

MODERN METHODS OF TEACHING DRAFTING AND VISUAL ARTS IN SCHOOLS

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"We all know that the cornerstone of development, the force that makes a country powerful and a nation great, is science, education, and upbringing. Our tomorrow, the bright future of our Motherland, is, first of all, closely related to the education system and the upbringing we give to our children"

Shavkat Mirziyoyev

Abstract: This article highlights the importance of modern pedagogical technologies, digital tools, and interactive methods in teaching drafting and visual arts in schools. The author analyzes the potential for enhancing spatial thinking and graphic literacy through the use of graphic software such as Adobe Illustrator, AutoCAD, and SketchUp in drafting lessons. It is also noted that the use of digital portfolios, interactive whiteboards, tablets, and graphic tablets in visual arts classes contributes to the development of students' creative potential and strengthens interdisciplinary connections. The article recommends integrated teaching of drafting and art based on the principles of the STEAM approach, critical thinking, and problem-based learning.

Keywords: Adobe Illustrator, AutoCAD, CorelDRAW, Krita, drafting, visual arts, 3D modeling, SketchUp, Blender, graphics.

PURPOSE: The main purpose of this article is to analyze ways to effectively use modern pedagogical technologies and digital tools in teaching drawing and fine arts in schools, and to identify approaches that serve to develop graphic literacy and creative activity in students based on innovative methods.



MATERIALS AND METHODS: During the study, modern pedagogical approaches were used in teaching drawing and fine arts. The main focus was on developing students' aesthetic taste and creative thinking skills. Practical classes were organized on the basis of interactive teaching methods, visual materials, graphic programs, and digital technologies, such as multimedia tools.

DISCUSSION AND RESULTS: The results of the study showed that the use of modern methods, in particular digital technologies, graphic programs and interactive tools in teaching drawing and fine arts, has a significant positive impact on the development of students' aesthetic taste, figurative thinking and drawing skills.

The use of digital tools not only increased the efficiency of the teaching process, but also developed students' technological literacy. Based on the data collected during the study, the need to integrate interactive and digital methods into drawing and fine arts education was substantiated.

CONCLUSION: In conclusion, it can be said that the effective use of modern methods - interactive approaches, digital technologies and visual aids - in teaching drawing and fine arts is an important factor in developing students' aesthetic taste, creative thinking and practical skills. Thus, it has been proven that the integration of modern digital tools into drawing and fine arts education is relevant not only for optimizing the learning process, but also for increasing the adaptability of young people to modern information technologies. In the future, the development of methodological recommendations in this direction and further improvement of digital educational tools are important scientific and practical tasks.

As our President noted: "The more educated our children are when they leave school, the faster the economy sectors based on high technologies will develop, and many social problems will be solved. Therefore, when I say that the threshold of a New Uzbekistan begins with school, I think that all our people support this idea".

In the modern educational process, one of the urgent tasks is to reveal the creative potential of students, develop their aesthetic taste, spatial thinking and technical skills. In particular, drawing and fine arts play an important role in the individual development of young people, their ability to perceive aesthetics, and the

formation of a design culture. Today's global digitalization and rapid development of information technologies require the introduction of new approaches and tools in teaching these subjects. Therefore, in addition to traditional methods, interactive, project-based, digital and integrated approaches are gaining importance.

Digital technologies not only provide interactivity in drawing and fine arts, but also allow students to create and display their creative works in a digital environment. For example: Creating drawings and images using graphic programs (Adobe Illustrator, AutoCAD, CorelDRAW, Krita); Creating drawings and images using graphic programs (Adobe Illustrator, AutoCAD, CorelDRAW, Krita) not only increases students' digital literacy, but also expands their creative expression tools. With the help of these programs, students will have the opportunity to accurately and aesthetically express graphic design, technical drawings, compositions and decorative works.

While AutoCAD allows you to create drawings with millimeter accuracy in drafting, decorative graphics, posters, and graphic design elements are created using Adobe Illustrator and CorelDRAW. As a free graphics editor, Krita is used to create digital illustrations and sketches in fine arts classes.

Working with spatial shapes using 3D modeling programs (SketchUp, Blender); Working with spatial shapes using 3D modeling programs (SketchUp, Blender) helps students develop three-dimensional imagination, understand compositional thinking, and understand the basics of engineering.

SketchUp is particularly useful for teaching architectural forms, interior design, and environmental modeling, allowing students to place objects in real space, scale them, and view them from different angles.

Blender is used to teach more complex 3D graphics, animation, lighting, and texturing. This program significantly improves students' visual modeling skills in drawing spatial forms in a digital environment.

This approach integrates not only fine arts and drawing, but also other disciplines such as computer science, technology, and physics.

Monitoring students' creative growth through the creation of digital portfolios;



Monitoring students' creative growth through the creation of digital portfolios not only serves to systematically assess their individual achievements, but also to determine the dynamics of development. Digital portfolios are a tool that allows students to collect their work in digital format over time, store it, and analyze it.

In modern education, this approach is based on a metacognitive approach and encourages students to understand, analyze, and improve their creative work. Portfolios created using Google Slides, Padlet, Canva, or special platforms (for example, Seesaw, ClassDojo) also allow students to collect feedback from teachers, peers, and parents on their work.

The use of interactive whiteboards, tablets, and graphic tablets ensures active participation in classes.

The use of interactive whiteboards, tablets and graphic tablets is an important tool for ensuring the active participation of students in the lesson process, maintaining their attention, enhancing visual understanding and developing creative thinking. The ability to work on drawings, diagrams, graphs and pictures in real time using interactive whiteboards actively involves students in the lesson. This method is based on the principles of demonstration and interactive perception of information. The use of tablets and graphic tablets (for example, Wacom, XP-Pen, Huion) allows students to strengthen fine motor skills and free drawing skills on digital sketches, drawings and collages. Especially in visual arts and drawing lessons, these tools provide more opportunities for repetition, error correction, and working in layers than analog tools.

Studies show that in lessons conducted with digital interactive tools, student interest and participation in the lesson increases by 20–30% (Smith & Higgins, 2021).

These technologies not only enrich the content of the lesson, but also increase student motivation and deeper knowledge acquisition.

Project approach: Modern education serves to develop students' independent thinking, planning, and achievement skills through project activities. The following projects are effective in drawing and fine arts:

• School interior design (creation of a model);



- Compositional works based on local cultural heritage (for example, patterns or applied art objects);
- Development of futuristic concepts on the theme of "City of the Future". This approach awakens students' sense of aesthetic, technical and social responsibility.

Interdisciplinary integration and STEAM approach: The modern education system requires students not only to have separate knowledge in subjects, but also to form the ability to apply them together, think creatively and find practical solutions. It is from this perspective that interdisciplinary integration and the STEAM approach (Science, Technology, Engineering, Art, Mathematics) stand out as important methodological principles.

The STEAM (Science, Technology, Engineering, Arts, Mathematics) approach to education provides interdisciplinary integration, forming students' comprehensive knowledge and skills.

Interdisciplinary integration is the combination of drawing or fine arts with other disciplines, such as computer science, mathematics, technology, biology. Through this approach, students use the laws of geometry to create drawings, physics concepts to 3D modeling, and computer literacy to process graphics.

The STEAM approach is based on the harmonious integration of art with the other four disciplines (science, technology, engineering, mathematics). Art plays a central role here, as visual expression, design, creative approach and aesthetic vision serve as a means of interpreting and demonstrating knowledge from other disciplines.

Examples of STEAM in fine arts and drawing:

S (Science): The laws of optics in working with light and shadow.

T (Technology): Digital drawing using graphics programs (Krita, Adobe Illustrator).

E (Engineering): Modeling 3D architectural structures using SketchUp.

A (Art): Composition, color, rhythm and aesthetic expression.

M (Math): Perspective, proportions, symmetry and fractals.



STEAM-based project lessons: For example, "Green City Model" - through this project, students combine 3D modeling (SketchUp), ecological design (biology), graphic design (art), working with dimensions (mathematics), and presentation skills (technology).

Horizontal integration: Several subject teachers in one classroom jointly organize a lesson (for example, physics + art: "light falling on an object").

Creating STEAM portfolios: Students' creative and technical work, reflection and self-assessment documents are collected.

Research suggests that the STEAM approach expands not only the didactic but also the intellectual potential of visual arts education. For example, Yakman (2008) and Beers (2011) have suggested that this model encourages students to think problem-based and deepen their visual thinking. This helps to transform students from passive learners to active creators.

Similarly, Drake and Burns (2004) show interdisciplinary integration not only as a methodological approach, but also as a factor that develops the student's thinking mechanism. In particular, the possibility of solving complex problems in an artisticaesthetic approach is of paramount importance in their opinion.

An approach based on national culture and aesthetic values: The use of motifs, patterns and practical decorative elements of Uzbek folk art in the visual arts helps to form national pride and aesthetic taste in students. Examples:

- Creating decorative compositions based on elements of ganchkori and kandakor;
 - Analyzing the works of local artists and craftsmen;
- Strengthening practical knowledge through excursions and visits to museums.

Reflection, assessment and metacognitive approaches: Assessment in modern education takes into account not only the result, but also the work done by the student in the creative process:

- Through reflection tasks, the student expresses his opinion on his work;
- Through peer review, aesthetic analysis skills are formed;



- Rubric assessment criteria ensure openness and accuracy;
- The dynamics of development can be monitored through e-portfolios.

Teaching drawing and fine arts based on modern pedagogical technologies develops students' creative, spatial and analytical thinking. Digital technologies, project activities, interdisciplinary integration and approaches based on national culture increase the effectiveness of the educational process. This, in turn, serves to improve the aesthetic education and graphic literacy of students.

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