



Volume 3, Issue 3(16), 2023

Journal of Physics and Technology Education



<https://phys-tech.jdpu.uz/>

Chief Editor:

Sharipov Shavkat Safarovich

Doctor of pedagogy, Professor, Rector of Jizzakh State Pedagogical University, Uzbekistan

Deputy Chief Editor:

Sodikov Khamid Makhmudovich

The Dean of the Faculty of Physics and Technological Education, dotsent

Orishev Jamshid Bahodirovich

Teacher of Jizzakh State Pedagogical University, Uzbekistan

Members of the editorial board:

Ubaydullaev Sadulla, dotsent

Ismailov Tuychi Djabbarovich, dotsent

Kholmatov Pardaboy Karabaevich, dotsent

Umarov Rakhim Tojievich, dotsent

Murtazaev Melibek Zakirovich, dotsent

Abduraimov Sherali Saidkarimovich, dotsent

Taylanov Nizom, senior teacher

Tagaev Khojamberdi, senior teacher

Tugalov Farkhod Karshibayevich, dotsent

Alibaev Turgun Chindalievich, PhD

Yusupov Mukhammad Makhmudovich, PhD

Kurbonov Nuriddin Yaxyakulovich, PhD

Irmatov Fozil Muminovich, PhD

Editorial Representative:

Jamshid Orishev

Phone: +998974840479

e-mail:

jamshidorishev@gmail.com

**ONLINE ELECTRONIK
JOURNAL**

“Fizika va texnologik ta’lim” jurnali

Журнал “Физико-технологического образование”

“Journal of Physics and Technology Education”

Indexed By:



Published By:

<https://phys-tech.jdpu.uz/>
Jizzakh State Pedagogical University, Uzbekistan

Nashr kuni: 2023-06-05

MUNDARIJA / CONTENTS / СОДЕРЖАНИЕ

№	MUALLIFLAR/ AUTHORS/ АВТОРЫ	MAQOLA NOMI/ ARTICLE TITLE/ НАЗВАНИЕ СТАТЬИ	SAHIFALAR/ PAGES / СТРАНИЦЫ
1	<i>Umarov Rahim , Yusupov Kirmon</i>	<i>Sharq mutafakrlarining aqliy mehnat va tarbiya haqidagi qarashlari</i>	5-9
2	<i>Umarov Rahim, Isoqov Shohruh</i>	<i>Xalq hunarmandchiligi bo'yicha mashg'ulotlarni otkazish metodikasi</i>	10-14
3	<i>Abduvasiyev Sardor Bahrom o'g'li</i>	<i>Fizika fanini o'qitishda internet saytlaridan foydalanish imkoniyatlari</i>	15-19
4	<i>Abduvasiyev Sardor Bahrom o'g'li</i>	<i>Fizika fanida o'quv jarayonida elektron o'quv vositalaridan foydalanish metodikasi</i>	20-23
5	<i>Абдувасиев Садрор Баҳром ўғли</i>	<i>Альтернативные источники энергии-перспективы их использования и развития в узбекистане</i>	24-27
6	<i>Abduvasiyev Sardor Bahrom ugli</i>	<i>Methodology for using electronic learning tools in the educational process on the subject "Physics"</i>	28-31
7	<i>Igamqulova Zilola , Umirov Javlonbek</i>	<i>Oy tutilishi va uning shartlari</i>	32-34
8	<i>Ortiqova Ozoda Sharofovna</i>	<i>Modaning tarkibi, funksiyalari va rivojlanish qonuniyatlari</i>	35-38
9	<i>Ortiqova Ozoda Sharofovna</i>	<i>Jamiyat hayotida liboslarning o'rni</i>	39-41
10	<i>Yo'ldoshev Mirjalol , Allamuradov Husan, Rustamov Yoqubjon</i>	<i>Fotorezistorlarni dastur yordamida boshqarishni talabalarga o'rgatish</i>	42-46
11	<i>Orishev Jamshid, Majidova Hurriyat</i>	<i>O'quv mashg'ulotlarni tashkil etishda media ta'limning didaktik imkoniyatlari</i>	47-51
12	<i>Orishev Jamshid, O'rozov Bobur</i>	<i>Texnologiya fanini o'qitishda media ta'lim vositalaridan foydalanish</i>	52-55
13	<i>Rahimov Azizbek, Yaxshiboyevich</i>	<i>Savodxonlik elementlarini takomillashtirish - pedagogik muammo sifatida</i>	56-59
14	<i>Rahimov Azizbek, Parmanova Jumagul</i>	<i>Rassom asarlarida ayol timsoli</i>	60-64
15	<i>Rahimov Azizbek, Normatov Shuxrat</i>	<i>Milliy ruxdagi ganch o'ymakorligi</i>	65-69
16	<i>Ortiqova Ozoda, Rahmatva Shahlo</i>	<i>Korsetli libos tikish tarixi va rivojlanish bosqichlari</i>	70-73
17	<i>Alqorov Qodir Xolmatovich</i>	<i>o'quvchilarni texnik ijodkorlik faoliyatiga tayyorlashda fizika bilan texnika fanlari</i>	74-78

		<i>aloqadorligi</i>	
18	<i>Alqorov Qodir, Yusupov Kermon</i>	<i>Ta’lim tizimida ma’naviy barkamol avlodni tarbiyalashning pedagogik muammolari</i>	79-82
19	<i>Тугалов Фарход, Мамадиёров Уралжон</i>	<i>Физика ўқитишда талабаларнинг илмий дунёқарашини шакллантиришда муаммоли таълим технологияларининг ўрни</i>	83-86
20	<i>Тугалов Фарход, Беркинова Чехроза</i>	<i>Фундаментал фанларнинг аҳамияти</i>	87-91
21	<i>G`ofurova Aziza Xidirnazar qizi</i>	<i>Oliy ta’limda ixtisoslik fanlarni o‘qitish jarayonini takomillashtirish</i>	92-95
22	<i>Ortiqova Ozoda, Nazirova Nafisa</i>	<i>Milliy liboslarda bezaklar va pardoz- andozlarning ishlatilishi</i>	96-100
23	<i>Doniyorova Shahnoza, Urinboyeva Gulsevar</i>	<i>To’quvchilik san’ati va uning o’ziga xosligi</i>	101-104
24	<i>Doniyorova Shahnoza, Urinboyeva Gulsevar</i>	<i>Kreativ yondashuv asosida bo‘lajak o‘qituvchilarning art-dizaynga oid bilimlarini rivojlantirish prinsiplari</i>	105-107

METHODOLOGY FOR USING ELECTRONIC LEARNING TOOLS IN THE EDUCATIONAL PROCESS ON THE SUBJECT "PHYSICS"

Abduvasiyev Sardor Bahrom ugli
Jizzakh State Pedagogical University
e-mail: sabduvasiyev@mail.ru

Annotation. *When developing the content of physical education, the general principles of the unity of the content, structural and organizational aspects of teaching physics at different levels of general secondary education, as well as didactic principles, are taken into account. The paper shows that one of the professional tasks of a physics teacher is the task of using modern scientifically based methods, methods and means of teaching physics, including electronic teaching aids, information and computer technologies.*

Keywords: *Information and computer technologies, virtual laboratory, physical education*

The use of information technology in the teaching of natural sciences in the educational process makes it possible to actually individualize learning, deepen and improve students' knowledge with the help of a computer, correct shortcomings, and partially eliminate overload. New information technologies are becoming a necessary condition for the success of the learning process.

In the general system of natural science education of modern man, physics plays a fundamental role. Under the influence of physical science, new areas of scientific research are developing, emerging at the junction with other sciences, and a technique and technological base for the innovative development of society are being created.

When developing the content of physical education, the general principles of the unity of the content, structural and organizational aspects of teaching physics at different levels of general secondary education, as well as didactic principles, are taken into account.

One of the professional tasks of a physics teacher is the task of using modern scientifically based methods, methods and means of teaching physics, including electronic teaching aids, information and computer technologies.

Currently, electronic learning tools are distinguished by a variety of forms of implementation, which are due to both the specifics of subject areas and the capabilities of modern computer technologies. Modern ESE in the subject "Physics" can be represented as:

- virtual laboratories, laboratory workshops;

- computer simulators;
- testing and monitoring programs;
- game training programs;
- software and methodological complexes;
- electronic textbooks, the textual, graphic and multimedia material of which is provided with a system of hyperlinks;
- subject-oriented environments (microworlds, simulation programs);
- sets of multimedia resources;
- reference books and encyclopedias;
- information retrieval systems, educational databases;
- intelligent learning systems.

The use of electronic learning tools in the educational process gives teachers additional didactic opportunities:

Immediate feedback between user and ICT tools

Computer visualization of educational information, which involves the implementation of the capabilities of modern means of visualizing objects, processes, phenomena (both real and "virtual"), as well as their models, their presentation in the dynamics of development, in temporal and spatial movement, while maintaining the possibility of dialogue communication with program.

Computer simulation of the objects under study, their relationships, phenomena, processes occurring both in reality and "virtually".

Automation of the processes of computational, information retrieval activities, processing the results of an educational experiment, both actually occurring and "virtually" presented on the screen with the possibility of multiple repetition of a fragment or the experiment itself.

Under the condition of purposeful and systematic use of ESP in the educational process in combination with traditional teaching methods, the effectiveness of training is significantly increased.

It should be noted that the use of ICT in the educational process significantly affects the forms and methods of presenting educational material, the nature of the interaction between the student and the teacher, and, accordingly, the methodology of conducting classes in general. At the same time, information and communication technologies do not replace traditional approaches to learning, but significantly increase their effectiveness. The main thing for a teacher is to find an appropriate place for ICT in the educational process, i.e. to go from a pedagogical task to information technologies for solving it where they are more effective than conventional pedagogical technologies.

Any of the traditional types of lessons can be conducted using ICT. So, for example, in the lesson of studying new material, the teacher can use the following types of ESP: subject- oriented environments (microworlds, simulation programs); game training programs; software and methodological complexes; sets of multimedia resources; reference books and encyclopedias. At the lesson of control and correction of knowledge, skills and abilities - testing and control programs; laboratory workshops, virtual laboratories.

Here are the possible options for conducting lessons using ESP:

- 1) the class is divided into 2-3 groups, one of the groups is sent to the computer class, and then after 10-15 minutes it is replaced by the next one;
- 2) the entire group being trained is in the computer class, and only a part of the students work directly with computers at certain periods of time;
- 3) There are 2-3 computers in the classroom at all times.

The use of ICT is also possible when a teacher prepares and conducts a lesson in a non-traditional form, during extracurricular hours - when conducting extracurricular activities, circle work, organizing self-training.

The choice of forms, methods and means of training and education is determined by the teacher independently on the basis of the requirements for the knowledge and skills of students formulated by the curriculum, taking into account their age and psychological characteristics, as well as the level of training.

Today, the teacher is almost forced to devote considerable time in the classroom to the awakening, or rather, the resuscitation of the desire to learn. In the conditions of excessive information, when children begin to act with protection mechanisms in relation to educational material in which they do not see any specific benefit for themselves, teachers are forced to learn how to convince them of the relevance and usefulness of the proposed material, and therefore, to present information in such a way that it is demanded and accepted by students.

To solve the problem under consideration, to increase the motivation for learning, we can propose *a model of active interaction*. The teacher during the lesson is constantly in dialogue with the students, keeps them in a positive mood, encourages initiative, easily grasps changes in the psychological climate of the team and responds flexibly to them. The style of friendly interaction prevails while maintaining role distance; emerging educational, organizational and psychological problems are solved by joint efforts.

However, the most important question for a teacher thinking about the problems of motivation should be the question: “Why is this necessary?” Since motivation is the driving force of the actions and deeds of the individual necessary

to activate the work of students.

It is important for a teacher to master the art of promotional packaging of educational information. After all, the main elements of advertising - to attract attention, arouse interest, arouse desire and encourage action - largely coincide with the key objectives of the lesson.

Conclusion

Based on the knowledge gained, students should study the issues of production, transmission, consumption of electrical energy and its savings. When developing the content of physical education, the general principles of the unity of the content, structural and organizational aspects of teaching physics at different levels of general secondary education, as well as didactic principles, are taken into account. The paper shows that one of the professional tasks of a physics teacher is the task of using modern scientifically based methods, methods and means of teaching physics, including electronic teaching aids, information and computer technologies.

LITERATURE

1. Ариас Е.А. Дифференцированный подход к обучению физике студентов различных нефизических специальностей университета. // Дис. канд. пед. наук. – Санкт-Петербург. 2004

2. Ирматов, Ф. М. Эффективность современных образовательных технологий в педагогическом процессе (на примере обучения физике). научное знание современности, (8), 34-37.

3. Irmatov F. Talabalarning fizika fanidan o’zlashtirish darajalarini oshirishda zamonaviy ta’lim texnologiyalaridan foydalanish. Fizika va texnologik ta’lim jurnali. <https://science.jspi.uz/index.php/phys-tech/article/view/229>

4. Irmatov F.M. Nofizik mutaxassisliklar bo’yicha fizika ta’limi samaradorligini oshirish yo’llari // Pedagogika. Ilmiy-nazariy va metodik jurnal. – Toshkent. -2020.– 2-son. – B.86-90 6.

5. <https://phet.colorado.edu/en/simulations/browse>

6. <https://www.vascak.cz/physicsanimations.php?l=en>