THE METHODOLOGY FOR IMPROVING THE PRODUCTION OF PHYSICS SUBJECT BY THE STUDENTS OF ACADEMIC LYCEUM

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ABSTRACT

The methodology and techniques for improving the study of physics are crucial for academic lyceum students. It helps them enhance their scientific thinking, analytical skills, and practical learning abilities. The article shows the existing problems of teaching physics in academic lyceums and specialized schools of the country. Several methods for solving these problems have also been proposed.

Keywords: Physical value, specialized school, academic lyceum, creative thinking, intellectual competence, energy, textbook.

INTRODUCTION

In order to give pupils experience and information, learning is a process or activity that changes students' cognitive, emotional, and psychomotor processes. One scientific field that investigates the relationship between energy and the fundamentals of nature is physics. In the Students in Indonesian secondary schools are required to study not only the fundamentals of physics but also able to demonstrate the derived physics principles using scientific procedures rather than just theoretical ones based on theory. Science process skills are currently one of the most debated topics in science education.

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Science process skills are currently one of the most debated topics in science education. Scientists utilize science process skills (SPS) to analyze or look into a topic, or an issue There are various factors in the learning process that affect learning results, including: the objectives, teaching aids, learning techniques, students and teachers as the learning's primary subjects, Learning media and processes are supported.

An analysis of physics education and textbooks in developed countries shows that theoretical topics taught in physics in countries such as the United States, Japan and Korea, and the information that should be taught in them, are almost the same as those used in textbooks in our schools. countries. The main difference lies in the variety of purposes for carrying out practical and laboratory work. In our country, in the tasks that are solved in practical exercises, it is required to find one solution to the problem or one physical quantity.

It is demonstrated in laboratory activities which physical quantities should be measured using the following working formula and which physical quantities must be measured in order to calculate the physical quantities. Exercises using this method do not help pupils at academic lyceums and specialized institutions who are aspiring specialists in particular fields to strengthen their creative thinking and intellectual capacities.

The following justifies the way classrooms are set up in academic lyceums, specialty institutions, and training facilities.

- For a number of years, the "set of tasks" employed in the practical exercises has remained the same.

The reality is that when preparing physics bachelor's degree candidates, universities do not devote enough attention to the techniques of teaching physics.

- The lack of exciting demonstrations in the classroom, the unattractiveness of physics texts for grades 6–8, and the absence of exercises and questions to help students solidify their understanding.

You must finish the ensuing tasks in order to resolve the aforementioned issues. Additionally, he acknowledges that kids need to mold their worldviews in grades 6 through 9.

To do this, all physical processes should be covered in the questions given to the pupils. As a result, we can all agree that students in grades 6 through 9 have a growing physical imagination.

Since our objective is to raise the standard of physics instruction, we must, of course, create a workbook for use in Uzbek schools for grades 5- to 7-.

The textbooks used once more in the presidential schools of the Republic reflect this method of developing the questions that are asked of the pupils.

The activities and issues offered in the lower classes, for instance, are mostly resolved by discussion on a number of topics, but the issues in the upper grades are intended to spur discussion by defining and contrasting a number of physical quantities.

The Namangan State University Faculty of Physics is now studying textbooks and other literature used in physics lectures in schools overseas, and on the basis of this research, they have started to build collections of problems. Additionally, academic lyceums and specialty schools will host rehearsals.

As a result, I can state that in the textbook "New Generation," students are expected to explain physics concepts using examples from everyday life in a straightforward and intelligible manner.

Therefore, it is vital to update the physics textbooks and problem collections used in our specialized schools and academic lyceums in order to take a new look at the issue. In other words, it is important to explain the quantity of physical quantities that must be discovered as well as the meaning of the terminology used in the courses rather than the conditions of the problem.

Improving the production of physics subjects by students at an Academic Lyceum requires a systematic and comprehensive methodology. Here's a step-by-step approach to achieving this goal:

1. Assessment of the Current State:

Begin by assessing the current performance and understanding levels of students in physics. This could involve analyzing past exam results, conducting surveys, or using diagnostic tests. Understanding the strengths and weaknesses of students will help identify areas that need improvement.

2. Set Clear Learning Objectives:

Establish specific and achievable learning objectives for the physics subject. These objectives should be aligned with the curriculum and should promote the development of critical thinking, problem-solving skills, and conceptual understanding.

3. Adopt Interactive Teaching Methods:

Engage students through interactive teaching methods, such as demonstrations, experiments, simulations, and hands-on activities. These approaches can make the subject more interesting and easier to grasp, enhancing the students' learning experience.

4. Use Real-World Applications:

Relate physics concepts to real-world applications, as this can help students see the relevance and practicality of what they are learning. This approach can foster a deeper understanding of the subject and motivate students to explore further.

5. Encourage Critical Thinking and Problem-Solving:

Emphasize critical thinking and problem-solving skills throughout the lessons. Encourage students to analyze and solve physics-related problems, both in theoretical and practical scenarios.

6. Provide Individualized Support:

Recognize that each student has unique learning needs. Offer individualized support to struggling students, such as extra tutoring, study materials, or mentorship programs.

7. Incorporate Technology:

Utilize technology, such as educational apps, online simulations, and interactive software, to complement traditional teaching methods. This can enhance the learning experience and make complex concepts more accessible.

8. Form Study Groups:

Encourage students to form study groups, where they can collaborate, discuss ideas, and solve problems together. Study groups can foster a supportive learning environment and enhance students' comprehension through peer teaching.

9. Promote Continuous Assessment:

Regularly assess student progress through quizzes, assignments, and projects. Continuous assessment allows for timely feedback and helps identify areas that need improvement.

10. Organize Physics-Related Activities:

Organize extracurricular activities related to physics, such as field trips to scientific institutions, guest lectures from professionals, or science fairs. These activities can ignite students' interest in the subject and inspire them to explore further.

11. Teacher Professional Development:

Ensure that physics teachers stay updated with the latest teaching methodologies, subject knowledge, and technology. Continuous professional development will enable teachers to deliver more effective and engaging lessons.

12. Celebrate Achievements:

Recognize and celebrate the achievements of students who excel in physics. This recognition can motivate other students to strive for excellence in the subject.

13. Parental Involvement:

Involve parents in the learning process by providing regular updates on their child's progress and suggesting ways they can support their child's learning at home.

By implementing this methodology, Academic Lyceums can improve the production of physics subjects by students and create a learning environment that nurtures a deep u This methodology helps students to achieve good results in mastering the subject of physics. Along with that, it enables students to strengthen their knowledge and develop interest and cooperation in the process of learning. It opens the way for students to apply scientific knowledge and theoretical principles into practice. In particular, it demands creative methodologies for presenting and teaching the subject of physics to students at the academic lyceum understanding and appreciation for the subject.

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