

## THE ADVANTAGES OF USING MODERN PEDAGOGICAL TECHNOLOGIES IN PHYSICS CLASSES IN HIGHER EDUCATIONAL INSTITUTIONS ARE DESCRIBED

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**Annotation.** The article describes the advantages of using modern pedagogical technologies in Physics classes in higher educational institutions. In addition, the methodology of using new pedagogical technologies when teaching this subject, the ability to use and implement interactive methods appropriate to the subject during classes are covered.

**Key words:** physics, lecture, task, educational technology, professor-teacher, creativity, problem, situation, method, worldview, education, training, knowledge, skill, qualification, competence

## ПРЕИМУЩЕСТВА ИСПОЛЬЗОВАНИЯ СОВРЕМЕННЫХ ПЕДАГОГИЧЕСКИХ ТЕХНОЛОГИЙ НА ЗАНЯТИЯХ ПО «ФИЗИКЕ» В ВЫСШИХ УЧЕБНЫХ ЗАВЕДЕНИЯХ

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**Аннотация.** В статье описаны преимущества использования современных педагогических технологий на занятиях по «Физике» в высших учебных заведениях. Кроме того, освещается методика использования новых педагогических технологий при преподавании данного предмета, умение использовать и внедрять соответствующие предмету интерактивные методы в ходе занятий.

**Ключевые слова:** физика, лекция, задача, педагогическая технология, профессор-преподаватель, творчество, проблема, ситуация, метод,

мировоззрение, образование, подготовка, знание, умение, квалификация, компетентность.

## **INTRODUCTION**

Fundamentally reforming the education system in our country, bringing it up to the level of modern requirements, raising a mature generation for the future has become a priority direction of the state policy.

The more highly educated, highly qualified specialists there are in our society, the faster and more effective the development will be. Therefore, in the current period, it is necessary to increase the efficiency of education, develop the level of professional competence of specialists, direct the teaching staff to innovative activities, further apply innovative education and information and communication technologies to the educational process in higher education institutions, advance assimilation of foreign experiences and targeted orientation were identified as urgent tasks in the modernization of the higher education system.

Today's students bear a great responsibility, that is, the destiny of the country, the future of the homeland. So, now the issue of personnel quality is related to the quality and content of education provided in higher education institutions. If we look at it from today's point of view, it is necessary for students to have a high level of knowledge, mature intellectual activity and be able to think independently. Teachers are required to develop such qualities in students.

The main goal of using new methods in education is to involve students in the process of active learning, to develop their knowledge and theoretical knowledge, practical skills, skills and competences, and to increase their activity in the thorough assimilation of educational materials in the subject. consists of

## **ANALYSIS AND METHODOLOGY OF LITERATURE A**

Modern pedagogical technology professor- teacher with of the student active relationship, each other full to understand is based on Modern pedagogical technologies study to the process current the main purpose of learning is a lesson which in the form wherever don't be taught professor- teacher in class with of the student in cooperation work organize is to reach Teacher in class belongs to to problems students attraction reach and As a result their mastery provide it is necessary

Physics in training applied one how much modern pedagogical technologies seeing we go out : Education to the process to know task in the setting problematic questions main place occupies They are problematic situations of creation each how methods belongs to respectively is placed . To know circle question students for certain level difficult to be, in them there is of knowledge limited show and the same at the time, they do it will receive to be, that is of perception vital to the experience and theoretical of knowledge where level to their possessions dependence account get necessary

Physics in their classes of students free thinking abilities " Problematic " in development situation " technology to grow give good results very a lot in experience observed . Because physics of science each one topic oh it's theoretical let it be , it is practical let it be , it's problematic to questions face you will come

" *Problematic " education " technology* . This is technology purpose : to students study of science from the topic come came out different problematic issue or of situations the solution right to find to teach , in them of the problem essence determination according to qualifications formulation , problem of solving some methods with introduction and the problem in solving suitable styles right to choose teaching , problem come exit reasons and the problem solution behavior right to determine teaches .

Practice in training teacher students to groups Separate training transfer order rules and requirements explains , that is , the training phased to be and each one stage from the student attention Demand training during they are group and the team being that they work says Such mood to the students given assignments to perform ready to be help will give and to perform interest wakes up .

Problematic teaching technology a lot in terms of study of the material to the content depends In this physicist events , laws , practical experiences and theories study in the example to see can

Physics events problematic teaching Physics events problematic teaching as follows organize reach can

1. The event observation
2. The event characteristic features determination .
3. This the event , another , from before learned events with relatedness determination and the nature of the event explanation
4. Under study event characteristic new physicist sizes and constants input
5. Looking to the event belongs to quantitative laws installation .
6. The event in practice application .

Physics event to study all stages problematic teaching the method or this level use can But problematic of teaching possibilities especially in determining the event ( essence ) . will open .

Such technology based on organize done training as a result students which one the problem the solution from finding first his reasons to be determined if necessary , then while them study and eliminate reach for necessary was style and methods to choose and own actions sure set to get need knowing they get

" *Small in groups work* ". Students knowledge get on the way difficult in his work success win professors- teachers for each one of the student opportunities to believe necessary On this road successes of the teacher skill depends Divide students into 4 groups being get need



*Purpose:* Students more attraction reach and there from each other to learn possibility guidance giving standing taking the coach out of the " stage " .

*Advantages:*

- 1) To student's own ideas and thoughts with more share for possibility will give;
- 2) Small in groups students , older in groups what they say possible ;
- 3) It happened from thoughts different thoughts what they say possible ;
- 4) Students experience and ideas with sharing maybe this is knowledge expands and there is approaches changes ;
- 5) Attention center from the pedagogue to the participants moves ; 6) Students reading for more responsibility own on them to get forced does

*Disadvantages :*

- 1) Much a lot time and that there will be additional space Demand does ;
- 2) Students any one leadership to do too start if the group to this resistance if he doesn't show it , it's his over control to do own to the hand take possible ;
- 3) Group to himself given from assignments distractions , tasks wrong understand can

## DISCUSSION AND RESULTS

*To the teacher ( guidance showing advice to the coach :*

- the assignment sure and obvious by doing by describing give , then while him everyone understand that he received trust harvest do
- to students there in the auditorium settling down to get for time give and from that only later to them assignment on work to start permission give
- instructions one times repeat;
- of students to directions how much sure action by doing that they are going and from assignments aside that it is not coming out repeatedly checking see

Lesson so organization let's say , professor- teacher let the students teach each other let him read . Modern teacher a lesson from the students as well takes them own he knows as his colleagues .

To knowledge interest of information to the content depends being and students of lesson in the process active also depends on their participation . Students themselves right the solution search to the process How active If they interfere , educate them efficiency so much increases . Independent without learning teaching no That's why for almost each one in class teaching and independent study harmony reach is necessary .

*"Modified report"*. In the teaching of physics, if the main source of scientific information in the process of the professor-teacher's explanation of the educational material and students' acquisition of knowledge is words, if practical work is performed, despite the variety of topics, the teacher and active communication among

students, such an educational method is called a modified lecture or presentation of a lecture through oral speech.

*"Resume" technology. Description of technology.* This technology is aimed at studying complex, multi-disciplinary, as much as possible problematic topics. The essence of the technology is that it provides information on different branches of the subject in one way. At the moment, each of them will be discussed from separate points. For example, positive and negative sides, advantages and disadvantages, benefits and harms are determined.

*The purpose of the technology is to enable* students to think freely, independently, critically, work as a team, search, find a solution to an educational problem based on the topic using the method of summarizing and comparing ideas, and make the necessary conclusion or decision, and influence the team with their own opinion. teaching to hide, to approve it, as well as to use the knowledge acquired from the topics covered in solving the given problem, giving a general understanding of the subject.

*Application of technology:* it can be conducted individually (or in small groups) in lectures (if there are opportunities and circumstances), seminars, practical and laboratory sessions, and also for homework assignments.

*"Cluster" method.* The cluster method is a specific form of pedagogical, didactic strategy, which helps students create conditions for free, open thinking about optional problems, and for freely expressing personal opinions. This method requires the definition of a structure that allows thinking about the connections between different ideas. The "cluster" method is considered a form of thinking that is not clearly objectively oriented. It is used in connection with the principle of human brain activity. This method serves to ensure that the activity of thinking is in harmony until a specific topic is mastered by students in depth and thoroughly.

The "Cluster" method, developed in accordance with the idea of style, is a well-thought-out strategy that can be used during training. In group training, this method is manifested in the form of a set of ideas expressed by group members. This creates an opportunity to harmonize the ideas put forward by each member of the group and to find connections between them.

*"Discussion method".* Debate classes differ from competition classes in that they clarify unresolved issues, make correct, clear judgments, and make concise conclusions.

Debate from student's vigilance Demand does He is independent and fast it is said to think, to be present of your opinion right or inaccuracy about to think and own his opinion independent and consistent to prove teaches.

Mutually dispute and debate due to the most right and ok to the solution will come. T alaba debate through against side believable evidence listens to his " I " . Realize enough, own worldview, scientific and creative thinking scope about conclusion

releases

Debate the lesson effective transfer for Students discuss to be done text or topic according to wide to understanding have to be, him good read and learn outputs need

### CONCLUSION

Providing educational institutions with specially trained pedagogical personnel in accordance with the National Personnel Training Program of the Republic of Uzbekistan, creating an environment based on competition in their work process, providing the educational process with quality educational literature and advanced pedagogical technologies providing is the main task.

Pedagogical technology is a set of systematic methods that allow to determine their interaction, use of human knowledge and resources in the process of learning and knowledge acquisition in order to optimize forms of education and are widely used.

*Modern pedagogical technology professor- teacher with of the student active relationship , each other full to understand is based on*

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