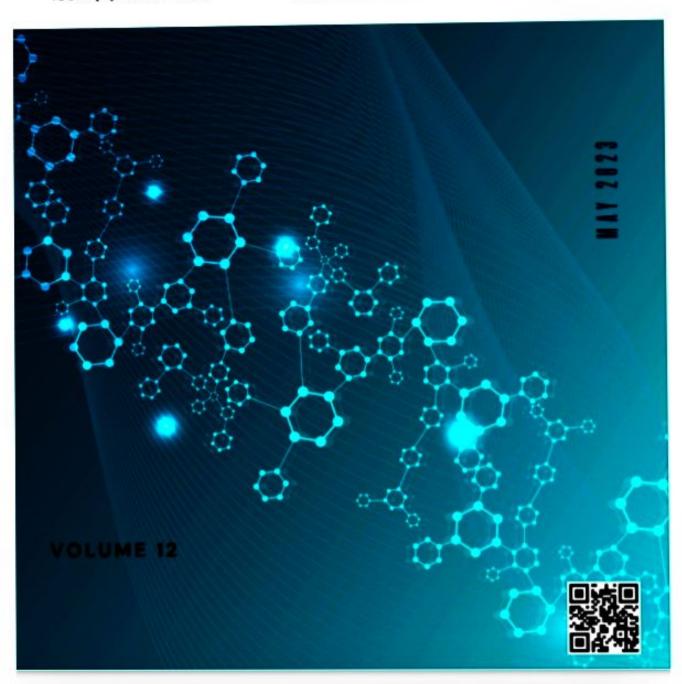
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USE OF INNOVATIVE TECHNOLOGIES IN TEACHING PHYSICS

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ABSTRACT	KEYWORDS
This article aims to achieve effective results in a short time without spending too much mental and physical effort in the organization of modern education, different from traditional education. In this case, in the process of teaching physics, only the necessary information is selected and the volume of information is quantitatively measured in accordance with the student's learning abilities. For this, using innovative technologies, improving the quality of physics lessons in general education schools, making students interested in lessons, creative research and independent work, and forming the skills of working in mutual cooperation are mentioned.	innovative technology, media, interactive, leader, exhibition tools.

Introduction

Modern lessons are necessary to kindle the embers in the student's heart, develop it in every way, and lead it from knowledge to knowledge.

One of the urgent problems facing physics teachers today is the design of modern educational technologies and their application in teaching practice. A physics teacher should not only provide students with the necessary knowledge of physics, but should be able to arouse interest in science in them, so that as result, good specialists and mature personnel in this field will be produced.

Each lesson taught by the teacher should be different from other lessons, today's lesson should be perfect compared to yesterdays.

New pedagogical technologies for the lesson:

- using the media;
- with the help of exhibition tools;
- by using interactive methods;

and others, this lesson will reach the student's mind and take a place in his memory. The student's scientific outlook expands and the level of knowledge increases.

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The goal of organizing modern education, different from traditional education, is to achieve effective results in a short time without spending too much mental and physical effort. To deliver specific theoretical knowledge to students in a short period of time, to create skills and qualifications in them in relation to certain activities, as well as to control the activities and knowledge of students, to evaluate their knowledge, skills and qualifications from a physics teacher requires great pedagogical skills and a new approach to the educational process.

Currently, many developed countries of the world have accumulated a lot of experience in using new pedagogical technologies that increase the scientific activity and creativity of students and at the same time guarantee the effectiveness of the educational process. The methods that make up the basis of this experience are called interactive methods, and knowing how to apply these methods to the teaching process is a high task assigned to the physics teacher of today.

Currently, many developed countries of the world have accumulated a lot of experience in using new pedagogical technologies that increase the scientific activity and creativity of students and at the same time guarantee the effectiveness of the educational process. The methods that make up the basis of this experience are called interactive methods, and knowing how to apply these methods to the teaching process is a high task assigned to the physics teacher of today.

Determining the specific purpose of education in each lesson is considered one of the important conditions in the design of teaching technology. In this, the diagnostic purpose of teaching on science topics is determined.

From the time when physics became a science, the database of the science has been increasing in size, and it is getting rich every year at a high speed.

For this reason, in the process of passing physics, it is necessary to select only the necessary information and to reduce the amount of information to a quantitative size in accordance with the student's learning abilities.

Application of "ZIG-ZAG" STRATEGY (method) in teaching physics.

The introduction of new pedagogical technologies into the educational process is one of the modern requirements, which requires pedagogical staff and teachers to continuously work on themselves.

The use of new pedagogical technologies in the teaching of physics, as in other subjects, gives good results. One of these methods is the "Zig-zag" method. When using this method, each of the participants of the training works as a discussion participant, listener, and speaker for a short period of time.

"Zig-zag" strategy serves to work with students on a group basis, to master the subject quickly and thoroughly. The use of this method in the educational process requires the teacher to be very active and possess pedagogical skills. In this case, teachers should be able to form groups in such a way that in each group there is a proper distribution of active and slow learning students. When groups are formed incorrectly, students can waste time without being able to solve the problem.

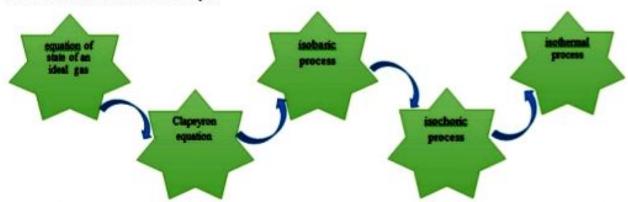
After the students take their seats, the teacher announces the topic.

Topic: Equations of state of an ideal gas. Iso process.

The teacher briefly touches on this topic and explains it. Students are divided into several (5-7) groups. The text explaining the essence of the new topic is divided into 5-7 parts accordingly. Each group is given a specific part of the topic (text 1, text 2, ...) and is assigned the task of studying it. Students

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work on the text in groups during the given time, and in they tell order to save time, leaders are chosen from among the group members, and the main information about the studied text to their teammates. The opinion of the leaders can be supplemented by the members of the group. After all the groups have thoroughly mastered the text given to them, the texts are exchanged among the groups, and the above activity is repeated at this stage as well. In this context, students will learn a whole text that illuminates the essence of the topic.



At the end of the lesson, the teacher gives his feedback. Advanced and active students are encouraged. In conclusion, using new pedagogical technologies, the following:

- creation of a healthy competitive environment among students;
- mutual cooperation;
- listening to each other;
- understanding one's mistake;
- increased interest in science;
- creative research and other such positive results are achieved.

LIST OF REFERENCES

- Kakhkharov S.K., Juraev K.O., JamilovY.Y., Xudoyberdiyev S.B. // Journal of Contemporary Issues in Business and Government (2021) 27 PP 744-751.
- Tuksanova Z., Nazarov E. Effective use of innovative technologies in the education system // Интернаука (2020) №16-3 С 30-32
- Ниёзхонова Б.Э., Файзиев Ш.Ш., Махсуд М., Махмудова Қ. Умумтаълим мактабларида физикани ўкитишда инновацион технологияларнинг ўрни // Academic research in educational sciences № 12 С 1116-1120
- Arabov J.O., Qosimov F.T. Hozirgi zamon fan va texnikasining rivojida yarimo'tkazgichlarning o'rni. // Involta Scientific Journal, 1(7). 2023/4/1. 134-138.
- Arabov J.O., Yodgorova G.T. Fizika fanidan masalalar yechishda kompyuter texnologiyalaridan foydalanish. // Finland International Scientific Journal of Education, Social Science & Humanities , Tom 11 № 3. 78-81
- Jumayev M.R., Arabov J.O., Sattorova G.H., Tursunov A. N. Kristallardagi nochizig'iy akustik effektlar. // Involta Scientific Journal, 1(7). 2022/6/4. 3-8
- Arabov J.O., Fayziyeva X. A. General considerations on the methodology for solving problems in physics // Gospodarka i Innowacje (2022) №22, C 619-623.

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- Saidov S.O, Atoeva M.F, Fayziyeva X.A. Some actual issues of teaching modern physics in higher education. // The American journal of applied sciences, PSYCHOLOGY AND EDUCATION (2021) 58(1): 3542-3549 ISSN: 00333077.
- Saidov S.O, Atoeva M.F, Fayzieva Kh.A, Yuldosheva N.B. The Elements Of Organization Of The Educational Process On The Basis Of New Pedagogical Technologies. // The American Journal of Applied Sciences, 2(09). 2020., 164-169.
- Fayziyeva X.A. Modern pedagogical technologies of teaching physics in secondary school. // European Journal of Research and Reflection in Educational Sciences Vol. 8 No. 12, 2020 Part III ISSN 2056-5852. C 85-90.
- Fayziyeva X.A. Fizika fanini o'qitishda yangi pedagogik texnologiya elementlaridan foydalanish. // "O'zbekistonda milliy tadqiqotlar: Davriy anjumanlar:" [Toshkent; 2022]. C 30-31.
- Farhodovna A.M., Olimboevich A.J., Badriddinovich K.B. Innovative Pedogogical Technologies
 For Training The Course Of Physics // The American Journal of Interdisciplinary Innovations and
 Research (2020) №2 (12), C 82-91.
- Atoeva M.F., Arabov J.O., Kobilov B.B. Innovative Pedogogical Technologies For Training The Course Of Physics.// Journal of Interdisciplinary Innovations and Research, (2020). 2(12), PP 82-91.
- Kakhkhorov S.K, Juraev H.O Modeling of heat-physical processes in solar dryers// journal of critical reviews. vol 7, issue 17, (2020) pp 9-15
- Каххоров С.К., Рахматов И.И., Мухаммедов Ш.М. Особенности построения образовательного процесса на основе модульных технологий обучения в узбекистане // Вестник науки и образования (2020) № 18(96) Часть 2 С 33-36.
- Juraev H.O. Training Materials for Alternative Energy Sources in Education // Eastern European Scientific Journal. –Düsseldorf, 2017. № 1. –p. 127–131.
- Juraev Kh.O. Ways of Using Educational Materials on Alternative Energy Sources at Physics Lessons // Eastern European Scientific Journal. – Düsseldorf, 2017. № 2. – P. 83–86.
- Kakhkharov S.K., Juraev H.O. Use of alternative energy sources at natural sciences lessons // The Way of Science. – Volgograd, 2017. № 2. – P. 148–150.
- Fayzieva Kh.A. Use of modern information technologies in teaching physics // A German Journal World Bulletin of Social Sciences An International Journal Open Access Peer Reviewed scholarexpress.net ISSN (E): 2749-361X Journal Impact Factor: 7.545. VOLUME 20, March, 2023, C 30-34.
- Muhammadova D.A. Development of Students' competence in working with information in physics lessons. // A German Journal World Bulletin of Social Sciences An International Journal Open Access Peer Reviewed scholarexpress.net ISSN (E): 2749-361X Journal Impact Factor: 7.545.
 VOLUME 20, March, 2023,35-39
- Muhammadova D.A., Qurbonova M.X. O'quvchilar bilimini nazorat qilishda testdan foydalanish. // Hozirgi zamon fizikasining dolzarb muammolari. Xalqaro ilmiy va ilmiy-texnik anjuman materialllari. (2023) 502-503
- Muhammadova D.A. To develop the inventive components of students in physics lessons. // Involta" Ilmiy Jurnali Vol. 1 No.6 (2022) Involta Scientific Journal 395-404

Volume 12, May, 2023

- 23. Muhammadova D.A., Abdullayeva Z.G. Developing students 'inventive competences in physics classes. // Международный научно образовательный электронный журнал «образование и наука в XXI веке». Выпуск №24 том 4 (2022) 141-145
- Muhammadova D.A., Narzullayev D.A. Yangi fizika asoslanish yo'lida. // Science a science and education in the modern world: Challenges of the XXI century. Nur-sultan, kazakhstan, (2019) 78-80
 Fayziyeva X.A., Fizika fanini o'qitishda zamonaviy axborot texnologiyalaridan foydalanish. // "PEDAGOGS" international research journal ISSN: 2181-4027_SJIF: 4.995. Volume-33, Issue-2, May-2023, 4-9.
- Muhammadova D.A., Fizika darslarida oʻquvchilarning axborotlar bilan ishlash kompetentsiyasini rivojlantirish. // "PEDAGOGS" international research journal ISSN: 2181-4027_SJIF: 4.995. Volume-33, Issue-1, May-2023, 178–184.

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