APPLYING A COMPETENCE-BASED APPROACH IN THE PHYSICS TEACHING PROCESS

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Abstract. *This article analyzes the essence and significance of the competency-based approach in teaching physics, its advantages, and ways to implement it into the educational process. It also highlights the development of students' skills in linking theoretical knowledge with practice, independent thinking, and solving problematic situations.*

Keywords: *competence, competency-based approach, physics education, practical skills, innovative methods, problem-based learning.*

Introduction

Fundamental reforms are being implemented in the education system today, requiring not only the enhancement of students' theoretical knowledge but also the formation of competencies to be able to apply them in real life. In the rapidly changing technological environment of modern society, the digital economy, and innovative development, a new approach to the content and methods of education is becoming necessary. From this perspective, the competency-based approach is recognized as one of the priority areas of the education system.

The main essence of the competency-based approach is the harmonious formation of knowledge, skills, and abilities in students, and the development of their ability to apply them independently in various life situations. This approach, unlike the traditional "educational" model, views the student as an active subject and serves to develop their independent thinking, problem-solving, and creative approach.

Physics occupies a special place in the system of natural sciences and is distinguished by its focus on the in-depth study of natural laws. This subject plays an important role in shaping students' scientific worldview, developing logical thinking, and developing experimental skills.

Therefore, the application of a competency-based approach in the process of teaching physics is particularly relevant. Modern physics education requires students not only to memorize formulas but also to understand physical phenomena, analyze them, and be able to apply them in real-life situations. For example, in matters such as energy conservation, the operating principle of technical devices, or explaining natural processes, the student must be able to apply their knowledge in practice. This requires the implementation of a competency-based approach into the educational process. Also, use innovative pedagogical technologies, interactive methods, and information and communication tools in physics lessons.

In the modern education system, the primary focus is not merely on students acquiring knowledge, but on developing the ability to apply their knowledge in real-life situations.

From this perspective, the competency-based approach is of great importance. Physics, with its experimental and practical nature within the natural sciences, creates broad opportunities for applying this approach.

The essence of the competency-based approach

The competency-based approach is a pedagogical approach aimed at the integrated formation of knowledge, skills, and abilities in students. It involves the development of the following core competencies:

- *Information management competence*
- *Communicative competence*
- *Problem-solving competence*
- *Competence for personal and social activity*

The formation of these competencies in teaching physics serves to provide students with deep and solid knowledge in the subject.

Ways to apply the competency-based approach in teaching physics

Intensification of practical and laboratory sessions.

Laboratory work plays an important role in reinforcing theoretical knowledge. Students independently discover patterns through experimentation, which develops their scientific thinking.

Use of problem-based teaching methods.

Creating problem situations during the lesson expands students' horizons. For example, explaining the laws of physics by explaining real-life phenomena.

Application of interactive methods

Methods such as "Cluster," "Brainstorming," and "Debate" increase students' activity and develop their communicative competence.

Use of information technologies.

Complex physical processes can be visually explained through simulations, virtual laboratories, and multimedia tools.

Interdisciplinary integration.

Teaching physics in conjunction with mathematics, chemistry, and technology helps in the systematic formation of students' knowledge.

Advantages of the competency-based approach

- *Develops students' ability to think independently*
- *Theoretical knowledge is linked to practice.*
- *Education efficiency increases*
- *Students are prepared for real life*

Conclusion

Applying a competency-based approach in the process of teaching physics is one of the important requirements of modern education. Through this approach, students not only gain knowledge but also acquire skills in its practical application, problem-solving, and creative thinking. Therefore, physics teachers should widely use innovative methods in the lesson process and pay special attention to increasing student activity.

The competency-based approach further enriches the content of physics and increases its vital importance. This is because physics, along with studying the laws of nature, prepares students to understand technical and natural processes occurring in real life.

From this perspective, in addition to traditional teaching methods, the effective use of innovative pedagogical technologies, interactive methods, and information and communication tools is of great importance in organizing physics lessons. It also includes laboratory work, experiments, and problem situations.

To effectively implement the competency-based approach, a teacher is required to possess high professional skills, know modern methods, and be able to apply them in practice. At the same time, it is important to properly plan the educational process, take into account the individual characteristics of students, and turn them into active participants.

The application of a competency-based approach in the process of teaching physics creates a foundation for the comprehensive development of students, the strengthening of their knowledge and skills, and thorough preparation for future professional activities. This, in turn, plays an important role in training competitive, knowledgeable, and modern-thinking personnel in society.

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