Methodology For Developing A Program Of Pedagogical Experimental Work

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Abstract*. Experimental work is an integral part of scientific and pedagogical research and is the main criterion for confirming the reliability, practical significance and applicability of the results of any research in this field. Teacher-researchers and practicing teachers strive to improve their pedagogical and methodological status, find confirmation of applied pedagogical innovations, and qualitatively change education from experimental work devoted to solving specific educational problems. Therefore, there may be different reasons and motivations for researchers and teaching practitioners in organizing and participating in experimental work, but there is only one condition, according to which each performer who decides to contribute to this process must be a master of his profession, it is necessary to use all of it professional skills.*

Keywords*: methodology, methods, research, research program.*

Introduction

To achieve high results during an experiment, a researcher must be able to plan his work, clearly define a system of tasks, highlight important ones among them, be able to find ways to quickly and economically complete assigned tasks, implement quick and clearly control the completion of tasks, make appropriate changes in the organization of his work and must have a system of special knowledge and skills related to the ability to make adjustments, be able to analyze the overall results obtained, and compare them. with established requirements, determine the reasons for non-compliance with requirements and be able to eliminate them. The practice of experimental work systematically carried out in the context of educational reforms shows that careful development of experimental programs, content and methodological tools used, correct determination of the scope of implementation is one of the decisive conditions for achieving the set goals [1, 2].

Main Part

There are a number of objective and subjective factors that influence the quality of experimental work. In particular, among the subjective factors we can note the wishes of the researcher conducting the experiment, his level of ambition, and among the objective factors - the legal, pedagogical and psychological requirements for experimental work. Such requirements are the type of experimental work (research, confirmatory or formative), scale (republican, regional, regional or city and district level, interschool, school level, individual or collective experimental field); the scale of experimental work (covering several topics, quarter, academic year, several years depending on the duration, volume of educational material) and others.

The administration of an educational institution should implement a set of measures related to ensuring the successful implementation of tasks related to the organization of experimental work, including: developing motivational conditions for attracting practicing teachers to the process of experimental testing; determination of the regulatory framework aimed at protecting all participants in

the legal process (teachers, students, their parents) from possible negative consequences; It is necessary to achieve certain requirements in relation to the participants of the experiment.

All stages of experimental work should be aimed at ensuring the fulfillment of the following requirements, which involve the implementation of clearly defined goals and objectives:

1. First of all, a program of experimental work must be developed that allows you to manage the pedagogical process and make the necessary adjustments; it must reflect the plan of activities associated with experimental testing, expected results and determination methods. level of achievement.

2. Analyzes should be carried out based on the results of a certain period of experimental work and presented in the form of reports, certificates and articles. This is not an unnecessary formality, but a necessary condition for experimental work, the reliability of experimental results, and a factor that determines the significance of the event being implemented.

Without clarifying the issues in this regard, what the researcher conducting the experiment decides, what results he expects and what evaluation criteria he works on, and what was achieved as a result remains abstract.

The correct formulation of a scientific hypothesis in a program of experimental work determines its level of complexity and focus. A hypothesis can be general or specific, intuitive or logical, operational or scientific. Typically, a hypothesis is formed on the basis of a certain formula that has the following structure: "if... then... is achieved." For example: "If, in the process of teaching natural sciences, lectures, laboratory classes, seminars and practical classes, independent work is aimed at improving students' knowledge of the subjects, then they will be able to successfully develop the ability to independently acquire knowledge." , skills and abilities related to science."

Another important aspect of experimental work is related to the development of criteria for assessing expected results. If the criteria are chosen incorrectly, it is impossible to objectively assess the correctness or incorrectness of the hypothesis put forward, or the level of effectiveness of the proposed developments. When developing these criteria, the researcher determines from what point of view the changes occurring in students under the influence of the materials used during the experiment (program, methodology, didactic principles, and set of pedagogical techniques) will be assessed.

The next task will be to develop didactic tools for assessing the results obtained. Such tools can be questionnaires, test questions, control tasks, interview questions, etc. In developing and/or selecting all of them, attention is paid to the criteria for assessing the results expected from the experimental work.

Conclusion

The choice of an object of experimental work is associated with determining the scope of research and practical methodology, the limits of change in the conditions in which the researcher determines the boundaries of the research area and what is to be studied. . For example, the following can be taken as the object of experimental work:

• process of teaching computer science;

• the process of mutual cooperation between preschool and secondary educational institutions;

• the process of forming initial professional ideas among high school students, etc.

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