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**Enhancing Academic Decision-Making Through
the Neuro-Linguistic Programming Meta-Model
Technique. A Case of Third-Year Undergraduate
EFL Students at Mohamed Boudiaf M'sila
University.**

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Dedication

To my dearest parents, whose unwavering love and sacrifices guided me throughout this journey.

My dearest sisters, who never failed to believe in me, and, most importantly, to my dearest cat,

Cecilion, without whom I wouldn't have found hope and motivation.

To those whose interests are similar to mine and to the Academics who have inspired me.

To the past that shaped me, the present that nurtures me, and the future that awaits me.

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Abstract

Academic decision-making is a crucial yet understudied factor that shapes educational trajectories. In this context, enhancing academic decision-making among students is the primary focus of this study, as it holds significant importance in cultivating critically self-aware learners capable of making informed and rational educational choices without the interference of cognitive biases. Neuro-Linguistic Programming (NLP), a psychological approach that examines the relationship between language, cognition, and behavior, offers its Meta Model technique—a structured method by which constraints in thought and communication patterns are identified and resolved. This study bridges the gap in research by investigating the efficacy of NLP's Meta Model as an intervention to enhance academic decision-making among third-year EFL undergraduates at Mohamed Boudiaf M'sila University. Furthermore, it employs a mixed-methods approach with a quasi-experimental design to thoroughly investigate the research problem and address the study's guiding questions. The Meta Model intervention, applied to the selected sample, demonstrates significant effectiveness in enhancing academic decision-making. Focus group results combined with quantitative analysis revealed an 8.4-point mean improvement between the ADM pre-test and post-test, with a paired t-test showing statistical significance ($p < 0.001$). These findings confirm measurable progress in students' decision-making capabilities. Moreover, despite the limited study sample, the findings of this study offer actionable insights for students, educators, and policymakers, potentially advancing NLP's applicability in education and providing a framework for scalable decision-making interventions.

Keywords: Academic Decision-Making, Neuro-Linguistic Programming, Meta Model Technique, Cognitive biases, Master's Program selection.

List of Abbreviations

NLP: Neuro-Linguistic Programming.

ADM: Academic Decision-Making.

NDM: Naturalistic Decision-Making.

PRS: Personal Reality Schema.

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General Introduction

1. Background of the study

The primary focus of education for centuries has centered on cultivating academic excellence by prioritizing measurable outcomes over what shapes students' decision-making (Biesta, 2010). While pedagogical innovations, ranging from constructivist approaches to competency-based models, have transformed instructional delivery (Darling-Hammond, 2017), research on academic guidance remains significantly underdeveloped, particularly in understanding how students approach critical educational choices. This gap highlights a serious flaw in how educational systems are designed, where institutions emphasize what students learn but neglect how they learn to make informed decisions, which is a skill that is crucial for long-term autonomy and success (Pizzolato, 2006). Without empirical attention to decision-making mechanisms, even high-achieving learners risk suboptimal pathways influenced by cognitive biases and institutional constraints.

At Mohamed Boudiaf M'sila University, this issue is highly present. Students often struggle with choosing their academic paths due to a significant lack of structured academic guidance. This challenge not only affects their immediate academic performance but also has long-term implications for their career trajectories and personal development. To address this, this study proposes the use of the Neuro-Linguistic Programming (NLP) Meta Model technique as a tool to investigate and potentially enhance academic decision-making among students. NLP has been applied in education to support better learning, more transparent communication, and overall student development (Taha et al., 2025). Therefore, by employing the Meta Model, which challenges distortions, deletions, and generalizations in thought processes, this research aims to provide students with a framework for making more informed and rational academic decisions.

2. Problem Statement

University students often face critical junctures in their academic careers that require good academic decision-making skills. However, many struggle to effectively navigate these challenges, which can potentially lead to suboptimal choices in their selection of a Master's program. The implications of these struggles are profound. Poor decision-making at this stage can lead to serious consequences, including reduced motivation and long-term career dissatisfaction. Additionally, the inherent pressure of making high-stakes decisions can lead to stress and anxiety in students, further impairing their ability to think critically and objectively.

Furthermore, the Department of English at Mohamed Boudiaf M'sila University does not offer specific programs for students' career counseling and academic advising, often leaving students in a state of ambiguity. Consequently, there is a pressing need for innovative, evidence-based tools that can enhance students' academic decision-making abilities and support them in making informed, strategic choices when selecting a master's specialty or addressing academic-related issues. This study addresses the need for innovative interventions to enhance students' academic decision-making abilities, specifically exploring the potential of the Neuro-Linguistic Programming (NLP) Meta Model technique as a tool to improve decision-making processes in academic contexts.

3. Research Questions

Given the stated problem, this study aims to answer the following questions:

- a.** How does the application of the NLP Meta Model technique influence the academic decision-making of third-year students engaged in selecting their Master's program major?

- b. To what extent can the NLP Meta Model technique mitigate cognitive biases and enhance the quality of academic and career decision-making among third-year university EFL students?
- c. What is the current level of Academic decision-making among third-year undergraduate students?

4. Research aims

- a. To examine the effectiveness of the NLP meta-model technique in influencing academic decision-making.
- b. To assess the current academic decision-making problems faced by third-year students at the University of Mohamed Boudiaf M'sila University.
- c. To explore the feasibility of integrating NLP Meta Model strategies into the university's academic advising framework, particularly within the Department of English at M'sila University.

5. Research Hypotheses

This research hypothesizes that:

H0: The implementation of the Neuro-Linguistic Programming (NLP) Meta Model technique has no significant effect on improving academic decision-making skills among university students at Mohamed Boudiaf M'sila University, particularly in the context of selecting a master's specialty or addressing academic-related issues.

H1: The implementation of the Neuro-Linguistic Programming (NLP) Meta Model technique significantly enhances academic decision-making skills among university

students at Mohamed Boudiaf M'sila University, leading to more informed and strategic choices in selecting a master's specialty and addressing academic-related issues.

6. Research Significance

This study holds significant importance for several reasons:

- a.** It explores a novel application of NLP techniques in higher education, potentially offering a new tool for academic advisors and career counselors.
- b.** By enhancing academic decision-making skills, the research may contribute to improved academic outcomes and career satisfaction for students.
- c.** The study bridges the fields of linguistics, psychology, and education, offering insights that could benefit multiple disciplines.
- d.** Findings from this research could inform the development of targeted interventions and workshops to support students at key decision points in their academic journeys.
- e.** The study expands the application of NLP techniques beyond traditional therapy settings, potentially introducing new areas for research and practice in educational contexts.

7. Research Tools and Methods

This study employs a mixed-methods approach, combining quantitative and qualitative data through a quasi-experimental design involving 16 students who underwent the intervention. This methodological triangulation strengthens the validity of findings by capturing both statistical

patterns and participant experiences (Creswell & Creswell, 2018). To investigate the research hypotheses objectively, data were collected in three phases, each progressively deepening the analysis. The first phase utilized a screening questionnaire to identify the underlying issues students face and confirm whether a significant problem exists in this area of investigation. Due to the study's non-random volunteer sampling technique, the screening questionnaire also served as a recruitment tool. The second phase aimed to assess students' baseline academic decision-making (ADM) levels through a pre-test and to administer the treatment (the Meta Model technique intervention). The third and final phase involved administering the post-test questionnaire to evaluate the intervention's effects. This sequential design aligns with established models for evaluating educational interventions (Tashakkori & Teddlie, 2010). Data were analyzed using SPSS (Version 30) and Google Sheets for supplementary analysis.

8. Research Structure:

This research is structured into two comprehensive chapters to present both theoretical foundations and methodological approaches systematically. The first chapter, dedicated to the literature review, serves multiple critical functions. The study begins by establishing the broader academic context through an examination of existing research and theoretical frameworks that inform the investigation. The chapter then progresses to provide conceptual clarity by thoroughly defining and illustrating the key constructs of Academic Decision Making (ADM) and analyzing its various dimensions through relevant academic perspectives. A parallel, in-depth exploration follows for the NLP and the Meta Model as well, with particular attention to its theoretical underpinnings. This way, the study presents a logical progression from one main point to another.

The second chapter shifts focus to research design and fieldwork execution, offering a detailed account of the scientific process undertaken. It starts with a thorough explanation of the selected methodology, justifying the choice of approach used in relation to the study's objectives. Subsequent sections systematically address all procedural aspects. Firstly, the sampling strategy includes selection criteria, comprehensive descriptions of all research instruments, and the complete data collection process. The chapter provides detailed illustrations and interpretations of data, covering both quantitative and qualitative data techniques. This methodological structure ensures transparency and reproducibility, wherever possible while demonstrating the study's systematic approach to investigating the research questions.

Chapter one: Literature Review

Introduction

Neuro-Linguistic Programming (NLP) serves as the lens through which we can explore human language, thought, and behavior, and has garnered worldwide interest so far. In the world of education, NLP has not received the recognition it deserves. In a recent study conducted by Carvajal-Gavilanes et al. (2021), the objective was to investigate the influence of Neurolinguistic Programming Techniques on the development of speaking skills. The study's findings indicated that students who received instruction using NLP strategies demonstrated notable improvements in their speaking abilities. Another investigation conducted by Zhang et al. (2023) examining the effect of NLP strategies on academic achievement, emotional intelligence, and critical thinking underscored the importance of Neurolinguistic programming strategies in playing an effective practical role in learners' critical thinking, academic achievement, and emotional intelligence in EFL Learners.

Delbio and Ilankumaran (2018) propose an explanation of their psychoanalytical approach to NLP in relation to second language acquisition, highlighting the importance of Neurolinguistic Programming in language teaching and learning, as well as its advantages and disadvantages. The research further highlights the strong link between NLP and second language acquisition, stating that NLP improves L2 skills by blending conscious rules and subconscious fluency, which is key for effective teaching. For instance, Bouallaga (2016), in her paper that explores the role of (NLP) in modeling human excellence and mental skills to accelerate learning, claims that by using NLP techniques, the study seeks to bridge the gap in educational systems by providing students with effective mental strategies, thereby accelerating the learning process.

Earlier investigations of NLP in educational settings have highlighted that, despite its recognition in educational institutions worldwide for its potential to enhance communication and

personal development skills, NLP remains underrepresented in academic research, underscoring a need for more scholarly discussion (Shaari & Hamzah, 2016). Overall, it can be said that previous studies have failed to address the academic decision-making aspect. This gap underscores the need for further research to understand the impact of NLP in education.

Despite the wealth of research on Neuro-Linguistic Programming, there is a notable absence of studies investigating its use in an academic context, specifically in academic decision-making, a critical aspect of this study. Furthermore, while previous studies related to education have explored NLP, little attention has been given to its Meta model technique, which is crucial for advancing our understanding of NLP's application in educational settings. Third-year Bachelor's students nearing the completion of their undergraduate studies often find themselves at a pivotal crossroads as they contemplate their postgraduate academic path. Selecting the appropriate Master's major or orientation can significantly impact their future career trajectories and personal fulfillment. To navigate this crucial decision-making process, the application of the Neuro-Linguistic Meta-Model can provide valuable insights and enhance the decision-making capabilities of these students.

1. Academic Decision Making

Understanding decision-making among university students is of great importance. Throughout the academic years, students face multiple occasions where they are put in a situation where they have to make a decision that potentially can change the entire stream of their lives. For instance, students in the English major are required to choose the specialty orientation they wish to pursue in their Master's studies (Postgraduate studies) upon completion of their third year of university studies. Most students in such situations are left perplexed and lost and often make decisions they will regret. For instance, Hastie and Dawes (2010) noted that decision-making is the cognitive process of selecting a course of action from multiple alternatives based on preferences, values, and beliefs. It involves gathering information, evaluating options, and selecting the most suitable solution to achieve a desired outcome. For a student to make a life-changing choice, they need a set of trained skills, as well as self-awareness.

1.1. Academic Decision-Making Styles

Research consistently positions decision-making styles as observable behavioral expressions of underlying cognitive style dimensions. Galotti et al. (2006) state in their study that different learners employ different decision-making strategies. They further identified multiple types of differences in decision-making among people, with the first type being the analytical type, who tends to research everything carefully before taking action. The other types are those who follow their instincts, relying on a gut feeling rather than overanalyzing. The third type tends to prefer making decisions entirely on their own without seeking external help. The fourth type is those who find comfort in others' affirmation of their decisions; they always ask a friend or family member for advice before making a choice. Another type is the overthinkers, those who procrastinate when deciding, take a long time to make a decision, and worry about every detail.

Among these types, it cannot be said that there is a single right or best type; these are simply illustrations of how different people view different decisions.

Accordingly, Scot and Bruce (1995) (as cited in Galotti et al., 2006), in their survey instrument, operationalized five decision-making styles: rational (systematic information-seeking and logical evaluation), intuitive (reliance on affective cues and instinct), dependent (preference for external guidance), avoidant (tendency to delay or evade decisions), and spontaneous (preference for immediacy in resolution). This survey was not only tested with undergraduate students but also with graduate students and military officers. Further diagnostic evaluation of the psychometric properties of the survey instrument developed by Scot and Bruce (1995) confirmed the existence of the five decision-making styles mentioned. On the same stream of thought, a common pointed difference between the decision-making styles, learning styles, and thinking styles cited in Galotti et al.'s (2006) study is between the rational and intuitive dimensions, where the rational approach denotes approaching tasks objectively, analytically, and unemotionally, while the intuitive approach, on the other hand, is holistic, personal, and based on one's emotions.

Having established an understanding of different decision-makers, we now turn to pinpoint that academic decision-making is a challenging process for learners, regardless of their preferred style. It is often influenced by cognitive overload, institutional constraints, as well as emotional constraints such as rigid curricula and identity conflicts. Compounded by pressure, many students rely on intuition or social influence rather than deliberate analysis (Liu et al., 2022), leading to future regret as making Academic decisions is oftentimes irreversible. Compounding this issue, the structural barriers within educational systems further complicate the admission of undergraduate students to postgraduate studies.

1.2. Academic Decision-Making as a Crucial Part of Education

It is essential to emphasize that education is not only about imparting and developing knowledge but also about cultivating the qualities that enable individuals to acquire and apply this knowledge effectively. It enables students to nurture their intellectual abilities, emotional well-being, and become both morally and culturally empowered. When it comes to school choices, many students appear to be perplexed, undecided and lack trust in their decision-making abilities. In this regard, effective decision-making is essential for determining one's academic success or failure (Bala et al., 2017). Furthermore, the topic of how ordinary people make decisions and the processes they use is an understudied area. Much of the available data is related to studies conducted in laboratories, where participants are presented with a series of hypothetical decision scenarios. These studies do not accurately reflect what happens in the real world, as everyday decision-making processes cannot be observed in a laboratory setting (Galotti, 2007). This is where naturalistic decision-making comes into light.

Naturalistic decision-making refers to the study of how individuals rely on their experience to make choices in real-world settings. This approach aims to understand how people navigate common challenges in their environments, including incomplete information, time constraints, unclear objectives, and changing circumstances (Klein, 1998). The naturalistic decision-making approach is of great significance in this study, as it provides an in-depth understanding of how participants make their decisions in general, and academic decisions in particular. It is also highly similar to the Neuro-Linguistic Programming Meta Model technique, making it an ideal framework for this study. This leads logically to the question of how students can be informed and helped in making academic decisions they are confident about. The following section explores

how Neuro-Linguistic Programming can significantly contribute to elucidating academic decision-making processes.

2. Neuro-Linguistic Programming

Before Neuro-Linguistic Programming (NLP), understanding how people think to achieve specific outcomes was unclear. NLP provided us with a clear method for revealing and understanding a person's thought process. Neuro-Linguistic Programming (NLP) is often used in various fields, including education, where it serves as a psychological tool. By employing specific techniques and language patterns, NLP can modify the connections between our brain processes, thereby influencing how we think and behave (Savarledavar & Kuan, 2017). Neuro-linguistic programming is a concept first introduced by its founders, Richard Bandler and the linguist John Grinder, in the 1970s. To further break it down, NLP stands for *Neuro*, referring to the neurological mechanisms and processes in the human mind, *Linguistic*, referring to language use, and *Programming*, a term borrowed from computational programming and linked to human behaviors. Despite this, it is crucial to highlight that NLP has no direct link with neither neuroscience nor computer science (Tosey & Mathison, 2010).

Bandler & Grinder (1975) in their book of *Structure of Magic: A book about Language and Therapy*, highlighted the idea that as human beings our internal representations shape our experience of the world, our behavior, and the choices we make. Allowing us to understand the subjective nature of reality and the potential for growth through awareness and refinement of our mental models. Moreover, they stated that since we use language as a representational system, our linguistic representations are subject to the three universals of human modeling: "Generalization, Deletion, and Distortion" which will be further discussed later in this chapter and the study in general. This modality is referred to as the Preferred Representational System, which is often

reflected in behavioral patterns and, more significantly, through language. Neuro-Linguistic Programming (NLP) takes this into account by observing and analyzing individuals' language, thought patterns, and behaviors to facilitate changes in their emotional responses. Furthermore, NLP posits that communication becomes more effective when it aligns with the recipient's personal reality schema (PRS). By understanding and utilizing the PRS, it becomes possible to build rapport, model desired outcomes, and clearly define an individual's goals, which can then be addressed through specific NLP techniques, and in the context of this research, the Meta Model technique.

Although we may not be aware of it, the language we use is still structured. While we might not be aware of these patterns when we speak or listen, they exist and make communication possible. By studying these patterns, we can gain a deeper understanding of how language influences the way we think, express ourselves, and connect with others. In short, language is like a hidden framework that organizes how we behave even if we don't notice it (Bandler & Grinder, 1975). This means that communication is a way of sharing our inner thoughts with others. First, we use language to create a private understanding of our experiences. Then, we use language again to share those understandings of experiences with others. So, communication is essentially sharing our personal "mental map" of the world with someone else, making Language a central aspect of NLP.

3. Meta Model

The Meta-Model is a systematic linguistic framework for analyzing cognitive patterns that may be evident in one's speech. It aims to identify and challenge imprecise language. It is the result of Virginia Satir's years of psychotherapy experimentation with various patients. Moreover, it was derived from Satir's therapy, Fritz Perls' Gestalt techniques, and transformational grammar,

as perceived by Elston (2018). As the Meta-Model targets deletions, distortions, and generalizations in language, it helps individuals clarify their thoughts and beliefs. This makes it a valuable and helpful tool that can potentially uncover underlying assumptions that often hinder clear thinking and effective decision-making.

From the observations made on NLP's founders, Bandler and Grinder highlight NLP's 'Meta-Model,' which is known to be the core of NLP (Shaari & Hamzah, 2016). Additionally, this study needs to address the three primary constraints that human beings face (Neurological, Social, and Individual constraints) and then examine the elements of the Meta Model that result from these constraints: deletions, distortions, and generalizations. These linguistic patterns often shape how individuals perceive reality, leading to cognitive biases that can impact essential life decisions. By addressing these Meta Model elements, the study aims to explore how refining language can lead to clearer, more rational academic choices.

3.1. Human World Modeling Differences

Bandler & Grinder (1975, p. 7) quote in the first chapter of his Structure of Magic book, "No two human beings have the same experiences. The model that we create to guide us in the world is based in part upon our experiences...". According to this chapter of the book, the models that individuals create are inherently different from one another. These differences can be categorized into three areas or constraints: Neurological constraints, Social constraints, and Individual constraints.

3.1.1. Neurological Constraints

Human perception operates through our five senses, which shape our interpretation of the surrounding world. The brain's information processing mechanisms fundamentally influence this

perceptual experience, creating inherent biological limitations that restrict our awareness to a limited range of environmental stimuli or a limited reality. These sensory systems occasionally produce inaccurate representations of reality, a limitation recognized by the scientific community. To compensate for these perceptual constraints, technological instruments such as infrared cameras and thermometers have been developed to detect phenomena beyond human sensory capacity. The nervous system selectively filters input information, which can cause us to overlook or miss key aspects of our environment.

3.1.2. Social Constraints

Our social systems as well as language greatly shape how we experience the world around us and how we understand those experiences. Language acts as a filter; the words one might have in their language can either limit or expand how they think about things. Moreover, each society has its own accepted ways of thinking and behaving, which happen to influence our perceptions. These social norms and cultural beliefs can shape what we consider fundamental. These social beliefs ultimately enhance our shared understanding of meaning, which helps us make sense of the world. Unlike our biological and neurological limits of perceiving things, the ways society influences us can be changed. For instance, by learning and using different languages, we unlock different ways of describing and understanding the world around us. In this respect, the language we use in our society shapes how we think and describe our experiences; however, we can certainly change this with the acquisition of other languages, unlike the neurological filters that are the same for all human beings.

3.1.3. Individual Constraints

Individual constraints are the personal filters through which we perceive the world. Each person's unique personal history of experiences enables them to make informed decisions and evaluate choices based on their past experiences. While some people share similar experiences, their approaches to navigating life are undoubtedly different. We tend to create our models of the world; that is, we interpret the world around us through the influence of our individual experiences, with our dislikes, likes, interests, and rules for how to behave.

3.2. The Core Processes of the Meta Model

As the heart of NLP, the meta-model introduces three main core processes or mechanisms that are highly linked to the constraints explained above. This NLP technique can be best understood and introduced through Virginia Satir's explanation of the three processes of the meta-model: Generalization, Distortions, and deletion.

3.2.1. Generalization

Generalization, or the identification of generalization, is the process by which we take a specific lived experience and apply its outcomes to similar situations or experiences. This concept is of great importance in our lives and is often used by many people as a survival instinct. However, when it is overused and applied in the wrong contexts, it can be immensely hindering or limiting to the person (Bandler & Grinder, 1975). To further elucidate this matter, a problematic generalization would be the statement, "*I am bad at Linguistics.*" This claim reduces the rich and complex field of linguistics into a single negative self-judgment. What this overlooks is that linguistics encompasses diverse subfields, including phonetics, semantics, syntax, computational linguistics, psycholinguistics, and many other subfields, each requiring different skills and aptitudes.

As cited in Amirhosseini et al. (2018), The Generalization process revolves around two crucial elements: modal operators and universal quantifiers. On the one hand, modal operators refer to words or phrases that generally express obligation, such as the use of ‘must’ or possibility, such as can and cannot. These words shape how we perceive our choices. On the other hand, universal quantifiers are Words that overgeneralize specific cases to all situations or times. Words such as “Always”, “never”, “none”, and “every” are universal quantifiers.

3.2.1. Deletion

The second mechanism or process is Deletion. Deletion is our mind's way of filtering out or excluding specific details from our awareness and memory, retaining only what we deem relevant. To illustrate, when we converse with someone in the presence of background noise, we tend to overlook or ignore it, focusing solely on the communication between the listener and the speaker. Essentially, deletion makes life easier and more manageable, but it can also distort our perception, creating blind spots where we remove useful information along with the excess. Additionally, there are five key elements to deletion (As cited in Amirhosseini et al., 2018):

- 1. Unspecified nouns** occur when someone uses vague or general terms without clarifying who or what they’re referring to. In the example of saying “people don’t understand me,” the word “people” is unspecified, and we don't know exactly who is being referred to.
- 2. Simple deletions** that omit chunks of information. An example of that can be someone saying, “I am worried.” without saying what is making them worried. Therefore, we ask the question, “upset about what?”

3. **Comparative deletions** use comparisons (better, worse, more) without specifying the thing being compared to, such as saying “She is better” without specifying what exactly is being compared.
4. **Unspecified verbs** generally lack information about how an action occurs. For example, "The student hurt me" does not specify how the person was hurt.
5. **“Ly” Adverbs** mask vague descriptions, and we tend to accept the sentence without questioning it because these adverbs make it look rather convincing. An illustration of this can be the following sentence: “She did it perfectly.” We rarely question what “perfectly” really means.

3.2.2. Distortion

Distortion, according to Bandler and Grinder (1975, p. 16), refers to the ability of human beings to alter or twist their perception of sensory data. This mechanism is a double-edged sword, as it can either benefit or limit the person who falls into it. For instance, a person who believes that they are unworthy of care may take others’ initiations of care as manipulation. These distortions filter and reshape experiences to confirm pre-existing generalizations. In their work, Amir Hosseini et al. (2018) identified five types of distortions: Mind Reading, Lost Performative, Cause-effect pattern, Complex equivalence, and Linguistic Presuppositions.

To further explain the five types, Mind reading refers to the assumptions we make about others’ thoughts and feelings without verifications, which can lead to unwanted situations. Performative loss occurs when we present personal beliefs as universal truths. As for the cause-and-effect patterns, this occurs when we imply that one event automatically triggers another. For example, saying, "Literature makes me angry," implies that literature is the cause of anger. Complex equivalence, on the other hand, refers to falsely equating two unrelated experiences, such

as saying “she’s quiet, so she’s rude” while being quiet does not necessarily make one rude. Lastly, Linguistic presuppositions are powerful implicit assumptions embedded within language that must be accepted as accurate for the statement to make logical sense. For example, saying, “Have you stopped hating the Written Expression module?” implies that the person addressed used to dislike the written expression module.

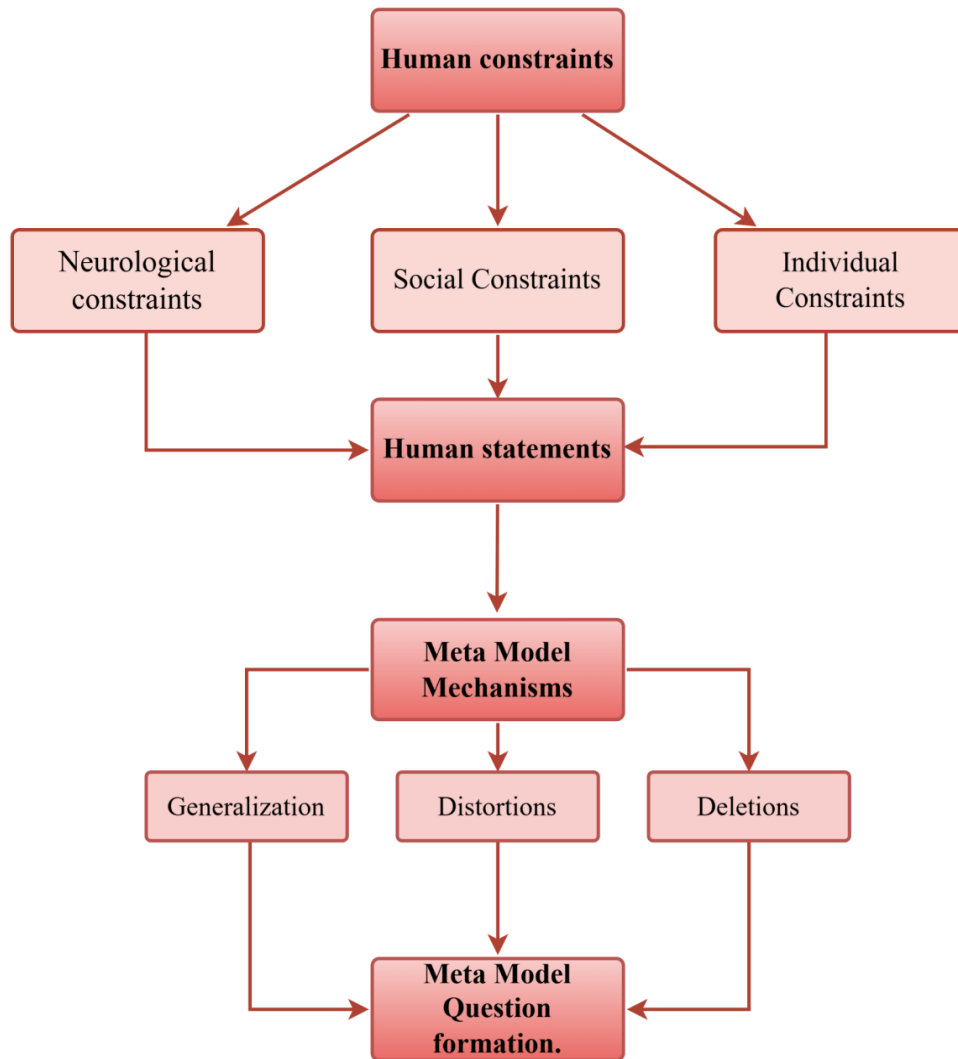


Figure 1. Framework of Human Constraints and NLP Meta Model Processes

Conclusion

Weighing the arguments, it becomes clear that the study revolves around the issue that decision-making in educational settings is understudied. This research gap is significant in prompting future researchers to conduct further investigations into academic decision-making in general, as well as specific behaviors and abilities. Similarly, no previous studies have discussed or considered NLP when investigating academic decision-making. Despite the numerous studies that circulate in the educational field regarding NLP, a systematic analysis of ADM is still lacking. Additionally, the theoretical exploration has established the Meta Model of Neuro-Linguistic Programming as a robust framework for addressing the complexities of academic decision-making among third-year undergraduate EFL students in the Department of English Language and Letters at M'sila University.

As highlighted in the theoretical underpinnings of decision-making, decision-making plays a vital role in shaping the outcomes of our lives. It is made clear that the differences students identify in their decision-making styles reflect who they are. An emphasis needs to be put on the reality that academic decision-making is a challenging process for learners, regardless of their learning styles. Additionally, the naturalistic decision-making approach suggests that human beings make decisions based on their life experiences. This creates a logical link between NLP's meta-model and decision-making in general.

The Meta model technique is considered the best approach for this study, as it focuses on retrieving and challenging a person's deepest, lost knowledge. This technique provides a systematic approach to addressing the distortions, generalizations, and deletions that often hinder students' ability to make informed academic decisions and choices for their postgraduate studies or Master's programs. Importantly, this chapter has positioned the Meta-Model not only as an

analytical framework but also as a practical conversational tool that can be embedded in academic advising, focus groups, or career counseling. It probes the limitations students place on themselves, facilitating a deeper awareness of the narratives they construct about their capabilities and options.

In conclusion, investigating academic decision-making through the Meta-Model opens new possibilities for understanding the linguistic construction of choice and identity. This approach provides a structured framework for uncovering hidden patterns in students' thought processes and language use. It also provides valuable insights into how individuals articulate preferences, express uncertainty, and negotiate their academic paths. Through the application of the Meta-Model, researchers can gain a deeper appreciation of the cognitive and communicative mechanisms that shape educational trajectories.

Chapter Two: Research Methodology

CHAPTER TWO: Research Methodology and Discussion Of Results.

Content:

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Conclusion

Introduction

This chapter plays a massive role in further elucidating the process of this research study. It offers an outline of the methodology used. The chapter outlines the framework used in the study, establishing a transparent and rigorous foundation for the investigation. Furthermore, it carefully discusses the data collection tools used to gather data from the respective sample of student participants. Moreover, this section puts forth illuminating recommendations and pedagogical implications. Additionally, it addresses the limitations, ensuring that the research adheres to established academic standards and makes a meaningful contribution to the body of knowledge in the field.

1. Research Design

The research design encompasses the overall methodology of the study, detailing the research approach, setting, sample, and sampling techniques. It also outlines the instruments used for data collection, ensuring a clear framework for how the study is conducted and how its objectives are addressed systematically.

1.1. Methodology of Research

This research employs a mixed-methods approach to gain a deeper understanding of the research problem. On the one hand, by integrating quantitative data, such as the results of the conducted questionnaire with third-year EFL students, academic decision-making patterns and trends were identified. On the other hand, qualitative data collected from intervention interviews and analyzed through qualitative deductive coding and content analysis can provide rich and detailed insights into the participants' experiences and perspectives. This combination allows data triangulation, enhancing the validity and reliability of the research results. Overall, The mixed

methods approach enabled the research questions to be answered from multiple angles, ensuring a more comprehensive analysis.

1.2. Research Settings

This study is conducted in the academic year of 2024/2025. Moreover, data was collected with the help of third-year undergraduate student participants from the English Department of Mohamed Boudiaf M'sila University. As students at a pivotal stage of selecting their future academic paths, they represent an ideal population through which the impact of the Meta Model on decision-making can be examined. The university setting provides a realistic environment to assess how linguistic interventions can influence real-world academic choices.

1.3. The sample and sampling design

For the study's piloting, simple random sampling was used, with two groups chosen from the entire population of six third-year groups. However, it was found to be inconvenient and flawed. In contrast, the main study utilizes a non-probability sampling technique. It involves the non-random selection of participants. With Voluntary Response Sampling in mind, the sampling design was used to ensure that participants were willing to participate throughout the entirety of the experiment. This technique also helped target individuals who were genuinely facing academic decision-making challenges, ensuring that the study addressed real, relevant issues within the student population.

1.4. Data collection Instruments and procedure

This study utilizes two questionnaires as primary research instruments: the Students' Screening and Recruitment Questionnaire, designed to identify suitable participants, and the

Academic Decision-Making Questionnaire, which assesses participants' decision-making patterns and behaviors.

1.4.1. Students' Screening and Recruitment Questionnaire

The Primary aim of this questionnaire was to serve as a screening and recruitment tool of those who face difficulties when it comes to academic decision making, further ensuring that participants met the criteria for the study and were willing to engage in the experimental process. Moreover, it assessed their current academic decision making skills. Its concise and targeted design ensured that it was efficient for participants to complete while providing the necessary data needed to support the study's goals.

1.4.2. Academic Decision Making Questionnaire Test:

The Academic Decision-Making (ADM) test is a designed tool customized to assess the study's key variable. It employs a Likert scale to quantitatively measure participants' attitudes and behaviors towards academic decision-making before and after the intervention. The test assessed ADM based on, Vigilance, Hypervigilance, Buck-passing, and finally procrastination. The Likert scale used, provides a structured way to gauge the intensity of respondents' ADM levels. To ensure validity, face and content validity were established through evaluations by expert teachers in the field. The questionnaire was administered both before and after the intervention, which utilized the Neuro-Linguistic Programming (NLP) Meta Model technique. Its design is grounded in theoretical frameworks related to the NLP Meta Model and academic decision-making, ensuring alignment with the study's objectives.

2. Data Analysis and Interpretation of Results

The analysis of data will go as follows:

2.1. Analysis and Interpretation of Students' Screening Questionnaire

The Students' Screening Questionnaire was analyzed to identify participants who are currently experiencing academic decision-making challenges, particularly regarding their choice of a master's program. The analysis also provided initial insights into the common concerns and cognitive patterns present among the participants.

2.1.1. Description of Students' Screening Questionnaire

The questionnaire was piloted in both paper and online formats to identify the difficulties that lie within it. Based on students' feedback, adjustments were made to the question wording, as well as the technical issues. Found to be suitable and more efficient, the final and main form of the instrument was then administered online via a Google form, with a total of 80 valid entries.

Section one of the questionnaire

Section one of the questionnaire was intentionally designed to exclude detailed demographic data, except for identifying the specific groups to which the participating EFL students belonged. Demographic variables such as age and gender were not included, as they were not pertinent to the research questions under investigation. The primary focus of the study was to examine student behaviors, attitudes, and performance within their respective focus groups, rather than to explore the potential influence of individual demographic factors on these outcomes. Consequently, the collection of such data was deemed unnecessary for addressing the study's objectives. Additionally, by omitting extraneous demographic questions, the questionnaire was simplified and optimized, which not only enhanced response rates but also minimized the burden on participants.

Section Two of the questionnaire

The second section included a series of questions that assessed students' current academic decision-making skills using a combination of Likert-scale items and scenario-based questions. These questions assess key dimensions of decision-making, including critical thinking, problem-solving, goal setting, and self-regulation, providing a baseline measure of their skills before the intervention.

2.1.2. Analysis and Interpretation of Results

Analysis and Interpretation of Results

The Analysis shows the following findings

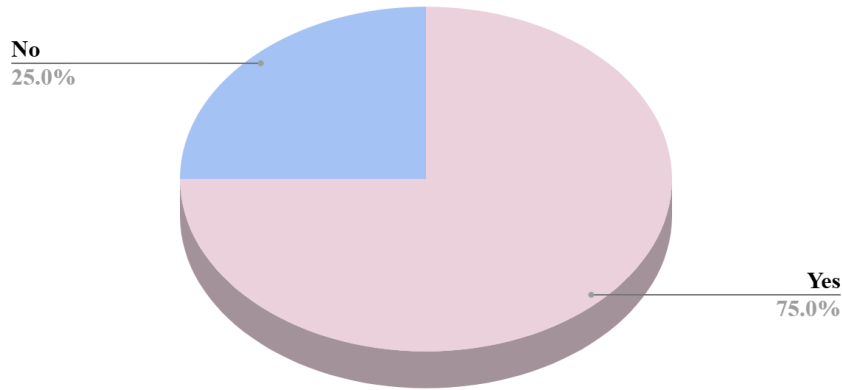
Section One: Semi Demographic.

Question 01: From which Group are you?

Group one	Group two	Group Three	Group Four	Group Five	Group Six
15	13	12	14	12	14

Section Two: Questions for analysis:

Question 01: Do you face any difficulties when making academic decisions?

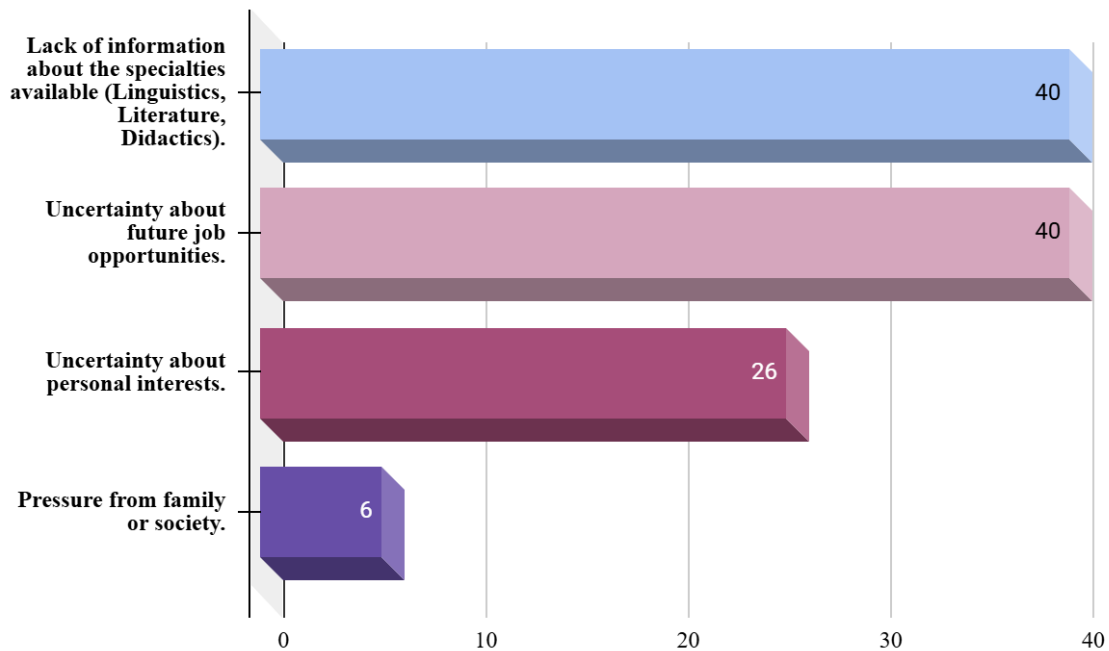


Graph 1. Student results of facing ADM difficulties.

Interpretation:

The results presented above show that 25% of the 80 students do not face any academic decision-making issues. The other 75%, which makes up a significant majority of students, experience challenges when making academic decisions. These results indicate that an in-depth investigation is necessary in this area of educational systems.

Question 03: What challenges are you facing in making your academic decision? (Select all that apply)

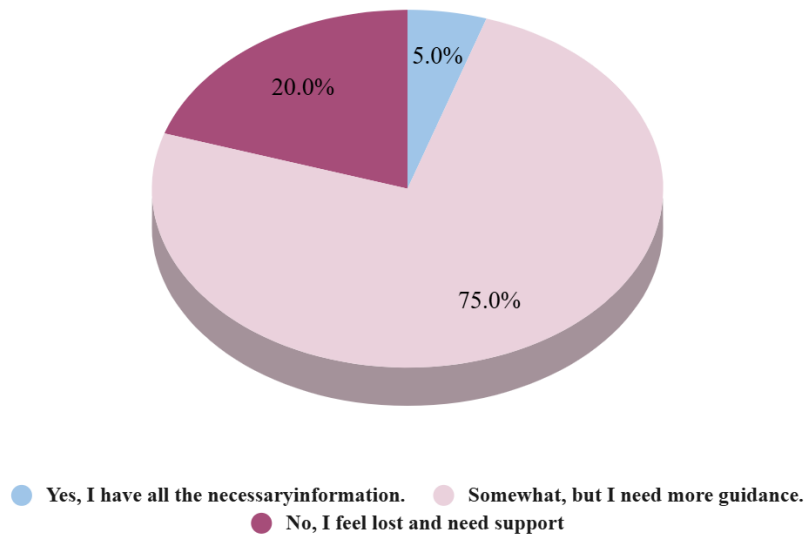


Graph. 2. Results of students' screening questionnaire, third question.

Interpretation of the Third Question

This question aims to identify the key obstacles that students face explicitly. Since the question allowed for multiple choices, findings showed that out of 80 answers, 40 students Lacked information about the specialties available. Similarly, future job opportunities pose a significant challenge for students. Twenty-six students noted that the problem lies in their uncertainty about personal interests. Other entries highlighted pressure from family and society.

Question four: Do you feel you have enough guidance and resources to make your academic decision?

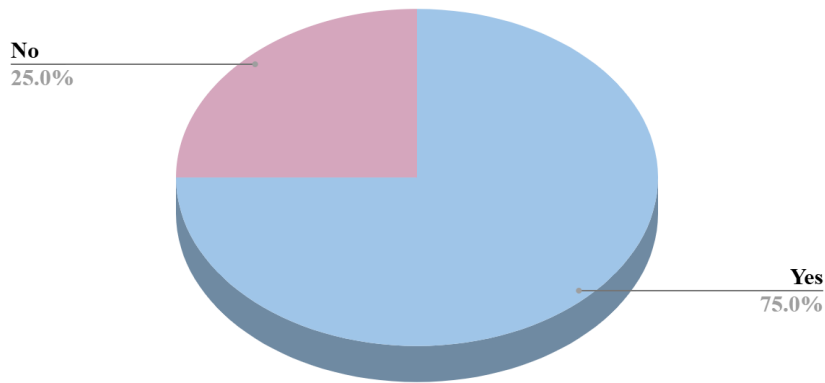


Graph 2. Results of students' screening questionnaire, question number four.

Interpretation of the fourth question

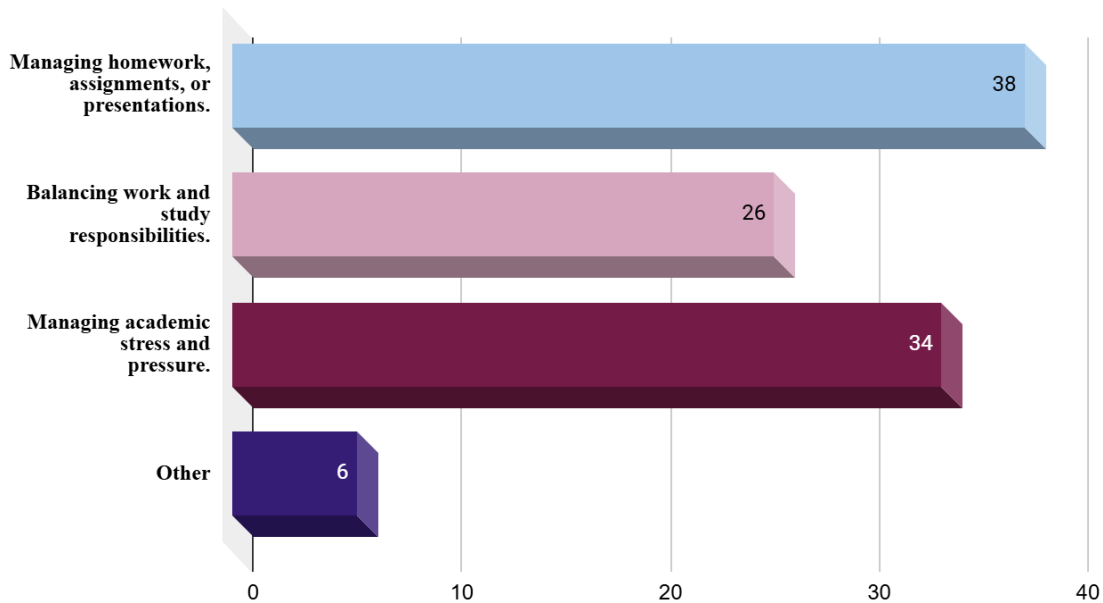
75.0% of participants answered, “Somewhat, but I need more guidance.” While they may have some information, this significant majority suggests that most learners are not entirely confident in their academic decision-making process. Moreover, 20.0% responded, “No, I feel lost and need support.” and this group clearly expresses a lack of direction. Only 5.0% indicated, “Yes, I have all the necessary information.” suggesting that very few know what they are doing. The data indicates that academic decision-making is a challenging process for the vast majority of students, with 95% expressing varying degrees of need for additional support.

Question 07: Do you face any other difficulties when making academic decisions other than choosing a Masters program specialty?



Graph 3. Results of students' screening questionnaire, question number seven.

Question 08: If yes, please specify which types of academic decisions are challenging for you: (you can choose all that apply)



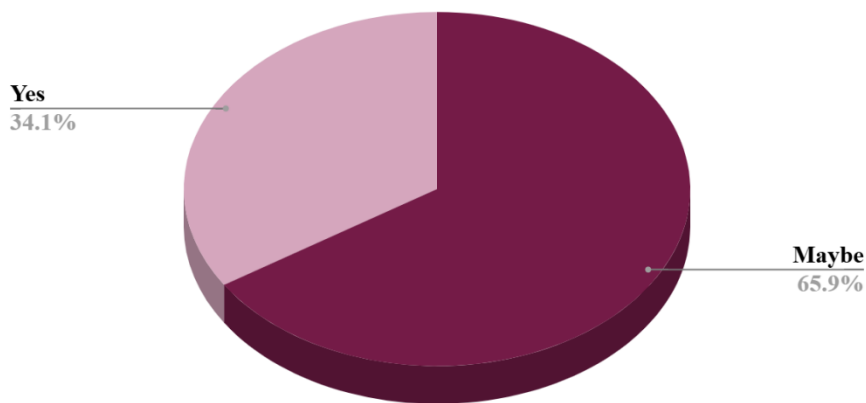
Graph 4. Results of students' screening questionnaire, question number eight.

Graph. 5. Results of students' screening questionnaire, question number eight.

Interpretation of Questions number 08 and 07:

75% of the students who answered this questionnaire, which makes up the majority, chose the "yes" option for question 07, revealing that most students do not face difficulties only when it comes to choosing a Master's specialty. Few students answered 'No,' suggesting that their primary focus is on other various academic decisions, such as balancing work and studies, managing homework and assignments, and managing academic stress. Additionally, students provided other suggestions, including time management. Question 08 further highlights that students struggle with these various academic decisions. Finally, the findings of these two questions reveal that students are struggling with issues far beyond just choosing a major, which is a crucial call for educational systems to focus more on this matter.

Question 11: Would you be willing to learn and apply new techniques, such as the Neuro-Linguistic Programming Meta Model, to enhance your Academic decision-making?



Graph 5. Results of students' screening questionnaire, question number eleven.

Interpretation

This question aims to assess students' readiness to engage with the experiment. Students showed a varied interest in engaging with the experiment; 65.9% answered 'maybe,' and 34.1% answered 'yes.' From this point, students who were truly experiencing difficulties joined the experimentation session planning group via the QR code provided in the questionnaire.

2.2. The Pilot Study

The pilot study for the Academic Decision-Making (ADM) Test and Meta Model technique was conducted with 13 third-year undergraduate students selected through probability sampling, specifically using a simple random sampling technique. Participants were chosen using Excel's random sampling function to ensure an unbiased selection process. Moreover, the pilot group had only one chance for an intervention session. To avoid redundancies, this section provides a concise summary of the pilot study's findings. It will focus more on the main study findings and discussion, as the pilot study aims to show the general picture.

2.2.1. Pilot Study Analysis of the Meta-Model Intervention:

In summary, the analysis of the Meta Model frequencies of use for each of the Generalizations, Deletions, and Distortions is the following:

Generalization Type	Frequency	Percentage
Universal Quantifiers	17	77.3%
Modal Operators	5	22.7%
Total Generalizations	22	100%

Table 1. Meta Model Pilot Study Generalizations' Findings

Deletion Type	Frequency	Percentage
Unspecified nouns	10	21.2%
Simple Deletions	15	31.9%
Comparative Deletions	13	27.6%
Unspecified verbs	3	6.6%
Ly Adverbs	6	12.7%

Table 2. Meta Model Pilot Study Deletions' findings.

Distortion Type	Frequency	Percentage
Mind Reading	8	20.5%
Lost Performative	11	28%
Cause and effect	4	10.5%
Complex Equivalence	8	20.5%
Presupposition	8	20.5%

Table 3. Meta Model Pilot Study Distortions’ findings.

Interpretation of the Meta Model Data

The analysis above shows that through the NLP intervention. However, some cognitive biases were evident in students’ speech. The frequency and percentage analysis revealed a relatively low occurrence of Meta Model elements, namely generalizations, deletions, and distortions. When it comes to generalizations, speech containing them only appeared 22 times in total, 47 times for deletions, and 39 times for distortions. It is also maybe possible that the student’s awareness of being observed influenced their responses, leading to more cautious or filtered speech. Another possibility that will be further tested is that this is perhaps related to the fact that the pilot study participants were older students (likely older than 30 years old), which can lead them to have more awareness. The findings highlight the need for a deeper, perhaps longitudinal, analysis to better capture more cognitive distortions that can be revealed through language.

2.2.2. Pilot Study Analysis of the Academic Decision-Making Test

The results from the pilot study were collected through 13 valid student test entries.

2.2.2.1. Pre-Test Pilot Study Results of the Academic Decision-Making Test

Section	Mean	Median	SEM	Standard Deviation (SD)
(S1)Vigilance.	1.38	1.0	0.14	0.49
(S2) Hypervigilance	2.62	2.0	0.31	1.12

(S3) Buck Passing	3.45	4.0	0.34	1.24
(S4) Procrastination	3.58	4.0	0.33	1.18

Table 4. Descriptive Statistics of the Pre-test Pilot Study Results.

Interpretation of the pre-test

Along with the strong scores in rational and systematic thinking, participants also showed decent to high levels of academic decision-making. However, there were a few areas that needed improvement, especially stress management and being proactive. Students generally made accurate decisions, as indicated by low average scores (mean: 1.38) on the decision-making scale, with a strong leaning toward “Strongly Agree.” This suggests they made thoughtful, unbiased choices after carefully weighing their options. That said, moderate signs of hypervigilance (mean: 2.62) suggested that stress and overthinking were affecting some decisions. Scores for lack of responsibility (mean: 3.45) and procrastination (mean: 3.58) weren’t extreme, indicating students generally had a positive sense of agency and didn’t delay excessively without trying to look better than they were. Overall, the group began the program with a good ability to analyze problems and devise solutions, showing no signs of anxiety-driven behavior. These results suggest that future focus should be on reducing procrastination, especially in high-stress situations. These zones often involve external negative experiences, which may explain why some areas, like observation, didn’t show much post-test change. While the intervention targeted the right area, the initial scores didn’t reflect that need.

2.2.2.2. Post-Test Pilot study Results of the Academic Decision Making Test

Section	Mean	Median	SEM	Standard Deviation
(S1)Vigilance	1.23	1.0	0.11	0.41
(S2) Hypervigilance	4.31	5.0	0.26	0.92
(S3) Back Passing	4.54	5.0	0.26	0.94
(S4) Procrastination	4.62	5.0	0.25	0.82

Table 5. Descriptive Statistics of the Post-test Pilot Study Results.

Interpretation of the Post-test

The post-test results demonstrate clear and steady improvements in students' academic decision-making, building on the strong foundation established in the pre-test. Students already showed solid rational thinking skills early on (with a low vigilance mean of 1.38), but after the intervention, they made noticeable progress in handling stress and avoiding indecision. The biggest change was in hypervigilance, as scores improved from a moderate 2.62 to 4.31, suggesting that students became significantly better at making decisions under pressure without panicking. Buck-passing and procrastination also improved significantly, with scores rising over a whole point (to 4.54 and 4.62), reflecting a stronger sense of responsibility and quicker action. Furthermore, Vigilance scores remained high in the post-test (mean: 1.23), indicating that students maintained their strong logical and organized approach to decision-making. Overall, the intervention seemed to work best for the emotional and behavioral aspects of decision-making, such as stress management and time management, while cognitive skills were already in good shape. These

results suggest students became more well-rounded decision-makers, keeping their strengths and improving where they previously struggled.

2.2.2.3. Reliability of the Pre and post-test:

To ensure reliability and internal consistency between the items, Cronbach Alpha was calculated for both data collected from the pre-test and data collected from the post-test:

Section	Item (N)	Cronbach's Alpha (α)
(S1) Vigilance.	5	0,82
(S2) Hypervigilance.	5	0,76
(S3) Back Passing.	5	0,71
(S4) Procrastination.	5	0,73

Table 6. Internal Consistency of the Pilot Study Pre-test Results.

Section	Item (N)	Cronbach's Alpha (α)
(S1) Vigilance.	5	0,85
(S2) Hypervigilance.	5	0,79
(S3) Back Passing.	5	0,74
(S4) Procrastination.	5	0,81

Table 7. Internal Consistency of the Pilot Study Post-test Results.

Interpretation of the Internal Consistency Results:

The reliability analysis indicates strong internal consistency for all questionnaire sections, suggesting that the items within each scale effectively measure their intended constructs. Both pre-test and post-test results demonstrated good to excellent reliability, with Cronbach's alpha values ranging from 0.71 to 0.85. The Vigilance scale showed particularly high consistency ($\alpha = 0.82$ pre-tests, 0.85 post-test), confirming that students responded coherently to items assessing rational decision-making. The Hypervigilance and Procrastination scales also exhibited acceptable to good reliability ($\alpha = 0.76$ and 0.81), with slight post-test improvements, indicating that the intervention may have enhanced students' understanding of stress-related and delay-related questions. The Buck-Passing scale had the lowest but still acceptable reliability ($\alpha = 0.71$ and 0.74), possibly due to minor variations in how students interpreted avoidance-related items. Overall, the scales were sufficiently reliable for research purposes, with post-test improvements suggesting that the intervention not only influenced decision-making behaviors but also helped students respond more consistently to the questionnaire items. These findings support the validity of the observed improvements in students' academic decision-making levels.

2.2.3. Pilot Study Discussion

The analysis reveals that the pilot study successfully laid the groundwork and provided a clearer direction for conducting the main study. One notable observation from the pilot was that, although participants were not asked to provide their age, it became clear through observation and intervention discussions that most appeared to be between 30 and 40 years old. This may have contributed to their relatively high initial performance level. Another finding related to the ADM test shows that the "strongly agree to strongly disagree" scale did not accurately assess academic decision-making behaviors or abilities. Experts suggested changing it to a "very rarely to very

often” scale to obtain more accurate and meaningful results. These insights help refine the main study to ensure more valid and reliable results.

2.3. Main Study

The main study involved a new group of 16 students. The intervention took place over two sessions. Students completed a pre-test and a post-test one week after the intervention phase ended, allowing them time to reflect on their new academic choices. The nature of the study did not require multiple sessions, as it focused solely on issues related to selecting a Master's program and other academic decision-making challenges identified through the screening questionnaire.

2.3.1. Analysis and Interpretation of Results of the Meta-Model Intervention Interview

For the analysis and interpretation of data, this research will employ discourse analysis using excerpts collected from 16 third-year undergraduate students. Discourse analysis was selected for this section because it aligns well with the principles and functioning of NLP's meta-model. As explained in Chapter One, in the section on the NLP meta-model framework, the meta-model is built around three key components: Generalizations, Distortions, and Deletions.

2.3.1.1. Generalization Analysis

It was explained in Chapter One, Section Two, that generalizations can appear in human speech through modal operators as well as universal quantifiers. It is necessary to highlight that the analysis will tackle not only the statement that includes modal operators and universal quantifiers, but it will also include the meta-model generalization challenge that goes against the statement and challenges it. Some of the Generalizations collected were the following:

Statements	Generalization Type	Meta Model Challenge
“Literature <i>won't lead</i> to a stable job.”	Universal Quantifier	“What specifically makes you believe Literature <i>never</i> leads to stable jobs?”
“I <i>should</i> pick the 'safe' option.”	Modal Operator	“Who says you <i>should</i> ? What would happen if you chose based on interest?”
“ <i>Everyone</i> says that Didactics is the safest option in Algeria.”	Universal Quantifier	“Who is 'everyone'? Can you name sources?”
“Linguistics is <i>too technical</i> .”	Universal Quantifier	“When you say 'too technical,' what specifically feels technical?”
“I <i>can't</i> handle a Master's with my job.”	Modal Operator	“What would happen if you <i>could</i> manage it? Perhaps try planning your time better?”
“ <i>I have</i> to pull all nighters to pass.”	Modal Operator	“What would happen if you didn't stay up all night?”
“ <i>Everyone else</i> understands faster than me.”	Universal Quantifier	“Who exactly seems to get things faster? And how do you know?”
“ <i>I must</i> choose between passion and job security.”	Modal Operator	“Who says you can't have both? What would a balanced path look like?”
“ <i>I have to</i> decide now or I'll fall behind forever.”	Modal Operator	“How do you know that you will fall behind?”

“ <i>All my friends</i> regret their Master's choices.”	Universal Quantifier	“All of them? What specific regrets did each share?”
“ <i>Every program</i> requires so much energy, and I don't have that”	Modal Operator	“In which way does each program require energy”
“I must be the only one who is lost.”	Modal Operator	“What confirms that you are the only person lost”

Table 8. Illustration of the Meta Model Generalizations.

Frequency of generalizations obtained from the Intervention

Generalization Type	Frequency	Percentage
Universal Quantifiers	24	63%
Modal Operators	14	37%
Total Generalizations	38	/

Table 9. Frequency and percentage of Generalizations.

Percentages were calculated with the following formula:

$$\left(\frac{\text{Frequency of type}}{\text{Total Generalizations}} \right) \times 100 = \text{Percentage.}$$

Generalization Interpretation

The analysis reveals that Universal Quantifiers (63%) dominate student discourse, highlighting a tendency toward absolute, overgeneralized thinking, particularly regarding career limitations ("Literature is useless"), perceived difficulty ("Linguistics is always too hard"), and

societal pressures ("everyone says"). These rigid claims, often rooted in external influences, were challenged (e.g., "Who is 'everyone'?"). Meanwhile, Modal Operators (37%) exposed internalized constraints as mentioned in the theoretical findings, such as fear of failure or perfectionism. Together, these patterns underscore how students' decision-making was skewed by cognitive distortions, with universal quantifiers reflecting external myths and modal operators revealing self-limiting beliefs.

2.3.1.2. Deletion Analysis

On a similar note, a detailed explanation and exemplification of the Meta Model's Deletion were provided in the theoretical chapter. The analysis of this aspect will go through the five elements of deletion:

Statement:	Deletion Type:	Meta Model Challenge:
"Linguistics is <i>better</i> ."	Comparative Deletions	" <i>Better</i> than what?"
"Literature is <i>obviously</i> impractical."	Ly Adverbs	"What makes it 'obviously' so?"
"I <i>messed up</i> in the civ exam."	Unspecified verbs	"How did you specifically mess up?"
"I study way harder <i>than</i> others."	Comparative Deletions	"Who are you comparing to? What's 'harder' more hours or just different methods?"
"Teachers like to <i>ignore me</i> "	Unspecified verbs	"Ignore you how? Do they not reply or just give you vague answers?"

“I <u>totally</u> forget everything I study and I don’t know how”	Ly Adverbs	“Everything? Can you remember one concept or idea you studied yesterday?”
“I’ll <u>definitely</u> start tomorrow.”	Ly Adverbs	“What’s stopping you from doing one small task today?”
“The lectures are all <u>useless</u> in my opinion.”	Unspecified noun	“Which specific lectures aren’t helpful? Is it the examples given or the explanations of the lectures?”
“Miss I am so burnt out, I can’t possibly keep up with master’s.”	Ly Adverbs	“What if you go at it, studying one thing at a time, what do you think would happen”
“I’m so behind in studies”	Simple Deletion	“Behind in what exactly, which module?”
“Didactics is more useful”	Comparative Deletion	“More useful than what”
“Linguistics’ program is competitive”	Simple Deletion	“Competitive in what way exactly?”
“I am so stressed when it comes to choosing a master’s program”	Simple Deletion	“Stressed about which aspect exactly?”
“The department favors Linguistics”	Unspecified verbs	“Favors it how exactly”
“The say the program in Linguistics is outdated”	Unspecified nouns	“Outdated in what way or what exactly is outdated in it?”
“Literature is more fun and entertaining”	Comparative Deletions	“Than what? And in what way?”

“I don’t know how to study well”	Simple Deletion	“You don’t know how to study what?”
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Table 10. Illustration of the Meta model Deletions

Deletion Type	Frequency	Percentage
Unspecified nouns	18	32%
Simple Deletions	15	27%
Comparative Deletions	10	18%
Unspecified verbs	8	14%
Ly Adverbs	5	9%

Table 11. Frequency and percentage of Meta Model Deletions

Deletion Interpretation

The analysis reveals that students frequently employ vague or incomplete language, which may overlook crucial details that influence their thinking. Moreover, students tend to mistake opinions for facts. The most common issue was the use of unspecified nouns (32%), such as referring to Literature as “useless” without explaining how or why. Simple deletions (27%) also appeared frequently, such as saying “I’m scared” without naming the fear. Students also made unclear comparisons (18%), claiming Linguistics is “better” without specifying what it is better than, and used unspecified verbs (14%), such as “people say” without identifying who or how. Finally, vague adverbs (9%), such as “obviously impractical,” added unexplained emphasis. These

deletions allowed limiting beliefs to go unchallenged. The Meta Model, therefore, aims to challenge these deletions by asking precise questions, forcing students to fill in missing details and think more clearly about their choices.

2.3.1.3. Distortions

Distortions, as previously mentioned, are

Statement:	Distortion Type:	Meta Model Challenge:
“Choosing Didactics <u>means I'll</u> be stuck teaching forever”	Cause and effect	“What makes you assume that you’ll be stuck teaching ?”
“I am bad at Linguistics/ I struggle with Phonetics a lot”	Complex Equivalence	“Does struggling with Phonetics mean you are bad at Linguistics?”
“ <u>Since everyone else</u> seems confident, I must be the only one who is lost.”	Presupposition	“What makes you think everyone else is confident? Have you asked them?”
“Linguistics has statistics, and if I struggle with statistics then I should avoid it, <u>because</u> I will face issues with M2 research.”	Cause and Effect + Complex Equivalence	“Is struggling with one aspect enough reason to avoid the entire field?”
“ <u>Experts agree</u> theory-heavy programs such as linguistics are impractical.”	Lost Performative	“Who are these experts?”

“ <u>They will not accept me</u> If I choose linguistics”	Mind Reading	“How do you know that you won’t be accepted or that they won’t accept you”
“ <u>My teachers think</u> that I am bad”	Mind Reading	“Did they personally tell you that?”
“ <u>It’s common knowledge</u> that you need to sacrifice your social life for good grades.”	Lost Performative	“How do you know that this is common knowledge?”
“ <u>People think</u> I complain too much about my studies.”	Mind reading	“How do you know that’s what they think?”
“I want to work next year, but I cannot focus with any module if I start working.”	Cause and effect	“What confirms that you wouldn’t be able to focus? What if you plan your time better”

Table 12. Illustration of the Meta Model Distortions

Distortion Type	Frequency	Percentage
Mind Reading	12	28%
Lost Performative	10	23%
Cause and effect	9	21%
Complex Equivalence	7	16%

Presupposition	5	12%
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Table 13. Frequency and Percentage of the Meta Model Distortions.

Distortion Interpretation

Students' perceptions of their academic and career prospects are often clouded by systematic cognitive distortions, as revealed through NLP Meta Model analysis. The data shows mind reading (28%) dominates student thinking, with frequent assumptions about others' judgments ("My teachers won't respect this choice"). Close behind, lost performatives (23%) demonstrate how students internalize societal myths as absolute truths ("Everyone knows Humanities degrees are worthless"). These thought patterns combine with cause-effect items (21%) that create deterministic career narratives such as "If I study Literature, I'll be unemployed" or "If I study Didactics, I can only become a teacher," while complex equivalences (16%) reduce issues to simplistic equations ("Struggling now means I'll never succeed"). Perhaps the most harmful pattern is linguistic presuppositions (12%), which embed negative expectations in students' language ("If I drop out..."). Together, these wrong thought patterns create a cycle where most (78%) of students' beliefs limit them rather than help them. The Meta Model addresses these problems, particularly in handling the two most common issues mind reading and 'everyone says' statements, by prompting students to question whether there is real proof for their fears. This method turns unclear worries into specific problems they can solve. The research shows that students, in particular, need help understanding that career paths aren't predictable or straightforward, as the findings indicate that most cause-effect mistakes involve future jobs.

Intervention Discussion

Study participants reported that their decision-making during the intervention was significantly influenced by cognitive biases that shaped their thinking and the types of choices they made. The frequent use of universal quantifiers, more than any other meta-model element, further supports the idea that students often accept false or inaccurate beliefs as facts. This also shows that their thoughts did not originate purely from personal analysis of situations but rather from what others and society in general claim to be true. As the final step of the intervention interview, students were asked if their thinking had become clearer or if they had solved any ambiguities they were experiencing. All of the students responded with a yes, stating that the intervention helped them uncover new truths and left them questioning everything they wanted to do in the future.

2.3.2. Analysis and Interpretation of the Academic Decision-Making Questionnaire Test

The Analysis reveals the following results:

2.3.2.1. Pre-Test Results of the Academic Decision-Making Test

Demographic section

The demographic section of the questionnaire-based test, contains an Age entry section. Given the following options, the results revealed that all participants were between 20 and 24 years old.

Section one: Vigilance pre-test analysis

Statements

1. I gather all relevant information before making an academic decision.
2. I consider both the benefits and drawbacks of each choice before deciding on a course of action in my studies.
3. I consult with professors or peers to get their input before making important academic decisions.
4. I remain objective and avoid bias when making academic choices.
5. I create a structured plan to guide my academic decision-making process.

Statements	Mean	Mode	Max	Min	SEM	SD
Statement 01	3.06	3	4	2	0.17	0.68
Statement 02	3.38	3.4	4	2	0.15	0.62
Statement 03	3.19	3.4	4	2	0.19	0.75
Statement 04	3.00	3	4	2	0.18	0.73
Statement 05	3.56	4	4	2	0.13	0.51

Table 14. Analysis of the Pre-Test Section one: Vigilance Results

Interpretation of the table

The pre-test results for Vigilance (mean range: 3.00–3.56) indicate that participants occasionally or often engaged in rational academic decision-making. Items like "I create a structured plan" (mean 3.56) scored highest, suggesting baseline competence in deliberate planning. However, variability (Standard Deviation: 0.51–0.75) and modes of 3 to 4 reveal inconsistency, showing that some students lacked systematic approaches.

Section Two: Hypervigilance pre-test

Statements

1. When faced with an urgent academic decision, I feel stressed and lost.
2. I seek excessive reassurance and validation from others before making academic decisions.
3. I overthink academic decisions to the point where I struggle to take action.
4. I often regret my academic decisions because I didn't take enough time to think them through.
5. I tend to make good academic decisions when under pressure.

Statements	Mean	Mode	Max	Min	SEM	SD
Statement 01	2.44	2.3	3	2	0.13	0.51
Statement 02	2.81	2.3	4	2	0.16	0.66
Statement 03	3.38	3.4	4	3	0.13	0.50
Statement 04	2.94	3	4	2	0.17	0.68
Statement 05	2.56	2.3	4	2	0.13	0.18

Table 15. Analysis of the Pre-Test Section Two: Hypervigilance Results.

Interpretation

Hypervigilance scores (mean range: 2.44–3.38) reflect moderate stress responses, with “I feel stressed and lost” (mean 2.44) as the lowest. The higher mean for "I overthink decisions" (3.38) highlights a tendency toward analysis paralysis. The reverse-scored item (“I make good decisions under pressure,” with a mean of 2.56) further confirms that stress impairs judgment. Interventions should target stress management and confidence-building under deadlines.

Section three: Buck-Passing pre-test

Statements

1. I prefer to let others (e.g., teachers, peers, parents) make academic decisions for me.
2. I tend to ignore the academic decisions I need to make, hoping they’ll resolve on their own.
3. I feel better when I don’t have to make a final choice about my academic path.
4. I struggle with taking responsibility for the outcomes of my academic decisions.
5. I avoid making academic decisions because I fear making the wrong choice.

Statements	Mean	Mode	Max	Min	SEM	SD
Statement 01	2.44	2.3	3	2	0.13	0.51
Statement 02	2.56	2.3	4	2	0.13	0.51
Statement 03	2.81	3	4	3	0.10	0.40
Statement 04	2.69	2.3	4	2	0.12	0.48
Statement 05	2.38	2	4	2	0.13	0.50

Table 16. Analysis of the Pre-Test Section Three: Vigilance Results.

Interpretation

The pre-test results (2.38–2.81) indicate that participants rarely avoid decisions, occasionally, with "I fear making the wrong choice" (mean 2.38) being the weakest. Modes of 2/3 suggest passive reliance on others (e.g., peers, teachers) is common but not extreme. This aligns

with the literature on decision-making dependency, urging educational strategies to foster autonomy and accountability.

Section Four: Procrastination pre-test

Statements

1. I delay making academic decisions until the last possible moment.
2. I put off making academic decisions because I find the process stressful.
3. I often miss deadlines because I struggle to make timely academic decisions.
4. I avoid thinking about academic decisions until I absolutely have to.
5. I tend to postpone academic decisions, even when I know they are important.

Statements	Mean	Mode	Max	Min	SEM	SD
Statement 01	3.19	3	4	2	0.14	0.54
Statement 02	3.19	3.4	4	2	0.16	0.66
Statement 03	3.31	3.4	4	3	0.18	0.70
Statement 04	2.81	3	3	2	0.10	0.40
Statement 05	3.25	3.4	4	2	0.17	0.68

Table 17. Analysis of the Pre-Test Section Four: Procrastination Results.

Interpretation:

Procrastination scores (mean range: 2.81-3.25) reveal occasional to often delays, especially for "I postpone important decisions" (5th statement) (mean 3.25). The low variability (SD: 0.40-0.70) indicates pervasive but moderate procrastination habits. Combined with Hypervigilance results, this suggests a cycle of stress, delay, and rushed choices, warranting time-management training.

2.3.2.1.1. Obtaining Internal-Consistency through Cronbach's Alpha for the pre-test

Section	Item (N)	Cronbach's Alpha (α)
(S1) Vigilance.	5	0,78
(S2) Hypervigilance.	5	0,72
(S3) Buck-Passing.	5	0.69
(S4) Procrastination.	5	0.75

Table 18. Cronbach Alpha results of the pre-test Interpretation

The pre-test scales demonstrated moderate to acceptable internal consistency, with Vigilance ($\alpha = 0.78$) and Procrastination ($\alpha = 0.75$) showing the strongest reliability. Hypervigilance ($\alpha = 0.72$) and Buck-Passing ($\alpha = 0.69$) fell slightly below the ideal threshold of 0.70, suggesting that some items in these scales may not perfectly align with their constructs. For example, stress responses (Hypervigilance) and avoidance behaviors (Buck-Passing) might be influenced by external factors, leading to variability in responses.

2.3.2.2. Post-Test Main Study Results of the Academic Decision-Making Test

Section one: Vigilance post-test analysis

Statements	Mean	Mode	Max	Min	SEM	SD
Statement 01	3.88	4	5	3	0.09	0.34
Statement 02	4.06	4	5	3	0.11	0.44
Statement 03	3.94	4	5	3	0.14	0.57
Statement 04	3.88	4	5	3	0.15	0.62
Statement 05	4.00	4	5	3	0.09	0.37

Table 19. Analysis of the Post-Test Section one: Vigilance Results.

Interpretation of the Post-Test Vigilance Results

Post-test results indicate considerable improvements in vigilant decision-making, with an overall mean of 3.95 (indicating a response of “*Often*”). Participants consistently engaged in structured planning (mean = 4.00) and objective analysis (mean = 3.88), although consulting peers or professors showed slightly more variability (SD = 0.57). This exhibits successful intervention in deliberate, evidence-based choices, but some students still rely on external input, such as consulting others.

Section Two: Hypervigilance post-test

Statements	Mean	Mode	Max	Min	SEM	SD
Statement 01	2.81	3	4	2	0.14	0.54
Statement 02	2.69	2.3	4	2	0.15	0.60
Statement 03	3.50	4	4	3	0.13	0.52
Statement 04	3.44	3.4	4	3	0.13	0.51
Statement 05	3.56	4	4	3	0.13	0.51

Table 20. Analysis of the Post-Test Section Two: Hypervigilance Results.

Interpretation

Stress-related behaviors declined slightly (mean = 3.00), with participants reporting less frequent panic (mean = 2.81 for “I feel stressed”). However, overthinking remained high (mean = 3.50), while the reverse-scored item (“I make good decisions under pressure,” mean = 3.56) improved. This implies residual anxiety in time-sensitive scenarios, highlighting a need for targeted stress-management strategies.

Section three: Buck-Passing post-test

Statements	Mean	Mode	Max	Min	SEM	SD
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Statement 01	2.38	4	4	2	0.16	0.62
Statement 02	2.44	4	4	2	0.16	0.63
Statement 03	3.06	3.4	4	2	0.17	0.68
Statement 04	2.94	3	4	2	0.17	0.68
Statement 05	2.19	2	4	2	0.10	0.40

Table 21. Analysis of the Post-Test Section Three Buck-Passing Results.

Interpretation

Post-test outcomes show measurable decreases in avoidance behaviors (overall $M = 2.60$), particularly for items measuring fear of negative outcomes ($M = 2.19$). The results suggest that the intervention was successful in reducing decision-related apprehension. Yet, delegating decisions to others (Mean = 2.38) lingered, suggesting that some participants still lack confidence in autonomy. Interventions should reinforce self-efficacy in academic choices.

Section Four: Procrastination post-test

Statements	Mean	Mode	Max	Min	SEM	SD
Statement 01	3.44	3.4	4	3	0.13	0.51
Statement 02	3.31	3.4	4	2	0.18	0.70
Statement 03	3.38	3.4	4	2	0.16	0.62
Statement 04	3.06	3	4	2	0.14	0.57
Statement 05	3.44	4	4	3	0.13	0.51

Table 22. Analysis of the Post-Test Section Four: Procrastination Results.

Interpretation of the Post-Test Procrastination Results

Procrastination improved modestly (mean=3.33), with delays still “Occasionally” to “Often” occurring. Stress-linked postponement (mean = 3.31, SD = 0.70) showed the highest variability, indicating uneven progress in time management. This pattern suggests that time management strategies may need to be more specifically tailored to address the emotional components of procrastination, particularly for students who associate decision-making with significant anxiety.

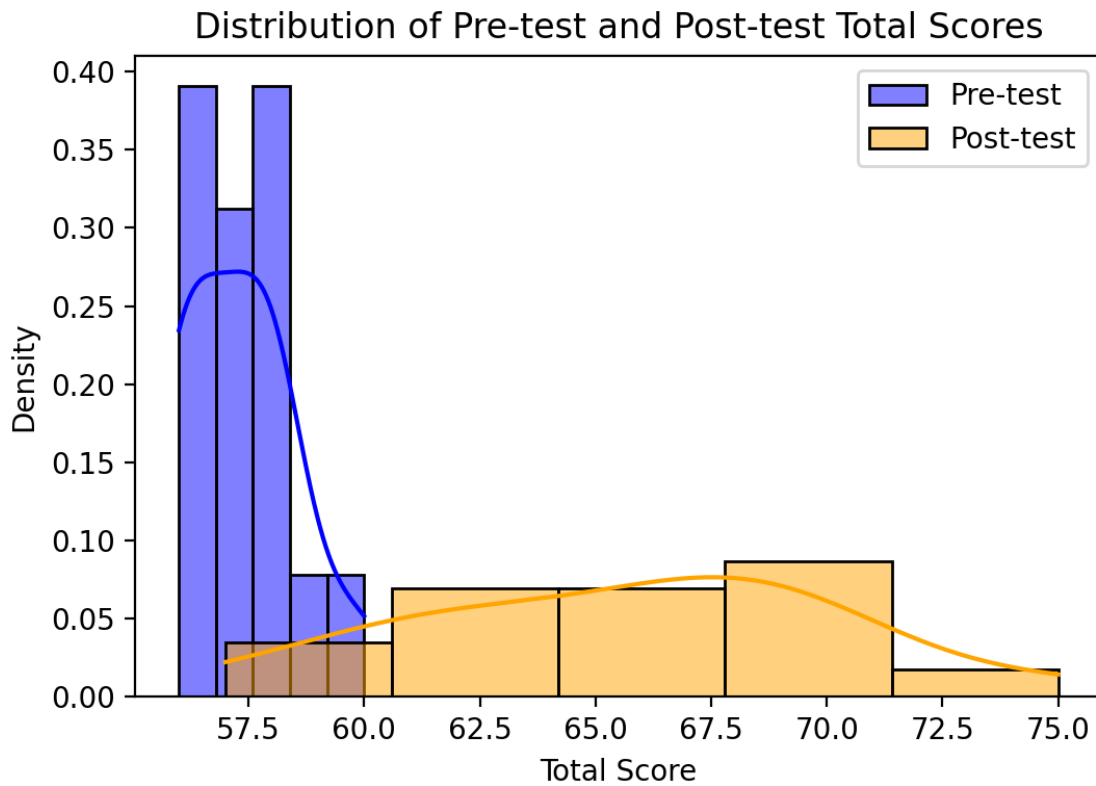
2.3.2.2.1. Post-test Internal consistency analysis

Section	Item (N)	Cronbach’s Alpha (α)
(S1) Vigilance.	5	0,85
(S2) Hypervigilance.	5	0,74
(S3) Buck-Passing.	5	0.71
(S4) Procrastination.	5	0.79

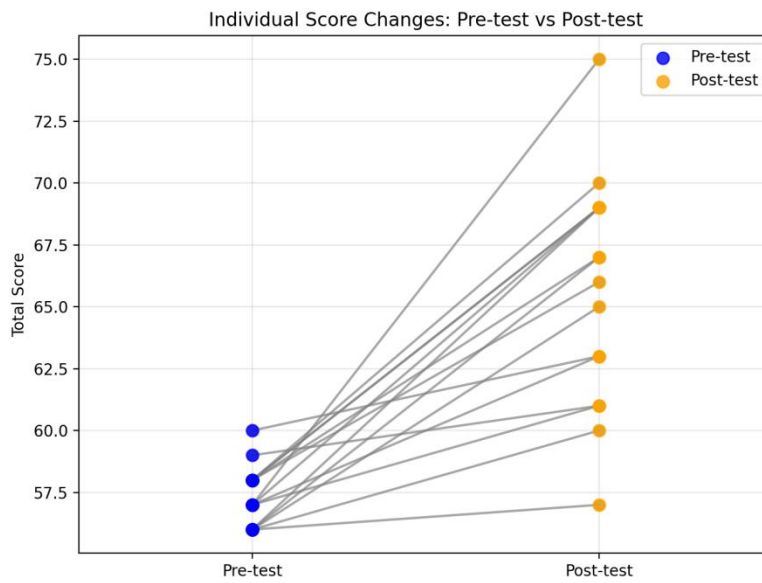
Table 23. Cronbach Alpha results of the Post-test.

Interpretation

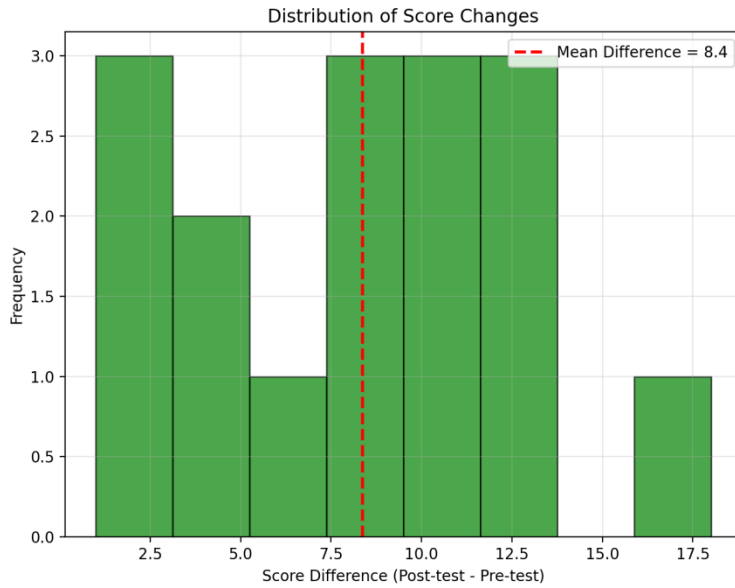
Post-test reliability improved across all scales, with Vigilance ($\alpha = 0.85$) now showing excellent consistency, indicating that participants responded to these items in a highly uniform manner after the intervention. Hypervigilance ($\alpha = 0.74$) and Buck-Passing ($\alpha = 0.71$) reached acceptable levels, though their lower α -values suggest residual variability, possibly due to the complex nature of stress and avoidance behaviors. Procrastination ($\alpha = 0.79$) maintained good reliability, reinforcing that these items consistently measured delay tendencies.



Graph 6. Paired T-test of the Pre-Test and Post-Test results.



Graph 7. Individual Score Changes: Pre-Test Vs Post-test.



Graph 8. Distribution of Score Changes.

Pre-test Mean	Post-test Mean	Mean Diff	T-value	Degree of Freedom	P-Value	Cohen's d
57.31	65.69	8.38	-7.14	15	<0.001	2.48

Table 24. Paired T-test table summary.

Interpretation of the Results

The analysis revealed a clear improvement in participants' scores following the intervention. The mean pre-test score was 57.3, while the post-test mean increased to 65.7, indicating an average gain of 8.4 points. A paired-sample t-test confirmed that this improvement was statistically significant ($t = -7.14, p < 0.001$), suggesting that the likelihood of this change occurring by chance is extremely low. The 95% confidence interval for the mean difference (ranging from approximately 5.9 to 10.9) further supports this finding, showing that the true average improvement is very likely to fall within this range. Additionally, the calculated effect size (Cohen's $d = 2.48$) indicates a huge impact of the intervention on participants' performance.

Visual representations, including a before-and-after plot and a histogram of score changes, indicate that nearly all participants showed improvement, with the distribution clearly shifting above zero. Overall, the results suggest that the intervention was highly effective in enhancing participants' academic decision-making outcomes.

2.3.3. Discussion of the Pre/Post-test Results

The intervention resulted in noticeable improvements in participants' performance. Before the intervention, the average score was 57.31 (with scores clustered closely around this point, with a standard deviation of 1.20). After the intervention, the average rose to 65.69 (with slightly more variation, $SD = 4.61$), marking an 8.38-point increase. A statistical test, specifically a paired t-test, confirmed that this improvement was highly significant ($p < 0.001$), indicating that the change was very unlikely to be due to chance. The effect size (Cohen's $d = 2.48$) was exceptionally large, exceeding the typical benchmark for a "strong" effect, for example, ($d > 0.8$). This suggests the intervention didn't just produce a detectable change but a meaningful performance improvement. Every participant showed some degree of progress, though gains varied from modest to significant. Together, these results strongly support the effectiveness of the intervention, both statistically and in real-world terms, making it a promising approach for further study and potential wider use.

3. General Discussion

To conclude this chapter, it becomes evident through the statistical analysis that, although students showed a low level of academic decision-making, the intervention treatment has been deemed a success in terms of increasing their level of academic decision-making. Moreover, the age factor suggests that students of a younger age, compared to the supposedly older ones who participated in the pilot study, have lower academic decision-making levels that cannot be left untreated. The findings successfully answered the research questions. Consequently, the null hypothesis (H_0), which posited that the intervention had no significant impact, was rejected in

favor of the alternative hypothesis (H1). The findings suggest that the structured questioning and cognitive reframing inherent in the Meta Model can help students clarify their academic goals, reduce ambiguities in decision-making, and adopt more deliberate problem-solving strategies. These results align with prior research on the effect of NLP on critical thinking (Zhang et al., 2023). All in all, H1, which posits that "The implementation of the Neuro-Linguistic Programming (NLP) Meta Model technique significantly enhances academic decision-making skills among university students at Mohamed Boudiaf M'sila University, leading to more informed and strategic choices in selecting a master's specialty and addressing academic-related issues," is accepted.

General Conclusion

Conclusion

It has become clear and valid that academic decision-making is a critical part of a person's life. It not only shapes their present but also influences the entire course of their future. As the majority of Algerian universities lack specific interventions aimed at addressing this issue, as well as issues related to helping undergraduate students choose the most suitable master's program for themselves, the call to study this phenomenon becomes even more crucial. In this regard, the current study employed NLP's Meta Model technique to explore its potential effectiveness in this understudied area. Although both the pilot and main study showed only slight changes, and while Hypothesis 1 was accepted, the results indicate a promising direction for future research and intervention development. Through the instruments used and the Meta Model Technique results, the process of this study successfully answered the main questions, met the aims, and achieved the objectives. Additionally, the study highlights a significant need for targeted support for students struggling with academic decision-making at Mohamed Boudiaf M'sila University. Ultimately, this study makes the first step towards investigating such issues and lays the groundwork for future research and practical applications in educational contexts.

Limitations of the study

This study faced several limitations that affected its scope, implementation, and the generalizability of its findings. These factors are further detailed below:

1. A small number of students to work with, making the data obtained ungeneralizable.
2. Unavailability of Research materials and resources such as the unoccupied classrooms availability that led to a limited set of intervention sessions, as well as the unavailability of experts to guide the study.
3. Lack of prior research around the two variables, forcing the study to depend on very little data and references.

Future Research recommendations

Based on the findings and limitations of this study, several recommendations can be made to guide and strengthen future research in this area.

1. Researchers could conduct this study using a longitudinal research design, allowing them to collect data on students throughout the process of making life trajectory decisions.
2. Work with a larger sample to ensure the study's generalizability.
3. Conduct a similar experiment with second-year Master's students who are facing difficulties with conducting research, making the focus of the ADM on Research rather than choosing a master's program.

Ethical Considerations

This study adhered to strict ethical guidelines to ensure the integrity and confidentiality of all participants. Before data collection, informed consent was obtained from all participants, clearly outlining the study's purpose, procedures, potential risks, and their right to withdraw at any stage without penalty. Anonymity and confidentiality were maintained by assigning unique codes, such as PSP1 (Pilot Study Participant 01) or MSP1 (Main Study Participant 01), to participants instead of using personal information. Furthermore, all data were securely stored as they contained sensitive and personal shared experiences from the students.

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Appendices

Screening and Recruitment Questionnaire



Purpose of the Study:

This study aims to explore how Neuro-Linguistic Programming techniques, specifically the Meta Model, can improve decision-making in academic settings. Your participation will contribute to valuable research that could benefit students, educators, and academic professionals.

Which group are you from?

1 2 3 4 5 6

Section 2: Questions:

1. Do you face any difficulties when making academic decisions?

Yes No

2. How confident are you about choosing the right Master's specialty?

- Very confident.
- Confident.
- Somewhat confident.
- Not Confident.
- Not confident at all.

3. What challenges are you facing in making your decision? (Select all that apply)

- Lack of information about the specialties available (Linguistics, Literature, Didactics)..
- Uncertainty about future job opportunities.
- Pressure from family or society.
- Uncertainty about personal interests.
- Other (please specify):
.....

4. Do you feel you have enough guidance and resources to make your decision?

- Yes, I have all the necessary information
- Somewhat, but I need more guidance
- No, I feel lost and need support.

5. Who is the biggest influence on your decision?

- Myself
- family/parents
- Teachers/Educators
- Friends/Classmates
- Other:.....
.....

6. Do you face any other difficulties when making academic decisions other than choosing a Master's specialty?

Yes No

7. If yes, please specify which types of academic decisions are challenging for you: (you can choose more than one)

- Managing homework, assignments, or presentations.
- Balancing work and study responsibilities.
- Managing academic stress and pressure.
- Other:.....
.....

8. How do you currently approach academic decision-making?

- I carefully analyze all options before deciding.
- I rely on advice from others (e.g., teachers, peers, family).
- I make quick decisions based on intuition or gut feeling.
- I often delay decisions until the last moment.
- I avoid making decisions altogether.
- Other(specify):.....
.....

9. Are you interested in improving your academic decision-making skills?

Yes No

10. If yes, what specific areas of decision-making would you like to improve?

- Critical thinking and problem-solving.
- Time management and prioritization.
- Stress and anxiety management.
- Goal setting and planning.
- Other(specify):.....
.....

11. Would you be willing to learn and apply new techniques, such as Neuro-Linguistic Programming Meta Model, to enhance your Academic decision-making?

Yes No

Academic Decision-Making Questionnaire Test (ADMQ):

Participant code:.....

Age: (Tick)

20–24

25–34

35–44

45–54

Instructions:

Please read each statement carefully and indicate how often you engage in the described behavior when making academic decisions. Tick ✓ using the following scale:

- 1 = Very rarely.
- 2 = Rarely.
- 3 = Occasionally.
- 4 = Often.
- 5 = Very often.

Section 1: Vigilance (Careful and Rational Decision-Making)

Statements:	01	02	03	04	05
I gather all relevant information before making an academic decision					
I think about the good and bad sides of each choice before deciding what to do in my studies.					
I consult with professors or peers to get their input before making important academic decisions.					
I remain objective and avoid bias when making academic choices.					
I create a structured plan to guide my academic decision-making process.					

Section 2: Hypervigilance (Panic-Based Decision-Making)

Statements:	01	02	03	04	05
When faced with an urgent academic decision, I feel stressed and lost.					
I seek excessive reassurance and validation from others before making academic decisions.					
I overthink academic decisions to the point where I struggle to take action.					
I often regret my academic decisions because I didn't take enough time to think them through.					
I tend to make good academic decisions when under pressure.					

Reminder: Tick ✓ using the following scale:

- 1 = Very rarely.
- 2 = Rarely.
- 3 = Occasionally.
- 4 = Often.
- 5 = Very often.

Section 3: Buck-Passing (Avoiding Responsibility)

Statements:	01	02	03	04	05
I prefer to let others (e.g., teachers, peers, parents) make academic decisions for me.					
I tend to ignore the academic decisions I need to make, hoping they'll resolve on their own.					
I feel better when I don't have to make a final choice about my academic path.					
I struggle with taking responsibility for the outcomes of my academic decisions.					
I avoid making academic decisions because I fear making the wrong choice.					

Section 4: Procrastination (Delaying Decisions)

Statements:	01	02	03	04	05
I delay making academic decisions until the last possible moment.					
I put off making academic decisions because I find the process stressful.					
I often miss deadlines because I struggle to make timely academic decisions.					
I avoid thinking about academic decisions until I absolutely have to.					
I tend to postpone academic decisions, even when I know they are important.					

Thank you very much for your time and efforts.

Résumé

La prise de décision académique constitue un élément crucial du processus éducatif, bien que son importance dans le monde réel reste sous-étudiée et marginalisée. Il en va de même pour la technique du Modèle Meta en Programmation Neuro-Linguistique (PNL), l'un des outils les plus puissants pour traiter les distorsions cognitives, les omissions et les généralisations dans la pensée humaine. Lorsqu'ils sont confrontés à des choix académiques déterminants, les étudiants prennent souvent des décisions sous l'influence de contraintes sociales, individuelles et neurologiques qui les empêchent d'aboutir à des résultats optimaux. L'application du Modèle Meta permet justement de remettre en question ces raccourcis mentaux, offrant ainsi aux étudiants une prise de décision plus claire et objective. Cette étude a expérimentalement mis en œuvre cette technique pour répondre à ces défis persistants, et les résultats ont révélé une amélioration mesurable des capacités décisionnelles des participants. Par exemple, les étudiants ont signalé une réduction de l'anxiété lors du choix de leurs spécialisations et une confiance accrue dans l'évaluation des options académiques, preuve qu'une intervention linguistique structurée peut transformer des stress flous en plans d'action concrets. Ces conclusions soulignent un besoin urgent : les décideurs politiques et les éducateurs doivent intégrer de tels outils dans les systèmes d'accompagnement académique. Lorsque les étudiants apprennent à identifier et reformuler leurs pensées déformées, ils acquièrent une compétence essentielle pour des choix stratégiques et conscients une aptitude cruciale tant pour la réussite académique que pour l'apprentissage tout au long de la vie.

Mots-clés: Prise de décision académique, Programmation Neuro-Linguistique, Technique du Méta-Modèle, Biais cognitifs, Sélection du programme de Master.

ملخص

اتخاذ القرارات الأكاديمية يُعد عنصرًا حاسمًا في العملية التعليمية، ورغم أهميته الواقعية إلا أنه ما زال مهمشًا وغير مدروس بالقدر الكافي. وينطبق الأمر ذاته على أداة "نموذج الميتا" في البرمجة اللغوية العصبية، والتي تُعتبر من أقوى الأدوات لمعالجة التشوهات المعرفية والحذف والتعميمات في التفكير البشري. يواجه الطلاب عند اتخاذ قرارات أكاديمية مصيرية العديد من الضغوط الاجتماعية والفردية والعصبية التي غالبًا ما تحول دون وصولهم إلى قرارات مُرضية. ومن هنا تأتي أهمية استخدام تقنية النموذج الفوقي لمساعدتهم في تحدي هذه التشوهات الذهنية، مما يمنحهم تجربة قرار أكثر موضوعية. في هذه الدراسة، تم تطبيق النموذج الفوقي عمليًا لمواجهة هذه التحديات التي تعيق الطلاب. وأظهرت النتائج النهائية تحسنًا ملحوظًا في قدرات اتخاذ القرار لدى المشاركين. على سبيل المثال، أبلغ الطلاب عن انخفاض القلق عند اختيار التخصصات وزيادة الثقة في تقييم الخيارات الدراسية - دليلًا واضح على أن التدخل اللغوي المنظم يمكنه تحويل الضغوط المبهمة إلى خطط عملية. يستخلص من هذا أن على صانعي السياسات التربوية والمعلمين تبني مثل هذه التدخلات. فعندما يتعلم الطلاب تحديد وإعادة صياغة أنماط التفكير المشوهة، يكتسبون مهارة حيوية لاتخاذ قرارات استراتيجية واعية - وهي مهارة لا تقتصر على النجاح الأكاديمي بل تمتد إلى التعلم مدى الحياة.

الكلمات المفتاحية: اتخاذ القرارات الأكاديمية، البرمجة اللغوية العصبية، نموذج الميتا، التحيزات المعرفية، اختيار تخصص الماستر.