

Language Learning With Neurolinguistic Programming: An Integrative Review

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Abstract—The neurolinguistic programming (NLP) approach is being widely applied in learning. However, there are no review articles related to the application of NLP in language learning. This review aims to present a synthesis of literature on the effectiveness of NLP application in language learning in terms of methods, learning aspects, changes in language skills, and student learning psychology. An integrative review was conducted using five databases, namely, EBSCO, Wiley, ProQuest, ScienceDirect, and JSTOR. Keywords were used to search for and collect data in English related to language learning using the NLP approach published from 2011 to 2021. Based on the 15 articles reviewed, the visual, auditory, and kinesthetic (VAK) learning method is most often applied in language learning. Most teachers use NLP in language learning in speaking and writing skills. Applying the NLP method in language learning can improve students' language skills and change students' psychological learning in a positive direction

Index Terms—language learning, learning method, neurolinguistic programming, VAK, integrative review

I. INTRODUCTION

Language learning is complex. Continuous practice is needed to be proficient in a language, with incredible productive skills such as speaking and writing (Karami & Bowles, 2019; Petersen et al., 2020). However, the problem often is that the learning process becomes boring, so students give up when they face difficulties in learning the language (Almusharraf & Bailey, 2021; Kim & Pae, 2018; Li, 2021; Ranjan et al., 2021). Especially acquiring a second language involves cultural differences, linguistics, and learning difficulties (Genç et al., 2016; Li, 2021). Therefore, an approach that teachers can implement is needed.

One of the learning methods used is neurolinguistic programming (NLP). NLP comes from the words neuro, linguistics, and programming, and is a practical approach in directing human thinking patterns, feelings, and actions through communication (Rustan & Hasriani, 2020). Bandler and Grinder (1979) emphasize modeling as the core process that results in the application of NLP through the investigation of language patterns, behavior, thought sequences, and internal images of the exponents of selected abilities. NLP emphasizes the potential for self-determination by overcoming learned limitations of oneself.

The NLP approach was initially used in the health sector for a family approach. The results of a review conducted by Sturt et al. (2012) showed that the NLP approach in the health sector had a positive impact. However, over time, NLP has been used for the learning process in the work environment (Bashir & Ghani, 2012; Kotera et al., 2019).

Based on our preliminary study, there are no review articles related to the application of NLP in language learning. Existing reviews examine psychological changes in the application of NLP and the application of NLP in the health sector (Sturt et al., 2012). Therefore, this paper presents a literature synthesis with a research question of how practical the NLP approach is in language learning. Researchers are interested in examining aspects of language learning, language learning methods based on NLP, describing language acquisition, psychological changes in students during learning, and other outcomes that can be obtained from the NLP approach. This study's results provide evidence of language learning, especially for teachers, in educating students using NLP.

II. METHOD

A. Study Design

This study presents a synthesis through an integrative review of the primary literature that examines language learning using the NLP approach. The review's focus on language learning with the NLP approach was chosen because it relates to the author's position as a practitioner in language learning and neurolinguistics. An integrative review was chosen to analyze all judgments based on the specified focus. In addition, this method was selected to fill the gaps in language learning research studies at all levels of education with the NLP approach.

B. Study Criteria

This review covers the study of language learning with a neurolinguistic approach at all levels of education. It is intended to maximize the quality of the resulting judgment. The literature studied was limited to writings in English. Studies from books, reviews, or critical discussion papers were excluded.

C. Study Search and Selection Strategy

A literature search was conducted using databases EBSCO, Wiley, ProQuest, ScienceDirect, and JSTOR from January 1, 2011 to July 31, 2021. Articles were searched using the keywords “Language learning OR language teaching OR writing OR reading OR listening OR speaking” AND “neurolinguistic programming OR neuro-linguistic programming” AND “language acquisition OR language ability OR language development OR second language acquisition OR foreign language.” A total of 3057 references were found (published in 2011–2021). Duplicate articles from the search results were then removed.

In selecting the studies, the researcher was assisted by two independent reviewers (HSR and SA) to screen the titles and abstracts of relevant articles identified from the database. The full text of the relevant articles was then retrieved to assess their inclusion. The reviewers’ questions were resolved through a joint researcher consensus (ER) process.

D. Data Extraction

In this review, a data extraction tool was designed to guide information from records according to the purpose of the evaluation. The data extracted in each inclusive study included the author, year, country, study design, research objectives, aspects of language learning, NLP approach method used, language acquisition obtained by students, psychological changes of students during learning, and other outcomes resulting from each of these studies.

III. RESULT

A. Study Characteristics

Of the 3,057 studies identified, 15 articles met the criteria. The results of the study selection can be seen in Figure 1. Of the 15 articles, eight studies had a quasi-experimental design with a control group (Alamdar & Karbalaei, 2015; Alroudhan, 2018; Caballero & Rosado, 2018; Farahani, 2018; Fidinillah, 2018; Khalandi & Zoghi, 2017; Lashkarian & Sayadian, 2015; Rumawan & Suharti, 2018), three studies had a one-group pretest–posttest design (Hamid & Marzieh, 2017; Pratama et al., 2019; Vaezi & Shahroosvand, 2015), three studies had a mixed method design (Dash & Rahaman, 2021; Rustan, 2017; Wikanengsih, 2013), and one study used a qualitative method (Keezhatta, 2019).

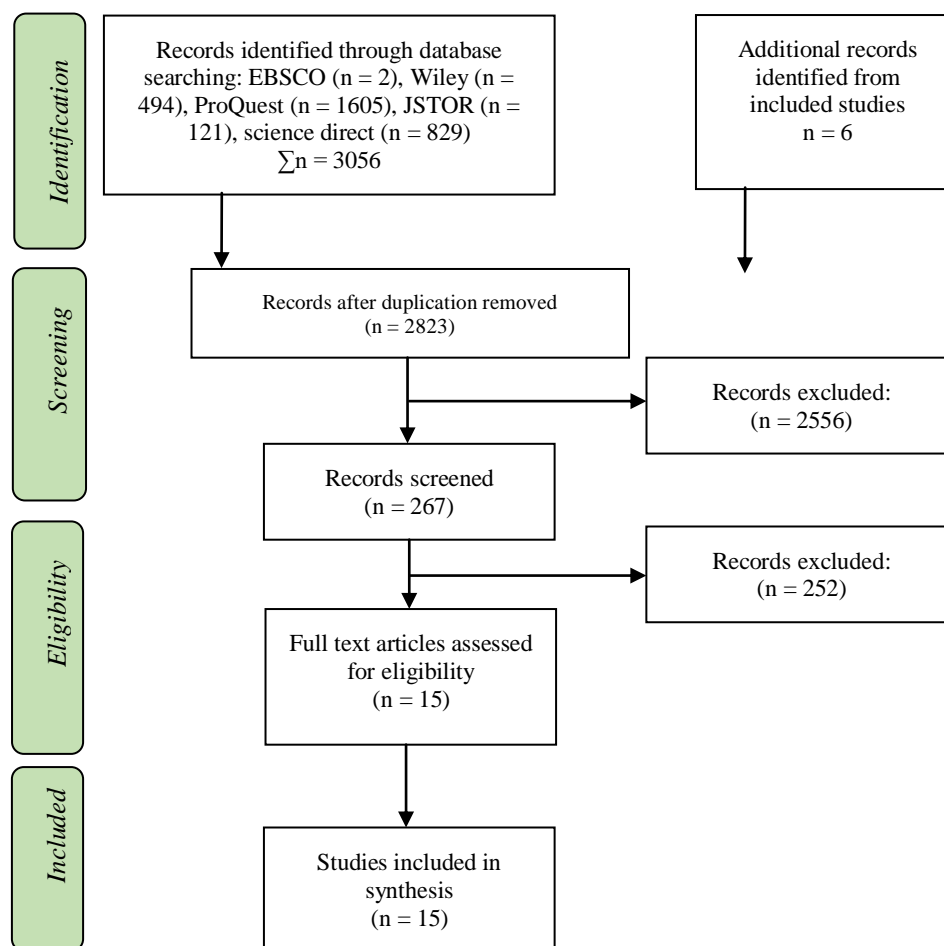


Figure 1. PRISMA Flow Diagram

The 15 studies were conducted in diverse countries with varied samples from middle school to higher education. Study characteristics can be seen in Tables 1 and 2.

TABLE 1.
STUDY CHARACTERISTICS

No.	Author, year	Country	Design	Sample
1.	Alroudhan, 2018	Saudi Arabia	Experiment with a control group	119 people consisting of six classes of grade one second-stage students (aged 15–16 years) at 47 public schools for girls in Riyadh, Saudi Arabia
2.	Farahani, 2018	Iran	Experiment with a control group	60 undergraduate students majoring in medical science were divided into the control and experimental groups; there were 26 males and 34 females
3.	Dash & Rahaman, 2021	India	Mixed method	19 high-school students
4.	Khalandi & Zoghi, 2017	Iran	Experiment with a control group	30 EFL students
5.	Keezhatta, 2019	India	Qualitative	20 English teachers
6.	Fidinillah, 2018	Indonesia	Experiment with a control group	60 Ibtidaiyah Madrasa students
7.	Rustan, 2017	Indonesia	Development of learning model with mixed method	96 high-school students
8.	Wikanengsih, 2013	Indonesia	Mixed method	80 middle-school students
9.	Pratama et al., 2019	Indonesia	One-group pretest–posttest	The study was conducted on 30 students of class X who studied English in the context of EFL
10.	Rumawan & Suharti, 2018	Indonesia	Quasi-experiment non-equivalent control group	64 middle-school students were divided into the control and experimental groups
11.	Caballero & Rosado, 2018	Colombia	Quasi-experiment non-equivalent control group	43 students of EFL S1 language faculty
12.	Hamid & Marzieh, 2017	Iran	Pretest–posttest	30 EFL teachers
13.	Alamdard & Karbalaei, 2015	Iran	Experiment with a control group	60 EFL secondary students in Iran
14.	Vaezi & Reza Shahroosvand, 2015	Iran	Pretest–posttest	Fifty-two Iranian EFL students studying English
15.	Lashkarian & Sayadian, 2015	Iran	Experiment with a control group	60 Iranian middle-school students

*EFL, English as a foreign language

TABLE 2.
OBJECTIVES, LEARNING ASPECTS, MODELS, AND RESULTS

No.	Author	Objectives	Aspects of language learning and models used	Results
1.	Alroudhan, 2018	1. To find out if NLP is an efficient tool for language learning. 2. What is the possible role of NLP in learning English?	Examine all aspects of learning English by applying the linking criteria coaching technique in teaching EFL, where the coach first needs to find out what is essential to students and then give them what they want according to teacher criteria	1. NLP provides techniques and solutions to problems and allows teachers to form flexible responses to specific problems. 2. NLP coaching was shown to affect EFL learning significantly. 3. This study also revealed that using NLP can increase students' motivation levels and make the class less demanding on the teacher.
2.	Farahani, 2018	What is the effect of applying NLP techniques on Iranian undergraduate EFL learners' reading comprehension in ESP courses?	Assessing aspects of reading comprehension. The steps are based on the main pillars of NLP (outcome, rapport, sensory acuity, and flexibility)	The application of NLP techniques can have a significant impact on reading comprehension.
3.	Dash & Rahaman, 2021	1. To evaluate the effectiveness of NLP techniques on ELT/ESL teachers and students 2. To observe whether the NLP technique helps improve the efficacy of ESL acquisition	Assessing overall language learning by applying desuggestopedia	Application of desuggestopedia can increase students' interest, motivation, and learning outcomes.
4.	Khalandi & Zoghi, 2017	To find out the impact of applying NLP (accelerated learning) on EFL students' listening comprehension	Assessing listening comprehension with the accelerated learning strategy	1. This study shows that accelerated learning is more dynamic and significantly affects listening

		ability		comprehension. 2. Statistically, the effect of accelerated learning on the listening comprehension of VAK learners was 87%, 93%, and 85%, respectively.
5.	Keezhatta, 2019	To explore the feasibility of NLP in teaching English (ELT)	All aspects of learning English using the method of planting, modeling, VAK, and mind maps	1. NLP facilitates communication and encourages English learners. 2. This study strongly recommends NLP as an effective tool for developing teacher-student relationships and promoting an interactive learning environment.
6.	Fidinillah, 2018	To determine the effect of the NLP method on students' English-speaking skills at Madrasah Ibtidaiyah Sa'adatuddarain 2, South Tangerang	Assessing English-speaking skills The method used is not described	The NLP method positively and significantly impacts students' English-speaking skills compared to conventional methods.
7.	Rustan, 2017	To know the creative writing learning model needed, the design and the ideal creative writing learning model, and the feasibility of an NLP-based creative writing learning model	Writing skills	1. Analysis results of the needs of students and teachers show the necessity of development of a creative writing learning model based on NLP. 2. The resulting learning model includes focus, syntax, social systems, reaction principles, supporting tools, and learning impacts. 3. The feasibility of the model by experts was declared valid.
8.	Wikanengsih, 2013	To describe the improvement of students' writing skills and character after the character-oriented NLP learning model is implemented	Writing skills using information-processing models and behavioral models	Students' writing skills improved. There was also an increase in positive characters in being communicative, tolerant, hardworking, and creative.
9.	Pratama et al., 2019	To find out whether there is an increase in self-efficacy and writing skills of recounting text after students are taught with NLP techniques and to find out what aspects of writing have the most significant increase	Writing skills No explanation of the NLP technique used	1. The NLP technique helps students to enjoy the teaching and learning process and even encourages them to continue to practice writing skills to get better results day after day. 2. The writing aspect that increased significantly was vocabulary, but every other aspect also increased (content, organization, language use, mechanics).
10.	Rumawan & Suharti, 2018	To determine the effect of the NLP technique on the writing skills of eighth-graders of middle Perintis 1 Sepatan	Narrative text writing skills, but methods were not explained	The approach used had a significant effect applying the NLP technique on writing narrative texts of VIII graders of Perintis 1 Junior High School. Sepatan.
11.	Caballero & Rosado, 2018	To explore how NLP techniques improve the pronunciation of "/ed/" regular verbs of Colombian EFL speakers	Speaking skills concerning the VAK learning method	1. Teachers' use of NLP techniques in their classrooms has a positive impact on students' pronunciation of past regular verb endings. 2. The use of NLP as an instructional tool for pronunciation has a positive impact on students' motivation because the strategy is exciting and fun.
12.	Hamid & Marzieh, 2017	To determine the effect of using NLP techniques on reflective teaching of EFL	General English teaching	NLP significantly improves EFL teachers' reflective teaching.
13	Alamdard & Karbalaie, 2015	To measure the use of NLP in teaching English and the practices and techniques that ELT practitioners can use in the ELT classroom	All aspects of language learning with the VAK learning method	1. NLP has no significant effect on language anxiety for the experimental group, but NLP can help the experimental group increase their self-esteem. The perception of the experimental group is entirely positive. 2. The second-language acquisition proficiency obtained by the experimental group was significantly more than that obtained by the control group.
14.	Vaezi & Reza Shahroosvand, 2015	To investigate the relationship between Iranian EFL learners and teachers' sensory preferences (VAK) and students' achievement in speaking	Speaking ability with the VAK approach	Iranian EFL students' adjustment and teachers' sensory preference (VAK) have a significant effect on students' achievement in speaking.
15.	Lashkarian & Sayadian, 2015)	To investigate the effect of the NLP technique on the motivation level of young Iranian EFL students, and improvements in learning and	Language learning, in general, uses the VAK learning approach	1. Young Iranian EFL English learners experienced increased EFL motivation and proficiency after applying NLP. 2. NLP techniques positively contributed

		teaching abilities		to improving the ability of teachers to communicate with students, strengthen the learning environment, and develop positive interactions that improve students' academic motivation and skills.
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*EFL, English as a foreign language; English Language Teaching; ESL, English as a Second Language; ESP, English for Specific Purposes; NLP, neurolinguistic programming; VAK, visual, auditory, and kinesthetic.

B. Language Acquisition Through the NLP Approach

Referring to the aspects of language learning reviewed in each article, there is an increase in the language skills of learners for language learning in general. Of the six studies that examined language learning in general, five studies that focused on EFL learners showed that NLP-based language learning significantly improved language skills (Alamdar & Karbalaeei, 2015; Alroudhan, 2018; Hamid & Marzieh, 2017; Keezhatta, 2019; Lashkarian & Sayadian, 2015). NLP provides techniques and solutions to problems and enables teachers to form flexible responses to specific problems, thereby enhancing the language skills of EFL learners (Alroudhan, 2018). NLP also facilitates communication and encourages English-language learners (Keezhatta, 2019). NLP significantly improved the reflective teaching of EFL teachers (Hamid & Marzieh, 2017). In addition, one study with the application of desuggestopedia showed that NLP increased students' interest, motivation, and learning outcomes (Dash & Rahaman, 2021).

Studies that examine writing skills in relation to the application of NLP also showed an increase writing skills (Pratama et al., 2019; Rumawan & Suharti, 2018; Rustan, 2017; Wikanengsih, 2013). All aspects of writing increased (content, organization, vocabulary, language use, mechanics). However, it was the vocabulary aspect that experienced the most significant increase.

All studies that examine aspects of speaking skills also showed a significant increase in results. The NLP method has a positive and significant impact on students' English-speaking skills compared to conventional methods (Fidinillah, 2018). NLP helps EFL learners pronounce past regular verb endings (Caballero & Rosado, 2018). Iranian EFL learners' adjustment and teachers' sensory preference (VAK) have a significant influence on students' achievement in speaking (Vaezi & Shahroosvand, 2015).

NLP-based language learning also significantly affects reading comprehension (Farahani, 2018) and listening comprehension (Khalandi & Zoghi, 2017). Accelerated learning is much more dynamic and significantly impacts listening comprehension. Statistically, the effect of accelerated learning on the listening comprehension of visual, auditory, and kinesthetic learners was 87%, 93%, and 85%, respectively (Khalandi & Zoghi, 2017).

C. Psychological Changes in Students

Of the 15 studies reviewed, eight studies describe the psychological changes in learners during the application of NLP. Three studies showed that language learning through the application of NLP helps teachers create an engaging and fun learning atmosphere (Caballero & Rosado, 2018; Keezhatta, 2019; Pratama et al., 2019). NLP techniques are effective in developing teacher-student relationships and encouraging an interactive learning environment (Keezhatta, 2019) so that students enjoy the teaching and learning process (Pratama et al., 2019) and are more communicative (Khalandi & Zoghi, 2017).

Four studies found that the application of NLP techniques can increase students' learning motivation (Caballero & Rosado, 2018; Dash & Rahaman, 2021; Lashkarian & Sayadian, 2015; Wikanengsih, 2013). Two studies showed that students are more active in writing practicing (Pratama et al., 2019; Wikanengsih, 2013). One study showed students to be more creative (Wikanengsih, 2013). In addition, one study proved that NLP could not reduce the anxiety felt by students but helped increase students' self-esteem (Alamdar & Karbalaeei, 2015).

D. Aspects of Language Learning

From the 15 articles reviewed, various aspects of language learning are the targets of NLP implementation. Six articles examined all aspects of learning English (Alamdar & Karbalaeei, 2015; Alroudhan, 2018; Dash & Rahaman, 2021; Hamid & Marzieh, 2017; Keezhatta, 2019; Lashkarian & Sayadian, 2015). Four articles examined students' writing skills, including one report that examined creative writing skills (Rustan, 2017), one that discussed narrative text writing skills (Rumawan & Suharti, 2018), and two that examined writing skills in general (Pratama et al., 2019; Wikanengsih, 2013). English-speaking skills were assessed by three studies (Caballero & Rosado, 2018; Fidinillah, 2018; Vaezi & Shahroosvand, 2015). In addition, one article examined reading comprehension skills (Farahani, 2018) and one examined listening comprehension (Khalandi & Zoghi, 2017).

E. The NLP Approach Used

Various strategies, techniques, methods, models, and approaches to NLP are used in language learning. From the number of articles reviewed, three studies did not clearly describe the NLP method used (Fidinillah, 2018; Hamid & Marzieh, 2017; Rumawan & Suharti, 2018), but the other 12 studies describe the NLP method used in detail. Adjustment to the VAK learning style is the most frequently used method. This method was applied in seven articles (Alamdar & Karbalaeei, 2015; Caballero & Rosado, 2018; Khalandi & Zoghi, 2017; Lashkarian & Sayadian, 2015;

Pratama et al., 2019; Rustan, 2017; Vaezi & Shahroosvand, 2015). Furthermore, Khalandi and Zoghi's (2017) study used an accelerated learning strategy adapted to VAK. There are also linking criteria coaching techniques (Alroudhan, 2018), desuggestopedia (Dash & Rahaman, 2021), information-processing models, and behavioral models (Wikanengsih, 2013), and combining methods of planting, modeling, VAK, and mind maps (Keezhatta, 2019). One article used the NLP approach based on the four main pillars of NLP, namely, outcome, rapport, sensory acuity, and flexibility (Farahani, 2018). This method begins with the introduction of NLP presuppositions and core concepts; goal setting (outcome)–guided fantasy; sensory language (Reid's test); sensory language (continued); metaphors–highlighting positivity; emotions; belief (flexibility); no failure, feedback only; finding the best strategy (flexibility); and strategy review.

IV. DISCUSSION

This review presents the effectiveness of the application of NLP in language learning based on aspects of language learning, the NLP method used, changes in language skills, and psychological changes in students during the application of NLP.

A. *Language Acquisition Through the NLP Approach*

All the studies reviewed reported improvements in learners' language skills, in both EFL and non-EFL students. The results of this study are based on the findings Kong (2012) that the proper application of NLP helps teachers develop functional relationships with students and direct their motivation and efforts toward the desired results. NLP brings flexibility in learning so that teachers can quickly adapt to the conditions of students and the environment (Grosu et al., 2014). The application of NLP results in effective teacher–student communication and helps create a friendly environment for students to learn (Rogozińska, 2016; Yao & Han, 2013). A positive psychological increase in student learning affects student activity in education (Feng et al., 2020). Students who learn with enthusiasm can better design and achieve learning objectives (Almusharraf & Bailey, 2021; Ranjan et al., 2021). Students can understand the teaching delivered by the teacher. Thus, NLP is effective in improving the language skills of learners.

B. *Psychological Changes in Students*

This review also proves that using the NLP method increases students' interest, motivation, self-esteem, and activeness in language learning. Adjustment of students' conditions with the learning model implemented by the teacher presents an engaging and fun atmosphere for students to learn. The application of NLP can change a person's psychology, including self-esteem, anxiety, stress, motivation, and locus of control (Kotera et al., 2019; Yao & Han, 2013). Thus, the application of NLP in language learning can change students' psychology in a positive direction.

C. *Aspects of Language Learning*

The review results show that all aspects of language learning can apply the NLP method. However, the most widely used is to practice writing and speaking skills. Language skills are acquired through a continuous training process, especially productive writing and speaking skills (Palfreyman & Benson, 2019; Petersen et al., 2020). An exercise program is a key to language teaching and learning (Lightbown, 2019). The application of NLP is undoubtedly beneficial for students in avoiding boredom and creating interest in learning using various methods (Kong, 2012). Thus, the NLP method can be applied in all aspects of language learning, especially writing and speaking.

D. *The NLP Method Used*

The NLP learning method that is used most often is adjusting the VAK learning style. This method adapts students' learning styles (Gholami & Bagheri, 2013). Learning style refers to a person's learning preferences in understanding, organizing, and processing information and experiences in learning (Bakri et al., 2019; Feng et al., 2020; Willis, 2017). A review by Willis (2017) proved that VAK learning style adjustments are widely used in language learning because they make it easier for students to understand the subject. In addition, the VAK method has principles and benefits that extend to all types of learning and development (Gholami & Bagheri, 2013). Applying NLP modeling by adjusting the VAK learning style positively impacted students' cognitive and kinesthetic approaches (Grosu et al., 2014). Therefore, NLP-based language learning is recommended through the VAK method.

V. CONCLUSION

The purpose of this review was to review the effectiveness of the NLP approach in language learning based on language acquisition abilities, and the psychological changes in students during learning, aspects of language learning, and NLP-based language learning methods. NLP-based language learning can positively improve students' language and psychological skills during language learning. In its implementation, the methods used vary from the most frequently used, namely, VAK, desuggestopedia, and adjustment of the four pillars of NLP. NLP can be used as an approach in language learning in all aspects, especially writing and speaking.

Several factors may limit the findings in this review. In particular, studies not published in English were excluded, meaning that there may be additional relevant evidence relating to the application of NLP in language learning that was

not included in this review. Furthermore, several articles reviewed here were published in less well-known journals. However, this review uses trusted references and theories to present quality reviews for readers.

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