

RESEARCH METHODS OF PEDAGOGY

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ANNOTATION

This article deals with the general problems which goes around the research methods of modern pedagogy. Methods of pedagogical research are the methods by which pedagogical phenomena are studied and the problems of improvement and progress in the field of education and training are solved. These include both the forms of logical thinking of the experimenter (general methods, algorithms for mental actions) and external actions and procedures that ensure the fulfillment of the experimental tasks.

Keywords: Pedagogical research, methods, methodological, qualitative and quantitative experiments, theoretical and empirical, observation method

INTRODUCTION

In pedagogy, almost every type of experiment has its own group of methods. So, there are methods of didactic, educational, private methodological, managerial, laboratory and natural, limited and mass, qualitative and quantitative experiments, etc. Methods of psychological, physiological, medical, sociological, economic and other methods adjoin (and interpenetrate) research.

Within the experiment, understood as a complex research method, theoretical methods are used: analysis and synthesis, induction and deduction, comparison, analogy, idealization, thought experiment, etc.

Methods of studying personality, collective (sociometric), environment are grouped.

Finally, the methods of the pedagogical experiment are differentiated according to the stages of the search. In this classification, the following methods are distinguished: 1) pedagogical diagnostics; 2) pedagogical forecasting, including planning; 3) the organization of the experiment, including the scientific organization of labor; 4) formative, ascertaining and controlling experiments, including parallel and cross; 5) collection and receipt of information, including methods of observation, work with documents, the results of students' activities; 6) processing of experimental data, including various mathematical methods; 7) implementation of research results into practice.

RESEARCH AND FINDINGS

The totality and sequence of the applied methods and techniques forms a system of methods, or an experimental technique.

In psychological research, the term "technique" is often used in a narrower meaning of "procedure" - the totality of the experimenter's actions, which allows one or another information about the object to be obtained. For example, sociometric techniques are a system of survey procedures designed to determine the characteristics of groups and collectives.

When conducting a pedagogical experiment, it is necessary to distinguish between methods of teaching and education (as objects of research) and methods of cognition and study of pedagogical processes and objects (as a means of experiment). They can be closely related, intertwined, and even combined. So, the control work can perform the function of control (the method of control of knowledge) in the educational process and at the same time be a method of measuring the level of knowledge in the experiment.

Research methods are divided into theoretical and empirical.

The main mental operations used in theoretical research methods are analysis, synthesis, comparison, ranking, generalization, abstraction, concretization, systematization, formalization.

Analysis is the decomposition of the investigated whole into its constituent elements, the allocation of individual signs and qualities of the phenomenon. For example, the teacher's actions in the lesson can be divided into separate components (communication techniques, motivations, explanations) and analyzed separately. The analysis is carried out at different levels: socio-pedagogical, organizational-didactic, personal, activity, etc. (in philosophical, psychological, pedagogical, didactic, methodological aspects).

Types of analysis: classification, structural (relationships and interconnections are identified), functional (functional dependencies are determined), causal (causality of phenomena is revealed).

Synthesis is the reunification of elements into a coherent structure. So, observing the lesson, the researcher finds out what changes in the actions of students occur when the teacher's actions change.

Analysis and synthesis are closely interrelated, therefore, the researcher should have equally developed skills in their possession.

Comparison consists in determining the similarity or difference between phenomena. When comparing, the researcher must first of all determine its basis - the criterion.

Ranking is the way in which everything is excluded in rapid, does not significantly affect the investigated phenomenon. Ranking makes it possible to identify the main and separate the secondary facts.

Generalization. Investigating a phenomenon, it is necessary not only to highlight its main features, but also to generalize them. The more significant signs of the phenomena were compared, the more conclusive the generalization.

Abstraction. This operation makes it possible to single out a certain aspect of the phenomenon in its "pure form," that is, in such a way in which it does not actually occur. For example, when studying the motivation of schoolchildren's learning, the researcher is interested in their motives, needs, interests, but other qualities (body parameters, hair and eye color) are not taken into account.

Concretization is finding a particular that meets a general criterion, bringing it under a concept. Specification allows for a better understanding of the general.

Systematization. This operation is necessary in order to systematize and classify phenomena, that is, to distribute them into semantic groups according to certain (given by the researcher) grounds.

Formalization. True science is possible only on the basis of abstract thinking, consistent reasoning of a person, flowing in logical and linguistic forms in the form of concepts, judgments, conclusions.

The theoretical methods include the method of the unity of the historical and the logical and the method of modeling.

The method of the **unity of the historical and the logical.** In pedagogy, “rediscovery” very often occurs (ideas of developmental and problem-based learning, an individual approach, etc.). New ideas are interpreted as if they arise independently of past experience, therefore one of the most serious and difficult methodological tasks of raising the theoretical level of work in pedagogy is to establish in them the optimal ratio of historical and logical principles.

These principles are closely interconnected. The historical method without the logical is blind, and the logical without studying the real history of the object is pointless. At the same time, the abstract-theoretical analysis of the object dominates in the logical way, and the concrete-historical one - in the historical one.

Modeling. A modeling method is a general scientific research method in which not the object of cognition itself is studied, but its image in the form of a so-called model, but the research result is transferred from the model to the object. The study of one or another object is carried out by studying another object, in some respect similar to the first, with the subsequent transfer to the first object of the results of studying the second. This second object is called the model of the first. In science, there are model-substitution, model-representation, model-interpretation, model-research.

The model reflects the subject not directly, but through a set of targeted actions of the subject:

- Construction of the model;
- Experimental and (or) theoretical analysis of the model;
- Comparison of the analysis results with the characteristics of the original;
- Detection of discrepancies between them;
- Model correction;
- Interpretation of the information received, explanation of the discovered properties, connections;
- Practical verification of the results

The epistemological essence of scientific models lies in the fact that they allow to systematically and visually express knowledge about the subject, its functions, parameters, etc. The main purpose of the model is to explain the totality of data related to the subject of cognition.

Empirical methods include: observation, pedagogical experiment, methods of pedagogical measurements, analysis of the results of educational activities of students or schoolchildren, analysis and generalization of advanced pedagogical experience, etc.

Empirical data in most cases are processed by methods of mathematical statistics, which, by definition, are not actually methods of pedagogical research.

OBSERVATION METHOD

Scientific observation is a specially organized perception of an investigated object, process or phenomenon in natural conditions. The difference between scientific observation and everyday observation is as follows:

- Tasks are defined, objects are allocated, an observation scheme is developed;
- The results must be recorded;
- The received data is processed.

The basic requirements for observation: purposefulness, planning, systematicity, objectivity, the obligation to record the results.

The following types of observations are distinguished:

-Direct and indirect. Along with direct tracing of the course of the observed processes, mediated is also practiced, when the process itself is hidden, and its real picture can be fixed by some indicators;

-Solid and discrete. The first covers the processes in an integral form, from beginning to end, the second represent a dotted, selective fixation of the studied phenomena, processes;

-Open and conspiratorial. The first means that the subjects are aware of the fact of their scientific control, and the activity of the researcher is perceived visually. Conspiracy observation presupposes the fact of covert tracking of the subjects' actions;

- Longitudinal (longitudinal, long-term) and retrospective (facing the past).

Survey methods. Methods for studying pedagogical processes based on obtaining verbal (verbal) responses from its participants to the applied influences are called questionnaires. They are carried out using: conversations, interviews, questionnaires, tests.

Pedagogy also uses a number of instrumental methods of physiology and medicine. Various combinations of methods are also used.

CONCLUSION

Summing up short characteristics of methods of pedagogical research, the following conclusions can be drawn:

-Modern pedagogy as a science uses a whole system of methods, techniques, principles and approaches for theoretical and practical research of the problems of education and training;

-Pedagogy, like any science, develops thanks to the introduction of new research methods and the improvement of already established methods. Along with traditional methods, new methods borrowed from other sciences - sociology, psychology, natural science and others - are being introduced into pedagogical research, which opens up new opportunities for the development of pedagogy. For as I.P. Pavlov - ... with each step of the methodology forward, we seem to rise a step higher, from which an ever wider horizon with previously invisible objects opens up to us.

REFERENCES

- 1) Podlasy I.P. Pedagogy. New course. In 2 books. Book. 1 - M .: Humanit. ed. center VLADOS, 2000 - 576s.
- 2) Kharlamov I.F. Pedagogy. Ed. 2nd revised and add. - M .: Higher school, 1990 - 576s.
- 3) Existing methods of pedagogical research
- 4) Methodology of pedagogical research Text of scientific by I.V. Robert · 2018 · <https://cyberleninka.ru/article/n/metodologiya-pedagogicheskogo-issledovaniya>
- 5) 5. Journal of Pedagogical Research 13.00.01 - General Pedagogy, History of Pedagogy and Education; 13.00.02 - Theory and methodology of teaching and upbringing (by areas and levels of education)