

## METHODOLOGICAL ANALYSIS OF SCIENTIFIC KNOWLEDGE IN TEACHING SCIENCE

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**Abstract:** *The use of a systematic approach in pedagogy makes it possible to reveal its variant component called "pedagogical system", which includes all the characteristics of scientific knowledge. Descriptions in this approach include integrity, communication, structure and organization, levels and stratification of the system, control, alignment between goals and the system, system-specific self-organization, and system functions and development.*

**Key words:** *scientific knowledge, methodological analysis, methods, methodologies, pedagogical knowledge, knowledge, learning, mastering, ideographic, nomothetic, artificial phenomena.*

The study of the human race itself and the surrounding world has always been of great importance. Acceleration of recent development and global changes require this situation even more. Scientific knowledge, that is, the unknown and mysterious aspects of the world around which a person surrounds himself, the realities that occur in the world during several periods, conduct scientific research, and answer questions related to them in methodological analyzes. remains.

There are various ways and methods for a person to scientifically know himself and the world he lives in. In this regard, research has been conducted by a number of scientists in many countries. French mathematician and philosopher René Descartes was the first to emphasize the importance of method in diligent study and acquisition of scientific knowledge in his scientific work entitled "Reflections on Method".

Francis Bacon, a scientist who compared the method to a circle that allows him to draw a circle, founded the application of methods in various fields of science. "Modern science is based on a set of teachings about scientific methods and methodologies" [1].

Teachings about basic rules, principles, methods of knowledge, interpretive schemes of changing reality appear as the methodology of science. Each science has its own methodologies. Pedagogical methodology, in turn, consists of a set of teachings about pedagogical knowledge, the process of its acquisition, interpretation and practical application methods for reforming or improving the education and training system [2].

Since the nomothetic method of knowledge is compatible with the research carried out in the field of natural sciences, it includes a set of fair laws for several realities, it leads to the study of primary and unique objects and phenomena, to the study of ordinary-natural phenomena and laws of nature. allows.

The ideographic method of knowledge consists in representing individual objects and events, their emergence, formation, improvement and transition from one form to another.

It creates conditions for studying artificial phenomena and laws of human culture. The worldview levels of the methodological analysis of pedagogical knowledge, which are

of particular importance for the human factor, education and, of course, the development of society, are highlighted [3].

It is also used in methodological analysis, especially in historical, political, critical, or analytical and dialectical approaches, such as epistemology, which includes knowledge and skills related to social and natural processes.

Scientific knowledge and research of pedagogical systems in the dialectical approach of methodological analysis:

- about the relations between reality and processes and the foundations that ensure their progress and the forces that develop them;
- perfected directions, their formation, laws of continuous improvement;
- important tasks such as defining and substantiating the main rules regarding development trends, factors of formation and continuous operation are of primary importance.

One of the important foundations of the development of the society is the changes of the human mind, that is, the improvement of the person. A dialectical approach to the study of human perfection shows the desired and effective result.

Pedagogical factor and pedagogically favorable environment are created as a result of using didactic approach in practice. In this place, the concept of "factor" represents a set of important reasons that are the source of formation, formation, development and activity of the system. It is necessary to create appropriate conditions for the potential of the factor to emerge. The same conditions ensure that the potential at the root of the factor becomes a driving force.

It is necessary to conduct research on the basis of critical approaches in the socio-pedagogical object and to apply them. After all, the process of a person's education, development as a person, and the development of society do not happen at the same time. It is in this situation that the use of a critical approach in practice is the basis for studying knowledge and learning on the basis of contradictions and its exchange to a counter-option.

At the very beginning of the pedagogical reform of any process or object, it helps to demonstrate scientific knowledge and skills about them.

It is a natural situation that the branches of the theory of knowledge have been formed for several centuries, and the environment of education and upbringing has undergone changes. In this case, it is natural that many methods and methods are formed and reach the level of traditional, i.e., trend. Considering that "Tendency is the direction of development of an object or processes" [4], it can be said that similar, different or completely opposite tendencies can be seen in the development of the same pedagogical objects. It is on the basis of the following that identification and sorting of high-level trends is a necessary stage of the historical or structural-functional analysis of the improved object" [5].

The development of nature and society is based on many different laws. Legitimacy is a description of objectively existing, periodically repeating and interrelated historical development of events or stages in the life of society.

As the laws determine the main directions of development of the object, many accidents and deviations are not covered and at the same time, they are not eliminated. The

emergence of legality is closely related to the stable dominance of one of the parties to the conflict.

At each stage of human society, there is a place for the theory of foundation and superstructure. It is typical of legal, political and social views in any country and society.

It is manifested in the implementation of such important tasks as creating conditions for the formation of a social order for education in society and taking into account the social order for education in the training of personnel.

Based on the results of the analysis of the development trends of the society and the study of the important rules of the science of political science, it can be said that the priority of the political approach in the framework of pedagogy is considered as an invariant of scientific knowledge.

At the same time, the concept of "priority" refers to the priority in terms of time in the implementation of one or another activity during the development of a certain object [6].

If we look at the way of development of the human society, since the time when the tribal way of life of the first people appeared, the work of education began to receive attention.

This activity, which started out as very simple and lively, has evolved over the years. We all know that today the education system, that is, the field of pedagogy, has risen to the level of a comprehensive science.

Deeper acquisition of pedagogical knowledge is of great importance in the development of this field and the development of society.

The modern worldview level of the methodological reform of acquired knowledge is the function of the worldview of other disciplines in relation to the researched object of pedagogy, in the state of their sum, the system when generalized within its limits, the main life positions of people, their beliefs, ideals, knowledge and activity forms its principles and valuable goals.

A number of components consisting of a complex of socio-cultural traditions and values were distinguished, such approaches are related to cultural studies.

"The systematic approach to knowledge and change of a specific object is an important direction of the methodology of special scientific knowledge and social practice, and is the leader in the framework of universal approaches.

This approach is based on the study of objects of knowledge as systems" [7].

As already mentioned, in any field of science, a certain level of planned work gives sufficient results.

That is, from scientific research to practical work, certain systematic approaches in all activities show the expected results.

The use of a systematic approach in pedagogy makes it possible to reveal its variant component called "pedagogical system", which includes all the characteristics of scientific knowledge.

Descriptions in this approach include integrity, communication, structure and organization, levels and stratification of the system, control, alignment between goals and the system, system-specific self-organization, and system functions and development.

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