Pedagogical Cluster- Journal of Pedagogical Developments
PCJPD: Volume 2 Issue 4, April 2024, online: ISSN 2956-896X

PEDAGOGICAL CLUSTER
JOURNAL OF PEDAGOGICAL DEVELOPMENTS

Website: https://euroasianjournals.org/index.php/pc/index

Importance Of Neurolinguistics As A Science

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Abstract. It has already been proven in science that the activity of human speech is coordinated by both hemispheres of the brain. The left hemisphere is responsible for the correctness of speech, and the right hemisphere is responsible for providing images and emotional color. This article covers neurolinguistics and its importance as a science. The connection of neurolinguistics with other sciences is justified.

Key words: Neurolinguistics, thinking, speech, linguistics, psycholinguistics

Introduction

Neurolinguistics is a complex and independent discipline closely related to psychology, neuroscience and linguistics. These three disciplines serve to study the activity of the parts of the brain related to speech in solving general problems of a linguistic person:

1) linguistics determines the structural features of natural language, its phonological, morphological, syntactic and other organizational areas;

2) psycholinguistics studies cognitive processes that control real-time processing of communicative speech in language structures by the human mind;

3) neurolinguistics examines the activity of "mind and brain" to mentally identify the brain structures or neural networks mobilized during the cognitive processing of the functional construction in language.

In these aspects, these three disciplines complement each other.

Materials and Review

According to Russian neuropsychoanalyst T.V. Chernigovskaya: "Our knowledge is necessary for diagnosis, rehabilitation, restoration of various functions of speech. Sometimes people with dysgraphia and dyslexia are forced to relearn their mother tongue. A person can try to control his mind, but he cannot control the physiological and genetic characteristics of the brain. If there

is a psychological defect in people's minds, then it needs to be corrected or treated. Neurolinguistics helps to understand the processes of the mechanisms of speech activity, the interrelationship of language, thinking and human consciousness, and the creation of human speech. ... It is possible for linguists to draw general conclusions about the structure of neurological structures and language based on information about the physiology of the brain."

In the theory of speech activity, neuropsycholinguistics has a gradational place:

1) correctness of speech - compliance with language rules;

2) speed of speech - adjusting speech to time;

3) saturation of speech - vocabulary and use of various verbal forms;

4) adequate selection in speech - to ensure that the message is consistent with the essence and situation;

5) adequate synthesis of the whole text - correct connection of sentences in the text.

If a linguist does not have this multilevel model comprehensively, his language skills are considered underdeveloped.

Neurolinguistics (Greek néŷrón - nerve, Latin lingua - language) originated from three disciplines - neurology, psychology and linguistics - in the late 1950s and early 1960s. The practical needs of people contributed to the emergence of this field of knowledge.

Scientists such as A. A. Leontev, A. R. Luria, E. S. Bain, R. M. Boskis, E. N. Venarskaya, O. S. Vinogradova, N. A. Eisler contributed greatly to the emergence of neuropsychology and neurolinguistics as a special science. In modern neuropsychology, the structural stability of the human brain, its damage and disruption for various reasons, causes aphasia.

Aphasiology - aphasia (from the Greek α - negative particle and phase - statement) is a branch of medicine that deals with the treatment of people who suffer from speech disorders due to localized brain lesions

The object of study of the science of neurolinguistics is the role of nerve cells in the human brain - neurons in restoring the state of speech and creating words. "The issue of damage to the speech zone of the brain and, as a result, impaired speech activity was noted and deeply studied in the works of Ibn Sina and Beruni."

Advances in neurolinguistics initially focused on the diagnosis and correction of speech disorders associated with solving practical problems. In the

object of modern neurolinguistics, research has not only expanded to include the study of speech pathology, but this is also the norm.

The "father" of Russian neurolinguistics, the well-known psychologist and neurophysiologist Alexander Romanovich Luria, defined it as a field of science "The study of the brain mechanisms of speech activity and changes in speech processes caused by local brain damage in the language system" [Luria A.R. The main problems of neurolinguistics] Luria began to use the term neurolinguistics in the early 60s of the 20th century.

Many questions, such as the relationship between the organization of the brain and human nature, are solved through cognitive mechanisms and speech processes, which are inextricably linked with the cognitive processes that form the basis of psychological knowledge within the framework of neurolinguistics.

Thinking is a high form of human mental activity; the process of reflecting objective reality in the mind: it is a process of higher knowledge that reflects reality more fully and clearly than intuition, perception, imagination. Understanding the characteristics of things and events that are difficult to learn with the means of intuition and perception is the way to understand them with the means of thinking. Thinking activity is manifested in the form of speech. He who thinks well speaks well. In the process of speech communication, reality, things and events help to understand the essence, content, nature and society, based on certain language laws and rules. Otherwise, such questions will arise: I understand. I get it. I understand well. If I don't know. I understood. As far as I understand, this is a bug. As far as I understand, this is correct.

Or vice versa: I don't understand. It's abstract to me. It's dark to me. I didn't understand. I don't understand. Phrases like this are incomprehensible to me.

Typically, neurolinguistic research includes linguistic, neurophysiological, and psychological components.

Neurolinguistics is distinguished by its wide connection with other disciplines.

1) Linguistics and psycholinguistics (study of the mechanisms of speech) without relying on language material itself, language constructions and models, without harming their psychological correlates.

2) Neurology (studies normal and pathologies of the structure and functions of the nervous system; departments of neurology - neurophysiology, the brain and nervous system responsible for human speech behavior, their role

in the activity of the language system, localization of speech functions in the cortex makes it possible to identify the brain and nervous system and other structures.

Neurology is a medical-biological science about the structure of the human and animal nervous system and its functions in normal and pathological conditions, its "phylogeny and ontogeny". is established, which made it possible to describe the neuron.

Along with histology and visual anatomy, neurophysiology developed in its turn. First, he began to study some parts of the brain of animals. It was found that there are special centers in the head and spinal cord that define movement and sensory functions. In the second half of the 19th century, some progress was made in the study of brain vascularization, phylogeny and ontogeny of the nervous system. In the 19th and 20th centuries, I. M. Sechenov, N. Ye. Vvedensky, Ch. Physiological studies conducted by the Sherringtons were of great importance in the development of neurology abroad. I. P. Pavlov's teaching about higher nervous activity, the discovery of the evolutionary-genetic law in the formation of the structure and function of the brain, and other important achievements of neuroscience in the 20th century.

Logopedia (logos and Greek paideia - education, training) - ped. science network; studies the causes of speech defects (stuttering, language underdevelopment, reading and writing defects, etc.), ways of their prevention and correction, as well as the mechanisms and symptoms of speech disorders as a means of special education and training. The problems of correcting speech defects were first applied in scientific works on deaf pedagogy in European countries in the 17th century. From the second half of the 19th century, this field was approached independently, but from the point of view of medicine. Gradually, the scientific perception of the nature of speech activity expanded, the direction of speech therapy changed radically, pedagogical content became the first priority.

3) Speech therapy is considered to be of great theoretical and practical importance as a science, and it is determined by the interdependence of the social essence of language, speech, child's pronunciation, lexical-grammatical system, thinking and all mental activity. The theoretical direction of speech therapy is to study speech disorders, to identify their causes, to develop scientifically based methods of prevention and correction, and the practical

direction is to apply these methods as soon as possible and eliminate these defects and their causes. Theoretical and practical tasks of speech therapy are closely related to each other.

The first book on neurolinguistics was created by the Russian scientist A. R. Luria. In the book, 1) the linguistic stage; 2) neurophysiological stage; 3) distinguished the psychological stage.

Then, for the reliability of neurolinguistic research, scientists turned to such disciplines as neurology, psychology, psycholinguistics, neurophysiology, neuropsychology, speech therapy, neurosurgery, biophysics, and biochemistry. In the studies dealing with the study of the human brain: 1) which parts of the brain respond to language ability; 2) how the nervous system works during speech activity; 3) what role do the right and left hemispheres play in the formation of speech; 4) how the brain perceives non-native language information; 5) began to search for answers to the questions of how local brain lesions (injuries) affect speech

Conclusion

Thus, the close connection of neurolinguistics with psychology, neuroscience and linguistics makes it even more important as a science today. The reason for this is that the development, thinking, thinking and condition of the individual's neurons, their change and improvement in the process of speech have been considered as an urgent issue, and here we can see that it is closely related to linguistics. Since speech is a means of communication, it has the ability to affect the neurons of the human brain and change it. We can see this in neurological studies as well. It has already been proven in science that the activity of human speech is coordinated by both hemispheres of the brain. The left hemisphere is responsible for the accuracy of speech, and the right hemisphere is responsible for image and emotional coloring.

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