FORMATION OF THE AESTHETIC CONSCIOUSNESS OF FUTURE GRAPHIC DESIGNERS IN THE DESIGN OF DESIGN OBJECTS BY MEANS OF DIGITAL TECHNOLOGIES

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ABSTRACT
The purpose of the article is to analyse the impact of digital technologies on the formation of aesthetic consciousness of future graphic designers. The study uses a mixed methodology, including quantitative and qualitative phases. The questionnaires collected objective data on aesthetic consciousness, and in-depth interviews allowed us to consider in detail the individual approaches and creative processes of the participants. The sample size is 45 participants representing different levels of experience in graphic design. The results indicate a significant impact of digital technologies on graphic design, including massification and demassification of creation processes, new perspectives for interactive design, and increased mobility in design. The survey found that 85% of participants regularly use digital technologies, mainly Adobe Illustrator. The observations confirmed the importance of self-expression in the creative process, which is reflected in 45% of the participants' creative decisions. The general tendency is high self-awareness and development of the creative process among future graphic designers, which indicates their readiness for independent and expressive creative activity. The conclusions emphasise that modern digital technologies allow future graphic designers to effectively experiment, improve their work and expand their creative capabilities. This approach contributes to the formation of harmony and emotional expressiveness in their creative solutions, marking a new stage in the development of graphic design under the influence of digital innovations.
Keywords: Formation of Aesthetic Consciousness. Future Graphic Designers. Design Objects. Digital Technologies. Aesthetics. Contemporary Art.

RESUMO
O objetivo do artigo é analisar o impacto das tecnologias digitais na formação da consciência estética de futuros designers gráficos. O estudo usa uma metodologia mista, incluindo fases quantitativas e qualitativas. Os questionários coletaram dados objetivos sobre a consciência estética, e as entrevistas aprofundadas nos permitiram considerar em detalhes as abordagens individuais e os processos criativos dos participantes. O tamanho da amostra é de 45 participantes que representam diferentes níveis de experiência em design gráfico. Os resultados indicam um impacto significativo das tecnologias digitais no design gráfico, incluindo a massificação e a desmassificação dos processos de criação, novas perspectivas para o design interativo e maior mobilidade no design. A pesquisa constatou que 85% dos participantes usam regularmente tecnologias digitais, principalmente o Adobe Illustrator. As observações confirmaram a importância da autoexpressão no processo criativo, o que se reflete em 45% das decisões criativas dos participantes. A tendência geral é a alta autoconsciência e o desenvolvimento do processo criativo entre os futuros designers gráficos, o que indica sua prontidão para a atividade criativa independente e expressiva. As conclusões enfatizam que as tecnologias digitais modernas permitem que os futuros designers gráficos experimentem com eficácia, aprimorem seu trabalho e expandam suas capacidades criativas. Essa abordagem contribui para a formação de harmonia e expressividade emocional em suas soluções criativas, marcando uma nova etapa no desenvolvimento do design gráfico sob a influência das inovações digitais.
Palavras-chave: Formação da consciência estética. Futuros designers gráficos. Objetos de design. Tecnologias digitais. Estética. Arte contemporânea.

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1. INTRODUCTION

In a world saturated with visual information, the role of graphic design is becoming extremely important. In today's world, where information is visually presented all around us, graphic design plays an important role in shaping our perception of the environment and our interaction with it. Reflecting the essence and ideas, graphic objects are distinguished by their aesthetics, which can impress and transform our perception of the world around us. In this context, the use of digital technologies provides graphic designers with new tools and opportunities for creative expression.

This topic highlights an important aspect of the interaction between technology and aesthetic consciousness in contemporary graphic design. Digital technologies push the boundaries and make it possible to experiment with shapes, colours, textures, and other design elements. They create space for the realisation of ideas that were previously difficult or even impossible (Chibalashvil; Tymofiienko, 2022). Thus, digital technologies not only facilitate the creative process but also have a significant impact on the process of creating graphic objects.

Therefore, the purpose of the article is to study the impact of digital technologies on the formation of the aesthetic consciousness of future graphic designers. How do these technologies influence their perception of harmony and emotional expressiveness in their creative solutions? How is this influence realised in the formation of their professional identity and style? All these questions are key in analysing and understanding the importance of integrating digital technologies into the creative process of graphic design and the impact of this merger on the aesthetic dimension of future creators.

2. LITERATURE REVIEW

Aesthetic consciousness is the ability to perceive, understand, and evaluate aesthetic phenomena and values in art and design. Aesthetic consciousness comprehensively includes various components, such as an example, a reference point, and a spiritual goal, which constitute an aesthetic ideal. The aesthetic ideal, in turn, serves as a standard for evoking and encoding artistic emotions (Zhu, 2022).

It is a concept of what a work should be like in order to meet a specific aesthetic ideal of an individual or society.

The aesthetic consciousness of a designer is determined by the development of various methods of creating art objects. At the same time, certain aesthetic tastes or aesthetic and value orientations of society influence the formation of the tastes of the artist, whose creative work affects the development of aesthetic perception in the whole society. This process demonstrates the close relationship between the consciousness of the individual and society, where the line is very thin (Harris, 2009). Thus, the

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interaction between individual and collective aesthetic consciousness creates an important aspect in the development of art and design.

Thus, in the context of graphic design, aesthetic awareness is important for future designers for several reasons (Table 1).

Table 1 – The role of aesthetic awareness in graphic design

Key elements of aesthetic awareness	
1. Taste and style	Aesthetic awareness helps graphic designers develop their own taste and style. This is important for creating unique and expressive works that are marked by a personal approach to aesthetics.
2. Understanding the audience	The ability to understand the aesthetic preferences and perceptions of the audience allows designers to create materials that effectively communicate with the target group. Aesthetic awareness helps to consider cultural, social, and psychological aspects in design.
3. Creating attractive products	Graphic designers who understand aesthetic principles are able to create attractive and aesthetically satisfying products. This is especially important in the modern world, where aesthetics often determine the success of a product or brand.
4. Innovations in design	Aesthetic awareness fosters creativity and innovation in graphic design. Designers who are open to a variety of aesthetic approaches can experiment and implement innovative ideas in their work.
5. Professional development	The development of aesthetic awareness helps designers improve their skills and abilities, which leads to a constant improvement of their professional level (Afanasieva, 2023).

Source: compiled by the authors on the basis of analysis Kurg (2013), Afanasieva (2023)

Contemporary researchers have repeatedly touched upon the problem of the formation of aesthetic consciousness among artists. Kern and Smith-Gary (2018) described the connection between aesthetic self-consciousness and "sensus communis" (common sensibility or shared sensory experience). These authors identified how individual consciousness affects aesthetic experience and how this experience can be shared or common to a larger collective (Kern; Smith-Gary, 2018).

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Katsouraki (2013) studied the phenomenon of aesthetic encounters in the collective consciousness. The author described how shared aesthetic experiences are formed, perceived, and interacted in a collective. This work also highlights the issues of aesthetic impressions and their impact on collective perception (Katsouraki, 2013).

In particular, Mayo (2011) describes models or concepts of collective aesthetic consciousness. The author considers how common aesthetic perceptions or experiences can be formed in a team and influence cultural, artistic, or design phenomena (Mayo, 2011). Hein, she probably considers the connection between aesthetic consciousness and political experience. The author can study how aesthetic ideas and experiences influence political consciousness or how political events influence aesthetic experience (Hein, 1976). In general, aesthetic consciousness is an important element for graphic designers, as it contributes to the development of personal style, the creation of effective and attractive designs, and promotes creativity and innovation in the industry. At the same time, individual aesthetic consciousness influences the creative process of the artist, while interacting with the collective values of society (Mayo, 2011). This relationship can contribute to the formation of new trends in graphic design and art, reflecting changes in aesthetic preferences and perception of beauty in the modern world. Thus, an understanding of aesthetic consciousness plays a key role in creating high-quality and contemporary graphic works that meet the needs and expectations of modern society.

The use of digital technologies in the training of future artists and designers is also an important topic in contemporary research.

González-Zamar and Abad-Segura (2020) investigated the impact of virtual reality (VR) on higher education in the arts. The authors concluded that the use of VR technology can improve the process of learning and creativity in the field of art.

Häkkilä *et al.* (2018) described the impact of virtual reality technologies on design education.

Yilmaz and Goken (2016) investigated the use of virtual reality technologies in industrial design education. The authors consider how VR contributes to learning and improving the quality of education in this field (Yilmaz; Goken, 2016). Kirner and Kirner (2008) focused on the use of virtual reality and augmented reality in the field of simulation visualisation. The authors consider how these technologies are used in the field of modelling and visualisation in different contexts. Hamurcu, Timur and Rızvanoğlu (2020) reviewed the use of virtual reality in industrial design education. The authors can consider the benefits and opportunities of using VR in higher education in industrial design.

Hanna (2023) described the peculiarities of using artificial intelligence in art and advertising creativity. The author describes the application of AI Art Generator Midjourney in terms of artistic and advertising

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creation. Research by Hutson and Olsen (2022) presents a study of the use of virtual reality in art history education. Liu, Chen, and Crabbe (2024) study the interaction of multimedia technologies and virtual reality in art education. The authors describe the interaction of students with digital technologies in art education. Paatela-Nieminen (2021) examined the use of digital technologies in the process of learning art. Freina and Ott (2015) provided a literature review of the use of immersive virtual reality in education in general. The authors described the current state and prospects of VR in educational processes. However, without detracting from the contribution of these authors, the analysis of the impact of digital technologies on the training of art and design professionals remains an urgent task.

3. METHODOLOGY

3.1. RESEARCH DESIGN

Research Approach is a mixed methodology.

1. Quantitative phase: Collection of questionnaire data to objectively measure the aesthetic consciousness of the participants and identify general trends.

2. Qualitative phase: Conducting in-depth interviews to thoroughly explore individual approaches, creative processes, and the specifics of using digital tools.

Based on these phases, the study was conducted to investigate how digital technologies influence the creation of graphic objects and shape the aesthetic consciousness of future graphic designers.

3.2. RESEARCH QUESTIONS

- a) How does the use of digital technologies affect the aesthetic preferences of graphic designers?
- b) What specific aspects of the software (Adobe Illustrator, Figma, Inkscape) influence the creative process and the creation of graphic objects?
- c) How does the use of digital technologies determine the individual style and perception of harmony of participants?
- d) is the impact of digital technologies on the aesthetics of creativity noticeable?

3.3. SAMPLE PROCEDURE AND PARTICIPANTS

The study participants are graphic design students selected based on their experience with graphic editors (Adobe Illustrator, Figma, Inkscape). The study involved students with different levels of experience, ranging from beginners to those who already have some experience using digital tools.

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Sample Size: 45 participants are graduates of the first (bachelor) level of higher education, specialty 022 "Design" of the educational program "Graphic Design" of the State Institution "Luhansk National University named after Taras Shevchenko".

They are divided by experience level: 15 beginners, 20 intermediate users, and 10 advanced users. This ensures a high degree of representativeness and in-depth analysis of user experience.

Sampling Method: random selection. From the list of students studying graphic design, 45 participants were randomly selected.

Informed Consent. Participants were provided with detailed information about the purpose and progress of the study. Written consent was obtained from each participant, with an emphasis on data confidentiality.

Task Assignment. The participants of the study should complete the tasks in graphic editors (Adobe Illustrator, Figma, Inkscape). The assignments are designed to highlight various creative processes and reveal personal style.

3.4. INSTRUMENTS AND DATA COLLECTION

1. Instrumentation

Creative tasks. Participants receive specific tasks aimed at identifying individual approaches, using different tools, and creating unique graphic compositions.

Visual stimuli. The use of visual stimuli to assess the reactions and influence on the creative process of participants.

Questionnaires. Standardised questionnaires to quantify aesthetic preferences, comfort level with digital tools, and the degree of individualisation of the creative process.

In-depth interviews. Interview sessions that include extended dialogues about the creative process, stages of creation, and personal aspects of graphic design.

Observation. We observed the participants' workflow during the tasks, recorded the nuances of their individual approach and reactions to difficulties.

Creative Process Documentation. Collecting data on each stage of the creative process, including concepts, sketches, and revisions. Thus, the data collection for this study was carried out in stages (see Figure 1).

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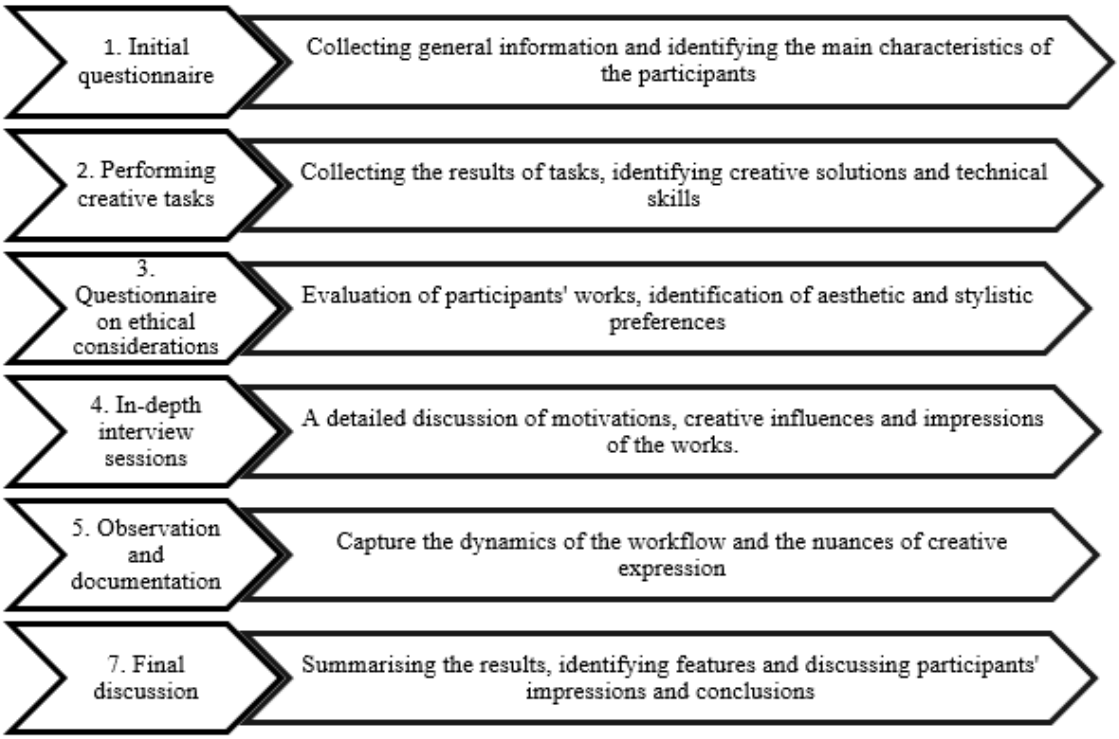
Figure 1 – Stages of data collection



Source : authors' own development

3.5. DATA ANALYSIS

The study used statistical methods to process data from questionnaires, evaluations, and usage metrics. For the purpose of qualitative analysis, the participants' responses from the in-depth interviews were thematically coded. A thematic analysis of the textual feedback was also conducted to identify key themes, trends, and features of the creative approach. We contextualised the results of other studies, i.e. compared our own results with other studies in the field of graphic design and the use of digital tools. This comprehensive analysis allowed us to study not only quantitative but also qualitative aspects of the impact of digital technologies on the creative process and aesthetic preferences of future graphic designers.

4. RESULTS

In recent years, the development of modern computer technologies and methods has seen significant changes in design. The possibilities of digital computer technologies have allowed artists to master a new,

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electronic form of virtual reality, determining the formation of the artistic virtual world. In this context, digital computer technologies are used to create an artificial environment that reflects subjective reality, where the recipient can actively interact and experience real feelings (Sinfield, 2013; Gavilán Gavira, 2023). Graphic design has been greatly influenced by digital computer methods, which have brought it into a completely new, electronic virtual world. These technologies have led to the massification of objects in the process of their creation and demassification in the process of consumption; opened up new perspectives for interactive design; and increased mobility in the field of design (Zeng, Li, & Li, 2023). This is confirmed by a study on the importance of design in brand creation (Martynenko, Lysytsia, Martynenko, & Us, 2023).

Computer technologies allow future graphic designers not only to translate their author's style, manner, and handwriting into the digital environment but can also serve as the basis for the formation of a new general style in art.

The survey found that 85% of participants regularly use digital technologies in their creative work. In particular, Adobe Illustrator was the most popular graphics editor used by 70% of participants, followed by Figma (15%) and Inkscape (15%). At the same time, the study showed that 60% of participants use only the basic functionality of the programmes, and only 30% use more productive tools. For this reason, Table 2 shows the main digital technologies and tools used by future graphic designers. These technologies represent the many tools available to graphic designers. We believe that it is important to choose the one that best suits your needs and work style. Given the intensive use of Adobe Creative Cloud technologies, Adobe Illustrator and InDesign are two powerful tools within Adobe Creative Cloud that are used for various graphic design and print layout tasks.

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Table 2 – Comparison of previous works about data mining implementation in smart city application

Graphic applications	
Adobe Creative Cloud	Includes Photoshop for editing, Illustrator for vector design, InDesign for layout, and many other applications.
Figma	For vector design and graphics editing.
Inkscape	An alternative to Adobe Illustrator for vector design.
Procreate	An app for digital drawing on the iPad.
3D modelling and visualisation	
Blender	Free and powerful tool for 3D modelling and animation
Autodesk Maya and 3ds Max	For professional 3D modelling and animation.
Cinema 4D	It is used to create 3D graphics and animation.
UI/UX design	
Sketch	For interface design and user experience research.
Figma	A cloud-based service for working on projects in real time.
Adobe XD	A tool for prototyping and interface design.
Virtual reality (VR) and augmented reality (AR)	
Unity and Unreal Engine	Used to create games and virtual environments
Tools for image processing	
GIMP (GNU Image Manipulation Programme)	A free alternative to Photoshop.
Pixlr	Online image editor for editing images.
Tools for animation	
Adobe After Effects	For creating animations and video effects.
Toon Boom Harmony	For 2D and 3D animation.

Source : authors' own development

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Illustrator is a vector-based graphics editor designed to create and edit illustrations, logos, icons, web design elements, and other vector graphic objects. It is used to create graphic elements that can be scaled without losing quality, which is important for vector images. At the same time, InDesign provides extensive features for placing and formatting text, working with images and other graphic elements, and creating page layouts and indexes.

During the survey, 55% of participants noted that they have their own unique style in graphic design. This indicates that future graphic designers not only possess technical skills but also successfully develop their own artistic style. According to the study, 30% of participants identified the conceptualisation stage as the first and key stage of the creative process. This means that many participants pay great attention to the development and refinement of ideas before moving on to execution. At the execution stage, the majority of participants (40%) focus on technical aspects and the implementation of their ideas in graphic editors. This demonstrates the importance of concept realisation and the production side of the creative process. 30% of the participants noted the evaluation and correction stage as important for achieving high quality and improving their own style. This indicates a high level of introspection and a desire for continuous improvement. Thus, a wide variety of creative approaches of the participants was revealed, playing a key role in the formation of their individual style.

During the creative process, participants paid attention not only to technical aspects but also to aesthetic choices. 60% said they follow the latest design trends and try to integrate them into their work. The survey also confirmed the important role of self-expression in the creative process of graphic designers. 45% of participants said that their creative solutions reflect their personality and unique style. The general trend is high self-awareness and development of the creative process among future graphic designers, which indicates their readiness for independent and expressive creative activity. Therefore, digital technologies, as a key component in modern graphic design, provide future creators with new opportunities to express harmony and emotional expressiveness in their creative solutions. This influence not only transforms the design process itself but also expands the boundaries of possibilities in creating aesthetically pleasing and emotionally rich works.

Digital tools, such as graphics editors and vector programs, provide graphic designers with endless possibilities for creating aesthetically pleasing compositions. The ability to choose colours and their saturation, work with textures and shapes become more dynamic and flexible thanks to digital tools. Harmony in design can now be expressed more accurately and efficiently, thanks to the ability to instantly edit and experiment with different options. Emotional expressiveness in creative solutions takes on new dimensions thanks to digital technologies. Animations, videos, and interactivity are all becoming available

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tools for expressing emotions and conveying atmosphere. Graphic designers can create not only images but also embody movement and dynamics in their work, which adds an emotional touch to their pieces. Digital mockups and virtual environments allow future graphic designers to create aesthetically pleasing presentations of their work. The ease of viewing and the ability to interact with the work make the aesthetic experience richer and more engaging for viewers. With the use of virtual reality and augmented reality, graphic designers can create works that transport viewers to other dimensions, creating a unique emotional experience. Virtual interaction with the created objects and real-time interaction with the design adds a new element of emotional impact to the work. In general, digital technologies not only automate the processes of graphic design creation but also expand and deepen the ways of expressing harmony and emotional expression in the creative solutions of future graphic designers. This new digital environment paves the way for the creation of impressive and emotionally rich works of art, where technology becomes a creative tool for self-expression and identity.

The use of digital technologies in the formation of the aesthetic consciousness of future graphic designers reveals a number of key aspects that significantly affect their views and approaches (see Figure 2).

Figure 2 – Key aspects of digital technologies that influence the formation of aesthetic consciousness

Source : authors' own development

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Thus, Figure 2 presents the following key aspects of digital technologies that influence the formation of aesthetic consciousness.

1. Speed and efficiency - digital technologies allow you to quickly experiment with different ideas, make changes instantly, and get results quickly. This stimulates the creative process and builds the ability to quickly adapt to new ideas and concepts.

2. Visualisation capabilities - Graphics programs and visualisation tools allow you to instantly view the results of your work in real-time. This helps students to evaluate the aesthetic aspects of their creations more easily and improve them faster.

3. Global access to technical resources - thanks to the Internet and digital technologies, students have the opportunity to study and use new design trends and insights from anywhere in the world. This broadens their aesthetic consciousness and enables them to take into account global cultural influences.

4. Interactivity and virtual reality - the development of interactive technologies and virtual reality allows students not only to create aesthetically pleasing objects but also to integrate elements of interaction and immersive experience into their work.

5. Collaboration and feedback - digital technologies provide convenient tools for collaboration, as well as quick and efficient collection of feedback from colleagues, teachers, and other professionals, which helps to improve aesthetic perception and develop professional skills.

Based on in-depth interviews, the influence of the peculiarities of forming the aesthetic consciousness of future graphic designers when creating design objects using digital technologies is determined.

1. Self-expression and identity

Future graphic designers were assessed on how their work reflects their personality and helps them express their identity.

> *Example*: "My designs are not just graphics, they are an impression of me, my thoughts, and my attitude to the world."

2. The impact of the External Environment

Participants identified how they respond to external stimuli such as art, music, and fashion and how these experiences influence their creative process. Accordingly, for future graphic artists, art is an important source of inspiration for their work. They see the works of great artists as a platform for learning different techniques and expressing emotions through visual means. Viewing or studying works of art becomes a catalyst for new ideas and concepts in their work. At the same time, music proved to be an important element in the participants' creative process. The interviews revealed how different genres of music can affect their mood and emotional state while working. Some choose energetic

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rhythms to increase productivity, while others choose calm melodies to create an atmosphere of peace and concentration. Fashion, on the other hand, was found to be a key aspect for participants who want to reflect current trends in their graphic work. They follow new stylistic solutions, colour palettes, and design trends to stay relevant and open up new opportunities for creativity.

> Example: "Fashion is not only clothing but also a source of ideas for my designs. I try to reflect current trends in my work."

At the same time, the individual approach of the participants to responding to external stimuli is reflected in the diversity of their creative solutions. Some use the influence of the environment as a basis for innovative experiments, while others carefully implement the elements, they find most inspiring in the creation process. Thus, the external environment is a necessary source for graphic designers to enrich and expand their creative horizons [22, 23]. This relationship between the environment and creativity determines their uniqueness and helps them to form their own unique style in graphic design.

Search for Uniqueness in the process of creativity.

Today's future graphic designers are actively experimenting with a variety of graphic design techniques and styles. This includes the use of different line drawing techniques, colour processing, and graphic effects. The important aspect is that they do not limit themselves to one particular technique but expand their arsenal to achieve unique results.

> *Example*: "Every project is an opportunity for me to try something new. I look for my own style in each of my works."

At the same time, with the help of digital technologies, future graphic designers show a personal approach to the interpretation of modern design trends. They do not just follow fashion, but also skilfully incorporate these trends into their work, making them their own and unique. The search for uniqueness also includes considering the context and content of the created graphic composition. Participants can develop their own style in choosing topics and subjects, making them personal and individualised. The search for uniqueness in the creative process is a multifaceted task that includes experimentation, an individual approach to trends, an emotional dimension, and a balanced work with context and meaning.

Thus, the use of digital technologies in the process of forming the aesthetic consciousness of future graphic designers expands their capabilities, makes the creative process more efficient, and stimulates adaptation to the innovative world of design.

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5. DISCUSSION

The obtained results confirm that digital technologies play a key role in the development of the aesthetic consciousness of future graphic designers. In particular, graphic editors, vector programs, and other tools allow them to effectively implement their creative ideas in a digital format, expanding the possibilities of expression and aesthetic expressiveness. It has also been found that digital technologies allow future graphic designers to experiment with a large number of visual effects and graphic techniques. As a result, they can create unique aesthetic solutions using a wide range of styles, textures, and colours. These thoughts are partially confirmed in modern works (Yefimenko, 2023; Seymour, 2011; Hrastinski, 2020; Junk; Matt, 2015). The study also found that future graphic designers have the opportunity to use virtual materials and create realistic models of design objects. This not only improves their skills in working with the digital environment but also allows them to consider aesthetic aspects in physical form at the design stage. These theses are confirmed in the works of Yilmaz and Goken (2016), Hamurcu, Timur and Rızvanoğlu (2020). At the same time, the results show that the use of digital technologies opens up new opportunities for the formation of aesthetic consciousness. Future designers can interact with their projects in a virtual space (Yefimenko, 2023; Milicevic, 2015; Orel, Khodykina, & Chernova, 2023; Sousa *et al.*, 2022). At the same time, the results indicate that the use of digital technologies opens up not only new opportunities for future designers but also creates a unique virtual environment for the formation of their aesthetic consciousness. Interacting with projects in a virtual space allows them not only to view their creations in three dimensions but also to explore aesthetic solutions in a non-linear format, going beyond traditional limitations. Digital technologies are a key component in graphic design, providing future creators with unpredictable creative space to express harmony and emotional expressiveness in their work (Maraieva, 2022). Opening up new possibilities in interaction with technology allows students to solve graphic design problems in a deeper and more creative way. This influence transforms not only the design process itself but also pushes the boundaries of possibilities in creating works that are not only aesthetically pleasing but also emotionally rich (Tsekhmister *et al.*, 2022). The future of graphic design is inextricably linked to the use of digital technologies, which are becoming not only tools but also an important resource for expressing and developing the creative potential of a new generation of designers. This is confirmed in the work of Liu, Chen, and Crabbe (2021), which describes the interaction of multimedia technologies and virtual reality in art education. Thus, the study proves the positive impact of digital technologies on the training of future graphic designers, which is confirmed in the works of other contemporary educators (Yefimenko, 2023; Milicevic, 2015; Sousa *et al.*, 2022). Therefore, the scientific novelty of the work is a comprehensive study and disclosure of specific aspects of the impact of digital

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technologies on the aesthetic development of graphic design students. Key elements of novelty include the study of the integration of digital technologies into the system of training future graphic designers. In particular, the paper examines in detail how digital technologies model and influence the creative process of students in the field of graphic design. In doing so, the study analyses the specific digital tools and software used by students and determines how these technologies influence their aesthetic culture. At the same time, the study focuses on the processes of forming aesthetic consciousness, including the study of visualisation. Thus, the work contributes to the understanding of how modern digital technologies can expand and enrich the creative process of graphic designers. The objectivity of the study, aimed at practical application in the field of graphic design, makes it important and relevant for the development of this professional field.

The limitations of this study are the chosen objectivity in the selection of only 45 students, which may limit the generalisation of the results to a large number of graphic designers. Also, changes in aesthetic consciousness can be determined not only by digital technologies but also by other factors that are difficult to consider in this study.

6. CONCLUSION

Thus, the use of graphic editors, vector programs, and other digital tools enhances the creative potential of future graphic designers. These tools become not only a means of realising ideas but also catalysts for effective experimentation and translating creative concepts into visually appealing design objects.

The use of digital technology in graphic design allows for rapid experimentation, instant change, and efficient delivery of results. Visualisation tools help students to evaluate the aesthetic aspects of their work and improve it more easily, while global access to resources and interactivity enrich their creative environment and promote professional development. Digital tools enable future designers to explore and refine their understanding of colour, composition, and structure in their work in depth. Instant editing and analysis of different options contribute to the development of a high level of harmony and aesthetic consistency. In addition, it has been determined that the use of digital tools allows future designers to experiment with interactivity, which increases the emotional expressiveness of their work. The ability to create dynamic design objects adds new aspects of emotional sound to their creative solutions.

To sum up, the study shows that digital technologies have a significant impact on the formation of the aesthetic consciousness of future graphic designers. Digital tools not only automate design processes

but also actively contribute to expanding creative horizons and improving the quality characteristics of their works.

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