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SCIENTIFIC AND METHODICAL BASIS OF ORGANIZATION AND TEACHING OF DRAWING LESSONS IN GENERAL SECONDARY SCHOOLS

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Annotation. It was shown that at different stages of drawing training not only the application of knowledge to new conditions, but also the solution of the initial state of the graphic material with a high degree of replacement is an important condition for the development of graphic thinking.
Keywords. Drawing, teaching, knowledge, graphics, thinking, development, student, textbook, lesson, assignment.

Introduction

The purpose of teaching drawing is also to teach students to acquire new knowledge using textbooks and reference books. Thus, the acquisition of new knowledge is combined not only with their consolidation, but also with the formation of specific skills and competencies. Such lessons can be enriched with different content depending on the content of the new teaching material and the order of its consolidation. One of the necessary requirements for this type of lessons is to check the independent work of students.

In the lessons of strengthening and improving knowledge and skills, students re-understand and make sense of the material being studied. At this time, it is possible to consolidate knowledge and apply it creatively in practice.

One of the most important distinguishing features of the lessons on the structure and consolidation of knowledge and skills is the performance of exercises and a variety of graphic and practical tasks. In order to develop graphic skills and abilities correctly and systematically, it is important to plan these activities in the lesson system and set a clear goal for each of them. At the same time, the practicality and vitality of the tasks are important.

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Another feature of these lessons is the correct organization of individual work according to the ability of students and the pace of work. Depending on the nature of the students 'learning activities (modeling, drawing, reading drawings, etc.), the lessons can be of different content. Demonstrating to students the rational methods of working on drawings and fostering a creative approach to solving graphic and practical exercises should be the focus of the teacher.

The success of the lesson also depends on its correct completion, the assessment of student work. To this end, cross-checking students' work and discussing their answers will increase the effectiveness of such lessons.

3. The knowledge of the graphic material studied in the lessons of repetition and generalization is recalled and systematized, gaps in knowledge are filled, the main purpose of the topic, the section is revealed in more depth.

Repetition-generalization lessons on drawing are held after the study of a topic or section and at the end of the academic year.

If there is a discrepancy in children's knowledge, it is necessary to try to find a way to equalize them. It is also helpful to use such a lesson after learning large sections of the drawing course (e.g., basics of projection, cuts, and cuts). Generalization and systematization of knowledge should not take up all the time of the lesson. Conversely, completing specific assignments with the entire class that require recall of previously acquired knowledge can be of great benefit.

Some teachers and methodologists take into account the shortcomings and errors in the knowledge of students. As a result, it is determined whether these shortcomings and errors are typical or accidental, and it is possible to find ways to improve the teacher's work methods in overcoming them.

The purpose of the knowledge, skills and competency testing lessons is to provide each student with a basis for a reasonable assessment of their level of preparation in graphics, to determine their level of awareness and the strength of their knowledge of graphics.

Assessment of the level of knowledge, in turn, allows to identify timely measures to increase the level of knowledge of students. Checking helps to systematize and consolidate students 'knowledge. Thus, the work of knowledge testing always serves to improve knowledge.

A feature of drawing lessons is that it is possible to systematically monitor each student in each lesson and throughout the school year and assess their knowledge. In addition, in some classes, the organization of peer review of student work is of great benefit, facilitating the work of the teacher.

The main part

The drawing program aims to perform the following learning tasks:

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1. To give students a general idea of the rules of the Unified Design System (ESKD);

2. Develop skills in geometric constructions;

3. Formation of knowledge on teaching the basics of projection. Achieve the skills of making geometric models and simple angles of simple details and axonometric projections;

4. Develop the skills of reading drawings;

5. Development of students' spatial imagination and graphic thinking;

The curriculum for the 8th grade consists of eight sections, and the "Introduction" section is organized in the form of a report.

The second section, "Rules for Drawing Thrones," is designed to be memorized by students.

With the help of educational materials "Drawing fonts" students are expected to have the maximum knowledge and skills in writing letters and numbers in standard fonts. The skills required to master these materials are developed during the course.

It is advisable to study the topic of "Drawing fonts" before the rules of sizing on the basis of the "Calendar-thematic plan" attached to the program.

In order to effectively study the “Geometric Constructions” in the fourth section, students must be fully armed with drawing tools.

«Fundamentals of projection. Rectangular Preferences ”and“ Views ”form the basis of the program. The content of these sections provides for the incorporation of elements of descriptive geometry and the introduction of general concepts of octant and epyur, as well as the use of more educational posters in explaining the projections of dots, straight lines and thiocyan shapes.

The parallel study of educational materials in the section "Axonometric projections" with right-angled projections allows to increase students' spatial imagination.

In the section "Reading drawings" special attention should be paid to the work of comparison and analysis of axonometric and right-angled projections.

A good lesson leaves a deep mark on the minds of the students, from such a lesson the teacher feels a sense of curiosity. But the success of teaching depends not only on the effectiveness of each lesson, but most importantly on its sequence. Accordingly, in lesson planning it is necessary to pay special attention to the correct separation of skills required for mastering the program materials, the definition of concepts and teaching methods for students and the system of their formation, distribution of teaching materials to lessons, thematic planning.

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Ўқувчиларни графикага оид саводга ўргатишда дарсга қўйиладиган талаблар қуйидагилар:

1. While the teacher must have sufficient didactic preparation, he must work creatively;

2. The level of readiness of students before this lesson should be high;

3. There should be textbooks, didactic and instructional materials and teaching aids;

4. There should be a relationship of mutual respect between the teacher and the students, a good mood in the classroom.

However, the quality of the lesson, which is organized without a good understanding of the didactic purpose of the topic, may vary depending on the general pedagogical conditions. Therefore, there are great demands on the definition of the didactic purpose of the lesson, which stems from the didactic principles.

The following conditions arising from the analysis of pedagogical literature should be observed in the organization of the lesson.

- Defining the purpose of the lesson (what will be achieved in the lesson). The issues of teaching, development and upbringing, which are the tasks of the educational process, should be reflected, the general didactic purpose (mastering of new graphic concepts, structure of skills, formation of acceptable methods of work) should be defined.

- preparation of the content of the educational material and determination of the volume and complexity of the graphic material according to the capabilities of students; linking the content of educational material with life, previously studied materials and methods of mental and practical work; identification of a system of graphic learning tasks and independent work performed by students, identification of classroom equipment and resources of a basic and reference nature.

- Defining the didactic and educational tasks of the lesson. The complexity of graphical and practical problems can cause mental strain on students, but their solution must be appropriate to the learning opportunities of the children.

- the choice of teaching methods and techniques that correspond to the content and didactic purposes of the educational material.

- Perform all didactic tasks in the classroom as much as possible without leaving home.

When planning the content of the training material should not go beyond the scope of the program.

The above conditions are the basis of the general requirements for a modern lesson.

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The organization of educational material from drawing will depend on the development of a curriculum to improve the quality of graphic training of students. In order to achieve the lesson goal, it is necessary to have a well-thought-out plan of each lesson, a clear understanding of the purpose of the lesson, a clear idea of the types of lessons, the method of describing the topic. There is a great demand for drawing in modern development, the more methodologically perfect the teaching of drawing in school, the faster the student learns to read and perform drawings, which are necessary for almost all areas of human activity.

Like other subjects, drawing lessons require students to acquire a certain amount of knowledge and skills. what students need to make a lesson interesting This question shows that leading theorists need to know, first and foremost, the conditions under which the lesson is organized.

The following four most important conditions can be included in the pedagogical environment: the first condition is that the teacher has sufficient didactic training; the second condition is the high level of pre-school preparation of students; the third condition is the availability of textbooks, didactic and instructional materials and teaching aids; the fourth condition is that there should be a relationship of mutual respect between the teacher and the students, that a good mood prevails in the class community.

However, depending on the general pedagogical conditions, the quality of the lesson, organized without a good understanding of the didactic purpose of the topic, may vary. Therefore, there are great demands on the definition of the didactic purpose of the lesson, which are based on didactic principles. The following rules should be followed in the organization of the lesson, based on the analysis of pedagogical literature.

The first rule is to define the purpose of the lesson (what will be achieved in the lesson). the issues of teaching, development and upbringing, which are the tasks of the educational process, should be reflected, the general didactic purpose (acquisition of new graphic concepts, composition of skills, formation of optimal working methods) should be defined.

The second rule is to prepare the content of the teaching material and determine the size and complexity of the graphic material according to the capabilities of teachers; linking the content of educational material with life, previously studied materials and methods of mental and practical work; identification of a system of graphic learning tasks and independent work performed by students, identification of teaching aids and resources of a basic and reference nature.

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The third rule is to determine the didactic and educational tasks of the lesson. The complexity of graphical and practical problems can cause mental strain on students, but their solution must be appropriate to the learning opportunities of the children.

The fourth rule is to choose teaching methods and techniques that are appropriate to the content and didactic objectives of the teaching material.

The fifth rule is to do all the didactic tasks in the classroom as much as possible without leaving home. not to deviate from the scope of the program in planning the content of the training material, etc.

One of the most complex issues of modern didactics is the content of lessons. The definition of the content of the lesson should be based on the didactic goals of solving learning tasks in the stages of joint activity of teacher and student. the appropriate content and methods of study work are selected for each stage. The structure of the lesson is formed from a clear sequence of these steps. If the content of the lesson is not well structured, its learning goal will not be achieved. Each component of the lesson is divided into specific tasks, all of which are aimed at achieving a specific didactic goal of the lesson. Thus, the content of the lesson means the ways in which the teacher and students work together, which is logically complete and meaningful in the form of successive stages.

If the process of demonstration is approached from the point of view of the character of the student's activity, then it can be called a method of knowing the student's observation. How to approach the definition of the system of teaching methods How to distinguish them by signs Is there a key feature that is important in determining the method of teaching These questions can be answered by analyzing the pedagogical process. in the learning process, the teacher motivates students to learn from ignorance. She explains knowledge to students, demonstrates a variety of subjects, visual aids or work methods, conducts interviews, teaches how to work with a book, organizes and conducts students 'independent work. students understand the teacher's explanation, participate in conversations, observe, read textbooks, and use reference materials, and perform a variety of practical and graphic work under the guidance of a teacher. Thus, students gain knowledge from a variety of sources. Therefore, the source of knowledge can be considered as the main criterion in the division of teaching methods into types. Often the concept of 'teaching methods' is confused with 'teaching methods'. But this is certainly not the same phenomenon in the pedagogical process. That is why it is necessary to be able to distinguish these concepts.

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Teaching methods consist of individual elements, which are called methodological methods. Methodological methods or teaching methods are an integral part of a method or individual action. The methodical method alone does not lead to a complete didactic result, so it is of auxiliary importance.

The components of the method can be further broken down into more complex elements. For example, when displaying an object, it is possible to distinguish its location in space, its placement and rotation.

It can be seen that although the methods are complex and extremely complex, they remain an integral part of the method in any case, and it is of ancillary importance. Based on the theoretical analysis of research conducted in recent years and the work experience of advanced teachers, the following methods of teaching drawing can be shown:

1) Demonstration of visual materials, oral presentation of knowledge, demonstration of graphic and practical methods of work;

2) conduct a conversation, showing the methods of work;

3) observation;

4) modeling;

5) oral reading of the drawing;

6) creation of images;

7) work with textbooks and reference books.

in the teaching process, methods and techniques are manifested in various combinations or in some cases as an independent method, and in other cases as a teaching method. For example, conversation is an independent method of teaching, says A. D. Botvinnikov. If the teacher uses them from time to time during practical work to focus the students 'attention on a work process, correct mistakes in the drawing, etc., the conversation will manifest itself as a teaching method that is part of the exercise method.

While the teaching methods that ensure students' acceptance and mastery of the material being studied are diverse, it is not appropriate to prioritize any of them. Therefore, in practice, it is impossible to use only one method, because the activation of practical and thinking activities of students can be achieved by combining different methods.

The diversity of teaching methods raises a complex question for the teacher: what methods should be used in a particular lesson. Depending on the content of the teaching material, the choice of teaching method depends on many factors. deepen with the design program and its guidelines for identification; to get acquainted with the content of the textbook in order to determine the scientific, educational, ideological concepts, skills and learning that students need to master

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based on the goals and objectives of the topic; determine at what stage of disclosure exactly what types of lessons can be used, what graphic and practical tasks can be studied independently; express the set of tasks that should provide the didactic goals of the lesson; select the optimal content of education for this lesson and highlight the most important of them; choose the criteria of harmonization of teaching methods and tools in accordance with the objectives of education; in the lesson, students should choose organizational forms of learning activities.

The implementation of the above work in the planning of the learning process allows you to choose teaching methods. The selection of the most commonly used teaching methods in drawing is shown in Table 1. the choice of teaching methods depends primarily on the content of the teaching material, the level of preparation of students, the capabilities of the teacher and the didactic content of the lesson. It should be noted that the judicious use of several teaching methods in one lesson creates the basis for the real acquisition of knowledge of graphics, increase the effectiveness of students' cognition, change their types of learning activities. This helps to activate students 'learning activities.

In most schools, students are in drawing classes

Draw complex machine parts drawings,

then they make details on factory lathes according to these drawings.

Students are very interested in such work because they see the results of their work directly. To make such a connection between drawing and production labor, the teacher must know the production and understand the process of processing the details.It is no secret that many drawing teachers do not know how to determine the tolerances and transitions, as well as the cleanliness of surfaces.

It is very useful for a teacher who organizes a production tour to know what to tell the teachers in advance. Here the main purpose of the drawing course is to teach students to draw, to show the essence and role of drawing in production.

The mentioned and other forms of the connection of drawing with production help students to acquire knowledge more deeply.

The success of educational work in drawing classes depends in many respects on the ideological and political readiness of the teacher, his ability to understand the most important issues posed by society to the school. The process of learning leads to the negative side of a badly educated student, just as upbringing does not lead to you. Drawing teachers need to contribute to such an important work as educating the people of the future society. For this contribution to be complete, it is necessary to have a clear and unambiguous understanding of the goals and objectives of educational work in the process of teaching drawing. However, to date, there is no research or recommendation on educational work in drawing

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classes in our country. This poses a particular challenge, especially for young teachers. In addition to performing teaching tasks, the teacher also has a huge educational impact on students. However, the educational impact of his education on the student also depends on the spiritual image of the teacher. As a teacher nurtures faith in his students, he is primarily influenced by the forces of his faith. First of all, the correct organization of lessons and methods and techniques of their conduct, the validity of the material, the depth of the evidence has a great educational effect on students.

Graphical representation of information is widely used in all spheres of society. Because graphic images differ from other media by their imagery, definition, conciseness and ease of reading. It is these qualities of graphic images that require expanding the scope of their use.

The results of worldwide research predict that 60-70% of information will be presented in graphical form.

Therefore, increasing the effectiveness of the composition of graphic knowledge and skills in students remains one of the most pressing issues. The scientific substantiation of the problem of formation of knowledge and skills in students in accordance with the improved State educational standards and curricula requires taking into account the features of objective necessity. Because in the process of social, economic, spiritual and educational development of society, there is a need to update any subject, to adapt to new conditions. The first of these is the mismatch between the actual content of the school drawing course and the high demands placed on the media.

Automation and computerization of all stages of production are making significant changes in the content of the nature of human labor activity.

In recent times, much of the labor in production has been placed on machines. As a result, the labor process has become much simpler, and the share of rich mental labor associated with the reception and assimilation of various information is increasing.

One of the characteristic features of human labor in modern production conditions is its mediation in the management of technical objects and technological processes. Communication in various sectors of human production is carried out not with the real objects themselves, but through schematic control panels that replace real passing events and processes.

In today's conditions of material production, there is a need to qualitatively update the composition and design of media.

Two ways of coding system related to solving this problem have been identified.

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First, it is necessary to create a system in which the shape of the selected characters can fully reflect the spatial properties and relationships of the object being depicted. However, in most cases, this is achieved with difficulty. This is because while some methods of graphic representation, such as a technical drawing or, conversely, a continental image, fully reflect the shape of an object and its spatial relationships, others are depicted abstractly in the drawing, regardless of the real spatial properties and relationships of the object. Real images are able to provide one-sided information about the shape of an object, its spatial relationships, and cannot provide its size and other relevant technical data.

The second way has to do with the idea of depicting objects through symbols in a way that is not reminiscent of real properties and relationships. Many simplifications and conventions are reflected in the design documents. Some are planned for implementation. In some specialized industries (electrical engineering, instrumentation, etc.) a number of works have been done to normalize and simplify the drawings of simple parts, tools, parts and the like.

Thus, there is a growing trend of schematization and formalization, which helps to fully reflect the objects with their essence and features. In such circumstances, it is natural that high demands are placed on the quality of graphic training of schoolchildren.

Due to the development of technique and technology, the discrepancy between the modern requirements for the level of graphic training of students and the practice of teaching drawing in school, the didactic teaching of the course is explained by the training of specialists.

A graphical concept is a set of laws, tariffs, and uniform (ECKD) rules required to reflect the properties and relationships of spatial objects in a plane. When developing a new textbook, a list of concepts on each topic is given in the list below the paragraphs, and their tariffs are given in the margins within the text. The advantage of this is that, firstly, it helps the reader to distinguish the important feature from the unimportant, and secondly, it helps the reader to find the concepts under the paragraph in the text and learn its essence.

In short, a lot of effective work has been done in the field of education, as in all areas. High changes in the field of education have focused on the creative process, creativity of our youth, and a lot of effective work has been done. In recent years, the "Center for Youth Creativity" and similar institutions that direct our youth to creativity are increasing. In drawing classes, too, our focus is on directing young people to creativity. The organization of lessons using new pedagogical technologies in the educational process increases the interest of students in science.

The modern requirements for the science of drawing should develop students' knowledge and ensure that they supplement their knowledge, skills and abilities independently. In the implementation of these issues, it is necessary to adhere to the didactic principles of teaching in the teaching process, so that the necessary

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conditions are created for the implementation of the above tasks. Didactic principles are the scientific basis of teaching. Consistency in the acquisition of graphic knowledge ensures the development of both the level of knowledge and the ability of students. The principle of consistency The selection of drawings for reading drawings requires skill and pedagogically correct selection of drawings by the teacher.

The methods used in the process of teaching drawing were studied and analyzed in theoretical and practical research, the necessary conclusions were drawn.

It was shown that at different stages of drawing training not only the application of knowledge to new conditions, but also the solution of the initial state of the graphic material with a high degree of replacement is an important condition for the development of graphic thinking.

From the pedagogical and psychological point of view, the characteristics of students' graphic activities, the state of didactic support of the educational process were analyzed in terms of the essence and directions of methodological developments used in school, problems of cognitive development. Graphic changes used in teaching practice have been found to have different effects on students 'thinking activities.

In the practice of general secondary schools, the graphic literacy status of students was determined. The work experience of advanced drawing teachers was studied and comprehensively analyzed. Ways have been developed to use problem-based teaching methods and to compile a syllabus for the lesson with the preparation of all teaching aids.

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