IMPROVEMENT OF COGNITIVE COMPETENCIES OF STUDENTS IN THE TEACHING OF DRAWING SCIENCE

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Abstract: In the following article the modern methods of perfection of the cognitive competencies of the students in teaching the lesson of drawing are analyzed based on the available data. The article provides information about the Department of drawing and drafting Sciences.

Keywords: drawing, painting software, project, design, positioning, updated cognitive, digital, autopsychological competencies

INTRODUCTION. Drawing is an important and mandatory subject in classes for future technical specialists in secondary and higher educational institutions. Currently, there are many different drawing programs, among which professional (paid) and simplified (free) programs can be distinguished. For you, we have prepared an overview of the most popular and multifunctional of them. Nowadays, it is possible not only to draw complex sketches with their tool, but also to print the finished drawing, view and correct it if necessary, and also create one's own projects. Some methods of applying innovative technologies in drawing projection are discussed

METHODS. Graphite (general application). Designed for creating two- and three-dimensional drawings, organizational charts and diagrams of various levels of complexity and detail. The program has several functions and tools to create drawings quickly and accurately. Space has a binding system, the ability to create custom libraries, flexible dimensions, and more. This program is suitable for technical university students, engineers and ordinary users. It allows you to create multi-page PDF documents and provides accurate import and export of images in popular CAD formats.

The principle of operation is to build a project drawn from 2D and 3D components. This allows us to create the simplest drawing and the most complex mechanism. It works with three formats: DXF, DVG and DXF [1].

Unlike the previous program, AutoCAD does not work with the Western European ESCD system, but only offers an international program. In addition, its disadvantages include the high price of the full-featured version.

The most important conceptual position of the innovative platform is the student as an active participant (subject) who activates the process of professional formation of a person who has the general and professional competencies included in the state education standard and additionally has updated cognitive, digital, autopsychological competencies uses All this is recorded in the innovative future adaptive model of the teacher developed in schools.

Cognitive competence refers to the skills of critical, systematic, strategic, creative thinking, as well as the skills of designing individual educational trajectories in terms of the concept of lifelong education. Information and communication (digital) competence includes:

skills for working with educational portals, online course platforms, project communication skills in online groups, skills for creating adaptive e-textbooks taking into account students' cognitive styles and thinking types , skills in programming educational games, as well as digital technologies for education. skills to use in self-development [2, 45].

Autopsychological (regulatory) competence includes the skills of managing physical and psychophysiological resources, emotional and motivational self-management, time and stress management skills in professional activities, as well as psycho-hygiene skills of information work. includes mastering ("digital sketching", "introduction of necessary information for the science of drawing").

Art (artistic) projects are essentially universal: they are high-tech classes on artistic subjects, educational activities among students, as well as a form of school career guidance among urban high school students. can be The main advantage of the art project is that students are its active partners. Every art project takes a long time to develop and implement among the audience. Below are the basic requirements for drawing.

1. Forming a creative group of students for drawing work, forming the theme, goals and tasks of an artistic project in drawing;

2. Work on an information project: collecting, classifying, analyzing, processing and summarizing information on the subject;

3. Identifying the main problems on the topic of the art project, developing problematic issues for discussion with the audience;

5. Creating an artistic project structure;

6. Select, process and mark the content of projects for drawing work;

8. Development of a detailed scenario of an artistic project;

9. Creating an electronic support system for an artistic project: selecting, processing and creating audio and video materials, creating presentations;

10. Creating costumes and props;

11. Distribute drawings in class and study them;

12. Selection and study of drawing compositions, miniatures, etc.;

13. Individual, differentiated, group and consolidated art project exercises;

14. Creating advertising for an artistic project (advertising posters, booklets, calendars);

15. Implementation of an art project among students.

Each of the listed stages of work helps to form and develop most of the students' skills, which make up cognitive, digital and autopsychological competencies - the main components of the adaptive model of the future innovative type of teacher.

The most important stage of working on a drawing project is the so-called "creating ideas", identifying the main problems on which its structure will be built, as well as developing problematic issues for discussion with the audience during the artistic project (the most difficult universal problem usually turns into a mini-discussion problem).

This stage of drawing works develops critical thinking - the most important component of cognitive competence. Critical thinking is also formed at the initial stage of working on an artistic project, collecting, classifying, analyzing, processing and summarizing information on the subject.

Creative, systematic and strategic thinking of students is formed when working on drawing projects, which are important components of cognitive competence for them.

An artistic project is a special system of presenting new knowledge, creating a unique educational and educational environment with high information and emotional saturation, rich semantic potential and relative freedom of communication. Systematic and strategic thinking skills are developed primarily in the creation of the structure and scenario of an artistic project.

The most important component of cognitive competence is the formation of creative thinking. Artistic design opens wide opportunities to show creative abilities of every student.

When creating an art project, students can: adapt source texts for the intended audience, create a script for an art project.

Demonstrate the skills of painting, draw a certain miniature, describe it in words, perform this very miniature on computer technologists, create costumes and props, create ICT accompaniment, create advertising for an art project, organize an audience (games , develop and conduct quests), communicate with the audience, conduct dialogues (mini-conversations), form and argue their point of view, develop mini-debates and transfer etc.

One of the important conditions of the drawing lesson is that during the lesson, the most creative students can participate in the creation of sketches, sketches and templates for miniatures and still lifes in cooperation with the teacher.

Another component of cognitive competence is the ability to design individual learning trajectories. In art design, students are grouped into small groups of 7-10 people, each working on their own art project. In the course of work, each student can choose a business "according to his own desire", according to his capabilities and abilities, everyone will make a decent contribution to the common work.

Self-study in the process of working on projects for drawing classes in senior classes and mutual preparation, mutual assistance, mutual assistance in various tasks are of great importance. Most students master almost all the necessary activities in artistic design.

As a result, the students themselves evaluate the contribution of each member of the group to the collective work on the creation and implementation of the artistic project. Thus, artistic design allows the formation and implementation of individual learning trajectories of students, including the important stages of this process, such as interaction, mutual support and reflection.

This competence is formed while working on artistic drawings. This happens both at the initial stage of artistic design when creating an information project (collecting, classifying, analyzing, processing and summarizing information on the subject), and at the later stage - creating ICT support (system) for an artistic project. presentations and videos that are often filmed and edited by students are submitted using a bridge). The purpose of using ICT in the process of artistic design is to achieve a deeper understanding of the material through imaginative perception, to strengthen its emotional impact, to ensure "immersion in the drawing".

First of all, the lesson begins with the definition that the science of drawing technical drawings, as well as the correct organization of all areas of the drawing industry, is called drawing.

We use innovative technologies in drawing in the execution of educational drawings in geometry, projection drawing and construction drawing.

Before the drawing project among the audience, students create advertising posters, booklets, calendars in order to attract the audience and reward the most active listeners-

participants of the art project. Students' project communication skills are also developing in online communities, because the process of working on artistic projects requires constant communication not only in the classroom, but also between the members of the creative community and the teacher.

Creativity is one of the most "important" activities. The ability to regulate one's physical, psychophysiological, cognitive, emotional, voluntary resources (autopsychological competence) in the course of complex and long-term project activity is an important aspect of forming a future teacher of an innovative type. During the study of the basics of psychology, the information obtained about personality types and thinking styles, psychological defense mechanisms, and strategies for behaving in conflicts will give students a positive "self-image" in the process of preparing and conducting art projects. ” helps to save.

Team building and creative thinking development trainings are held to improve students' ability to manage their physical and psychophysiological resources. Emotional and motivational-voluntary self-management skills are formed through detailed planning of all stages of preparing conversations, role-playing, and drawing projects. In order to master the skills of managing time and artistic composition, a system of quick reports is used in specially created communities ("conversations") in social networks, the support of "flow activities" in the game makes sense (the logic of level achievements).

Autopsychological (regulatory) competence includes the use of "digital drawing". This is not only a temporary rejection of the use of gadgets during classes and activities, but also the formation of the ability of students to find verified information on Internet sites that are checked for reliability and scientific information. In general, working on "future skills" included in the self-psychological competence of the future teacher activates the processes of self-awareness and self-development of the student.

Thus, artistic design in a general education school is an effective means of forming the personality of an innovative type of teacher. Auxiliary projection of graphic processes, design functions and motivational-value, practical-activity, reflexive-evaluation components in the sciences of drawing and drawing geometry by giving priority to the logic of optimal support of creative activity aimed at finding a creative solution to educational and cognitive tasks is determined;

The model of developing students' creative competence by teaching auxiliary projection methods is improved on the basis of the pedagogical design of the technological structure, which strictly defines methodological conditions such as taking into account individual characteristics to the maximum, ensuring the stability of the creative environment, accelerating dialogic joint activity;

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The methodology for the development of creative activity in the sciences of drawing and drawing geometry is improved by increasing the level of feedback with organizational and technical inclinations of heuristic methods aimed at finding the elements needed in the auxiliary projection (construction, projection, technical design,) relying on associative, intuitive and logical. is lost in the search [3, 234].

The pedagogical mechanism of developing the creative thinking of future teachers will be improved on the basis of expanding the positive dynamics of compositional-creative activity to systematically correct the state of reflexivity with the individual educational trajectory of the system of subject-subject relations aimed at revealing the personal potential of the student.

Discussion. Modern computer-aided design systems can solve the problem of developing spatial thinking at a qualitatively new level. Since architectural and construction drawings are studied by students of the faculty of art and graphics at the end of the course "fundamentals of drawing and drawing geometry", the logical continuation of this course, in our opinion, is the presentation of graphical information with a more visual appearance. is learning computer tools. dynamism, high speed of execution of various images, convenient and intuitive graphic interface.

A special influence on the formation of positive motivation is exerted by: the information saturation of the curriculum, its relationship with previously studied material, a clearly realized perspective of the educational work of future teachers, the use of the "success methodology", instilling in the student faith in their abilities and strength, the use of a rating system for assessing students' knowledge.

Modern software used in drawing classes.

The following programs are used for drawing lessons: Adobe Photoshop CC; MyPaint; DrawPlus; Clip Studio Paint; CorelDRAW; Affinity Designer; Autodesk Sketchbook; YouiDraw Drawing; MyBrushes Paint for Mac; Epic Pen; Flame Painter; ChemDoodle; Paintstorm Studio; MyPaint; Mischief; DrawPlus; Clip Studio Paint; Crete; MediBang Paint Pro; Procreate.

In addition to these broad-spectrum programs, there are also narrowly focused programs. For example, for drawing electric circuits: DSSim-PC, sPlan, Circuit program, for designing diagrams and microcircuits using a computer — ExpressPCB.

Summary. A positive motivational attitude to graphic activity can give a significant impetus to design in the field of visual arts education. At the same time, the motivation for effective use of innovative technologies in drawing is determined by the positive attitude of students to the entire educational process, stable internal motives, and the desire to find an original solution to a given graphic task.

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