

IMPROVING THE DIDACTIC MODEL OF USING INNOVATIVE TECHNOLOGIES IN TEACHING THE PHYSICS COURSE IN HIGHER EDUCATION

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ABSTRACT

The article describes the ways and methods of implementing the use of innovative technologies in the teaching of the physics course in higher education, which is one of the urgent problems of the current education system. Based on the results of research, the use of innovative technologies is of great importance in strengthening the acquired knowledge and awakening the interest of students in the course of the lesson.

Creative models that ensure the quality of education and camaraderie of sustainable educational development are being put into practice in world educational organizations. The directions defined in the international concept of education until 2030, adopted by UNECCO "Creating opportunities for quality education throughout life" [2], are to strengthen education in accordance with the requirements of the customer and the labor market, develop innovative technologies of educational services, and form the creative thinking and creativity skills of students. Step-by-step systematic work is being organized on the implementation of large-scale projects aimed at pedagogical practice.

The President of our country Sh.M. Mirziyoyev's Cabinet of Ministers on January 14, 2017, dedicated to the sad results of the socio-economic development of our country in 2016 and the most important economic directions for 2017, "... education, technology, science, realization of the state's success in youth, innovative aspects of education, including those who emphasized the need to pay attention to the issues of "introduction of information and communication technologies into educational practice" [1].

Concepts such as "innovation", "innovative process", "innovative educational environment" entered pedagogy in the middle of the last century.

In the literature, "innovation (ingl. innovation - created newness, invention) - funds allocated to society and economy to ensure the replacement of generations of production, equipment and technology with modern ones; "News related to scientific, technical and technological achievements and experiences in areas such as advanced equipment, technology, production management and personnel organization, as well as their application in various fields and professional activities" [3, 4].

Based on the aforementioned, we will give an example of the use of the "Ariz-Triz" tip in the organization and implementation of the laboratory works entitled "Study of the use of semiconductor diodes".

Laboratory work: To study the application of semiconductor diode.

I. Introduction.

Task 1: Based on the figures below, express your thoughts about the content of today's laboratory paper independently (Figure 1).



Fig. 1. Figures on the contents of the document

Task 2: Think of the questions that you can answer in today's paper and formulate it.

✍

II. Think tank.

Task 3: Familiarize yourself with the theoretical information on the subject of the laboratory.

Distribution of semiconductor elements in nature (analysis of D.I. Mendeleev's periodic system of elements (table 1)).

Atomic structure of crystals (germanium or silicon): covalent bond; arrangement of atoms in the crystal lattice (Fig. 2).

Table 1

D. I. Mendeleev's periodic system of elements

ГРУППА	P.A.	ГРУППА ЭЛЕМЕНТОВ													
		A	I	II	III	IV	V	VI	VII	B	8				
I	1	H 1.00795 водород													H
II	2	Li 6.941 литий	Be 9.01218 бериллий	B 10.811 бор	C 12.0106 углерод	N 14.0067 азот	O 15.9994 кислород	F 18.99845 фтор							
III	3	Na 22.98977 натрий	Mg 24.305 магний	Al 26.98154 алюминий	Si 28.086 кремний	P 30.97376 фосфор	S 32.06 сера	Cl 35.453 хлор							
IV	4	K 39.0983 калий	Ca 40.08 кальций	Sc 44.9559 скандий	Ti 47.88 титан	V 50.9415 ванадий	Cr 51.996 хром	Mn 54.938 марганец							
	5	Cu 63.546 медь	Zn 65.38 цинк	Ga 69.72 галлий	Ge 72.59 германий	As 74.9216 мышьяк	Se 78.96 селен	Br 79.904 бром							
V	6	Rb 85.4678 рубидий	Sr 87.62 стронций	Y 88.9058 иттрий	Zr 91.224 цирконий	Nb 92.90638 ниобий	Mo 95.94 молибден	Tc 98.9062 технеций							
	7	Ag 107.8682 серебро	Cd 112.411 кадмий	In 114.818 индий	Sn 118.710 олово	Sb 121.757 сурьма	Te 127.60 теллур	I 126.90545 йод							

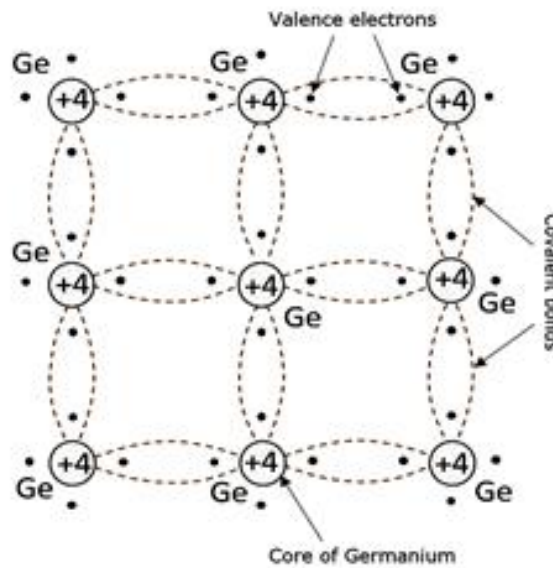


Figure 2. Arrangement of atoms in a crystal lattice.

Task 4: Perform the work in accordance with the conditions of laboratory work and draw conclusions.

II. Reflector.

Task 5: Fill in the following table using "Cicero's Algorithm" on the topic (Table 2).

Table 2

Cicero's algorithm

What?	✍
Where?	✍
How?	✍
When?	✍
With what?	✍
Why?	✍
Why do you need it?	✍

Task 6: Summarize the theoretical knowledge and practical knowledge gained during the lecture using the "Zinkwein" technology.

Cinquain:

1. Diode.
2. ✍
3. ✍
4. ✍

Our study requires that traditional physics teaching units should be developed theoretically and practically in accordance with modern didactic requirements.

Also, in our research, the connection of physics teaching with practice is ensured, and by developing ways of researching the innovative possibilities of science and technology with a focus on practice, we will continuously and periodically increase the training of physics pedagogues during their professional-pedagogical activities. It was determined that there is a need to put it into practice.

Our study found that the didactic model was improved, and its application to the physics teaching process was considered to be in accordance with the requirements of its organizational forms, points and technical features in the application of innovative educational technologies in the teaching of physics courses in the non-physical bachelor's education field in Acocida (Fig. 3).

According to the results of the research, the use of innovative pedagogical technologies in the teaching of physics in the non-physical bachelor's degree, the organizational and organizational forms of the use of innovative teaching technologies in the teaching of physics and the technical aspects of teaching in the organization of the camaral organization were found to be in accordance with the purpose of the didactic model and the introduction into the educational process based on the research tasks. .

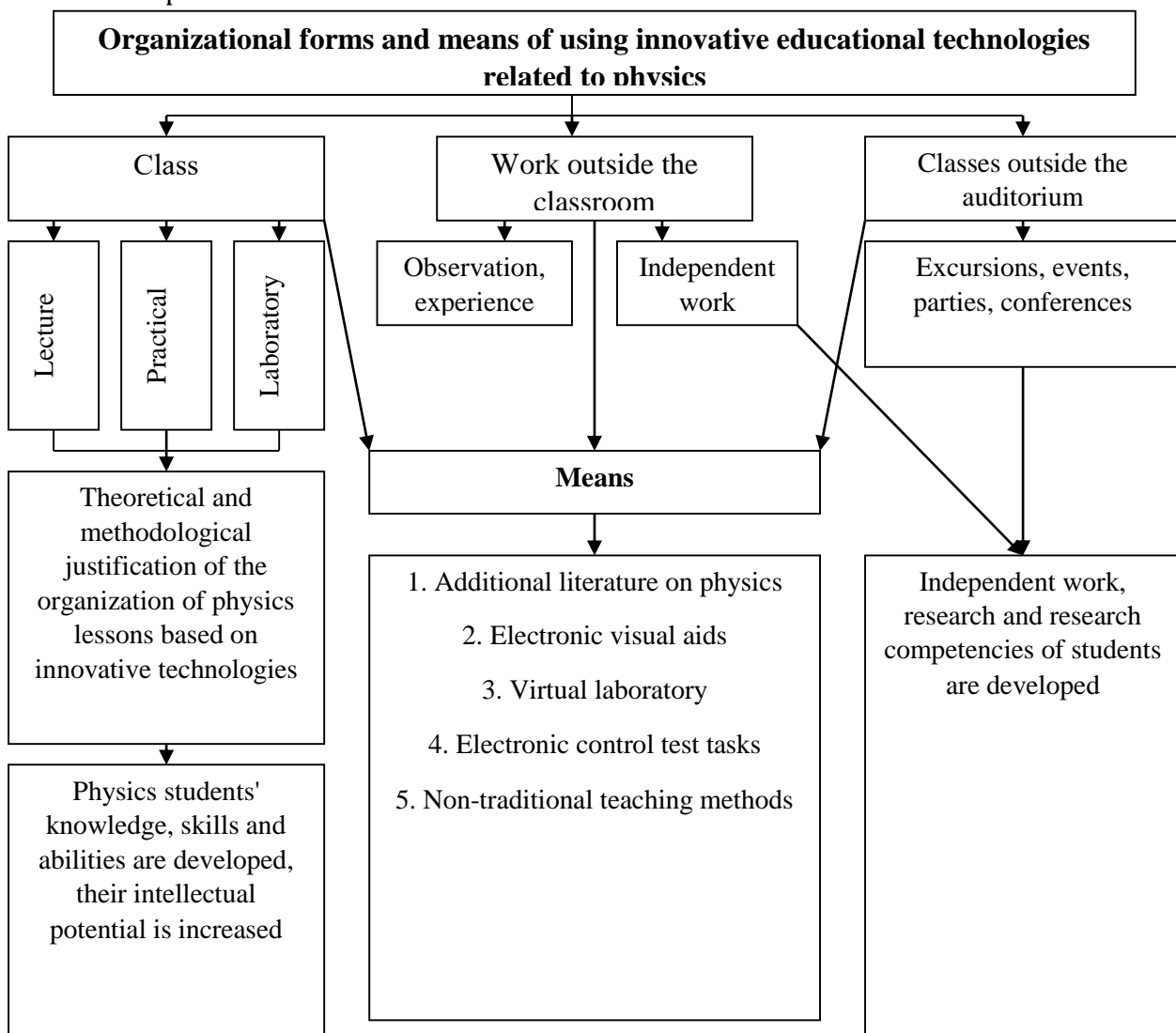


Figure 3. Didactic model of using innovative technologies from physics

In conclusion, the results of our research on the organization of the use of innovative technologies in the teaching of physics course, the organizational aspects, forms, and technical aspects of the use of innovative educational technologies for the teaching of physics in ACOC, the didactic model was developed in ACOC, and its application to the physics teaching process is in line with the fulfillment of educational goals. was questioned.



Therefore, the innovative technologies used during the course create a solid foundation for the active participation of each student and deep and independent acquisition of the given knowledge. As a result, we will fulfill our important task of educating knowledgeable, educated and patriotic young people with great heart and conscience.

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