

IMPROVING THE METHODOLOGY FOR DEVELOPING STUDENTS' PROFESSIONAL INDIVIDUALITY IN DRAWING CLASSES BASED ON SOFTWARE-BASED EDUCATIONAL TOOLS

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Abstract

This article analyzes the issues of improving the methodology for developing students' professional individuality in drawing classes using software-based educational tools. The research explores the role of digital technologies in mastering spatial thinking, constructive analysis, perspective, and the laws of light and shadow. Pedagogical observation, comparison, and experimental methods were applied. The results indicate that teaching based on software tools effectively develops students' creative thinking and independent activity.

Keywords

professional individuality, digital technologies, software educational tools, drawing, spatial thinking, perspective, light and shadow, creative thinking, electronic portfolio, art education.

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Аннотация

В данной статье анализируются вопросы совершенствования методики развития профессиональной индивидуальности студентов на занятиях по рисунку с использованием программных средств обучения. В исследовании изучается роль цифровых технологий в освоении пространственного мышления, конструктивного анализа, перспективы и законов светотени. Были применены методы педагогического наблюдения, сравнения и эксперимента. Результаты показывают, что обучение на основе программных средств эффективно развивает творческое мышление и самостоятельную деятельность студентов.

Ключевые слова

профессиональная индивидуальность, цифровые технологии, программные средства обучения, рисунок, пространственное мышление, перспектива, светотень, творческое мышление, электронное портфолио, художественное образование.

INTRODUCTION

In the modern system of higher education, the teaching of visual arts is becoming increasingly integrated with digital educational technologies. Modernizing education requires innovative approaches that enhance methodological efficiency. Drawing classes play a central role in shaping the professional individuality of future artist-teachers, including creative thinking, artistic analysis, and independent decision-making.

While traditional drawing education develops observational skills, software tools expand the depth of spatial understanding and constructive analysis. Graphic tablets, digital layers, and visual simulations create new opportunities for a deeper analysis of form and structure. The scientific novelty of this study lies in proposing an integrated methodological model that incorporates software tools into drawing instruction to strengthen students' professional individuality.

METHODS

The study utilized pedagogical observation, comparative analysis, and practical experimentation. Two groups of students participated: a Control Group (n=20) and an Experimental Group (n=20). In the experimental group, lessons were organized using graphic tablets and specialized software. During this process, students actively master the technology of drawing in a digital environment (as



shown in Figure 1).

Figure 1. The process of performing a drawing using a graphic tablet and software. Spatial thinking is developed through 3D modeling, allowing students to analyze forms and observe changes in perspective (see Figure 2).



Figure 2. Spatial analysis of a form based on a 3D model (changing the perspective). Anatomical studies and the use of digital panels for studying head proportions help students master the laws of light and shadow, as well as constructive structure, more rapidly (see Figure 3 and Figure 4). Anatomical studies and the use of digital panels for studying head proportions help students master the laws of light and shadow, as well as constructive structure, more rapidly.

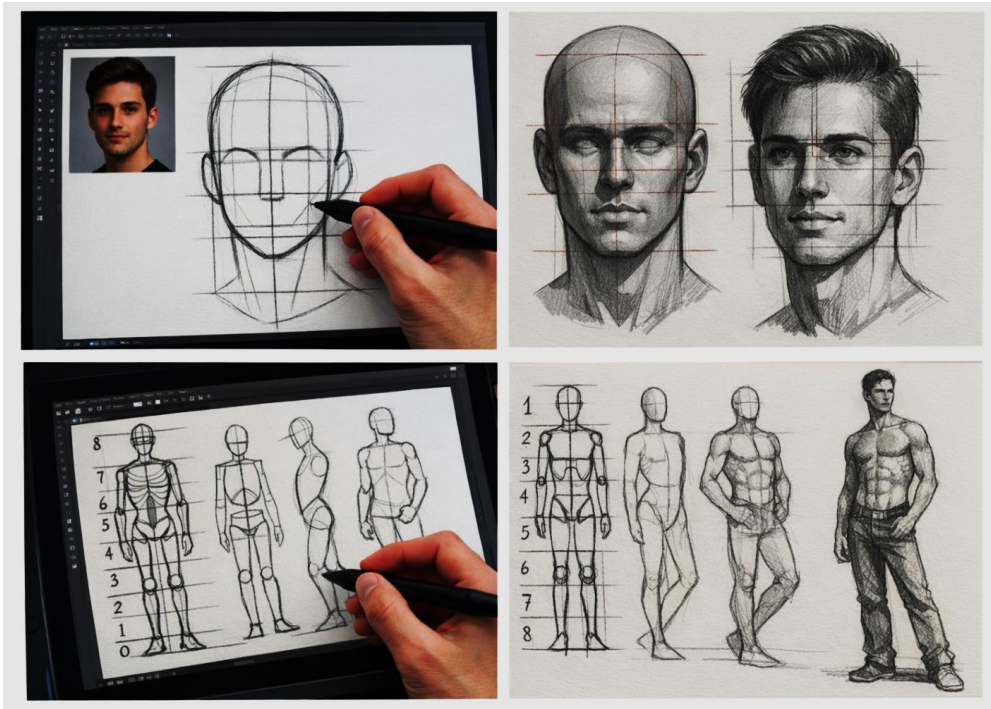


Figure 3. Methodology of using digital anatomical panels to study human head proportions and body structure.

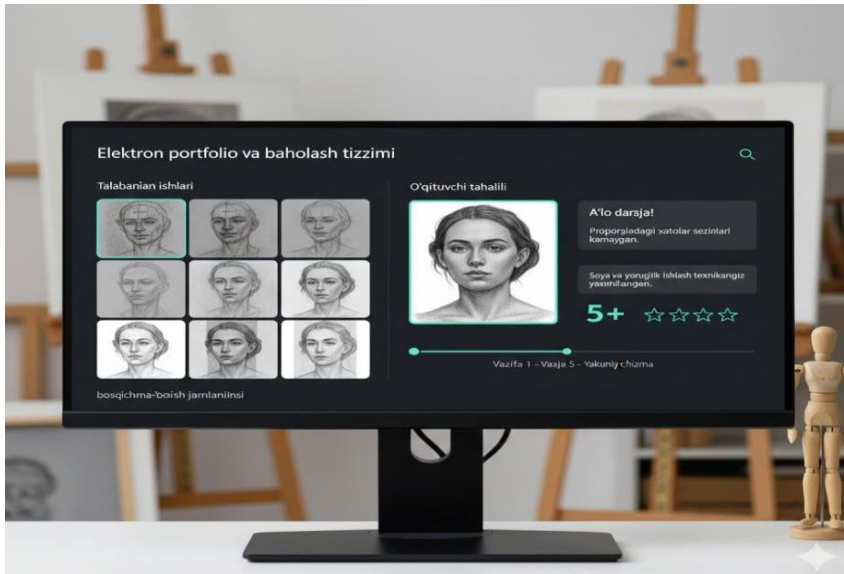
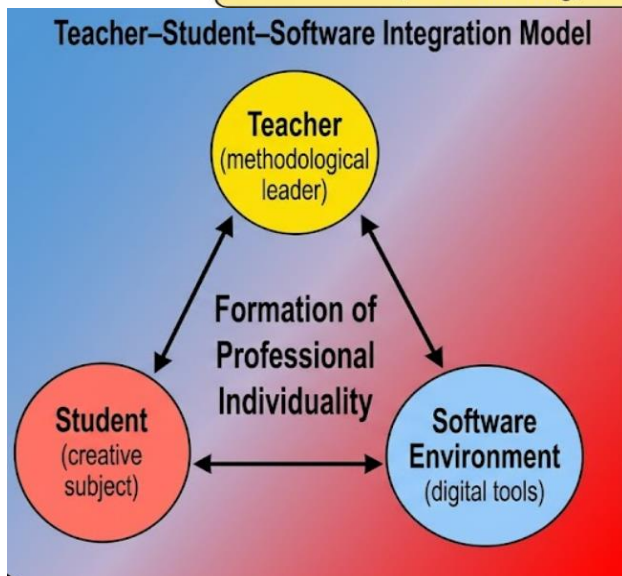
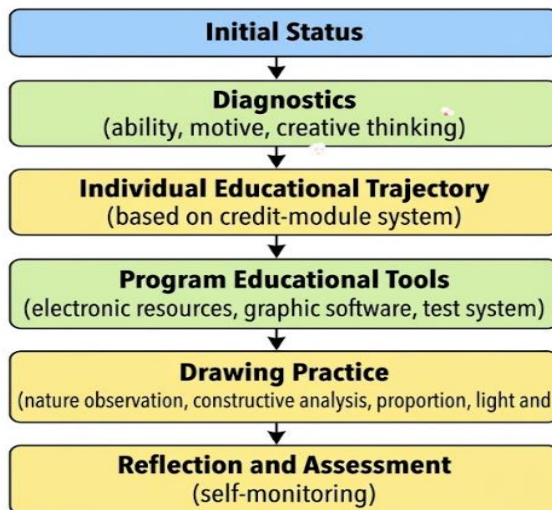


Figure 4. Digital analysis of light and shadow: light, halftone, core shadow, and reflex.

Program-Methodical Model for Developing Students' Professional Individualit



Stages of Organizing Drawing Lessons based on Software Tools

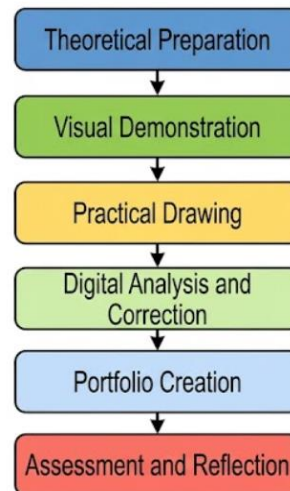


Figure 5. Software-methodological model and step-by-step monitoring system for developing professional individuality.



Figure 6. Integrated creative educational environment of traditional drawing and digital technologies

RESULTS

The effectiveness of the developed methodology was tested through a comparative analysis of the Control and Experimental groups. The use of digital tools led to a more stable mastery of complex graphic tasks.

Table 1. Qualitative indicators of student performance (%)

Indicators	Control Group	Experimental Group	Difference
Accuracy of form and proportions	71%	79%	+8%
Application of perspective rules	69%	77%	+8%
Light and shadow analysis	70%	81%	+11%
Compositional solutions	72%	80%	+8%
Creative independence	68%	78%	+10%

The experimental group demonstrated a significant advantage in the "Light and Shadow Analysis" and "Creative Independence" criteria. This is attributed to the ability to quickly experiment with tonal ranges and lighting sources in a software environment.

DISCUSSION

The integration of software tools does not replace traditional academic drawing but enhances its analytical component. Traditional methods develop the "eye-hand" coordination and emotional sensitivity of the artist. In contrast, digital tools such as 3D modeling and graphic layers allow students to deconstruct complex forms into basic geometric volumes.

Comparative analysis shows that students using digital simulations understand the concept of "reflex" and "halftone" much faster because they can see the physical calculation of light in real-time. This "digital feedback" accelerates the transition from mechanical copying to conscious constructive drawing.

Furthermore, the electronic portfolio system (shown in Figure 4) changes the nature of assessment. Instead of a single final grade, the focus shifts to the *process* of professional growth, allowing the student to see their own evolution, which is a key factor in developing professional individuality.

CONCLUSION

The research confirms that improving the methodology of drawing classes through software-based educational tools leads to a more profound development of students' professional individuality. The main conclusions are:

Digital tools provide a unique environment for spatial analysis that traditional paper-based methods cannot offer.

The experimental data shows a stable improvement in all quality indicators (8-11%), proving the realistic efficiency of the methodology.

The most effective approach is the integrated model, where traditional drawing skills are reinforced by digital analytical tools.

This methodology prepares future artist-teachers for a modern, technology-driven educational landscape while preserving the core values of academic art.

REFERENCES:

1. Abduqodirov, A., Begimqulov, U., & Zakirova, F. (2020). *Pedagogik ta'limda raqamli kompetensiyalarni rivojlantirish* [Development of digital competencies in pedagogical education]. Tashkent: Oliy ta'lim nashriyoti.
2. Arnheim, R. (1974). *Visual Thinking*. University of California Press.
3. Azimov, S. S. (2021). *Improving the professional competence of future teachers of fine arts using computer technology* (PhD dissertation abstract). Karshi.
4. Boymetov, B. (2019). *Tasviriy san'at o'qituvchilarining metodik tayyorgarligi* [Methodological preparation of fine art teachers]. Samarkand: SamDU nashriyoti.
5. Farley, K., & Dufva, T. (2019). *Digital Integration in Art Education*. OECD Reports.
6. Hayrov, R. (2022). *San'at ta'limida raqamli texnologiyalarni qo'llashning metodik asoslari* [Methodological foundations of using digital technologies in art education]. Tashkent: TDPU nashriyoti.
7. Karimov, X. O. (2023). Educational tools and their role in the modern

educational process. *Journal of Fine Arts and Education*, 4(2).

8. Kolb, D. (1984). *Experiential Learning: Experience as the Source of Learning and Development*. Englewood Cliffs, NJ: Prentice Hall.

9. Kraehe, A. (2019). *Art, Pedagogy, and Creative Identity in the Digital Era*. Routledge.

10. Kravchenko, G. (2020). *Digital Art and Pedagogical Design*. Helsinki: Aalto University Press.

11. Mayer, R. E. (2009). *Multimedia Learning*. Cambridge University Press.

12. Nikitina, M. (2021). Visual Literacy and Teacher Reflection in Art Education. *European Journal of Art Studies*, 12(4), 245–259.

13. Pardaeva, M. (2020). Prospects for the introduction of innovations in the modernization of the education system. *Science and Education*, 1(3).

14. Peppler, K. (2017). *Learning by Creating: Digital Art in Schools*. Cambridge, MA: MIT Press.

15. Umarova, N. (2022). *Scientific and methodological foundations of improving the pedagogical process in higher education in the context of digital transformation*. Tashkent.

16. Volkov, N. (2018). *Art Pedagogy and Digital Education*. Moscow: Prosveshcheniye.