language teachers include fear of misinforming students with errors during practicum sessions, accumulation of academic and work commitments, and affectation of relationships with peers and family.

### ***1.2.2 Critical Thinking***

Critical thinking is a cognitive skill that entails analyzing, evaluating, and synthesizing information objectively and rationally. It implies the ability to reflect deeply and critically on different ideas, points of view, and perspectives to evaluate the validity and meaning of the information presented. Critical thinking is highly valued in many professional fields and is considered a fundamental competence for solving complex problems (Okechukwu et al., 2021). Referring to Sternberg (1986, as cited in Bezanilla et al. 2018) defined critical thinking as “the processes, strategies, and representations people use to solve problems, make decisions and learn new concepts” (p. 92).

Critical thinking is an essential problem-solving tool for English teachers in training. Critical thinking allows teachers to analyze and evaluate a problematic situation to determine the best solution. Teachers must be able to identify the problem, consider possible solutions, weigh the pros and cons of each solution, and make an informed decision based on the information available. Additionally, critical thinking involves reflecting on the problem-solving process to improve future decision-making.

Hence, fostering critical thinking in pre-service teachers of English prepares them to meet the challenges of teaching effectively and creatively. However, as necessary as it may be, it is not possible to teach critical thinking without first learning strategies that allow internalizing this type

of thought and the reflection that it entails in the practice of those who intend to teach it (Clavijo, 2016).

Tamayo et al. (2015) highlight that critical thinking and problem-solving are closely related. The authors suggest that critical thinking refers to a complex set of cognitive activities that act together, such as problem-solving, logical thinking, perception of ideas, analysis, evaluation, and decision-making. The authors suggest that it is possible to develop critical thinking through different types of questions that enhance the development of higher-order thinking skills including interpretation, application, analysis, synthesis, evaluation, and problem-solving. Tamayo, et al. (2015) mentions critical thinking with the following definition, as pre-service teachers in training, we face a series of problems during the day. Critical thinking can be a valuable tool to solve daily problems. Critical thinking helps teachers in training evaluate the strengths and weaknesses of both themselves and their students and to find multiple effective solutions. Critical thinking can be a valuable tool in solving problems faced by pre-service teachers in training. By using critical thinking, pre-service teachers can objectively analyze problems, identify creative and effective solutions, and improve the quality of their English teaching.

### **1.3 Research Question**

Due to its direct connection with problem-solving, critical thinking may come as a crucial tool in dealing with academic stress. In order to explore this connection, we posited the following research question: Which critical thinking strategies can help pre-service English teachers manage academic stress?

### **1.4 Objectives**

#### ***1.4.1 General Objective***

To analyze the effects of critical thinking strategies on pre-service English teachers' academic stress levels in different contexts.

### *1.4.2 Specific Objectives*

- To establish the levels of academic stress of pre-service English teachers before and during the implementation of strategies.
- To register the implementation of critical thinking strategies used by pre-service English teachers to manage academic stress.
- To examine the levels of academic stress of pre-service teachers after implementing strategies.

## 2. Method

### 2.1 Paradigm and Methodology

This project stands on the interpretive paradigm because we carried it out from a qualitative perspective and focused on investigating and describing elements that must be observed in the context (González, 2001). The method was co-constructed autoethnography (Ariza et al., 2022) as we focused on describing and understanding a culture in which we were immersed. For data collection, we applied written narratives through the use of teachers' journals, we took the SISCO TEST (Barraza, 2007), to measure stress levels, and we engaged in collaborative dialogue.

A co-constructed autoethnography is defined as a “qualitative research approach that tries to understand the lived experience of groups or communities through collaboration and the shared construction of knowledge” (Ariza et al., 2022, p. 196). Besides, in this approach, the researchers work closely with the (or as) participants to reflect on their personal and social experiences, identify cultural patterns and meanings, and produce a coherent and unique account of their experience.

This project is based on our experiences with stress as foreign language teachers in training. The autoethnographic research made possible the collection of information in a collaborative fashion. At the time of choosing our research object, we were struck by how stress affected different areas of our lives, whether it be work, studies, or personal relationships. As pre-service teachers, we have been affected many times by stress and we thought about the importance of identifying strategies to manage it.

When choosing the method, which in this case is autoethnography, we knew it was fundamental for us to consider how we experienced stress concurrently, but in different contexts such as our practicum agencies, and how the strategies we applied helped to reduce it.

## 2.2 Research Design

Data collection started in 2022 at Universidad Católica Luis Amigo; this university has different programs such as social communication, psychology, and graphic design. We belonged to the bachelor's degree in Foreign Languages with Emphasis in English. Data collection finished in the first semester of 2023. Table 1 shows our data collection plan. Thereon we integrated our three objectives with our central categories, the instruments that were applied, and the dates on which data collection occurred.

**Table 1**

### *Data Collection Plan*

Category	Dates	Instruments
<b>Objective 1:</b> To diagnose the levels of academic stress of pre-service English teachers before the implementation of strategies.		
Academic Stress	August, 1, 15, 29, and September 5 of 2022	TEST SISCO (four times) Teacher Journal (Narrative 1)
<b>Objective 2:</b> To describe critical thinking strategies pre-service English teachers use to manage academic stress.		
Critical Thinking-Academic Stress	August, 3, 17, 31, and September 7 of 2022	TEST SISCO Teacher Journal (Narrative 2)
<b>Objective 3:</b> To examine the levels of academic stress of pre-service teachers after the implementation of strategies.		
Academic Stress	September, 7 of 2022	Collaborative Dialogue

## 2.3 Participants and Sampling

We used a non-probabilistic sampling method, which does not involve random selection procedures but instead relies on the researchers' personal judgment to select the elements that conform to the sample (Parra & Vásquez, 2017). The essential criterion was to be an active

English teacher trainee who had high levels of stress and who worked in a context where we could collect data (school or university).

Since this was a co-constructed autoethnography, as researchers we were the subjects of this study. From a qualitative perspective, we constituted an intensity sample (Patton, 1990), as we all experienced high levels of academic stress that affected our performance. At the time we conducted the study, we were three pre-service English Teachers, who lived in different parts of Medellín city; our ages were between twenty and thirty-five years; we had different educational backgrounds, yet we all belonged to a middle-class stratum.

#### **2.4 Ethical Protocols**

Ethical protocols were essential to guarantee the integrity of the research project, and to protect the rights of each teacher in training throughout this process. Hence, we made several commitments that were vital for the realization of this research project, as follows: Equity and justice guaranteed that each member was treated fairly, without discrimination based on gender, age, race, sexual orientation, or religion. Honesty and transparency helped ensure that all the information provided was accurate and complete. As participants, we agreed that the results of the research could be published. We also agreed to monitor ethical protocols and verify that they were followed. These commitments were consigned in a consensually constructed consent form that we all signed.

#### **2.5 Context**

As participants (preservice teachers) we had different practice contexts. One of us completed the practicum in a private school located in the Robledo neighborhood. The other two did their practicum in a private university in Medellín: one of us worked with the English Semilleros that served the children of the university's employees or students; the other one

practiced in the English courses offered to the university students, adults between the ages of 25 and 40 from different programs.

## **2.6 Data Collection**

### ***2.6.1 Test***

The Sisco Test (Barraza, 2007) measures academic stress through close-ended statements that are graded from 1 to 5 (never, rarely, sometimes, almost always, always). Test sections include physical reactions, psychological reactions, disturbing situations, and strategies used frequently to manage stress. Depending on the overall score, test takers can determine whether their academic stress is low (31 – 65), medium (66 – 115), or high (116 – 155). We took the test four times, every 15 days, over the course of August and September of 2022.

### ***2.6.2 Journals***

The journals contained three specific elements: categories, data, and open questions, which are related to critical thinking. As pre-service English teachers and researchers, we designed five open-ended questions that guided our reflections concerning academic stress, as follows:

**Question 1:** How is my stress level this week?

**Question 2:** What has caused me stress?

**Question 3:** In my practice specifically, what has caused me stress?

**Question 4:** What critical thinking strategies have I used for reducing academic stress?

**Question 5:** What effectiveness have I seen or what alternative effects have I noticed when applying these strategies for stress reduction?

### ***2.6.3 Collaborative Dialogue***

Regarding the results, the **collaborative dialogue** was a reflective space where each of us related our evolution with the management of academic stress following the different strategies

proposed in the test regarding critical thinking. Our intention with the collaborative dialogue was to relate the stress levels shown by the test with the strategies used, as declared in the journal.

## **2.7 Data Analysis**

The data analysis was carried out through the following steps:

**Cutting.** We selected and assembled the most significant information derived from the SISCO test and the journal entries before starting the coding.

**Coding.** We identified and selected only the meaningful experiences, opinions, and behaviors as reflected in the test and the journals. We coded the data and divided them into small groups (categories); then, we elaborated a category list where only the most relevant codes were saved.

**Categorizing.** Based on the codes, themes, and fragments extracted, we categorized the information collected and classified it according to the academic stress markers reflected and the critical thinking strategies used.

**Converting.** In this step, we identified repetitive themes and patterns and focused on their description and interpretation.

**Creating.** In this last part, we converted the results into a visual representation through the use of graphics.

## **2.8 Measures for Trustworthiness and Validity**

Concerning the reliability of the test, “the Classical Test Theory, the test-retest reliability strategies, and Cronbach's Alpha were used to evaluate the reliability of the SISCO Academic Stress Inventory scores” (Barraza, 2007, par. 16). Regarding the internal validity of the test, evidence-based internal consistency was established; this method “refers to the analysis of the relationship of the items among themselves and these with the construct evaluated to interpret the

scores offered by the instrument. Among the different strategies used are factor analysis and consistency analysis” (Kramp, 2006, as cited in Barraza, 2007, par. 21).

### 3. Findings

Concerning the findings based on data collection, they were organized in relation to the main categories of academic stress and critical thinking. In the first place, we analyzed factors leading to and consequences of academic stress among the participants. Last, we present the critical thinking strategies used to reduce stress levels.

#### 3.1 Stress Factors

This category refers to the factors that cause stress among pre-service English teachers and that can affect their physical and mental well-being. These factors include work, interpersonal, and environmental situations that are perceived as threatening or challenging. Data showed that the factors that generate more stress in the participants were academic overload, workload, and work influences. Below there are some excerpts that exemplify each of these factors.

**Academic overload.** “Extensión de horarios, crear planeaciones de clase y trasnocho en la elaboración de compromisos académicos” (Val.Week 1. P.1.3R.1.3).

**Workload:** "El planear o realizar ciertas obligaciones que son urgentes realizar tanto en la parte académica como personal y por motivos laborales dentro de la práctica todo se complica y lo que ya estaba planeado se pospone” (Dan. week 5. P1. R1.2).

**Work influences:** "En el trabajo, los líderes de área estuvieron presionando mucho con unos trabajos y exámenes por montar para los estudiantes y esto me generó un poco de estrés” (San. week 7P.1.3R.1.3).

#### 3.2 Consequences of Academic Stress

In this part, the consequences of stress were extracted from the Sisco Test (Barraza, 2007). The most notorious effects of stress among participants were physical reactions, physiological reactions, and negative thoughts. Excerpts below exemplify each of these factors.

**Physical reactions:** “Cuando duermo el tiempo suficiente lo cual el trasnocho y largas horas en hacer trabajos eso me ocasiona preocupación y estrés, y tratar de descansar suficientemente el fin de semana para no sentirme saturada en compromisos académicos y laborales y pensar un poco más en mí por mi salud emocional” (Val. week 7.P.5 R.1.5).

**Psychological reactions:** “Al estar mal, prefiero alejarme y evitar que vean o perciban que estoy pasando un mal momento” (San.week 3.P.1.2.R1.2).

**Negative thoughts:** “Hay algo que me genera demasiado estrés y es el no tener todavía mis prácticas, o sea el no poder realizar todavía mis prácticas de manera normal” (Dan. Audio.Min 03:48).

### 3.3 Strategies to Cope with Academic Stress

The objective of the research project was to register the implementation of critical thinking strategies used by pre-service English teachers to manage academic stress. As English teachers in training, we had several strategies in mind. The ones that helped us most to solve the different stress-related problems that arose during the research project were critical reading, confidence, and planning management.

**Critical Reading:** “Con la lectura veo mucha efectividad ya que hay gusto y entendimiento en las clases y conmigo mismo, además voy descubriendo soluciones para las situaciones que voy atravesando” (San.Week 1. P.1.5.R.1.5).

**Confidence** “Dentro de la práctica no he tenido estrés porque logré conectarme con los estudiantes lo cual no fue un reto tan difícil para mí, donde me permitió implementar actividades de acuerdo a las preferencias de los estudiantes” (Val. week 7. P4. R1.4).

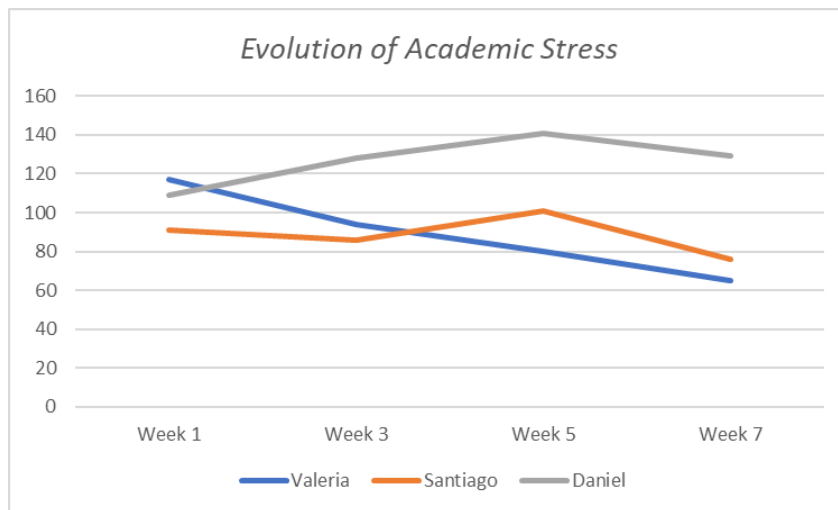
**Planning management:** “Las efectividades que he visualizado son cuando me propongo a realizar mis compromisos en un tiempo determinado, cuando me preparo con suficiente tiempo para dar una clase de intervención pedagógica” (Dan. week 1. P5. R2.3).

### 3.4 Evolution of Academic Stress

Figure 1 below shows the evolution in the stress levels of the participants during and at the end of data collection. It demonstrates how the level of stress of the participants significantly decreased, presumably because of the critical thinking strategies we used.

**Figure 1**

*Evolution of Academic Stress*



## **4. Discussion**

### **4.1 Implication and Interpretations**

The physical and mental impact of academic stress on individuals' lives is often overlooked. In light of the research question, we explored some critical thinking strategies through journal analysis. This technique allowed us to identify and explain the most effective strategies for reducing high-stress levels. The Sisco Test further aided in assessing stress levels and increasing awareness of how to effectively confront and manage stress. Consequently, the research aims to identify significant critical thinking strategies that can assist prospective pre-service English teachers in managing academic stress was achieved. These strategies include time management, self-confidence development, and critical thinking.

Effective time management involves proficiently planning and organizing academic tasks, and setting priorities, as well as avoiding procrastination. Building confidence reinforces the belief in one's abilities to tackle academic challenges, which helps to reduce anxiety and stress. Additionally, critical reading empowers pre-service English teachers to critically analyze stressful situations, evaluate diverse perspectives, and generate effective solutions. These strategies constitute practical and effective tools for prospective English teachers to manage academic stress effectively. Moreover, these strategies can be customized to suit individual and contextual needs, enabling teachers to approach academic challenges with confidence.

Concerning the central categories in this research project, we would like to explain how they were related to the findings. Academic stress is a widespread problem with various symptoms (Aguila, 2015). The Sisco Test helped us to understand and analyze the magnitude of academic stress experienced by pre-service English teachers, which allowed us to take steps to effectively manage stress in the academic environment.

Academic stress can have negative effects on students' overall well-being and academic performance. The Sisco Test identifies specific factors contributing to stress, providing valuable information for designing appropriate interventions and support strategies. In addition, the test can help identify students who require additional attention and support to deal with academic and emotional demands.

In summary, academic stress is a prevalent problem among pre-service language teachers, and its relationship to challenges compounded during the pandemic. The Sisco Academic Stress Test (Barraza, 2007), is a useful tool for assessing academic stress, as it provides a deeper understanding of specific stressors and allows for the implementation of appropriate support measures for students.

Critical Thinking refers to the ability to analyze, evaluate and synthesize information to reach informed conclusions and make informed decisions (Tamayo et al. 2015). Critical thinking plays a vital role in addressing academic stress. In addition to the strategies mentioned above, journaling can be an effective strategy to deal with stress, as it encourages students to reflect on their experiences and apply critical thinking skills. By analyzing the questions, students can assess the causes and effects of stress, evaluate their emotional responses, and develop strategies to manage it.

#### **4.2 Limitations and Suggestions for Further Research**

In this research project, it is important to recognize and discuss the limitations that arose during its development. One of the main limitations is related to time management. Time management became a challenge, as the team members had busy schedules and previous commitments. This made it difficult to meet and work together regularly, which impacted the planning and execution of the project activities.

In addition, the lack of adequate vocabulary for writing and speaking affected the dissemination of the project. Despite our efforts to improve our language skills, we encountered difficulties in expressing ideas clearly and accurately in the final report and oral presentation. This may have affected the quality of communication and the presentation of the results obtained.

It is important to keep in mind that these limitations affected the extent and results of the research project. The time constraint and lack of vocabulary influenced the ability to conduct a more thorough and detailed analysis, as well as a more effective presentation of the findings.

Despite these limitations, it is important to highlight the efforts made to overcome the challenges encountered. Time management strategies were implemented and additional resources were sought to improve language skills. These actions mitigated the limitations to some extent, although there were still areas that could have been discussed more completely and satisfactorily.

In future research projects, it is recommended that adequate time be allocated for planning and execution, as well as for strengthening language skills. This will allow for greater dedication to the research and more effective communication of the results. It is also essential to have a committed team with well-defined roles and responsibilities to optimize collaboration and maximize available resources.

### **4.3 Recommendations and Conclusions**

Recommendations for pedagogical intervention in academic stress management for prospective English teachers, based on research findings, include discussing academic overload through well-balanced curricula, promoting stress management strategies and a healthy lifestyle, establishing emotionally supportive spaces, incorporating critical thinking into teaching, building student confidence, and teaching planning and time management techniques. These recommendations seek to create a balanced learning environment that supports students' emotional well-being and promotes a healthier and more effective academic approach.

Regarding recommendations to improve professional development, identity shaping, and teaching practice, it is essential to implement strategies that discuss stressors, such as academic overload, by creating balanced curricula and open communication to alleviate the workload. In addition, stress management practices, healthy eating, physical activity, and adequate rest should be promoted to mitigate the negative consequences of stress. Incorporating critical thinking into teaching will allow pre-service English teachers to develop skills of analysis, reflection, and informed decision-making, which will positively impact their professional development and provide them with tools to help students cope with academic stress. Also, building confidence and teaching planning and time management techniques will strengthen pre-service teachers' teaching identity and practice, enabling them to face academic challenges confidently and effectively. Together, these findings and recommendations will contribute to better professional development, a stronger identity, and more effective teaching practice for language teachers.

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