

GENERAL SCIENTIFIC PRINCIPLES OF PEDAGOGICAL RESEARCH

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Abstract

This article examines the principles of research activity in methodological knowledge, its objective patterns, factors influencing a researcher's expertise, the most important decisions previously analyzed in the study, forecasting the development of pedagogical phenomena and processes, and the difference between historical-pedagogical and theoretical-pedagogical research. The article also discusses various aspects of the functioning and development of the socio-pedagogical process, its elements, relationships, and the diversity of internal and external factors, while justifying the need for its systematic study.

Keywords: Principles and requirements of scientific research, theory and practice, object, methodology, researcher, subjectivity, logic, hypothesis, analysis, genetics.

Introduction

In methodological knowledge, the principles of research activity play a particularly important role. They unite theory and practice into a single stream, provide practice with scientifically substantiated guidelines.

A principle must have a deep and detailed scientific justification (express a way to achieve socially significant goals based on objective laws) and be generalized (be applicable to the study of all situations in a given area). The principle is always mandatory for implementation. The fundamental principle of any scientific research is the methodological principle of objectivity. It is expressed in a comprehensive consideration of the factors that generate a particular phenomenon, the conditions in which they develop, research approaches and means that allow one to obtain true knowledge about the object, and presupposes the exclusion of subjectivity, one-sidedness and bias in the selection and evaluation of facts. [1]

The art of the researcher is to find ways and means of penetrating into the essence of a phenomenon, into its inner world, without introducing anything external or subjective. For example, in the history of science, there has long been an opinion that objective reality, including the inner world of man, is unknowable and that, at best, this reality can be known, captured only by self-observation, self-contemplation (this method is called introspection). Naturally, this method did not correspond to the principle of objectivity in examining the phenomena under study.

The principle of objectivity, however, does not exclude subjectivity, the involvement of the researcher's personality with his creative individuality and inner world in the research process.



The principle of objectivity dictates the requirement of evidence, validity of initial premises, the logic of the research and its conclusions. In this regard, the establishment and consideration of all facts related to the phenomena under study and their correct interpretation are of particular importance. The reliability of facts is a necessary, although not yet sufficient condition for the reliability of conclusions.

The requirement of evidence also implies the alternative nature of scientific inquiry. In a general sense, this requirement involves identifying and evaluating all possible solutions, revealing all perspectives on the issue under investigation. Typically, in a specific study, preliminary analysis helps to highlight the most significant solutions for the given conditions. The condition of alternative scientific inquiry is fulfilled when, during the analysis of viewpoints or solutions to a problem, not only positions that align with the accepted stance or similar views are presented, but also opposing and contradictory ones, and when not only obvious but also hidden, non-obvious solutions are examined. Often, the alternative nature is expressed in identifying and considering potential questions that may arise when solving a particular problem. [2,6].

When determining the logic of the study, it is necessary to analyze the possibility of other logical options, to contrast the option being tested with alternative solutions. Another methodological principle is the principle of essential analysis. Compliance with this principle is associated with the correlation of the general, the particular and the individual in the phenomena being studied, penetration into their internal structure, the disclosure of the laws of their existence and functioning, the conditions and factors of their development, the possibilities of their purposeful change. This principle assumes the movement of research thought from description to explanation, and from it - to forecasting the development of pedagogical phenomena and processes. For pedagogical research, it is important to comply with the genetic principle, the essence of which is the consideration of the fact or phenomenon being studied based on the analysis of the conditions of its origin, subsequent development, identifying the moments of change of one level of functioning to another (qualitatively different).

The principle of unity of the logical and historical, which requires in each study to combine the study of the history of the object (genetic aspect) and theory (structure, functions, connections of the object in its current state), as well as the prospects for its development, is also connected with the genetic approach. Historical analysis is possible only from the standpoint of a certain scientific concept, based on ideas about the structure and functions of certain elements and relationships, and theoretical analysis is untenable without studying the genesis (origin, formation) of the object. [3,5].

Therefore, the difference between historical-pedagogical and theoretical-pedagogical research is only in the emphasis on one or another aspect of a single research approach. The logic of cognition of an object, phenomenon reproduces the logic of its development, that is, its history. The history of personality development, for example, is a kind of key to understanding a specific personality, making practical decisions on its upbringing and education.

The history of personality development reveals its essence, since a person is a personality only insofar as he has his own history, life path, biography. The principle under consideration



implies the requirement of continuity, consideration of accumulated experience, traditions, and scientific achievements of the past. The "new" that has not grown on this fertile soil turns out to be very stunted and unviable, despite its external attractiveness. This "new" turns out to be either groundless pipe-dreams or disguised, painted-on old things.

One of the general scientific principles is also the principle of conceptual unity of research, because if the researcher does not defend, does not consistently implement a certain concept, developing it himself or joining one of the existing ones, he will not be able to implement the unity and logical consistency of approaches and assessments, he will inevitably slide into the position of eclecticism. The principle of conceptuality is internally contradictory, it represents the unity of the definite, accepted as true, and the uncertain, changeable. This is what distinguishes it from bias. The accepted initial provisions are checked, developed, adjusted in the course of the search, and, if necessary, discarded (the concept is changed or modernized). The diversity of aspects, elements, relationships, internal and external factors of the functioning and development of the socio-pedagogical process determines the need for its systematic study. The systems approach reveals the structure (expressing relative vitality) and organization (quantitative characteristics and direction) of the system; the basic principles of its management.

In the process of implementing the systems approach, it is necessary to keep in mind that the object of pedagogical research and the system are not the same thing (in the object, several systems can be distinguished depending on the purpose of the study); when isolating a system, the phenomenon under study is artificially separated from the environment, that is, abstracted from it; by isolating the system of the object of study, its elements and elements of its environment, system-forming relationships between the elements of the system, the essential relationships of the system itself to the environment are established. Each element of the system in complex processes can be an independent system, and its quality is determined not only by the quality of individual elements, but also by the relationships of the elements with the environment. [4,7].

The systems approach guides the researcher and practitioner to the need to approach life phenomena as systems with a certain structure and their own laws of functioning. The subject, functional and historical aspects of the systems approach require the implementation in unity of such research principles as historicism, concreteness, consideration of comprehensive connections and development. The systems approach is based on the position that the specificity of a complex object (system) is not limited to the features of its constituent elements, but is associated, first of all, with the nature of the interaction between the elements. Therefore, the task of understanding the nature and mechanism of these connections and relationships, in particular the relationship between man and society, people within a certain community, comes to the fore.

In the process of systems analysis, not only the causes of phenomena are revealed, but also the impact of the result on the causes that gave rise to it.

The essence of the systems approach is expressed in the following provisions that help to establish the properties of system objects and improve them.



1. The integrity of the system in relation to the external environment, its study in unity with the environment. Educational issues are studied in close connection with social and economic development, the demands of society.
2. Dismemberment of the whole, leading to the identification of elements. The properties of elements depend on their belonging to a certain system, and the properties of the system are not reduced to the properties of its elements or their sum.
3. All elements of the system are in complex connections and interactions, among which it is necessary to highlight the most essential, defining for a given system, as they say, system-forming connection.
4. The set of elements gives an idea of the structure and organization of system objects. These concepts express a certain orderliness of the system, interdependence and mutual subordination of its elements. Such, for example, is the system of categories expressing the main elements of any purposeful, including pedagogical, system: goals - content - conditions - means - methods of functioning and development - results.
5. A special method of regulating the connections between the elements of the system and thus the changes and elements themselves is management, which includes setting goals, choosing means, monitoring and correction, and analyzing the results. Pedagogical management is an important aspect of the teacher's activity, although it does not exhaust the entire wealth of this activity and does not allow excessive rigidity. [8,9].

The system approach requires the implementation of the principle of unity of pedagogical theory, experiment and practice. Pedagogical practice is an effective criterion for the truth of scientific knowledge, provisions that are developed by theory and partially verified by experiment.

The system approach involves clarifying the contribution of individual components-processes to the development of the individual as a systemic whole. In this regard, it is closely related to the personal approach. The personal approach implies the orientation of the pedagogical process on the individual as a goal, subject, result and the main criterion for the effectiveness of the pedagogical process. It assumes the recognition of the uniqueness of the individual, reliance on the natural process of self-development of the inclinations and creative potential of the individual, and the creation of conditions for this. [10,11].

Particular attention should be paid to the need for a holistic approach to educational systems - in other words, adherence to the principle of integrity in research and a very careful approach to isolating individual aspects, elements, and relationships of the pedagogical process for the purpose of special study. The isolating itself can only be done conditionally, temporarily, constantly correlating the results obtained with the course of the entire process as a whole and its results. The requirement for a holistic approach is also due to the fact that the structure of education and upbringing can be characterized as dynamic, the development of which is determined by the constant change of states of imbalance and relative equilibrium of its opposing internal forces and tendencies, which are impossible to understand, much less influence their development in isolation.



From the holistic approach to the study of the pedagogical process, therefore, follows the requirement of combining aspectual, from a certain angle, analysis with multi-aspect, multi-faceted interpretation of its results.

The specified methodological principles determine the general guidelines of theoretical and empirical scientific research, and the corresponding activity of the performer. It is also natural that there is a share of conventionality in the selection and substantive characteristics of methodological principles: they in some ways repeat and complement each other, thereby preventing the emergence of erroneous attitudes in the organization of scientific research.

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