Review

Mastering minds: Unleashing the power of Neuro-Linguistic Programming in workplaces and schools

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Abstract: Neuro-Linguistic Programming (NLP) intricately examines the visual, auditory, and kinesthetic representation systems, traversing the transformative trajectory from superficial to profound linguistic structures. This comprehensive paradigm elucidates the sophisticated cognitive processes through which the brain interprets events, molding emotions and behaviors through filters such as values, beliefs, memories, decisions, and meta-programs. As a potent catalyst for excellence and success, NLP empowers individuals and organizations to realize their aspirational objectives, nurturing flexibility, creativity, and autonomous behaviors. In educational contexts, practitioners adeptly employ NLP techniques to navigate conflicts, enhance leadership acumen, and inspire personnel toward organizational goals. NLP assumes a crucial role as a foundational element for ongoing learning, development, and the cultivation of dynamic capabilities within professional environments. Its applications extend beyond conventional business domains, seamlessly integrating with behavior modification models employed in psychotherapeutic settings. In the realm of child psychiatry, NLP addresses neurodevelopmental disorders, such as oppositional defiant disorder, with the potential to mitigate triggers in educational milieus. The Behavior Modification Model, anchored in the ABC (antecedents, behavior, and consequences) framework, meticulously shapes behaviors through positive and negative reinforcement and punishment. NLP is a versatile professional instrument applicable across personal development, therapeutic interventions, and diverse organizational landscapes. It is pivotal in elevating communication effectiveness, facilitating conflict resolution, and propelling individual and collective success to new heights. Applying NLP in schools proves invaluable by elevating teaching methodologies, cultivating effective communication, and nurturing essential skills for conflict resolution and leadership. Integrating NLP in educational settings can offer a holistic approach to learning, providing support for educators and students alike in navigating intricate situations and fostering an environment of continuous improvement. Implementing NLP should be approached with a balanced understanding of both its potential benefits and the need for empirical validation and ethical considerations.

Keywords: Neuro-Linguistic Programming; schools; workplace; academic performance

1. Definition of Neuro-Linguistic Programming

While there is no single definition of Neuro-Linguistic Programming (NLP), practitioners adopt a set of core propositions. NLP is an emerging psychotherapeutic technique that facilitates understanding and interpreting behavioral and thought changes [1]. It is a scientific mechanism of self-improvement. Neuro stands for

neurological system (mind); linguistics reflects how words and body language can influence the lives of others, and programming (acquired patterns of excellence) [2] refers to individual experiences including an "internal code": internal processes, strategies, and mindset used to make decisions, solve problems, build explicit skills, and assist in individual learning [3]. In particular, NLP is a communication framework that proposes the presence of sensory modalities (visual, auditory, kinaesthetic, olfactory, or gustatory) where each person has a dominant modality or preferred representational system (PRS), reflected through various behavioral indices (verbal expression and eye movement). The main tenet of NLP is to tailor communication to match the PRS of an intended person so that it will be maximized [1]. It harmonizes speech, words, and body language by emphasizing creativity rather than traditional problem-solving methods [4]. Hence modeling human experience and communication skills to improve interpersonal and intrapersonal capacity for a sustainable and effective relationship with others [2].

2. History of Neuro-Linguistic Programming

NLP was created in the mid-1970s by John Grinder and Richard Blander. Blander was an experienced student in mathematics, and Grinder was an associate professor of linguistics at Santa Cruz University. Initially, their work aimed to investigate the internal and external behaviors that affected the previous therapists, namely Fritz Perls, Virginia Satir, and Milton Erickson [5]. A key assumption of NLP is that there are common linguistic patterns that these prosperous psychotherapists use to elicit successful outcomes during therapy [6]. Blander and Grinder's study showed that people communicate through one of the three representation systems or the combination of two: visual, auditory, and kinesthetic. Visual represents things observed or the use of vision in creating the internal image; auditory involves retrieving memories through listening to sound; and kinesthetic involves internal sensations: emotions and touch [7]. They stated that individuals' language to connect with their environment is divided into internal or deep (unconscious level of the human mind) and external or surface structure. To influence others, one must transform from a surface structure to a deep structure of language by using meta-model language, a strategy linking language with experience. It demonstrates which thoughts can be translated into words. **Figure 1** shows the NLP communication model [8]. This model demonstrates that information coming from external events, whether it is something heard, seen, smelled, or experienced, will be processed by the brain through deletion (omitting certain aspects) and/or distortion (misrepresenting reality by shifting sensory data) and/or generalization (drawing broader conclusions). This processing occurs due to several elements that filter the perception: values (evaluation of good or bad), beliefs (pre-assumptions and generalizations), memories (the connection between present and past elements), decisions (conscious or subconscious), and meta-programs (the overarching programming mental processes) [9]. This will be associated with all the supportive sensory impulses (visual, auditory, kinesthetic, olfactory, and gustatory) and given a certain meaning. After that, emotions (states) are generated, resulting in a corresponding behavior.
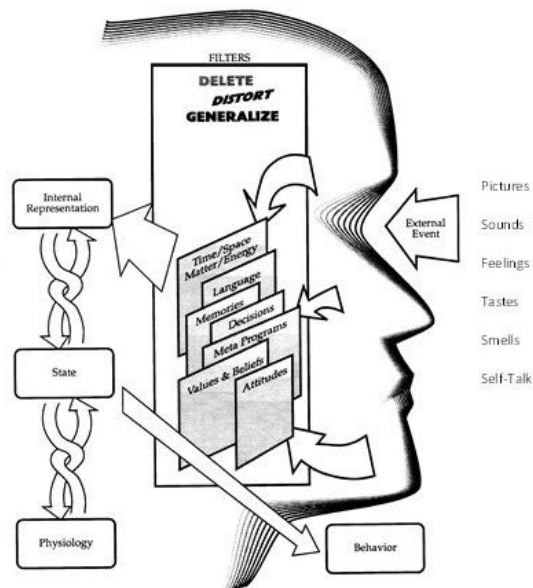
Figure 1. Neuro-Linguistic Programming communication model.

3. Pillars of Neuro-Linguistic Programming

NLP doesn't adhere to strict "pillars" as some disciplines do, yet it encompasses foundational concepts and techniques [10]. Here are the four key elements often considered as foundational aspects of NLP:

- Rapport is "a close and harmonious relationship marked by affinity and accord, in which the people or groups concerned understand each other's feelings or ideas and communicate well." Subconscious empathy among individuals maximizes the similarities and minimizes individual differences [11]. The profound significance of rapport within NLP can help build a close and harmonious connection where mutual understanding of feelings and ideas prevails and transcends the realm of mere technique—it embodies a fundamental human connection. In our perspective, this aspect underscores the essence of NLP, portraying it as inherently human-centric since it accentuates the role of empathy in weaving the threads of effective communication.

- Outcome thinking: It suggests that people should know what they desire and set their goals clearly, as precision is a key to success. This occurs by following five steps: Appreciate the goal, focus on it, imagine/visualize that the dream has become true, concentrate on all the steps of the pathway, step back to the present, and take action to reach the goal [12]. In our view, this approach transcends the conventional goal-setting frameworks. The emphasis on appreciating the goal before delving into the specifics acknowledges the importance of a holistic understanding. Focusing attention and visualizing success speaks to the power of mindset and mental rehearsal, aligning with our beliefs that success is often cultivated in the mind before it materializes in reality.

- Sensory awareness/acuity: It is related to using the senses to experience the world. This is the ability to finely tune them to observe and interpret non-verbal cues and behavioral patterns in others to be aware of subtle changes in a person's body language, tone of voice, and other sensory cues [13]. This perspective introduces a sophisticated dimension to interpersonal interactions, elevating them to a form

of artistry. Recognizing that understanding extends beyond the confines of spoken or written words to encompass subtleties in body language, tone, and other sensory cues resonates deeply with the intricacies of effective communication.

- Behavioral flexibility: It is related to adaptability in the entire situation. It also means that the chance of success increases when having various choices of action [14].

In conclusion, while NLP may not have rigid pillars, these core elements, enriched with personal opinions, highlight its dynamic and human-centric nature, emphasizing the importance of empathy, precision, sensory acuity, and adaptability in effective communication and goal attainment.

4. Neuro-Linguistic Programming techniques

While NLP is a controversial field with varying empirical support, these concepts and techniques have been widely discussed and applied in therapy, coaching, communication, and personal development [10]. It's important to note that NLP's effectiveness and scientific validity remain subjects of debate within the psychological and scientific communities. Some key elements of NLP include:

- Anchoring: A technique of NLP proven effective for language learning that shapes a positive attitude towards learning with the assistance of anchors. It involves associating a specific stimulus (e.g., a touch or a word) with a particular emotional state [15]. This way, special gestures, expressions, and body movements may result from positive emotions and a confident mind.
- Rapport building: This element aims to create a pleasant environment for cooperation and collaboration without judgments or misunderstandings so that both parties can actively participate. Active listening and body language are crucial to establishing a harmonious and empathetic connection with others and facilitating effective communication and influence [16].
- Mirroring: is a technique to mirror the behavioral patterns and language of fluent speakers to increase their motivation and promote their presentation and speaking skills. It involves subtly mimicking the non-verbal behaviors of the other person, such as their body language, gestures, posture, and even tone of voice [17]. The idea behind mirroring is to create a sense of similarity and rapport, making the other person feel more comfortable and connected in the conversation.
- Motivation: There may be various reasons behind identical actions. The existence of multiple intelligences gives way to various cognitive and learning styles, and effective and specific thinking strategies can be activated to proliferate motivation and increase the knowledge capacities of each person [15]. This technique focuses on identifying and changing limiting beliefs that may hinder motivation [16]. Individuals can increase their motivation and self-confidence by replacing negative or self-sabotaging beliefs with empowering ones. It also suggests chunking tasks into smaller, more manageable pieces [10]. This can make the overall goal seem less overwhelming and more achievable, encouraging modeling successful individuals who have achieved similar goals.
- Language patterns or illusion of alternative: This technique persuades others to

do what others want. It includes giving people various options, but all of them will be geared towards what the other individual will accomplish. It refers to recurring or structured ways people use language to communicate. These patterns can encompass various aspects of language, including grammar, syntax, semantics, and even non-verbal cues like body language and tone of voice. Language patterns can be intentional or unintentional and serve various purposes, such as conveying information, persuading, expressing emotions, or building rapport [16].

5. The impact of NLP on workplace and academic performance

NLP studies brilliance and quality by identifying how successful and outstanding individuals and organizations reach their ideal goals [10]. NLP enables individuals to gain more flexibility and creativity, develop more independent behaviors, and create more opportunities to succeed. Managers using NLP techniques effectively can solve conflicts among employees, improve their own leadership and soft skills [7], achieve desired goals easily, and model ideal behaviors by gaining different perspectives on events and individuals [4]. Managers using NLP techniques can motivate employees in the "right direction" under the organization's goals [18]. They can improve work-related mental health and are more committed, constructive, and rigorous in their tasks [19]. NLP is being used as a coaching method in organizational settings, leading to improvements in work engagement, work motivation, and job performance and fostering more adaptive psychological strategies relating to goal attainment [20,21]. It offers strategies for managing stress and enhancing emotional resilience to help employees cope with workplace stress and maintain their well-being. A relation was established between NLP and leadership succession planning, which is the deliberate effort to systemically replace a higher-ranking person within an organization to ensure leadership sustainability [22]. NLP can facilitate the understanding of the ideas and beliefs of current leaders in solving problems and facing crises and allows learning from a role model by controlling feelings, positive thinking, and energy stimulation to achieve adequate performance.

While NLP techniques have been applied in various contexts, including personal development and therapy, some organizations have explored using NLP in the workplace. Organizations bear the responsibility to achieve continuity and survival under the external pressure imposed by the business environment, globalization, and technological progress. To achieve that, they depend on modern techniques that significantly enhance their human capital [23]. These techniques can help employees improve their communication, negotiation, and persuasion skills. This includes enhancing verbal and non-verbal communication, such as using effective body language, tone of voice, and choice of words to convey messages clearly and persuasively [24]. NLP supports organizational continuous learning and development, knowledge sharing and creation, and building distinct dynamic capabilities [23]. It translates structured learning into applied skills by facilitating informal learning, which is crucial for human resource development (HRD) [20]. Employees may implement empowering tactics to adjust to consumers' communication styles, requirements, and preferences. This can build mutual trust and successful conflict

resolution, enhancing customer loyalty and satisfaction. Maintaining the balance between work and personal life boosts employee engagement and self-confidence. Personal goals beyond monetary and performance targets improve employee morale, loyalty, effort, and profitability [25].

NLP strategies were also used to resolve conflicts and improve workplace relationships through rapport-building and empathetic listening and, as a result, can contribute to team building by helping team members understand each other's communication styles and preferences. They can also be applied in sales and marketing to understand customer needs better, build rapport, and influence purchasing decisions [18]. NLP applied in the business field may provide specific, learnable skills that improve performance, resolve sources of stress, overcome self-imposed limitations, and achieve higher levels of confidence in any area of professional life, making a difference between exceptional and average managers [21]. Organizational Citizenship Behavior (OCB) is a positive behavior representing individual activities that improve organizational performance. It can vary depending on the employee's external influences, personal characteristics, and education level. OCB comprises five subdimensions: altruism, conscientiousness, courtesy, sportsmanship, and civic virtue. Among these, altruism and courtesy are for the individual; conscientiousness, civic virtue, and sportsmanship are for the organization [26]. Behavior modification operates on the premise that behaviors that can be observed and quantified represent suitable objectives for alteration. **Figure 2** displays the behavior modification model [27], a psychotherapeutic intervention used to eliminate or reduce maladaptive behavior in children or adults. It shapes behaviors through reinforcement and punishment with little consideration for one's thoughts or feelings, unlike other modalities that alter thoughts to affect behavior (cognitive behavioral therapy) [28]. In child psychiatry, behavior modification is part of the treatment plan when a child is diagnosed with attention-deficit/hyperactivity disorder, oppositional defiant disorder, conduct disorder, or intermittent explosive disorder. First, the antecedents of the problem behavior(s) must be identified. This allows for the determination of specific critical target behaviors. Then, the ABC (antecedents, behavior, and consequences) model is conducted. Accordingly, certain variables can be modified by increasing the likelihood of recurrence (reinforce) or decreasing the chance (punish) [29]. Positive reinforcement occurs when a behavior is encouraged by rewards. Negative reinforcement is encouraging a behavior (positive outcome) by removing a stimulus. Conversely, positive punishment is decreasing a behavior by adding an adverse consequence. Negative punishment is removing favorable consequences to reduce unwanted behavior. Reinforcement and punishment work independently and complementarily as part of a behavior plan [28].
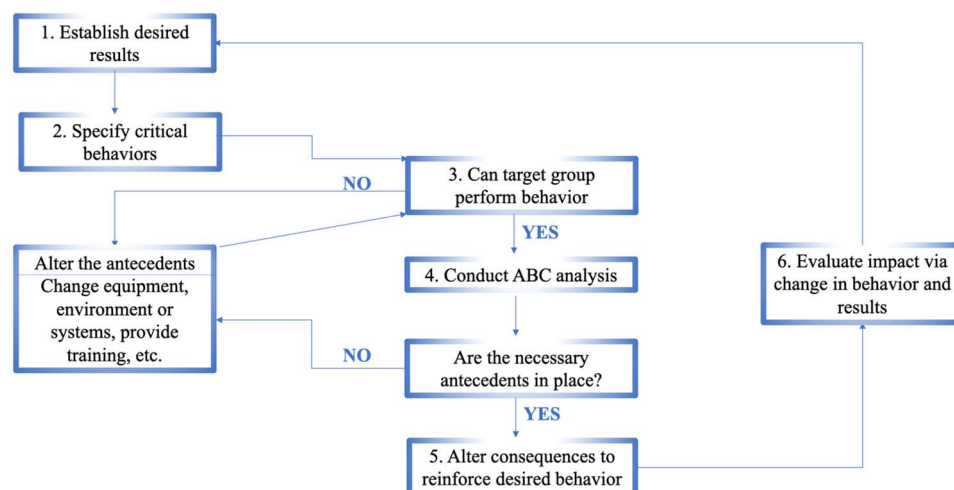
Figure 2. Behavior modification model.

As an assistive technology, NLP can help individuals of different ages communicate and control their negative emotions and anxiety. Accordingly, professionals may focus on the words they use, their tone of voice, the rhythm of their discourse, their signals and developments, and their breathing patterns. In the academic field, NLP is an influential tool that affects learners' personal and educational lives. It can improve students' quality of life, develop positive attitudes, support psychological complications, make better decisions, establish effective communication, and foster language learning [10]. Since one of the crucial goals of education in the 21st century is to educate learners who are prepared to face the changing society and complex era, the promotion of thinking in schools and educational centers has become important [30]. NLP in the classroom creates impressions about learner relationships, learning and performance, and teaching efficiency. It also helps language teachers strengthen the educational environment and foster supportive and effective interactions. It helps them develop critical thinking, academic achievement, emotional intelligence (EI), self-efficacy, and empathy, which are fundamental for success [26]. The use of NLP stimulates the creation of behavior patterns to achieve the class's objective, increases the cognitive process's effectiveness, and serves as treatment or adjustment in brain activity processes [16]. According to researchers, motivated learners succeed more than demotivated learners in their homework [31]. Hence, learners' achievement motivation must be improved, and their EI must be fortified based on NLP [30]. Various ways have been considered in NLP to increase each of the five dimensions of EI, such as self-awareness (values hierarchy and goal setting), self-regulation (dissociative technique), self-motivation (associative approach), empathy (matching and mirroring), and development of social skills (rapport).

The neurological state and beliefs of schoolchildren, which are susceptible to change through effective teacher-student communication, strongly impact their learning process [32]. Since expanding positive feelings, engagement, and meaning can be taught to children early, positive instruction can avoid side effects of misery and uneasiness, diminish behavioral issues later in life, upgrade social aptitudes, and bring hope [30]. Learning based on fear and tension will increase stress and anxiety in students' academic lives [33], while students who learn enthusiastically attain more

efficient learning objectives [34]. NLP creates a flexible student state conducive to learning [32] and positively directs student's psychology towards more self-esteem, motivation, and activeness in the learning process [34]. The primary aim of NLP in education is to provide a fundamental framework compatible with empirical learning and teaching to increase the effectiveness and pace of goal-oriented learning [2]. NLP effectively improves learners' language skills, specifically writing and speaking [34]. Teachers can apply the strategies and techniques of NLP for accelerated learning and memory improvement, making the learning process more attractive and exciting [10]. These techniques may offer educators strategies for managing student behavior and creating a positive classroom environment, in addition to other evidence-based approaches.

6. Comparison between NLP and other techniques

While traditional psychotherapists believe any meaningful change in a person needs a long time to occur, NLP offers a time-effective intervention that is equally, if not more, rapid than the three other techniques (cognitive behavioral therapy, mindfulness, and coaching). Cognitive behavioral therapy (CBT) is a standard exposure therapy focusing on a triad of cognitive processing, emotions, and behaviors. It has a highly structured framework contributing to symptoms management rather than insight, illustrating relatively quicker and long-lasting results (compared to psychodynamics), and engaging in group or computer-based therapy. A systematic review of CBT for the risk management of relapse in major depressive disorder demonstrated higher efficacy with CBT within the first 12 months [35]. However, CBT tumbles as it has been shown to downplay emotions, require great effort from clients, is not indicated for complex mental health problems or learning disabilities, and cannot address broader individual concerns (e.g., family relationships). Some report a lack of specificity in the definition of CBT and vagueness in establishing high self-esteem [5].

Mindfulness is another approach that employs unbiased awareness of one's experience without special equipment and is practiced at one's convenience. It has demonstrated effectiveness on a wide range of symptoms and populations. However, some patients feel detached from themselves (depersonalization), prohibiting them from critically evaluating the intervention. Also, a review of mindfulness in bipolar disorder patients highlighted the need for continuous practice (at least three days weekly) or follow-up sessions to reach the desired effect on depression [36]. Hence, it is highly demanding and ambiguous [37]. Coaching is a proactive technique with multiple models to efficiently guide individuals' thoughts and behaviors. One of the most used models in coaching is the GROW model: "Goal" setting (G), current "Reality" (R), "Options" (O), and "Will" (W). Other models include the POSITIVE model (Purpose, Observations, Strategy, Insight, Team, Initiate, Value, Encourage) and the PRACTICE model (Problem, Realistic goals, Alternative solutions, Consequences, Target, Implementation, Evaluation). Regardless of the model choice, all types of coaching show quicker effects and encourage individuals to move forward, grow, and learn autonomously [38].

NLP allows for both micro- and macro-analysis of results in diverse fields. It is easily applicable and teaches practitioners "how to do" instead of "what to do". Nevertheless, while some individuals may report benefits from NLP, these claims often lack robust scientific support, and the effectiveness of NLP techniques can vary widely among individuals. When considering NLP compared to other approaches, it's essential to consider it as a supplementary tool to other practices with a solid foundation in scientific research. Established therapeutic modalities are reliable and widely accepted options for addressing specific issues or achieving personal growth. Some concerns about NLP include the underdeveloped scientific rigor of its effectiveness [27] and the limited quality of research presented by several review articles. Despite that, the true power of NLP resides when utilizing the whole framework rather than fragmenting it into individual parts. **Table 1** below compares the strengths and weaknesses of NLP and the three other approaches [5].

Table 1. Characteristics of NLP and other approaches.

	Cognitive behavioral therapy	Mindfulness	Coaching	Neuro-Linguistic Programming
Strengths	● Observable/measurable ● Effects are seen relatively quickly ● Positive effects are observed for a long time ● Widely applicable	● Self-administered (high accessibility) ● Can be practiced at one's convenience ● Widely applicable for various symptoms	● Action and result-focused: clarifies what to do next ● Effects are seen relatively quickly ● Widely applicable	● Micro-analysis (sub-modalities, timeline, strategy, meta-program, meta-model) ● Active use of body movement ● Widely applicable
Weaknesses	● Downplays emotions ● Individual must make a substantial effort to articulate their feelings ● Not suitable for people with complex mental health problems or learning disabilities ● Does not address systemic problems beyond the individual's capacity ● Vague in definition and practice	● Need for quality empirical evidence ● Uncertain whether positive effects last for a long time	● Need for quality empirical evidence ● Uncertain whether positive effects last for a long time	● Need for quality empirical evidence ● Poor regulation of practice (lack of universal regulations)

7. Discussion

NLP is a dynamic and interdisciplinary approach investigating the intricate interplay between neurological processes, language, and behavioral patterns [8]. It comprises a set of techniques designed to comprehend and reshape cognitive frameworks, refine communication proficiency, and facilitate holistic personal and professional development [11]. Renowned for its adaptability, NLP has proven applicability across various domains, including education, therapy, and organizational contexts. It positions itself as a valuable tool for individuals and groups aspiring to achieve positive transformation and success.

NLP offers notable advantages, emphasizing improved communication skills, facilitating positive behavioral changes, and providing personal development and self-awareness tools. In therapeutic settings, it addresses mental health issues, and in education, it enhances teaching methods for more engaging and effective learning experiences [3,18,39]. Nevertheless, despite these benefits, NLP faces criticism. Some

argue that its lack of robust scientific validation and incorporation of pseudoscientific elements, such as eye movement patterns correlating with thought processes, raises questions about its effectiveness. Critics also contend that NLP's overemphasis on specific techniques without considering broader contextual factors may limit its applicability. Concerns about potential misuse, particularly in sales and marketing, and the variable quality of practitioners contribute to the ongoing debate surrounding NLP. The application of NLP in education has garnered attention for several potential benefits. It is often seen as a valuable tool to enhance communication between educators and students, improve teaching methodologies, and foster positive behavioral changes [17,40,41]. When used adeptly, NLP techniques can create a more engaging and effective learning environment catering to diverse learning styles. However, it's crucial to approach the integration of NLP in education with a discerning perspective. Some educators and scholars raise concerns about the lack of empirical evidence and scientific validation supporting the effectiveness of NLP. Additionally, variations in the quality of practitioners and the potential for misunderstanding or misusing NLP techniques underscore the importance of proper training and ethical considerations.

8. Conclusion

NLP posits that there is a connection between neurological processes (neuro), language (linguistic), and behavioral patterns learned through experience (programming). Practitioners of NLP aim to identify and modify behavior patterns to achieve specific goals in various aspects of life, including personal development, communication, education, therapy, and business. Implementing NLP should be approached with a balanced understanding of both its potential benefits and the need for empirical validation and ethical considerations. The success of integrating NLP in education depends on the skillful application of techniques and a commitment to evidence-based practices in the educational landscape.

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