

THE ROLE OF EXACT SCIENCES IN THE ERA OF MODERN DEVELOPMENT

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THE SCIENTIFIC RESEARCH METHODS OF PEDAGOGICAL SCIENCE

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Annotation: In this article, the scientific research methods of pedagogical science and the requirements for scientific research methods are widely covered and there are questions about what and how to teach these methods in life and in the theory of knowledge of the objective world, and who should be educated. We will cover them in detail below.

Keywords: scientific research, methods, object, pedagogy, pedagogical research, education, subjective factors, dialectic.

Introduction: Understanding of scientific research methods of pedagogical science. Any science has its own scientific research methods. Through these methods, it enriches and updates its content. In life and in the theory of knowledge of the objective world, there are issues of what to teach and how to teach, who should be educated, and they are interrelated. There is a dialectical unity between the problems of what to do and how to do it. In order to enrich and renew its content, pedagogy studies existing pedagogical phenomena and processes with methods that correspond to its goals and objectives. In this sense, when we say scientific-research methods of pedagogy, we mean a set of knowledge methods, skills and means of checking internal communication and relations, which are not characteristic of the real processes of education, teaching and training of the young generation. Pedagogy involves studying the processes of teaching, imparting knowledge, education and their essence as follows:

- 1) their common connection, their need for each other, and in the process of interaction, science, culture, ethics and art, education, upbringing of children, regardless of where education and upbringing are carried out, have an integral relationship;
- 2) the changes in the tasks and methods of teaching and upbringing that arise in the process of their continuous movement, change and development, the fact that it is impossible to teach and educate all children in the same way;
- 3) in the growth of children, taking into account their unique characteristics, relying on the criteria of mental and behavioral activity, word and work unity;



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4) traditions and customs that affect children's maturity, taking into account conflicts between the old and the new, mutual criticism, etc.

If the scientific research methods of pedagogy are perfect, in accordance with the mind, and correctly chosen, updating and developing the content of education and upbringing will be improved, and the science of pedagogy will be enriched.

Specific scientific research methods are used in the organization of pedagogical research.

Pedagogical research methods are ways of obtaining scientific information for the purpose of establishing scientific theories, connections, relationships, and legal connections.

In pedagogy, in addition to the methods introduced from the sciences of psychology, sociology, physiology, and mathematics, the methods of pedagogy itself are widely used. We understand pedagogy as scientific research methods, ways and methods of checking the internal communication and relationships characteristic of the processes of education, upbringing and development of the young generation and obtaining information about them.

General theoretical methods in the organization of pedagogical research are:

- analysis,
- synthesis,
- comparison,
- induction,
- deduction,
- abstraction,
- generalization,
- concretization,
- modeling and etc.

Sociological methods include:

- questionnaire,
- interview,
- rating.

Social psychological methods are:

- sociometry,
- test.
- training.

Pedagogical research methods are divided into theoretical and practical (empirical) types.



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Theoretical methods of research explain phenomena by requiring systematization, expansion, and determination of scientific facts and pre-interpreting, increasing the reliability of the obtained results, moving from abstract to concrete knowledge, establishing connections between different concepts and hypotheses, distinguishing primary and secondary ones.

Conclusion: From all above-stated it is possible to draw the following conclusions, in pedagogy, there are such special methods, with the help of which important facts related to the educational and upbringing process, essences, mechanisms, and characteristics of various pedagogical situations are studied.

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