

SEMIOTICAL AND EMPIRICAL TRENDS IN THE SEMIOTIC APPROACH TO THE TRAINING OF PRIMARY GRADE TEACHERS

Abdusamatov Alisher Sobirovich

Associate Professor of the Department of “Theory of Preschool and Primary Education”, Termez University of Economics and Service

Doctor of Philosophy in Pedagogical Sciences (PhD) Termez (Uzbekistan)

E-mail: aabdusamatov912gmail.com Tel: 91-577-62-99

Abstract

This article provides information to junior students of general secondary schools on the semiotic approach, its fields and their boundaries and types, the importance, history and application of semiotic aspects, necessary pedagogical conditions, scientists and their views, branches, directions and applications of semiotics. in our everyday life. It is described how we use it.

Keywords: Semiotics, education, educational system, philosophy, pragmatics, syntax.

Introduction

In the creative training of future primary school teachers, a text on the language of the subject is taken as the main text. The language of the subject is a semiotic system developed in the process of formation and development of knowledge in a particular subject. The introduction of a semiotic approach to the study of the set of signs is a process that includes three important levels.

The first level is the syntactic stage, which involves studying the syntax of text elements. Within the framework of this level, issues such as changes in the general text structure as a result of the combination of signs, the function and role of each sign are studied.

The second level is the stage of semantic research, at this stage the interpretation of individual signs, the set of signs as a means of creating meaning are studied.



The third level is devoted to pragmatics, and at this stage the relationship between the set of signs and its consumers (i.e., those who receive and interpret the elements of information and knowledge underlying the set of signs) is studied [6]. Logical semantics, which is a theory of the meaning and significance of texts in scientific language, was developed by the German thinker G. Frege (1848 - 1925), and was further developed by the American mathematician A. Church (1960). In scientific language, the object that attracts the attention of a person and is considered the main source of the problems to be solved is a sign, a set of signs, a context or fragment of the text that expresses a certain meaning. According to Frege's concept, a sign, a set of signs that acts as a term in the text expressing the properties of an object, denotes the name of a certain object or group of objects and is considered its denotation. The name that expresses each denotation has a certain meaning and is the concept of that denotation [2].

The meaning of the name or the concept of denotation is the content of the object under study. Several objects with the same content can have different names: $2+2$; $8:2$; $10-6$ and similar detonations consisting of different signs are objects whose content is called "4".

By the meaning or concept of a name, we mean the object that is understood when a word is pronounced, expressed by a certain sign. The examples we have given above show that the concept of a name is a construct defined in a specific subject area, and this construct has its own dependencies, relations and connections, outside of which this subject cannot exist. This rule, inherent in the concept, is in accordance with Schroeder's methodological principle that "any reasoning should begin with a description of the corresponding subject area" [1].

All semantic concepts, of course, are reflected in the language of communication, and in this, as a recognition or denial of words, sentences, assumptions and thoughts, the degree of correspondence of each concept to reality is emphasized.

For example, "discovery is an invention" (true);

"discovery and invention are different phenomena" (true);

"invention is not an invention" (true), etc. According to the theory of G. Frege, the fundamental meaning of the text representing an object, its true content is its denotation, and the concept that is imagined and mastered when the text is understood is a concept.

For example, one text can be expressed in different languages and convey a generally recognized property or content, and it is this commonality that is considered a concept [3].

Along with the texts we have considered above, scientific language embodies signs that represent variables. After the operations are performed to ensure that each of the symbols expressing variables has its own name, the name of the object expressed by the general text is obtained. The text after replacing these symbols expressing variables with their own names is called the expressive form of the text.

Common names and symbols expressing variables serve to form a certain idea, rule or definition in scientific knowledge. An important area characteristic of variables is the scope of application of this variable.

Each expressive form of text expresses a description of a certain concept. In the theory of G. Frege, it is believed that a certain concept within an expressive text can be isolated only by abstraction. After all, any expressive statement has not only a certain idea (conceptual assumption), but also a content (denotation) at the level of "truth". In this case, we are able to understand the expressive text by determining whether a certain expressive thought or assumption is "true" or "false" [5].

In other words, the predicate of the "pairs" represented as elements in each expression, that is, the evaluation function, is indicated.

In real life, there are elements of the environment that have their own absolute names (house, stone, field, water, sky, etc.), and they are scientifically It has been used as a name for concepts since ancient times. According to the concept developed by D. Locke (1632 - 1704), a concept is a product of abstraction resulting from the generalization of elements similar in nature to the subject under study.

However, such a definition cannot explain the process of introduction of some humanitarian concepts into consumption. For example, let's take the concept of "etiquette". Can an object that embodies any of the properties of this concept and can perform its function through some structural element exist in the environment? In the empirical theory of the study of the formation of concepts, the idea prevails that each object, element of the environment, according to its properties perceived by a person, has a specific name "by itself", and this name remains the denotation of this concept [7].



Also, the formation of the "name" of a concept and its correspondence to the denotation is a process that occurs over time, therefore, in this process, the properties of the object that correspond to the "name" are stabilized, and those that do not correspond are forgotten.

Therefore, it follows that at the initial stage of empirical acquaintance, a person should know in advance which properties of the object being studied are stable and which are "doomed" to be forgotten.

This is also the place where the debate arises in empirical theory: that is, in this theory, the main attention is not paid to the existence of connections between the properties of the object. However, as I. Kant wrote, "the essence of a concept is reflected in the complex of connections between its properties and its relations with other concepts" [9].

Despite the existence of some inconsistencies between the views of philosophers and thinkers and the dominant ideas of empirical theory, this theory has long remained as a theoretical basis for educators. Only by the end of the last century did V.V. Davydov convincingly prove that some assertions in empirical theory cannot be accepted [8].

According to the scientist, the idea of relying on the properties of an object in the naming of an empirical theory cannot fully capture the place and significance of this object as an element of the changing environment, while the place and role of the object should be reflected in its connections, connections and relationships with other objects in a specific structure (structure). V.V. Davidov also notes that a concept is always combined with some kind of visual representation, which becomes one of the constituent components of the concept of the concept. Another important idea that is brought to the fore is that the meaning (i.e., the content) of the concept becomes fully clarified when the object named by it is used in an acceptable way in practical situations. According to the interpretation in the science of logic, "the meaning is inherent in the concept itself, therefore, the naming of the object is based on a separate sign (or set of signs) in the structure of its environment. In this way, groups are formed from objects with similar characteristics in the universe" [3].

It is also important that each of the elements included in certain groups is a separate object formed as a product of human thinking (for example, a pile of stones in nature, consisting of hundreds of stones that are similar in their properties, external and internal characteristics, is not considered a group, but a

complex of plants with similar properties is considered a group). Therefore, when considering the issue of the “nature” of a concept representing a specific subject (or object), the emphasis should be placed on each concept itself and only on the aspects that are unique to it, rather than on clarifying the characteristics and properties of elements that are similar in nature to it.

According to the Frege-Church theory, the meaning of a text expressed in a scientific language embodies the thought put forward through it, and in order to fully reveal this meaning, it is necessary to create an opportunity to reflect the meanings of this thought expressed in different languages through a single semiotic system. The thinking practice carried out in this process, according to L.M. Wekker, is required to have the character of “a continuous movement of converting information from a psychological language to a spatial-material language, that is, from the language of symbols to a psycholinguistic language” [1]. Based on these ideas, it is possible to demonstrate the application of another important principle of the creative development of future primary school teachers - the principle of the collection of information codes related to the object of knowledge. The essence of this principle is that in the creative development of future primary school teachers, improving their ability to translate information about the object of knowledge from scientific language (i.e., semiotic language) into ordinary communication language and from ordinary communication language into semiotic language is a priority task in the system of training future teachers.

The implementation of actions such as expressing texts in scientific language, expressing ideas, etc. is reflected in the syntax of the language. The following basic rules prevail in the syntax of scientific language:

- 1) if a change that occurs in one of the constituents of a “pair” (double) denotation also occurs in the second constituent, the name of the denotation does not change;
- 2) if the components of a denotation with a “pair” (double) name are replaced by names with the same meaning, the general content of the denotation does not change [5].

Example: “The movement of air along the surface of the earth is called wind” and “The horizontal movement of air at the surface of the earth is called wind”. As we can see, the content changes, but the content of the denotation remains unchanged.

As a result of such considerations, we reveal another principle that should be followed in preparing future primary school teachers for the creative development of children.

This is the principle of transforming expressions using scientific language while preserving the denotation. The expression of a single idea through scientific language while preserving the content of the denotation develops in learners skills such as a serious look at the elements of the text and reflection on each element. In the practice of creative development of children, traditional text is also used to express ideas, along with writings consisting of special symbols. After all, “if there is no interpretation of an idea expressed in the language of artificially developed symbolic signs and symbols in the language of living communication, it is difficult to accept this idea” [6].

Since symbolic signs do not have a priori meaningful semantic responsibility, the transformation of scientific language into a living language is a process of independent thinking in itself. In the educational process, this situation creates the need to reveal the relationship between the presenter and the receiver of ideas (information, knowledge), which are encoded to a certain extent in the scientific language with symbolic (sometimes figurative) signs, that is, pragmatic aspects. In solving this problem, it is necessary, first of all, to take into account the fact that the most effective means of communication through signs, as noted by psychologists, is interpersonal communication and interaction [8].

If we look at it from the perspective of preparing future primary school teachers for creatively developing education of children, pragmatic aspects can be manifested in the following paradigm: it is important for the teacher to take into account the general principles that arise in solving the problem of interpreting the stated assumption in a specific communicative situation in other learners.

At the technological level of the methodology of creative development education, modeling, which embodies the content and meaning of symbolic inscriptions and signs, comes to the fore as a universal scientific means of cognition. A model (from the Latin "modulus" - norm, pattern) is a copy of a separately obtained fragment in the structure of natural or social existence, a product of human cultural and intellectual activity, a product of conceptual and theoretical knowledge, which embodies as many properties of the original as possible.

A model (i.e., a copy of the object of study) serves to preserve and continuously develop existing data, knowledge and information about the original.

From an epistemological point of view, a model is a "representative" of the original in the field of cognition. As a result of conducting research on the model and improving it, the acquired knowledge, discoveries and innovations can be transferred to the original. That is, models of objects that are impossible to cover within the scope of research serve as a means of cognition and understanding.

The effectiveness of modeling depends on the primary theories and hypotheses that determine the permissible limits of simplification of the original. As noted in K. Gödel's theorem on the absence of perfection and internal contradictions in the formed systems, theories that cover the description of an object (system) with any properties do not always contain detailed and complete information about this object (system). The conclusion is that the probability of a large number of uncertainties in the modeling of pedagogical systems, which are mainly composed of people, is always high. In pedagogy, along with the content of education, educational activities are also modeled. While the learner models various phenomena (objects) being studied, the model performs the necessary functions in this place as a means of generalizing and knowing the educational material. On the other hand, there are also educational models that include methods in the pedagogical process, didactic foundations, principles, forms and means of organizing education.

Modeling the creative development of future primary school teachers as a process involves designing pedagogical technology as a theoretical construct. This project should reflect the specific aspects of the creative development of younger students. In this context, we understand pedagogical technology as "a system consisting of conditions, forms, methods, means and criteria that determine the level of solution of the intended pedagogical task" [3].

The methodological principles of training primary school teachers and the general scientific level of methodology serve as the theoretical basis of this technology. The pedagogical process, which includes the practical application of a particular pedagogical technology:

- ensures the achievement of the set goals;
- comprehensively beneficially coordinates the interaction between learners and educators;
- should be carried out in an environment that meets the conditions and conditions established in the pedagogical technology.

Since there are no direct "measurement" practices and tools for assessing the effectiveness of pedagogical technology, qualitative criteria are often used. Quality criteria are determined based on the importance of a particular technology in improving the quality of education.

Conclusions

As a methodological basis for training a primary school teacher, we adopted the materialist theory of knowledge. At the same time, we relied on such philosophical teachings as neopositivism and existentialism. Such approaches require the use of special cognitive tools that are formed in the process of understanding and knowing being and are unique to it (concepts of objects of the environment, scientific language, images, symbols and signs, methods of transforming objects of knowledge, etc.) - the quantitative, qualitative and structural specificity of the environment as an object of knowledge.

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