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## **The impact of using NLP strategies on developing communicative writing and problem solving skills.**

By

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### **ABSTRACT**

The main purpose of this research is to determine the impact of nero linguistic programming ( NLP) in developing first year secondary students' communicative writing as well as their problem solving skills. Two statistical hypotheses were set to guide this research. The research adopted the one group design to examine the hypotheses. The participants consisted of (N=30) first year secondary stage students at Dawaa school in Beni suef. The instruments and materials of the study represent in a pre-post communicative writing test and a problem solving test, a checklist of communicative writing skills , a communicative writing rubric, a problem solving rubric and program based on nero linguistic programming strategies . The research results revealed that nero linguistic programming has an impact on enhancing communicative writing as well as their problem solving skills. This research has implications both for researchers conducting classroom-research and language teachers.

**Key words: Nero linguistic programming – communicative writing – problem solving**

## Introduction

Communication and human interaction are the main goal of language learning. Whether oral or in writing, clear communication is the objective of all language learners. All students are to be given equal and fair chances to learn how to express themselves, have their say inside the classroom and around as they are tomorrow's leaders. Clearly expressive communication is substantially necessary for both the teacher and his/ her students taking care of the students' individual differences, various responses, cultural background and learning pace.

To communicate effectively is the most important basic needs for human beings. It is a life skill that distinguishes humans. Developing communication skills helps all aspects of life, professionally and socially. Communicative competence cannot be taken for granted, it may take a long time to acquire language for knowledge and communication. There is also written communication like writing a letter, replying to a letter, writing an email, writing a banner, or poster and writing a message. Written communication needs more accuracy and clarity as the reader is not often there to investigate or ask the writer what s/ he means.

Most societies at the twenty first century are asked to master a different kinds of knowledge to enable them to succeed in a rapidly changing environment.( Csap and Funke, 2017).Binkley et al (2012) mentioned that there are a list of skills necessary for thee twenty first century which include creativity, communication, innovation, learning to learn , problem solving, critical thinking , media literacy , decision making and social skills. So the current study attempts to develop both of communicative writing and problem solving as the requirements of the twenty first century.

Neuro-Linguistic Programming (NLP) has its roots in cognitive theory developed by Piaget, the first psychologist to make a systematic study of cognitive development. The cognitive learning theory explains why the brain is the greatest network of information processing and interpretation in the body as we learn things. The theory has been used to explain mental processes as they are affected by both intrinsic factors, which eventually about learning in an

individual. When the word “learning” is uttered, it is meant that “to think using the brain”. This is the basic concept of learning according to the main view point in the cognitive language theory. This learning theory is based on the structure and function of the brain.

Knowing how the brain works best allows educators to create an environment that gives the students a higher probability of success in learning. The brain not only wants to make sense of what it learns but also wants to know that learning has purpose and value. EFL/ESL teachers who want to update, refresh and rejuvenate their teaching should apply brain learning principles as described by Caine and Caine (1994). They suggested a set of principles for brain based learning including: (1) the brain is a complex adaptive system; (2) the search for meaning occurs through patterning, (3) every brain is uniquely organized, (4) emotions are critical to patterning, and (5) learning always involves both conscious and unconscious processes. NLP also fits with constructivism theory. Constructivism supposes that individuals construct knowledge and meaning from their experience via their senses. The knowledge and meaning is constructed in the mind and represents a unique perspective on the world (Day, 2008, p.40).

NLP is a set of strategies for self-development technique developed by Richard Bandler (a computer programmer, mathematician and psychologist) and John Grinder (a professor of linguistics with degree in psychology). They developed NLP as a tool for effective communication and behavioral change. Early in NLP history, according to Chomsky’s ideas, there were two concepts most important in the field of NLP. The first was that deeply implanted in the brain, language and the ability to use it , and the second was that there was only a limited number of rules governing this process (Jacobson, 2002, p.1). The particular application of Chomsky’s work to neuro-linguistics was the concept that “language is associated with a specific type of mental organization”. The fundamental presupposition of NLP is that “the map is not the real territory”. This means that our mental representation of the world is an abstraction and is not the world itself. NLP calls each individual’s perception of

the world their “map”. NLP encompasses the three most influential components involved in producing human experience: neurology, language, and patterning or programming. NLP reaches our mind-body (neuro) and what we say (language), all interact together to form our perception of the world, or maps (Day, 2008, p.37)

NLP belongs to the fourth generation model of learning and focuses on autonomous and self-regulated learning. The use of NLP seeks to increase control and choice in an individual’s life. In other words, it seeks to enhance personal autonomy (Day, 2008, p.14). There are fixed reasons why NLP is compatible with classroom practice those days. First, NLP is about recognizing patterns and learning styles. Second, NLP is concerned more with process (how to learn) than content. Third, NLP provides a model of how one communicates with oneself and others.

NLP developers have articulated some set of assumptions that classify NLP approaches into modeling, application and training (Seymour, 2002, p.37). The current research adopts NLP application in education. NLP is a tool utilized for change in many fields including business, coaching, communication and advertising, therapy and teaching and learning. Tosey and Mathison (2003) assert that NLP seems to hold much potential for education at all levels, yet it also needs research and critical evaluation to help bridge the worlds of NLP and formal education. NLP has many techniques that can be used in education such as anchoring, mirroring, reframing, perceptual positioning, modeling, and representational systems. The use of these techniques supports those who use them to make deep level contact with others that creates connections, sharing and understanding. Learning and using NLP enables one to make sense of the internal structures by which others act, experience the world, and think.

Revell and Norman (1999) highlight that NLP is a collection of techniques, patterns, and strategies for assisting effective communication, personal growth and change and learning. The advantage of knowing NLP techniques is that the teacher has a wider array of strategies to use and know which one will have the best effects at exactly the right time. NLP is having some open influence

on classroom practice. In this research the researcher investigated the effect of nero linguistic programming on developing communicative writing as well as the problem solving skills of the participants of the research.

### **Review of literature**

This part is divided into three main sections : Nero-Linguistic programming ( NLP), communicative writing and problem solving .

### **Nero-Linguistic programming (NLP)**

NLP was developed in the USA at the university of California at Santa Cruz in the 1970s. NLP founders were Bandler, initially a student of mathematics and computer science, and Grinder, a professor of linguistics. The title ‘NLP’ reflects the principle that a person is a whole mind-body system, with consistent, patterned connections between neurological processes (neuro), language (linguistics), and learned behavioral strategies (programming) (Tosey & Mathison, 2010, pp317-326).

The basic notion of NLP is that people operate and make sense of their experiences through information received from the world around them. This information is filtered through our sensory systems providing us with a steady stream of information that people use to organize their experiences. The data they received are first processed at the unconscious level, experienced internally, and then manifested in the external behavior. Our language patterns are one method we use to communicate these internal responses.

Therefore, it is through an understanding of language patterns based on information we received through our senses that we are able to comprehend both our internal and external worlds. NLP is a model for understanding the basic process used by all people to encode, transfer, guide, and modify behavior (Torres & Kat, 2014, p.26).

Neuro Linguistic Programming (NLP), can be described as, “the approach that is aimed at the connection between neurological processes (Neuro), language (Linguistic) and behavioural patterns that have been acquired through experience (Programming)”. Van de Grift & Torenbeek (2011).

NLP as epistemology is concerned with how we know what we know. The philosophical view of epistemology is the study of the process of knowing, thinking and deciding. Epistemology was defined by Oxford English dictionary as “ the theory or science of the method or grounds of knowledge. Dilts and Delozier (2000, p.849) argue that NLP has epistemological, methodological and technological dimensions. The epistemological approach of NLP (Tosey and Mathison, 2003, 2006) presupposes that individual learners respond uniquely to the instructor’s style of interaction with learners.

Tosey and Mathison (2006, p.3) consider NLP’s epistemological world view to be fundamentally on the cybernetic, and ecological systems. The notion of ‘mind’ is holistic and rational, in that it is concerned with the whole body-mind system and includes unconscious as well as conscious functioning. The epistemological thrust of NLP is that processes of perception and conceptualization aided by language, create people’s maps of experience. NLP is committed to a cybernetic view of how these processes are structured and how they operate.

Originally NLP was described as methodology the purpose of which was to investigate exemplary communication, not to create a body of practice. NLP was developed as a methodology called modeling (Gorden & Dawes, 2005) which is intended to make human capabilities available to others. The objective of the NLP modeling process is not to end up with the one “right “ or “true” description of a particular person’s thinking process, but rather to make an instrumental map that allows us to apply the strategies we have modeled in useful way (Dilts, 1998, p.30).

NLP as technology offers a wide range of techniques such as (modeling, anchoring, reframing etc.) and a practical framework that can be applied to virtually any aspect of learning and teaching; self-management, presentation skills, study skills, classroom management, teaching design and so on (Tosey and Mathison, 2010, pp.317-326). NLP is a theory belonging to constructivism and cognitivism. Constructivism has a broad framework within philosophy, science and education. Constructivism supposes that what we already know shapes what and how we perceive. We select incoming stimuli according to

what we already know. Constructivism is closely related to the philosophical heart of NLP. According to Piaget's cognitive theory, structures change through the process of adaption: that is, through assimilation and accommodation. In assimilation, information is interpreted in terms of existing cognitive structures. In accommodation, new information is made sense of by the alteration of existing cognitive structures and the creation of new ones (Day, 2008, p.41).

Claxton (2006) argues persuasively that encouraged practice in classrooms is emerging from a third generation phase of "learning to learn" that was characterized by recognition of the importance of emotional factors in learning and of accommodating for differences in the way individuals prefer to learn. However, NLP belongs to the fourth generation phase of "learning to learn" which is now more inventive, flexible and adaptive than some of prescriptive approaches that characterized the third generation. Fourth generation approaches emphasize that learning is highly complex to create a good classroom environment and to encourage students to generate ideas to solve learning problems and to debate and refine their solutions with their peers. The fourth generation model of learning focuses on autonomous and self-regulated learning.

The literature on NLP and its eclectic origins and applications is scattered among branches such as psychology, linguistics, business studies, management training as well as education. Using NLP in the educational context has been carried out with adults or with university undergraduate and postgraduate students ( Tosey and Maithson, 2003; Brown, 2004; Mathison, 2004). NLP enhances teachers' performance and increases their personal autonomy by focusing on their setting outcomes, becoming aware of feedback (both internal and external) and being flexible in thought and actions. NLP is an attitude to life. It is also a collection of techniques, patterns and strategies for change, assisting effective communication, personal growth and learning. It is based on a series of underlying assumptions about how the mind works and how people act and interact (Saman, 2006, p.9).

The application of NLP has defined a set of strategies that are discussed below:

### *Reframing*

Reframing is the process of changing an individual's previously held conceptions into those that create a different, more positive perception. Reframing is a vital aspect in all applications of NLP. It is a strategy in which there is a transformation of perception, therefore changing the internal representation. An individual's responses and behaviors change when perception changes. The reframing technique is fundamental to a wide range of professional areas (Ellerton, 2004). It is the technique that the teacher utilizes by relating to personal experiences and making it concrete and tangible for the learners. It can be used to modify students' conception of themselves or of the language, which makes it a powerful motivational tool. It can also be used for creating artificial contexts to be used in the classroom and thus provide the students with a wider array of learning opportunities without the need of material support.

### **Representational Systems**

A representational system (preferred modality or system) is an individual's preferred mode of accessing information and thinking in order to organize thoughts and responses. It often corresponds to a preferred learning mode. Bandler and Grinder developed their representational systems of deep thought and language organization into three categories, visual, kinesthetic, and auditory. Representational systems - in NLP - are the three primary systems of auditory, kinesthetic and visual modes. The auditory mode relates to anything that relates to hearing or the sense of hearing. The kinesthetic mode is related to all body and emotional sensations and responses. In NLP, the term kinesthetic is utilized to encompass all kinds of feelings including emotional, gustatory, olfactory, tactile, and visceral. The visual mode relates to anything that relates to sight or the sense of sight (Dolnick, 2006, pp.15-18).

People might have visual, auditory or kinesthetic preferences for the way they take in and produce information. This way has influenced the design of learning style analyses and has encouraged teachers to use multi-sensory approaches while teaching (Ginnis, 2002, p.11). NLP has an emphasis on the representational system evidence. So NLP teachers



use, for example, the imperative “do not believe what someone tells you, but use your senses to find out whether what they say might be so.” (Seymour, 2002). Representational systems enable NLP teachers to make a judgment as to whether the students are “congruent”- that what they say is aligned with non-verbal signals, often called “body language” but which also encompasses vocal qualities such as tone, pitch, pace and so on ( Dilts and Delozier, 2000).

#### *Anchoring:*

Anchoring means associating and linking an external trigger to an internal response as in stimulus-response conditioning and subliminal cues. The ability to anchor the class as a whole evolved from conscious planning, beginning with an awareness of the developmental stages of growth and a knowledge and understanding of teen-agers (Dolnick, 2006, p.16). Anchoring is one of the NLP techniques that make association between what we see, hear and feel and our emotional states. Fortunately, anchors can in fact be formed with any sensory experience. Evidence for this claim is widely available in the personal history of every individual. The fact that simply by seeing a spider a person can get a phobic response is one of them. Anchoring is one of the reasons why it is advisable to keep teaching multi-sensory since students have a wider array of sensory stimuli to link the language to. For the purposes of teaching English, auditory anchors are the most suitable since they can be used by the teacher during normal classroom interaction.

#### **Rapport:**

Rapport is the act of totally matching another to precipitate feelings of “trust, harmony, and cooperation in a relationship” (Dolnick, 2006, p. 16). Rapport creates the energy that gives NLP student teachers the control and balance to deal with all classroom situations that arise. Rapport is at the heart of every healthy classroom. It is the critical ingredient that allows teachers and students to create a favorable learning environment. It is defined in the Webster dictionary (2014) as a “relation marked by harmony, conformity, accord, or affinity”. Simply put, and for the purpose of this study, rapport can be seen as that shared sense of oneness amongst the people in the classroom when

there is a willingness to engage and focus on tasks. In essence, creating rapport through building community helps to facilitate students' willingness to participate in tasks. It has been noted by researchers that students who are in rapport with a teacher are more motivated and able to learn more easily. Thus, working on the creation of rapport is a goal that can help teachers and students to develop more cohesive learning communities. Teachers need to create rapport with students in a variety of situations such as the beginning of a course, the beginning of a lesson, and the beginning of specific activities, to name just a few. It is also important for teachers to re-establish rapport or repair it during times when a student's response is lacking, when the class is tired or bored, or when students are being "problematic." NLP not only provides techniques, strategies, and solutions to the problems of teaching and learning, motivating and engaging students, it goes further. It enables teachers to develop the flexibility of response to create their own changes.

### **Modeling:**

NLP does have a recognizable and distinctive methodology. It has an emphasis on individual experience, it is concerned with the structure and representation of that person's experience (rather than interpretation of content, as in many psychotherapeutic disciplines or accelerated learning practices), and its core methodology is modeling – seeking to distil and transfer to the difference that makes the difference base on an individual's exceptional ability to perform a skill ( Linderr-Pelz and Hall (2007)

Modeling takes into account the person's sense of identity and their beliefs that relate to the task, their feelings, and those mental strategies (including sequences of sensory-based internal representations) that appears to be pivotal in enhancing performance (Gordon and Dawes, 2005). NLP modeling offers a framework for students to explore their own and other students' learning preferences and strategies, so they can develop their own best practice. In NLP, 'model is a verb describing the process, a noun that describes the product of the process, and a noun that refers to the person that is modeled (sometimes called the exemplar or guide).

The advantage of knowing NLP techniques is that the teacher has a wide array of strategies to use and knows exactly which ones will have the best effects at exactly the right time (Dolnick, 2006, p.118). NLP adds depth and dimension to the art of teaching that creates an extremely high degree of motivation and can take excellence of exceptionality ( Day, 2008,p.121).

Lashkariana and Sayadian (2015) implemented a study that aimed to investigate the effect of NLP techniques on young Iranian EFL learners' level of motivation, learning improvement and teacher's success. Sixty students from a junior school in Iran were randomly assigned to two groups of thirty each. The experimental group was taught from the prescribed text aided by NLP techniques. The control group received no treatment. In order to see whether NLP techniques had a significant effect on the learners' motivation, an Attitude/Motivation questionnaire was administered to the two groups before and at the end of teaching sessions that lasted for twelve weeks, in the form of a pre-test and a post test. The learning improvement was assessed on the basis of the related tasks administered to the students in both groups. Moreover, the teacher(s) were interviewed using a questionnaire that was administered to them to see whether the using of NLP techniques was an added criterion to the teacher's success. The results of the independent samples t-test and content analysis assured that the young Iranian EFL learners of English not only increased on their motivation level as a result of receiving NLP techniques, but showed an observable improvement in EFL proficiency. Furthermore, NLP techniques contributed positively to teacher's success. The results ensured the importance of NLP techniques in EFL settings by enabling the teacher to communicate better with students, strengthen the learning environment, and develop positive interaction that would increase academic effectiveness, motivation and proficiency of learners.

Communicative language teaching (CLT) is currently popular and in practice in most of the educational institutions all over the world. CLT is a set of principles about the goals of language teaching how learners learn a language, the kinds of classroom activities that

best facilitate learning, and the roles of teachers and learners in the classroom. To achieve CLT goals more effectively Neuro-Linguistic Programming can be helpful. In fact Neuro-Linguistic Programming is the study of how the interaction of the brain (NEURO), language (LINGUISTIC) and body creates patterns of behavior (PROGRAMMING). Furthermore, NLP techniques such as reframing, anchoring, creating rapport can be used by learners and educators to facilitate learning. By using these techniques effectively, an educator can communicate better with students, strengthen the learning environment, and develop positive interaction that may increase academic effectiveness. (Lashkariana and Sayadiana, 2015)

### **Communicative writing**

Pardede (2011) demonstrated that the main objective of EFL teaching is to help students to communicate fluently in the target language. Kokkonen & Almonkari (2015) are of the opinion that modern working life calls for competences that enable people to be creative, innovative and effective. Changes in modern working life have created new kinds of needs for communication competence. Sparks, Song, Brantely & Liu (2014) elucidated that written communication is considered one of the most critical competencies for academic and career success. Emphasis on writing skills suggests the need for next-generation assessments of writing proficiency to inform curricular and instructional improvement.

The study of Saied (2008) identified the different ways of using e-mail as a teaching aid, stressed the different writing modes which can be developed through e-mail. The sample of the study consists of 60 students who are at first year secondary at Fakus Experimental Language School. Students are divided randomly into two groups: experimental group (n=30) and control group (n=30). The study indicated that learning about and using technology effectively affects writing and implicitly enhances written communication.

In Erozkana's (2013) study, the researcher examined the relationships among communication skills, interpersonal problem solving skills, and social self-efficacy. Findings showed that the communication skills and interpersonal problem solving skills were found to be significantly

correlated to social self-efficacy and communication skills and interpersonal problem solving skills are predictors of social self-efficacy.

### **Problem Solving**

As one of the twenty first skills , problem solving has been researched for several decades (Funke and Frensch , 2007; Klieme,2004). In spite of the generality of " problem solving" as a term, there are clear differences between different forms of it such as the difference between domain –specific and domain-general as well as between analytic and complex problem solving (Fischer,Grieff and Funke, 2001; Greiff,Holt and Funke,2013;Grieff et al.,2013; Wustenberg,Greiff and Funke,2012). Research also has proven that complex problem solving can be developed through training ( Molner , Grieff and Csap,2013; Wustenberg et al., 2014).

The traditional methods of teaching represented in memorization and teacher centered learning cannot develop problem solver students. But there are many methods of teaching that can help in developing problem solving skills such as content based instruction , problem – based instruction and problem based learning through which learning and teaching are focused on large problems that require active reasoning as well as information from different subject matter.

Simulation may help students understand some complicated phenomena, while game-based learning combines learning and entertainment and so makes learning more exciting and improves student perseverance (Connolly et al., 2012; Hwang and Wu, 2012). These methods have been tested for the development of problem solving in a number of different areas and contexts (Chang et al., 2012; Rowe et al., 2011; Spires, et al., 2011).A number of studies have shown that training students to better monitor their own learning processes, thus facilitating self- regulated learning and metacognition, may also contribute to the improvement of problem solving (Montague, 2008; Perels, Grtler and Schmitz, 2005).

Schoenfeld has developed his theory of goal-oriented decision making, which is then applicable in broader teaching contexts, including the improvement of problem solving (Schoenfeld, 2011). He builds on monitoring and self-regulation, which are components of

several other innovative methods as well. Metacognition and self-regulated learning help students to develop their own problem-oriented study processes.

### **The problem**

In spite of the importance of professional development as it is the basic requirement of the current millennium , it has been proven to be ignored in some schools. The researcher has divided the research problem into the following:

### **The pilot study**

Out of the experience of the researcher while observing student teachers during teaching practice, she noticed that there is a problem in communication especially communicative writing , so she decided to carry out a research to solve this problem , so she used nero linguistic programming to help students communicate in a written form effectively as well as solve problems.

### **Statement of the problem**

The problem of the current research represents in the first year secondary school students lack of written communication and problem solving skills.

### **Questions**

To solve the problem of this study, the main research question is formulated as follows:

What is the effect of Nero linguistic programming on developing students' written communication as well as their problem solving skills?

### **There are a number of emanating sub-questions as follows:**

- 1- What is the effect of using Nero linguistic programming on developing students' English communicative writing?
- 2- What is the effect of using Nero linguistic programming on developing students' problem solving skills?

### **Objectives**

The current research attempts to achieve the following objectives:

- Determining the effect of Nero linguistic programming on developing first year secondary school students' communicative writing.
- Investigating the effect of Nero linguistic programming on developing first year secondary school students' problem solving skills.

## Hypotheses of the study

To answer the research questions, a number of research hypotheses are formulated as follows:

- 1- There is a statistically significant difference between the mean scores of the study group students exposed to nero linguistic programming in the pre and post administration of the pre-post communicative writing test in favor of the post administration.
2. There is a statistically significant difference between the mean scores of the study group students exposed to nero linguistic programming in the pre and post administration of the problem solving test in favor of the post administration.

## Variables of the study

**Independent variable:** This refers to the treatment implemented in this study (nero linguistic programming).

**Dependent Variables:** This refers to the study group students' communicative writing as well as their problem solving skills.

## Significance of the study

The importance of this study can be due to the following reasons:

- 1- This study may be helpful for students in the secondary stage grade one to develop their written communication.
- 2- The findings of this study will hopefully provide specialists, course designers and stakeholders with empirical evidence and more insights concerning the potential of using nero linguistic programming in Egyptian classrooms.
3. The findings of this study will redound to the benefit of society since there is a greater demand for graduates with perfect written communication.
- 4- The study provides a list written communication as skills necessary for first year secondary school students to be taken into consideration in planning and designing writing activities suitable for those students as well as in evaluating their communicative writing.

## Participants

The participants of this research include( 30) secondary school students They were included in the study group.

## Instruments

The researcher used the following instruments:

### 1. A pre-post communicative writing test

#### Objectives of the test

The current test aims at measuring the effect if any of NLP program in developing communicative writing.

#### Duration of the test

After piloting the test on 20 first year secondary students who are not involved in the study, the researcher measured the duration of the test which is about 90 minutes.

#### Contents

The current test contains five questions through which students are required to write an e-mail, an interview, a paragraph and a business letter and a paraphrase.

The test was scored using the prepared rubric, so every question takes sixteen marks. The whole test takes eighty marks.

#### Participants of the test

The test was administered to a sample of thirty of first year secondary school students in Beni Suef in 2018-2019 in the first term.

#### Validity of the test

To measure the validity of the test , it was shown by five jury members who added and deleted to the test . According to their suggestions, the researcher modified the test to be in the final form. To be sure of the validity of the test, the correlation between each element and the whole test was calculated as shown in the following table:

**Table (1)**  
**Correlation with the total score of the test**

Elements	Correlation with the total score
Content	0.72**
Organization	0.73**
Language & Style	0.69**
Syntax & grammar	0.70**



## Reliability of the test

To prove the reliability of the study, alpha coefficient for each part of the test was calculated, and their rates were high ranging from 0.85 to 0.88 as it is shown in the following table:

**Table (2)**  
**Alpha coefficient**

Elements	Alpha coefficient
Content	.89
Organization	.88
Language & Style	.85
Syntax & grammar	.86

## 2. A pre-post problem solving test

### Test objective

The main objective of the test is to measure the impact of NLP on enhancing problem solving skills.

### Duration of the test

After piloting the test on 20 first year secondary students who are not involved in the study, the researcher measured the duration of the test which is about 90 minutes.

### Content of the test

The current test contains ten scenarios through which students are required to write how can they solve the problem in scenarios. The test was scored using the adapted rubric, so every question takes sixteen marks. The whole test takes one hundred and sixty marks.

### Participants of the test

The test was administered to a sample of thirty of first year secondary school students in Beni Suef in 2019-2020 in the first term.

### Validity of the test

To measure the validity of the test , it was shown by five jury members who added and deleted to the test . According to their suggestions, the researcher modified the test to be in the final form . Also the correlation with the total score was calculated to prove the validity of the test as shown in the following table

**Table (3)**  
**Correlation with the total score of the problem solving test**

Elements	Correlation with the total score
Determine what is known	0.66**
Define the problem	0.68**
Generate possible solution strategies.	0.63**
Applies problem solving steps	0.69**
Evaluate solutions.	0.76**

\*\* Significant at 0.01

### Reliability of the test

To prove the reliability of the study, alpha coefficient for each part of the test was calculated, and their rates were high ranging from 0.80 to 0.87 as it is shown in the following table:

**Table (4)**  
**Alpha coefficient scores**

Elements	Alpha
Determine what is known	.87
Define the problem	.86
Generate possible solution strategies. .	.88
Applies problem solving steps	.81
Evaluate solutions.	.80

### Manipulated Materials

#### 1. Written communication rubric

The main criteria included in the rubric are:

- a. Content
- b. Organization
- c. Language & Style
- d. Syntax & grammar

#### 2. Problem solving rubric

The main criteria included in the rubric are:

- a. Determine what is known
- b. Define the problem

- c. Generate possible solution strategies.
- d. Applies problem solving steps
- e. Evaluate solutions.

### 3. Nero linguistic program

#### Content

This program consists of three main units:

#### **Unit one: What is Nero linguistic programming?**

It includes two lessons: the concept of nero linguistic programming and the strategies of nero linguistic programming.

#### **Unit two: Communicative writing**

It includes five lessons: The concept of communicative writing, writing e-mails, writing blogs, social media and paraphrasing.

#### **Unit three: problem solving**

It includes two lessons: the concept of problem solving and the steps of problem solving.

#### **Duration of implementation**

The research lasted for two months ( 10hrs.) in the academic year 2017/2018.

#### **Design**

The study adopted the pre- post treatment using one group design (n=30).

#### **Delimitations**

**The research is delimited to the following :**

1. First year secondary school students.
2. Communicative writing skills
3. Problem solving skills

#### **Definitions of terms:**

NLP is a set of strategies of deep level verbal and non-verbal communication. It supports individuals to recognize the thought patterns of self and others observation and response. Bandler and La Valle (1995) asserted that NLP is about making sense or meaning from observing the verbal and non-verbal communication of others. According to Stemmer and Whitaker (1998), NLP is the science concerned with the human brain mechanisms underlying the comprehension, production, and abstract knowledge of language. Churches and Terry (2002, p. vii) asserted that NLP is technology for

developing interpersonal and intra-personal competence. Thornbury (2001) defines NLP as a set of strategies to help teachers achieve excellence of performance in language teaching and learning, improve classroom communication, optimize learner attitudes and motivation, raise self-esteem, facilitate personal growth in students and even change their attitude of life. The researcher adopts this last definition.

### **Communicative writing**

DeVito (2005) defined communicative writing as any writing activity aiming to interact with a target audience.

### **Operational definition**

The study at hand defined communicative writing skills as the 1<sup>st</sup> year secondary stage students' ability to use the language they learn authentically, through using the vocabulary and structures of NLP program designed by the researcher.

### **Problem solving**

It is the capability to determine the main questions in a problem to suggest possible plans for solving it through following certain steps and evaluate it

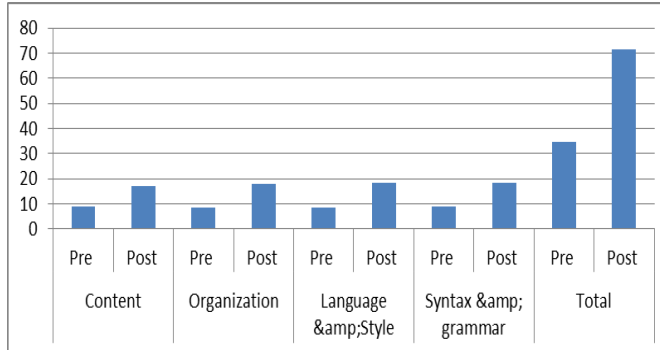
### **Results**

**Table (5 )  
Means, standard deviations, " t" test for paired samples and Eta squared effect size in  
pre and post administrations of the speaking test.**

	Paired Differences			T	df	Effective size
	Mean	Std. Deviation	Std. Error Mean			
Content	8.233	1.278	.233	35.286	29	0.977239
Organization	9.500	1.196	.218	43.497	29	0.984904
Language & Style	9.667	.884	.161	59.888	29	0.991979
Syntax & grammar	9.233	1.040	.190	48.628	29	0.987885
Total	36.633	1.810	.330	110.879	29	0.997647

The researcher used "t" test for paired sample to check if there is a difference in the mean scores of the participants in the pre and post administration of nero linguistic programming based program. As it is clear in table (5), the " t" test score was 35.286 as for the first element which is "content" , " 43.497" for the second element which is "organization", "59.88 " for the third element which is " language &

style and "48.62" which is " syntax & grammar , and " 110.87" for the total score which is significant at 0.01 which means that the first hypothesis was proven to be true. Further the effect size was 0.97 for the first element,"0.98" for the second element, "0.99" for the third element,0.98 for the fourth element and 0.99 for the total score which is strong that supports the first result. The following diagram represents the previous results:



**Figure (1)**

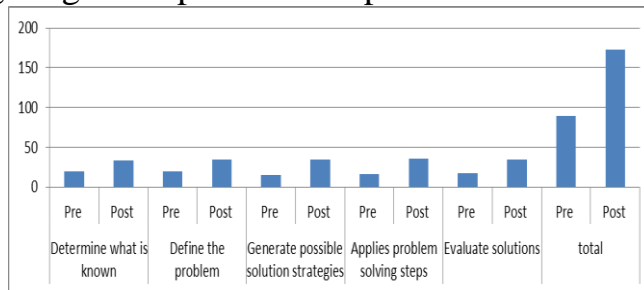
### **Pre and post administrations of the communicative writing test**

The mean score of the participants in the pre administration of the problem solving test as for the first element is "13.46" while it was " 14.86 as for the second element , " 18.96" for the third element , " 19.16" for the fourth element , "17.5" for the fifth element and " 82.9" for the total score . The standard deviation of the pre administration was 2.013,2.45, 1.99,1.78, 2.11 and 4.96 for the whole elements of the test. The "t" test score was 36.64 as for the first element, " 33.29" as for the second element , " 52.17" as for the third element , " 58.88" as for the fourth element, " 45.35" as for the fifth element and " 91.59" as for the total score of the test ,and the effect size was "0.98" as for the first element , " 097" as for the second element , " 098" as for the third element , "0.99" as for the fourth element , 0.98 as for the fifth element and "0.99" as for the total score as it is shown in the following table:

**Table (6)**  
**Means, standard deviations, " t" test for paired samples and Eta squared effect size in pre and post administrations of the Problem solving test**

	Mean	Paired Differences		t	df	Effective size
		Std. Deviation	Std. Error Mean			
Determine what is known	13.467	2.013	.367	36.649	2	0.978865
					9	
Define the problem	14.867	2.446	.447	33.294	2	0.974505
					9	
Generate possible solution strategies.	18.967	1.991	.364	52.175	2	0.989459
					9	
Applies problem solving steps	19.167	1.783	.325	58.887	2	0.991706
					9	
Evaluate solutions.	17.500	2.113	.386	45.359	2	0.986101
					9	
Total total	82.900	4.957	.905	91.593	2	0.996555
					9	

As it is clear in table (6), the " t" test score was 91.59 which is significant at 0.01 which means that the second hypothesis was proven to be true. Further the effect size was 0.99 which is strong that supports the second result. The following diagram represents the previous results:  
The following diagram represents the previous results



**Figure (2)**

### **Pre and post administrations of the problem solving test**

Based on the abovementioned results, the following findings can be stated:

1. This research indicated that the communicative writing for the first year secondary school , Beni Suef University were enhanced due to the use of nero linguistic programming
2. The Problem solving skills of the first year secondary school students at Beni suef were enhanced due to the use of nero linguistic programming based program.

## Limitations

The current research met some challenges such as the lack of motivation for students to participate in the experiment as they do not like English as a whole, the researcher exerted a great effort trying to convince them with the importance of nero linguistic programming and the used program with its interesting activities that may develop their language skills.

## Discussion of Implications

Analysis of the data suggests that the use of nero linguistic programming is effective for developing communicative writing as well as the problem solving skills of first year secondary school students at Nile secondary school in Beni Suef. The data showed that students' scores improved throughout the five-week study, supporting the conclusion that both of the communicative writing and problem solving skills were developed. The hypotheses that the nero linguistic programming created the communicative writing as well as the problem solving skills of the research participants was proven to be true. Additionally; the quantitative data suggests that more research should be done on the social aspect of the nero linguistics programming use on the classroom environment. It is important to explore how nero linguistic programming may improve the social skills in ELL's and the entire social climate of the classroom. It is theorized from the evidence in this research that using the nero linguistic programming may improve instruction, instructional dialogue, and continued development of communicative writing skills and problem solving skills for all students.

The results of the current research may be due to the various strategies of nero linguistic programming characterized by attractiveness, lightness and communication which suits the type of life those days and the desire of most students. This research is focusing on giving students chances to publish their own writings either in their own journals at the classroom or through the wall paper that all the school's students can see and read, even through face book walls and respond commentaries in addition to writing on their blogs which were designed by students themselves. The researcher felt the

progress of the participants step by step as there was a gradual progress. By the end of the research the participants were expressing themselves to authentic audience well and there was an observable change in their communicative writing as well as their problem solving skills.

Further, contacting authentic audience, participants showed enthusiasm and motivation in producing accurate English sentences and practice communicatively with each other. The four weeks of practice have made the students more confident to write well as well as their problem solving skills have been improved as was indicated in the results of the current study.

### **Conclusion**

- 1- The present study provided an evidence to the effectiveness of using nero linguistic programming in enhancing the communicative writing skills of the participants of the research. This result adds to the validity of other study investigating similar aspect such as that of (Thornbury, 2001)
- 2- The present study provided an evidence to the effectiveness of using nero linguistic programming in enhancing the problem solving skills of the participants of the research. (Rosemarin,2016)

### **Recommendations of the study**

Based on the results and conclusions of this study, the following recommendations are suggested:

- 1- Course designers should bear in mind the importance of nero linguistic programming in developing communicative writing.
- 2- EFL instructors need to plan activities that motivate students to use new learning strategies and methods and provide practice opportunities.
- 3- English teachers should encourage their students to write for authentic audience.
- 4- English teachers should help students in publishing using journals , blogs , wikis and face book walls.

### **Suggestions for further research**

The following points are recommended to be considered for further research:

- 1- This study can be replicated at a different level of education and with larger participants.



- 2- Test the effectiveness of nero linguistic programming in developing the different language skills.
- 3- Test the effectiveness of nero linguistics programming in developing self -confidence of students.
- 4- Test the effectiveness of nero linguistic programming in developing students' engagement of students.

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## أثر استخدام استراتيجيات البرمجة اللغوية العصبية علي تنمية مهارات الكتابة التواصلية وحل المشكلات

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### مستخلص:

يهدف البحث الحالي الي بيان أثر استخدام البرمجة العصبية اللغوية في تنمية مهارات الكتابة التواصلية ومهارات حل المشكلات لدي طلاب الفرقة الاولي بالمرحلة الثانوية. استخدمت الباحثة التصميم التجريبي نظام المجموعة الواحدة للتأكد من صحه فروض الدراسة. تمثلت عينه الدراسة في ثلاثين طالب في الفرقة الاولي بالمرحلة الثانوية بمدرسه الدعوة ببني سويف. تتمثل أدوات ومواد الدراسة في اختبار الكتابة التواصلية واختبار حل المشكلات ومقياس مدرج لمهارات الكتابة التواصلية ومهارات حل المشكلات وبرنامج قائم علي البرمجة اللغوية التواصلية. وأثبتت نتائج الدراسة أثر استخدام البرمجة العصبية اللغوية في تنمية مهارات الكتابة التواصلية ومهارات حل المشكلات لدي طلاب الفرقة الاولي بالمرحلة الثانوية. ولهذا البحث تطبيقات تهم كل من الباحثين ومدرسي اللغة الإنجليزية.

**الكلمات المفتاحية:** البرمجة العصبية اللغوية- الكتابة التواصلية- حل المشكلات