

FORMING INTEREST IN PHYSICS AMONG STUDENTS OF SPECIALIZED SCHOOLS THROUGH LABORATORY CLASSES ON PHYSICS

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Abstract. *The article discusses the mechanism of developing the interest of specialized school students in physics and involving them in research activities through laboratory classes in physics.*

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At present time there is no unified approach to the tasks facing physics laboratory workshops. The most relevant of them are two. “According to one of them, a laboratory workshop is a method of acquiring practical skills in working with tools adapted to a specific object of study. According to another, the seminar is designed for practical testing and confirmation of the basic principles of the theory of the object being studied. In the first case, the main attention is paid to the student’s ability to know the rules of working with tools, measure various physical quantities and evaluate the accuracy of the results obtained. Secondly, it is necessary to know the theory of the processes being studied, be able to compare observed phenomena with its basic principles and justify the results obtained during laboratory work.

Laboratory classes in physics pursue the following main goals:

- reveal the connection between theory and practice;
- development of skills in working with physical equipment;
- practical mastery of the most important measurement methods;
- learning how to conduct a correct experiment.

According to S.I. Arkhangelsky, the main task of the physical laboratory workshop is to establish a connection between theory and practice on the basis of experimental research in specially equipped buildings - laboratories. Students acquire skills and abilities to work with measuring instruments, instruments, experimental equipment, instruments, technological equipment, conduct direct experimental observations, and understand the phenomena and processes being studied.

S.I. Zinoviev suggested that laboratory training is designed to acquire skills in in-depth study of the scientific and theoretical foundations of science, mastering modern methods and using the latest technical teaching aids.

F.F. Igoshin, S.M. Kozel and others set the following goals in the development of physics laboratory workshop:

- give students the opportunity to experience physical phenomena;
- training in managing various physical devices, including the most modern;
- instilling the necessary skills in setting up and testing equipment.

By analyzing ways to enhance students' cognitive activity in laboratory classes, students' creative abilities are most effectively developed and practical skills are instilled in performing laboratory tasks. In the existing laboratory classes of the physics course, the material of laboratory work is presented in such a way as not to contain problematic elements, and the implementation of such laboratory work does not cause mental difficulties for strong and average students, and develops physical thinking. With the help of laboratory classes, it is necessary not only to develop experimental skills, but also to activate the creative potential of students.

It is known to everybody most of today's leading researchers who believe that through laboratory classes on physics, it is necessary not only to develop experimental skills, but also to activate the creative potential of students.

Yu.V. Bekhovikh, L.A. Bekhovikh, A.A. Levin expressed that "at laboratory classes, students learn about the scientific approach to solving certain physical problems, the main principle of physics as a science "experience is the criterion of truth." They are clearly convinced of the correctness of physical theories and laws."

Besides that N. Yu. Evsikova, N. S. Kamalova, V. I. Lisitsyn, N. N. Matveev, V. V. Postnikov, writing about the role of a physics seminar in a specialized school, note that a physics seminar helps students understand the physical foundations of real phenomena, evaluate them practically and evaluate them qualitatively. They develop skills such as working with measurements and orders, mastering the skills of working with measuring instruments, studying the description and theoretical explanation of physical phenomena, drawing conclusions, and writing reports.

T.G. Vaganova, E.A. Semenyuk noted that "in the practice of the educational process, real conditions have not been created, especially for the inclusion of primary school students in the system of future creative activity. Some features and mechanisms of using problem-based learning in the educational process of school have not yet been sufficiently studied. Therefore, there is a need to develop methods, tools and forms of teaching that allow students to develop creative thinking."

Certainly, a conservative approach to laboratory work in a general physics seminar has many advantages. As noted by K.P. Kortnev, N.N. Shusharina, as a result of completing the seminar using the traditional approach, the student:

- have an idea of the methods for setting up an experimental physical problem;
- be able to determine the composition of the measured physical properties;
- have an idea of the structural elements of experimental stands;
- know the measurement methodology, composition and principle of operation of measuring instruments intended for measuring physical properties on a specific stand;
- the ability to measure various physical characteristics;
- know and be able to use methods for processing results and measurement errors;
- be able to analyze the results of an experiment and draw a conclusion based on the results of solving a problem;

they will have such skills.

In the laboratory physics workshop, along with recommendations for performing laboratory work, technical specifications are given. When performing laboratory work, students understand the phenomenon being studied and, after answering test questions, solve the problem, create and present a solution when defending the laboratory work. This method of conducting

laboratory classes increases interest in physical literature and the level of development of logical thinking. Emphasizing in a physics laboratory workshop the connection between physics and other sciences, the use of creative tasks of a practical nature to organize mini-research lays the foundation for further professional development of students, increases their knowledge and creative activity, which improves the quality of the educational process.

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