

SCTMG 2020**International Scientific Conference «Social and Cultural Transformations in the
Context of Modern Globalism»****DIDACTIC POTENTIAL OF PLASTICITY IN TEACHING
FOREIGN LANGUAGES**

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Abstract

The article reveals the problem of teaching foreign languages using the neurodidactic methods aimed at developing plasticity. Experience of teaching foreign languages is described. Modern researches in pedagogy, psychology, foreign languages teaching methodology, neuropsychology indicate the potential of using neurodidactics for teaching foreign languages. Given that modern education is based on a competency-based approach and student-centered with the leading role of an individual work at all training stages, the main focus is shifted towards forecasting and evaluating learning outcomes. The modern paradigm of teaching foreign languages should have transparent goals, flexible educational paths, dynamic educational processes, individual approaches to the needs of students. Thus, the process of learning a foreign language should be based on the basic principles of neurodidactics; plasticity should be an integral tool of the modern educational process designed to help students accept the fact they have to measure two different linguistic communities and depend on two fundamental factors – motivation and environmental pressure. The article describes neurodidactic mechanisms that contribute to the development of methods that activate the brain, enhance learning motivation, develop cognitive-mnemonic processes, provide better memorization, increase classroom activity, reduce classroom stress, and contribute to the development of communication skills. The results of a survey of students of the Ural Federal University showed that the development of plastic behavior is more effective when teaching a foreign language in real communication situations while adapting to the unfamiliar environment.

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1. Introduction

The construction of an individual life path and the involvement of a person in future professional activities require mastering foreign languages, since effective familiarization with global information flows and expert communication is impossible without knowledge of at least one foreign language. It is necessary to develop a method that would contribute to the development of a secondary language personality, regardless of the learning environment. In Russia, educational standards involve the requirement to learn two foreign languages, while the conditions for implementing the requirements of the standards do not always correlate with the conditions of the educational school programs. In universities, one foreign language is studied in accordance with educational standards (foreign language teachers, linguists, specialists in international relations have to study two foreign languages). At the same time, the study of the compulsory first foreign language begins in elementary schools, but the content of curricula may differ in different regions; in some cases, students may not be taught the first foreign language, the second foreign language may not be taught at the secondary level. As a result, applicants entering the university are faced with problems of learning a foreign language at the level established by the educational standard, on the one hand, and inability to develop foreign language competencies for further professional development, on the other hand. This circumstance necessitates the search for other approaches and methods of teaching foreign languages regardless of the level of initial knowledge of a foreign language (Kulikova, 2014; Sabitzer & Pasterk, 2014).

2. Problem Statement

Foreign neurodidactics studies are quite numerous and describe the brain role in the learning process and the neurodidactics principles (Bryck & Fisher, 2012; Sabitzer & Pasterk, 2014; Wang, 2013; White et al., 2013). Russian studies of foreign language teaching in terms of neurodidactics are still scarce (Hafizova, 2017; Kulikova, 2014; Samosenkova & Tsotova, 2016).

We have already presented research data on the didactic potential of foreign language teaching methods that we apply in developing foreign language competencies in students. The methods are not linguodidactic (Kocheva et al., 2017; Verzhinina & Kocheva, 2015). The emphasis was not placed on neurodidactics, nevertheless, practical results showed that teaching methods and exercises that form a favorable emotional background for the lesson, create conditions for active student behavior and stimulate brain functions, develop memory, form specific behavioral and language models perceptions, reduce stress, contribute to learning achievements and develop foreign language competencies and metacognitive skills.

The term "neurodidactics" is medical and interdisciplinary, combining brain research and didactics, and offering effective teaching methods based on the results of these interdisciplinary studies. Neurodidactics aims to improve the quality of learning, taking into account the brain structure and functions, sensory preferences, differences in the cerebral hemispheres, learning styles, reactions to stressful situations, and various types of memory (Gulaya & Romanova, 2017). Among the most common methods, which are fully or partially based on the principles of neurodidactics, one can mention R. Callan's method (which implies immersion in the language environment), Genka's method (it helps to

overcome the language barrier through the game), suggestion therapy (aimed at activating hidden resources of the subconscious and super-memory).

To understand the degree of influence of teaching methods on students, it is necessary to determine the mechanisms that contribute to the development of personality, behavioral models that will provide an opportunity to adapt to the foreign language environment. The central question of neurobiology and human development is whether this training depends on the time of exposure (White et al., 2013). Plasticity of behavior is an ability of a person to easily and flexibly adapt to changes in the external environment. The property of the human brain to change in the process of gaining experience, restore relations lost after damage or in response to external stimuli is neuroplasticity. However, in addition to the methods based on plasticity and increasing academic performance, it is necessary to determine the conditions under which such methods can work effectively.

3. Research Questions

There are two options for the manifestation of plasticity of behavior: slow adaptation to a gradual change in the environment and human behavior without changing the environment, but based on the high plasticity of hereditary, an individually acquired form of behavior. An example of the plasticity of behavior can be seen in the animated series "Avatar", when the protagonist must complete three tests, one of which is to get the key to a casket with sweets. The hero copes with the task when he applies the existing skills, coordinating them with external factors, i.e. his habitual thinking becomes plastic, and there are new opportunities to achieve the goal. The episode illustrates the lability of thought processes, i.e. the rate of adjustment of these processes during a sequential transition from one problem to another one under normal conditions. At the same time, the lability of the psyche can indicate instability or dynamics in other situations, which can occur in conditions of overstrain, and the students are not ready for certain changes. The wrong form of organization of a lesson can act as a stressor which leads to emotional arousal and can provoke paradoxical reactions or unmotivated actions.

The appeal to plasticity of behavior and the creation of educational conditions for its formation can become a new model of the foreign language teaching method. This is a large section of neurodidactics, which should give a new color to already accumulated knowledge. The traditional methods and techniques of teaching foreign languages are aimed at one-sided learning and the development of language skills without the development of an ability of plastic dependence on the experience throughout life (White et al., 2013), the ability to reason and solve new problems regardless of previously received knowledge (Jaeggi et al., 2008). It requires new cognitive learning-based approaches aimed at increasing intelligence, taking into account periods of neuroplasticity for the development of certain sections of the language including methods associated with the qualitative assimilation of materials. This work aims to activate the hidden resources of the human brain in order to adapt to environmental conditions.

4. Purpose of the Study

The study attempts to identify the neurodidactic features of teaching foreign languages by the example of Russian as a foreign language, the role of existing foreign language teaching methods fore

developing plasticity of behavior as an instrument of the modern educational process. It also describes a set of methods that affect an increase in plasticity of behavior and the effectiveness of learning foreign languages. The purpose is to study the didactic potential of neurodidactic foreign language teaching methods.

5. Research Methods

The study used methods of theoretical and methodological analysis of psychological and pedagogical literature, interviews, situational communicative tasks, cases. The choice of empirical methods is determined by the efficiency of obtaining information, mass character, freedom in choosing answers, ensuring complete anonymity, and no impact on the participants.

The study was being conducted over three years, although the observation that gave impetus to the search for new approaches to teaching foreign languages has been conducted since 2001. As part of the study, a question bank for interviews, including closed multivariate dichotomous and open questions were used. The study involved 34 first-fourth year students of the Ural Federal University (the Departments of International Relations and Linguistics) aged 20.2 years: 20.6 % were male students and 79.4 % were female students.

6. Findings

A number of methods and exercises were used to train training the brain, including the development of cognitive-mnemonic processes and improving intelligence, relieving stress factors as part of a training session, and activating educational activities. The level of motivation of students was revealed.

At the preparatory stage, the curriculum was adapted to specific needs and problems of students. A competitive model of phonetic perception between the mother tongue and the foreign language was revealed. It is expressed in discrimination of the foreign language, especially when the phonological systems of the mother tongue and the foreign language are significantly different (for example, Russian for Chinese speakers; Chinese is a syllable language, Russian is a phoneme language). The ability of the brain to switch from one problem to another one can be developed using appropriate exercises (word mazes, crosswords, etc.). The game Monopoly can be used to develop speaking skills. For each subject, 10-word labyrinths were prepared, each labyrinth was on a separate card. Since time is a measure of lability, the student results can be subjected to the qualitative and quantitative analysis (Bryck & Fisher, 2012). This technique helps accelerate thought processes, which reduces time for performing exercises and finding several answers.

Alternative approaches are based on the principles of suggestology (the effect of over-remembering), when the perception and assimilation of information occurs without its critical analysis and understanding; on the intensification of training, while minimizing the theory or its absolute exclusion (the emphasis is on live communication and the development of colloquial speech (Bragina, 2016).

The study showed that suggestion has a high potential, because it affects the mechanisms of speech, mental and physiological structures of personality, which activates internal reserves of

personality, helps remember materials and accelerates the automation of acquired skills, awakens intellectual and creative reserves. An example is the use of the legend about the creation of Chinese characters (the author is a historian of Tsang Jie) when teaching Chinese. This method of studying hieroglyphs is effective and easy to reproduce. Pictograms are the basis of hieroglyphs. Thanks to this explanation of the meanings of hieroglyphs, students develop ideas about the designated subject. The Shaolan Xue's method was partially applied, it is similar to the method of mental maps, where the characters were combined in one associative series. The main idea of this method is to duplicate the real world using language or art.

Interesting results were obtained using the idea of the "Halls of the Mind," or the Mind palace, described in Roman treatises on rhetoric as a method of loci. Based on mental-spatial associations, this method has been changed by the Sherlock Holmes film, in which Dr. Watson explains the essence of this method of memorization through a mentally presented map on which memories are applied. Theoretically, a person does not forget anything, he needs to find a path to the desired memory. From the point of view of the locus method, this path goes through the stages of creating, organizing and using everything that a person remembered; thus, memory develops through visualization (Gostev, 2007). A person can always take advantage of the memory. The idea of the "Halls of Mind," or the method of loci, is to create certain beacons (a similar option is presented in the Overlocked game, where the player assumes the role of a psychiatrist who is tasked with learning what happened to a group of teenagers who have lost their memory). Another option to activate the desired memory is to include a dictaphone recording of a description of events and key points, i.e. the teacher's task is to create "bridges" so that the student can return to the material that is necessary in this situation.

The method of immersion in the language environment is actively used in communicative techniques. The systematic involvement in a foreign language environment can cause auditory plasticity, simultaneous development of auditory representations of a higher order (White et al., 2013), and a foreign language can become perceived as a native language. This method has other advantages – speaking and listening skills can be improved, the vocabulary can be expanded, the language barrier can be removed. However, there are some limitations, for example, it is not suitable for beginners (the exception is children, since their brain is more plastic) (Bryck & Fisher, 2012). The method causes psychological discomfort due to the inability to speak native language at the initial stages, which is a stressful factor. Immersion into the language environment is studying in a foreign country. Interviews with students showed that auditory plasticity in classes in a foreign country is developing faster. An analysis of the interview showed that the degree of plasticity was influenced by the motivation of students and the environment: in the foreign country, motivation increases due to the lack of an alternative. According to the respondents, the ability to speak native language reduced their motivation to learn the foreign one. The length of stay influenced the plasticity of behavior – knowledge of traditions of the local population contributed to the expansion of social contacts and had a further impact on auditory plasticity, plasticity of behavior, accelerated adaptation.

One can choose several requirements for classes based on the principles of development of plasticity. When planning a lesson, you should divide the material into reasonable and feasible parts; physical activity of students is required (changes in a scenery, postures, interior, etc.), which improves

memorization; organization of oral reproduction of materials taking into account breaks to stabilize the learned materials; exercises are necessary for concentration (especially in children), games – for training the memory. It is necessary to search for your own methods of remembering, taking into account the psychophysiological characteristics of the individual.

Solving a variety of tasks in a foreign language classroom can be compared with solving a wide range of cognitive tasks, as a result of which academic performance can improve, which contributes to professional and educational success, especially in difficult conditions (Jaeggi et al., 2008).

7. Conclusion

Neurodidactic methods that develop plasticity of behavior have a great didactic potential, allow the educational process to be oriented toward requirements of professional and educational standards, professional and communicative culture of a future professional, and his desire for continuous self-improvement.

Thus, neurodidactics is a promising method possessing tools whose application does not require any special knowledge about the structure and functions of the brain and brain activity. Each teacher can create his own set of tools or expand the existing one.

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