

ORGANIZATION OF PRACTICAL AND LABORATORY ACTIVITIES IN THE EDUCATIONAL PROCESS

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ABSTRACT

One of the main goals of the state policy in the field of information technology is to encourage educated and honed young people to join developed countries and contribute to the development of our country through the development of new information technologies, multimedia didactic tools and new pedagogical technologies. Teaching methods determine the direction of the teacher and student in the learning process, the organization and conduct of the educational process, as well as the actions of the teacher. These methods include a set of methods used by teachers to help students acquire knowledge, skills, and abilities. In the educational system, along with teaching methods, the terms “method” and “tool” are used. The method consists in working with some elements of another teaching method along with the main teaching method used in the transfer of a specific educational material. The tool is the use of auxiliary training materials, equipment, weapons, equipment, etc., necessary for the training methodology. As a didactic tool for teaching science in higher education, the laboratory plays an important role in developing students' interest in science through the gradual introduction of materials and their use. It is well known that in higher education, computer science is used mainly through practical and laboratory work, creating knowledge, skills and abilities in the teaching of natural sciences. With this in mind, this article is devoted to the preparation and use of additional materials, which are one of the didactic tools in the lessons ...

Keywords: Labs, Adobe Photoshop, Computer Graphics, Education, Computer Science, Training, Methods, Tools.

INTRODUCTION, LITERATURE REVIEW, METHODOLOGY

At present, it is impossible to adapt the education system to the needs of the information age. This is also the focus of the National Personnel Training Program. The following should be understood as the basis for the necessity of teaching computer disciplines:

- computers, computer and communication technologies are a product of the global information revolution;

- find ways to bring the computerization of the education system in the Republic of Uzbekistan to the international level;

- The computer is a powerful tool to increase the effectiveness of the educational process, as it improves the quality of the provision of educational information, increases interest in educational science, increases the ability to make learning interesting and improves teaching management methods. Provides a high level of teacher role in the quality of information transfer;

- the presence of a graphical interface, “friendly” means of communication and other functions on modern computers allows all professionals and users of all areas to communicate freely with a computer;

- children are better prepared for the future life and material well-being in a changing world as a result of computer literacy;
- the capabilities of modern computer technologies are so great that they can be used not only in education, but also in the education of a fully developed generation.[5]

Based on the knowledge gained, each qualified specialist should be a master of his work and be able to use various forms of organization of the lesson during training. The most important problem today is the formation of youth as a highly educated, independent person in socio-political life, who has professional skills and determines the present and future of our country. Personality formation is a comprehensive concept, and it also includes education and training.

In this era of the rapid development of science and technology and information flows, there is a need to review and improve the school system. In particular, it is becoming increasingly apparent that the use of information and communication tools, Internet technologies and the provision of their results in lessons and extracurricular activities.[4]

It is important for teachers not only to know the laws of instruction, but also to create favorable conditions for their implementation. This can be achieved only if you are well versed in the basic principles of training in the organization of the educational process. These rules are called didactic or didactic principles.

Didactic principles: organization of training on a scientific basis; his educational status, regularity and consistency; Visibility and content of readers activity and awareness of learning; thorough development of knowledge, skills and abilities, as well as an individual approach to each student.

Instructors should be trained in the design of tools and equipment, the principles of labor and labor organization, the achievements of science and technology, so teachers should adhere to the following principles.

The principle of the scientific organization of education is the use of technical terms and methods to stimulate the educational work of students, develop their mental abilities and teach them self-study.

The educational nature of education creates the conditions for students to acquire professional knowledge, the development of their mental development and worldview.

In the implementation of education, the teacher should instill in students a love of their profession, a disciplined discipline, the ability to plan their work and the ability to work in a team. They must be organized in such a way that their views are formed.

The principle of visualization includes the development of live events and the perception of what is being studied. The principle of visual education provides a direct perception of educational material through clear images.

Use visual aids in the learning process; helps students master scientific knowledge and improve their skills.[8] If a visual weapon is a means of representing educational material, speech will be the main one, and the visual tool will be auxiliary, you should focus on the main tool, that is, to increase the goals and objectives of observation.

Expressing the importance of observing, perceiving and perceiving things and events in the process of acquiring knowledge, Yu. Komensky wrote: "A sight with an ear must hear what it hears, smell and understand what it is possible to feel, it is necessary to feel the presence of several senses. To teach, you need to teach everything on the basis of direct observation and sensitivity".[2]

This should correspond to the requirements of theoretical courses, posters, videos, special materials should be prepared. The principle of educational relevance requires students to consider their mental and physical characteristics.

The principles of awareness and activity. Education involves creating creative ways of learning. This can be achieved through the active participation of students in the classroom. In this process, attention is paid to the intelligence and activity of each student.

The principle of careful preparation. According to this principle, the teacher oversees practical laboratory work. To ensure careful planning, the materials studied are regularly updated, new materials are strengthened, and training is conducted as follows:

- Frequent repetition of working methods in order to obtain a strong specialty;
- To teach students the skills of using technical literature and reference books;
- the transition from simple exercises to more complex exercises of skill formation and conducting classes in the immediate vicinity of production.

An individual approach to each student requires comprehensive training of students, their timely support and the creation of conditions for their initiative and creativity.

The nag must read each student's description and interview each of them before the lesson begins to take into account their characteristics.

The correct choice of organizational forms of theoretical and practical training is important. The place and schedule of classes, the activities of students and their classification in the classroom - all this is about the importance of the relationship between teacher and students.

Teaching methods should be used rationally and effectively to organize and conduct lessons at a high level. Teaching methods determine the direction of the teacher and student in the learning process, the organization and conduct of the educational process, as well as the actions of the teacher. These methods include a set of methods used by teachers to help students acquire knowledge, skills, and abilities.

In the educational system, along with teaching methods, the terms "method" and "tool" are used. The method consists in working with some elements of another teaching method along with the main teaching method used in the transfer of a specific educational material. The tool is the use of auxiliary training materials, equipment, weapons, equipment, etc., necessary for the training methodology.

Teaching methods will undergo significant changes in the educational process and the centuries-old history of pedagogical thinking. Pedagogy does not have the same approach to the classification and definition of teaching methods. Some authors consider the characteristics of knowledge sources as key in determining teaching methods; for example, oral (interviews, explanations, statements, independent work of students with technical literature, etc.); Demonstration (demonstration of weapons, showing films, independent monitoring of students, etc.); practical (exercises, working methods, practical laboratory exercises) and others.

Recently, in pedagogical theory and practice, methods have been used to classify students according to the state of their cognitive activity.

The methods used in the learning process should aim to increase student engagement and ensure that students are deeply involved in the learning material that they study. The system of methods proposed by I.Ya. Lerner and M.N. Skatkin, fully complies with these requirements. The basis of this activity is the cognitive activity of students. I mean:

Explanation is a visual method. The teacher provides students with various tools for reading, understanding, and storing information in their memory. The way to remember. Organizes the cognitive activity of students according to the system of teaching tasks. The student also has visualization skills. As students learn, the use of the first method in combination with others is expanding.

Formulation of the problem. The teacher creates a problem situation. Throughout the course, he will explain and decide how to solve it. Students are actively involved in solving problems with the teacher. Partial research or heuristic method. The teacher points out the learning problem, divides it into auxiliary parts and offers students a way to solve it. In this case, the teacher will tell students about some areas, such as pre-prepared questions..

Research method. This is a way of organizing independent research and creative work of students in solving new problems. In this case, the teacher will not tell them the problem. Students find this in the process of developing educational material, which then creates a problem for the teacher.

Traditional teaching methods - oral presentations, explanations, interviews, lectures, reading; experiments, demonstration of natural objects, visual aids; exercises, writing, graphic work, laboratory work. The methods described are used as tools and techniques, and the teacher uses them to teach at a high level in the classroom.

A practical method is a form of educational material based on exercises, independent tasks, and practical and laboratory work. In industrial training, this method includes working methods, exemplary work on the development of independence in the performance of tasks, as well as laboratory and practical classes for managing the management process.

Exercise is the repetition of certain actions to develop and strengthen skills and competencies. Attentiveness and expediency are the most important requirements for an exercise, so that students have a clear idea of why this exercise is necessary, and actively strive to complete it. Ways to follow the scientific and technical foundations of the processes under study, as well as knowledge of errors in the work, allow students to master the learned actions.

Awareness and relevance skills are especially important in the early stages of building skills so that trainers can help them deal with the problems they face. In order for the exercises to be successful, the teacher must support the students' aspirations to achieve the desired results, and the exercises should be more complex.

The process of developing skills plays a crucial role in learning activities. Success depends on a number of conditions.

The first condition is what is skill? Ability to automate the system of actions. If the reader does not understand the importance of the material in its development, these actions can be difficult to form.

The second condition is an exercise system, which is usually caused by the shortcomings of creating and conducting a training system. The third condition is that the student must know about his actions and not allow them to perform mechanical and memorable actions.

The fourth condition is careful preparation for initial actions and operations. Skills are faster and more successful if operations are performed consciously and systematically. The reader should not be mistaken in their initial actions, as there may be problems with re-reading them. Initial behavioral errors can be repeated and corrected later, and they can be difficult to correct, so it is very useful to say the sequence of operations out loud or not when performing actions. The teacher carefully monitors these actions and operations. The fifth condition is self-control and self-control. The teacher must teach the student to control this.

The sixth condition is to analyze and evaluate exercises, case studies. There are pros and cons to learning skills. Teachers make mistakes and keep students alert.[3] If these skills are fulfilled, practical teaching methods will lead to successful learning materials.

Key factors that contribute and improve established skills and qualifications:

- conscious strengthening of skills and competencies;
- rely on the knowledge gained in their formation;
- prevent mistakes, correct them in a timely manner, that is, prevent unhealthy practices;
- establish uniform pedagogical requirements for all students;
- gradually complicate tasks (transition from the simplest working methods to complex tasks);
- proper use of time for exercise;
- Continuing education to the full development of skills;
- attentiveness of your students;
- regular monitoring of exercises.

RESULTS, DISCUSSION

It is well known that the formation of knowledge, skills and abilities in teaching computer graphics in higher educational institutions, as well as the acquisition of knowledge and knowledge in the field of science. With this in mind, we focus on the preparation and use of additional materials, which are one of the didactic tools in the lessons.

Let's see what additional materials for computer graphics should be and how to handle them. Additional material on each topic should be developed to strengthen theoretical knowledge and provide students with skills and knowledge. Each laboratory task is designed to ensure the consistent execution of evolutionary sequences, i.e. step-by-step steps. Then the students will be given assignments for independent work ..

Theoretical knowledge obtained from traditional teaching methods is verified by practical verification and consolidation of common goals. The use of these additional materials gives each student a separate task and consolidates the theoretical knowledge gained.

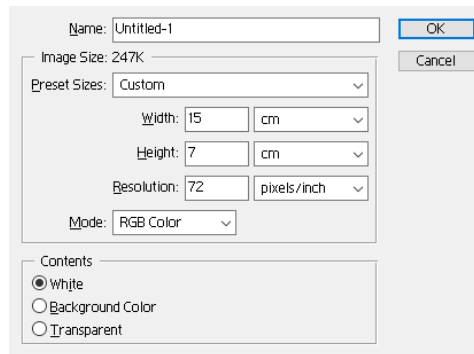
The advantages of this approach to learning are as follows:

- less time for training;
- ensuring the individual work of students;
- make sure that the area of computer graphics is wide;

As an example, consider the following additional material for creating special effects using Adobe Photoshop 7. The purpose of choosing this version of Adobe Photoshop is that it does not take much time to load and is a simpler version than other versions:

LASER NOTE**Purpose:** performing actions such as filter, tone line, channel.[2]

1. Open Adobe Photoshop. **File** ► **New** (<Ctrl>+<N>).
2. Set the following options:




3. Make the following observation using the Type tool. **T**:

Font Type: Time New Roman
Appearance: ***Bold***
size: 150 pixel
color: black

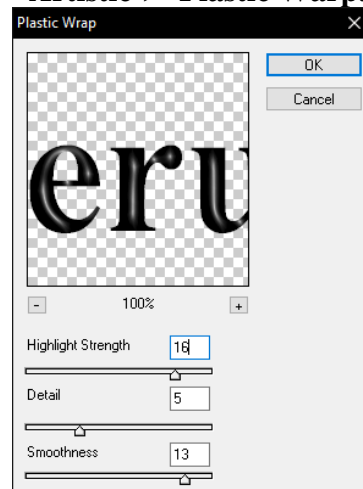


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4. Center the recording in the center of the image. **Move**  .

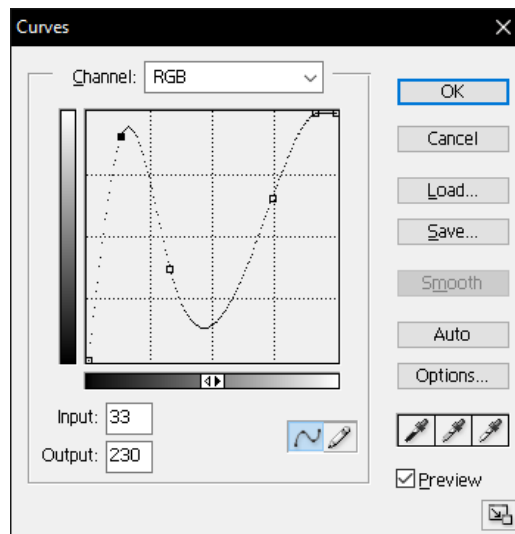
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5. Move text to layer **Layer** ► **Rasterize** ► **Layer**.
6. Next apply filter: **Filter** ► **Artistic** ► **Plastic Warp...**



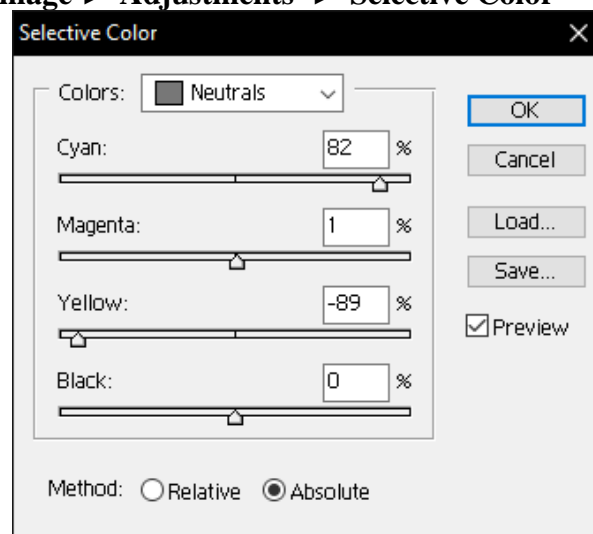
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7. Create the following line from the window generated by the sequence: note that the line looks like this **Image ► Adjustments ► Curves** (Ctrl+M) .
- 8.



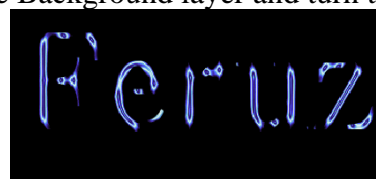
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9. Make laser color: **Image ► Adjustments ► Selective Color**

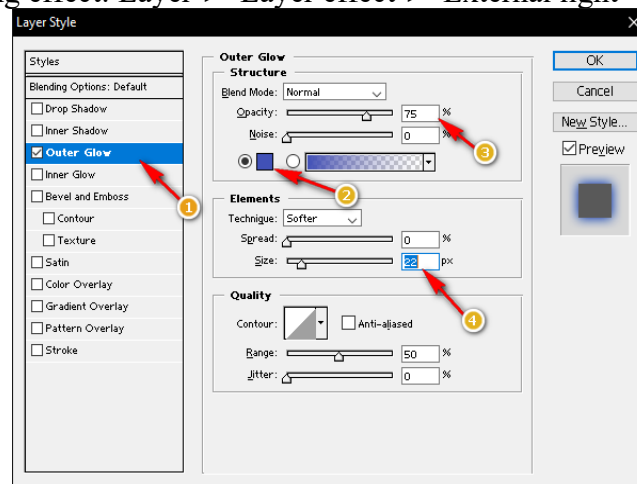


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10. In the Layers panel, go to the Background layer and turn the background black



11. Go back to the recording layer.
12. Make the following effect: Layer ► Layer effect ► External light



13. Merge layer (Ctrl+E)
14. Save the finished image to a folder. [1]

After completing this laboratory work, each student is assigned separate tasks in the same sequence. The teacher analyzes the results obtained by partially changing the values of individual steps in the process of implementation, and creates knowledge, skills and abilities in this subject.

This type of additional material can be regularly used in each lesson, depending on the number of subject lessons that will be effectively used in the learning process. This will increase the effectiveness of teaching, as well as the gradual implementation of scientific tasks of students and motivates them with knowledge and skills..

CONCLUSIONS

Thus, based on the above data, laboratory classes in computer science in higher education institutions are used in the process of completing assignments. We considered the preparation of the aforementioned laboratory tasks in a specific subject, in which the laboratory classes consisted of a series of steps, and the result was achieved. After completing this lab assignment, each student will be given separate assignments. During the assignment, students will acquire the knowledge and skills that they need in science.

REFERENCES

1. Tangirov XE, Rakhmonkulov FP, Musurmanov U.A. Methodical instructions on how to perform laboratory work on computer graphics for Adobe Photoshop. - Djizakh, "Sangzor" – 92-p

2. Bosova L.L., Bosova A.Yu., Zubchenok N.E. The creation and use of electronic educational resources for general education: a monograph. - M.: MGPU, 2014. - 192 p.
3. Minkovich Tatyana Vladimirovna. Laboratory and practical work in the methodological training of computer science teachers. - Innovative projects and programs in education 2009-y №5 48-55-p.
4. Personalizing Education: from research to policy and practice, Paper No11, September 2007.
5. Tangirov H.E., Rakhmatov A.Sh., Raxmonkulov F.P. The main technologies for the creation of electronic teaching aids // Actual scientific research in the modern world: XIII International. scientific Conf., May 26-27, 2016, Pereyaslav-Khmelnitsky. // Sat scientific works - Pereyaslav-Khmelnitsky, 2016. - Issue. 5 (13), part 4 .- 108-112-p.
6. Non-governmental educational institution of additional education "INTELLIGENCE" Adobe Photoshop. Task number 2.6. Text effects. Laser inscription (imitation of neon light) Filters, tone curves, channels Available from World Wide Web: <http://www.modern-computer.ru/practice/photoshop/practical-task-2-6.html>.
7. Tangirov H.E., Mamatkulova U.E., Bazarboeva Ch.A., Egamkulov Sh.A. The use of electronic educational resources in teaching algebra in secondary schools // Young scientist. Monthly scientific journal. - Russia, Chita: - 2018. - No. 6 (192). -198-201-p.
8. Tangirov Kh.E. The use of electronic educational resources for individualization in the process of teaching algebra in schools // European Journal of Research and Reflection in Educational Sciences. Progressive Academic Publishing, UK. 2019, Vol. 7, No. 3, - pp. 43-48.