REVOLUTIONIZING LANGUAGE TEACHING: THE ROLE OF ARTIFICIAL INTELLIGENCE

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Abstract – The article provides general information about language phenomena, artificial intelligence and their connection with knowledge, thinking, memory, etc. In addition, the approaches and opinions of scientists on these topics are presented and explained with the help of examples. The author states that the movement of thinking and the formation of thought is associated with cognitive activity, a process that ensures the reflection of reality directly in the mind.

It is known that the formation of speech units and their understanding are the result of mental activity. The performance of this activity is directly related to the condition of obtaining linguistic knowledge. There is no way to know reality without linguistic knowledge, to lyrically express logical structures that reflect information about the current event-events. However, at the intersection of cognitive science, six fields of science are adjacent, and a single scientific goal is to be occupied with the search for a solution to the problems of concentration, processing and application of knowledge in natural and artificial systems. It seems-that interrelation between these areas does not take place in the same way, whereas, Artificial Intelligence and anthropological philosophy are directly related. Meanwhile, human cognitive activity should be considered not as a reflection of being as a mirror, but as a phenomenon that reflects the inner or outer essence of objects. The mental structure formed in the process of cognition – the content of the concept is occupied by character-features that have a clear appearance of exactly this type, and the same features lead in the linguistic reality of the concept.

Key words: *logical structures, cognitive activity, memory, artificial intellect, communication, symbolic thinking, practical thinking.*

I. Introduction

It is known how the approach from the point of view of behaviorists leads to negative results in the interpretation of the issue of the relationship of linguistic phenomena with knowledge, thinking, memory, and the brain, etc. Comments made by psychologist B.Skinner in his *Verbal Behavior* [1] (Skinner B.F., 1957), initially seemed to many researchers to be considerate. They put forward the idea of studying the linguistic act as a phenomenon no different from any other movement. What if the actions performed within the framework of human linguistic activity are put together with the actions performed by various large and small animals in the process of experiments in laboratory conditions (may they be repeating certain words by heart)?! The fact that such an idea was scientifically incorrect was later proven to be complete by scientists. Less than 2 years after B.Skinner's brochure was published, N.Chomsky tried to prove that behaviorism was unjustified by publishing a detailed review[2]. He demonstrated that language should be regarded as a mental phenomenon by denying the opinion of behaviorists that any act of conduct (whether verbal or nonverbal) is the result of "acquiring or internalizing" by some stimulus – trigger. Indeed, linguistic activity is directly related only to human – specific activity, as well as to another human-specific wealth-contemplation.

II. Literature review

The long-standing discussion of the problem of the attitude of language and thinking has generated various methodological conclusions and recommendations. Special emphasis is placed on the role of language in the emergence of the perception of the outside world in consciousness by scholars (Sapir, Hoger, Hocket, Budagov, Panfilov etc.)[3] it is noted that the linguistic structure (device), ensuring the formation of

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[1] Skinner B.F. Verbal behavior. New York: Appleton-Century-Crofts; 1957a.

[2] Chomsky N. Review: B. F. Skinner's Verbal Bahavior // Language, 1959. v. 35.-p. 26- 58.

[3] Sapir E. The status of linguistics as a science, fa: Selected writings of Edward Sapir in language, culture and personality. Berkley: Univ. of California Press, 1968.-p.l60-166.; Darnell R., Edward Sapir: Linguist, antiropologist, humanist. -Berkley, Los Angeles; London: University of California Press, 1990. -480 p

a person's ability and experience to perceive reality, affects social consciousness, and in this way forms a person's worldview, the ability to perceive reality. No matter how language phenomenon is related to thinking, the conclusion that it is only realized by means of language, or, in other words, that there is no non-linguistic thinking, is not so close to reality. Language and thinking should not be exactly the same thing[4]. Contemplation is a generalized perception of reality, which provides information about the subject, communication and relations of phenomena.

III. Analysis

In order to prove that the reflection of reality in the brain does not arise only as a result of an act of speech thinking, we refer to B.A.Serebrennikov,[5] (B.A.Serebrennikov, 1983) who proposed to distinguish between the linguistic and nonverbal types of thinking. These are:

a) clear thinking – a generalized image (opposite)of reality that occurs in a clear, concrete environment;

b) symbolic thinking – a whole reality or object that exists in memory-the recall of events in a separate environment-depending on the circumstances;

c) practical thinking – an opinion directly related to the execution of targeted actions;

d) lingua-creative thinking, that is, the actions of this type of thinking are directly related to the reserves of the language system;

e) thinking of a nonverbal concept – (a special separation of this type of thinking, the emergence of the concept of reality is due to the fact that it belongs to the stage before the speech act).

Thinking performs a single task, no matter in what state and in what way it acts – it is a way of receiving, collecting, processing and regulating information about reality. The idea or thought generated by the means of this method is a form of reflection of

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[4] Rasulov Z.I. Semantic And Syntactic Properties Of Elliptic Structures. Buxoro davlat universiteti ilmiy axboroti. –Buxoro, 2023. –№10. –P.65-70. https://journal.buxdu.uz/index.php/journals_buxdu/article/view/11224

[5] Серебренников Б.А. О материалистическом подходе к явлениям языка. -М.: Наука. 1983. -319 с.

reality in the mind. The movement of thinking and the formation of thought is associated with cognitive activity, a process that ensures the reflection of reality directly in the mind[6]. The role of language in cognitive activity is special, it is a means – a weapon of perception and cognition of reality. S.D.Kasnelson[7] wrote that "language is not only a weapon of communication, but a weapon that shapes thought and idea and represents it". In order to know the role of language in the activity of thinking, one should not look at the attitude of consciousness and language as a ordinary case (phenomenon). This relationship is a mutual "dialogue" of two independent phenomena. The same "communication" leads to the rationalization of mental activity, however, linguistic and logical activities are accompanied by each other, which form a single process of speech thinking. Therefore, language is one of the driving tools of consciousness, it ensures that the simplest primary (elementary) categories of thinking appear in the mind. Without these categories, "separate speech structures – the understanding of sentences and the formation of thought (idea), and thus the activation of knowledge-cannot be imagined" (Kasnelson).

Regardless of the degree, the much more detailed discussion of the issue of the relationship of language and thinking within the framework of Philosophy, Linguistics, and psychological sciences has provided a solid foundation for the development of Cognitive Linguistics[8]. Cognitive Linguistics is a complex research area (field) that, in addition to linguistics and psychology, also generalizes scientific approaches to fields of science such as Artificial Intelligence theory, Psycholinguistics, Neurolinguistics. It is known that the formation of speech units and their understanding are the result of mental activity.[9] The performance of this activity is directly related to the condition of obtaining linguistic knowledge. There is no way to know reality without linguistic

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[6] Rasulov Z.I. The Principle Of Cognitive Economy As An Important Factor In Information Transmission. Язык и культура / Language and Culture: Ежегодный альманах. -Челябинск: ЧГИК, 2023. -С. 3-8.ISSN 2500-4085.
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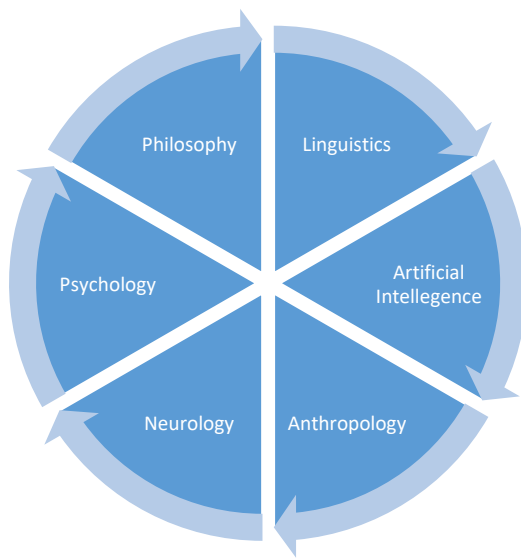[9] Safarov Sh. Cognitive linguistics. –Jizzak, 2000.

knowledge, to lyrically express logical structures that reflect information about the current event-events. Therefore, cognitive linguistics is considered as a science that forms the composition of linguistic abilities. V.Z.Demyankov's (Demyankov V.Z., 1994) description[10] of the main task of this field as the mechanisms of language acquisition by a person, as well as the composition of these mechanisms, "consists in systematic description and explanation", testifies to this. Indeed, in cognitive analysis, the study of methods and tools in the scope of mechanisms that ensure the discovery of linguistic expression of logical (mental) structures arising in the process of knowledge of the universe moves to the main place.

IV. Discussion

American psychologist H.Gardner[11] had noted that at the intersection of cognitive science, six fields of science are adjacent, and a single scientific goal is to be occupied with the search for a solution to the problems of concentration, processing and application of knowledge in natural and artificial systems. The attitude of these areas is reflected in the form below.

It seems-that interrelation between these areas does not take place in the same way, whereas, Artificial Intelligence and anthropological philosophy are directly related.

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[10] Demyankov V.Z. Cognitivnaya linguistics kak raznovidnost interpretuyutshego podhoda, 1994.
[11] Gardner H. The mind is new science. A history of the cognitive revolution. USA: Basic Books. 1987.

Linguistics is firmly established at the intersection of these disciplines and is in a direct relationship with all tribal areas. Cognitive linguistics is therefore regarded as one of the central areas of cognitology, the science of human cognition. Apparently, Linguistics took place in the line of three areas that served as the basis or foundation in the formation of the science of cognitology. These areas are: 1) the creation of computer programs with the ability to complete human-specific tasks; 2) an in-depth study of the aspects of cognitive activity in the framework of cognitive psychology regarding the psyche; 3) the progress of the theory of generative grammar and the emergence of linguistic directions associated with this theory.

The date of "birth" of cognitology, formed by the cooperation of the indicated areas, is 11 September, 1956. On the same day, three lectures were heard at a symposium held at the Massachusetts Institute of technology. The author of the first lecture ("7+2 magic number") was George Miller[12]. The second lecture, titled "Three Models of Language", was presented by linguist Noam Chomsky[13]. Finally, the third lecture, "Logic Theory Machine"[14], was co-authored by Allen Newell, an expert in the field of Artificial Intelligence, and the future Nobel laureate, economist Herbert A.Simon.

In the same lecture, the idea of attaching cognitive research within a single discipline, under a single "umbrella", was advanced. The event was described by G.Miller[15] commemorates as follows. "I came out of the symposium with a spiritually strong belief that the fields of Applied – Experimental Psychology, theoretical linguistics and computer programming of the process of cognition form parts of a single whole. In the future, there was also confidence in their mutual coordination towards a common goal. As this science took shape, I aspired 20 years ago and finally, now I know how to name it." Experts who consider the date of the emergence of cognitology to be 1956, see its main task in creating a theory corresponding to demand and reality of the "processing" of the natural language system, relying on the rules of mental imagination

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[12] Миллер Дж. Магическое число семь плюс и минус два. О некоторых переделах нашей способности перерабатывать информацию // Инженерная психология. — М.: Прогресс. 1964. -с.192-225.

[13] Chomsky N. Review: B. F. Skinner's Verbal Bahavior // Language, 1959. v. 35. -P. 26-58.

[14] http://shelf1.library.cmu.edu/IMLS/MindModels/logictheorymachine.pdf

[15] Миллер Дж. Магическое число семь плюс и минус два. О некоторых переделах нашей способности перерабатывать информацию // Инженерная психология. — М.: Прогресс. 1964. -с.192-225.

and the laws of logical conclusions. Hence, cognition, that is, cognitive activity, covers the actions of receiving, presenting and creating information. The execution of this type of action receives nutrients from the stocks of linguistics, directly or indirectly in contact with the language. A person's ability to know is harmonious with his or her linguistic ability. At the beginning of the last century, the German philosopher Ernest Cassirer justifies the fact that human cognitive activity should be considered not as a reflection of being as a mirror, but as a phenomenon that reflects the inner or outer essence of objects.[16] It is better to treat this activity, preferably, like a source of light that evokes imagination and perception: the clearer the light, the stronger the source, and the more clearly we see the subject. The mental structure formed in the process of cognition – the content of the concept is occupied by character-features that have a clear appearance of exactly this type, and the same features lead in the linguistic reality of the concept.

V. Conclusion

The reflection of reality does not directly fall into the function of language; this task is performed by thinking in the initial place. But the mental structures that arise in thinking are embodied in the language system. A word, just like other language units, is a means of knowing reality, not being a simple label that refers to a separate object or event. Through the medium of linguistic units, information is collected, stored and passed from generation to generation in a word, the role of language units in the course of the cognitive process deserves special attention.

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6.   Chomsky N. Review: B. F. Skinner's Verbal Bahavior // Language, 1959. v. 35. - P. 26-58.

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10.   https://univerpubl.com/index.php/semantic/article/view/1785

11.   https://scholar.google.com/citations?view_op=view_citation&hl=en&user=BMFYYzIAAAAJ&cstart=20&pagesize=80&citft=1&citft=2&citft=3&email_for_op=zubaydullorasulov%40gmail.com&citation_for_view=BMFYYzIAAAAJ:hMod-77fHWUC