Transforming Design Education in Ukraine: Insights from Global Best Practices

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Abstract

The article reveals some aspects of the problem of transforming the Ukrainian design education system through the prism of international experience. This problem is caused by the long-term neglect of the importance of the humanitarian segment of education in Ukraine, which, in turn, has become a determinant of the accumulation of numerous problems. In order to achieve the goal and objectives, it was important, firstly, to refer to the relevant source base, and secondly, to analyse certain aspects of the educational activities of higher education institutions abroad, in particular Seian University of Art and Design (Otsu, Shiga, Japan), Royal Collage of Art (London, Great Britain), KEDGE Design School (Marseille, France), Istituto Pantheon Design & Technology (Rome, Italy). The analytical and synthetic activities carried out allowed us to identify the best international practices in this area and propose vectors for the transformation of domestic design education. These include: multidirectional international cooperation; introduction of a practical component of student training on the basis of business institutions and enterprises; focus on the educational needs of students; active use of digital innovative technologies, etc. We see the prospects for further research in this direction in the practical application of the proposed steps to modernise design education.

Keywords: digitalization, designer, higher education, professional training

1. Introduction

1.1 Introduce the Problem

Despite the rapid, all-encompassing digitalization of social existence, it is impossible to level the importance of art. From trivial household trifles (reproductions of famous paintings in the interior; ornamented tableware; architectural ensembles, etc.) to a conscious desire to “touch” aesthetics in the Louvre, the National Gallery of London, the Gallery of Old Masters, all of this helps the individual maintain inner balance and a sense of community with generations of ancestors.

In the twentieth century, design became a compromise between the intentions of creative individuals to create beauty and the socio-economic demand for aesthetic and utilitarian things. Thanks to the development of digital technologies, its capabilities have expanded significantly, allowing specialists to work in a qualitatively different plane. This, in turn, requires new approaches and methodological tools in the training of higher education students, and in the future designers. It is worth noting that the field of design puts certain requirements on the employee regarding his or her innate skills and qualities that cannot be learned or acquired - artistic skills, spatial thinking,

creative thinking, a sense of aesthetics and harmony, the ability to materialize creative ideas, etc.

The demand for design professionals in developed countries is quite obvious and natural. For example, the demand for a product and, consequently, its profit will directly depend on a well-developed design concept; or, for example, the film industry - today it is difficult to imagine a movie without using the possibilities of virtual design. A wide range of economic sectors and the cultural component of public life (art, web agencies, creative studios, etc.) involve representatives of design professions (industrial designers, graphic designers, design managers, etc.).

Recent years have become a period of difficult challenges and permanent adaptation to new conditions for the world in general and for Ukraine in particular. The system of training design professionals has not been spared. In our opinion, for the effective development of this segment of education in Ukraine, it will be useful to familiarize ourselves with the experience of developed countries in this area.

Therefore, the purpose of the article is to study the problem of transforming the Ukrainian design education system through the prism of the experience of foreign countries (Japan, the United Kingdom, Norway, France, Italy).

In accordance with this goal, the composition of the study includes the following tasks: to analyze the source base on the studied issues; to find out the peculiarities of training design specialists in foreign higher education institutions (Japan, Great Britain, Norway, France, Italy); to reveal certain aspects of the problem of training a design specialist; based on foreign experience, to propose components of the transformation of domestic design education.

1.2 Literature Review

Monitoring of the content of freely available repositories shows that the relevance of educational issues for the world scientific community is permanent. The most effective forms and methods of teaching in a given case; the correlation between the introduction of the latest technologies in the educational process and the effectiveness of pupils'/students' learning of program material; age characteristics of the objects of the educational process that determine the peculiarities of the presentation of program material; personal and professional qualities of the teacher; possibilities of introducing alternative forms of organization of the educational process; inclusive education as an opportunity for the socialization of people with special educational needs are analyzed in a multivectoral way.

1.2.1 Digital Pedagogical Assets in the Focus of Scientific Research

Discussions about the necessity and specifics of the transformation of the education system continue. Wojciech, Sobczyk, Waldemar, and Pochopień (2021) theoretically described and practically investigated the problem of the feasibility and effectiveness of using digital pedagogical assets. Järvis, Tambovceva, and Virovere (2021) summarized their findings on the problem of integrating innovative methods and technologies in scientific research. The team of authors focuses on such a segment of the educational system as higher education. Zeyab and Alayyar (2023) focus on the effectiveness of EdTech and online courses. The authors note that the development of new technologies and online courses can compete with the traditional educational system. They have shown their feasibility during the pandemic when it was especially important to make the educational process flexible and adapt it to new conditions. Kornytska, Alforof and Honcharuk (2023) emphasise the importance of digitalisation as a determinant and catalyst for educational transformations. The authors note that educational programmes for training specialists simply do not keep up with the rapid and irreversible development of digital technologies and related software. This is also a major challenge for highly developed countries in Europe and the United States (Kornytska et al., 2023). The topic of the tandem of education and artificial intelligence is a controversial one. In particular, the study by Huang, Zou, Cheng, Chen, and Xie (2023) shows that the process of integrating artificial intelligence into the system of philological education is irreversible and natural.

The correlation between the active implementation of distance learning and teacher effectiveness is highlighted by Tsekhmister et. al (2022). The paper notes that the effectiveness of teachers' work in online mode varies depending on the type of interaction in the teacher-student system: from higher when presenting new material to lower when providing feedback to students.

In view of the above-mentioned scientific studies, the prerogative in the study of educational problems is a variety of new technologies, the possibilities of their implementation, and the search for new ways to use them. This fact is quite natural, because new changes, whether global or local, entail the need to rethink the existing, traditional forms and methods of education.

1.2.2 Some Aspects of Design Education in terms of Scientific Research

In addition, scientific studies that reveal the peculiarities of training specialists of a certain profile occupy their own niche. The developments in the field of design education are also important. In particular, certain aspects of the

educational process of training design students are described by Pontis and van der Waarde (2020). Scientists draw attention to the dynamism of design education as its basic component, which determines the features of the educational process. Pontis and van der Waarde (2020) refer to a student-centered approach as one that helps maintain high motivation to learn and, consequently, higher academic performance. In turn, Cezzar (2020) argues that design education will be effective if it is focused on current social challenges and trends: innovative technologies, globalization processes, and the world's market economy. Empirically studying the problem of organizing design education online (Fleischmann, 2019), the advantages include easy access to program material, the flexibility of the organization, which allows students to choose the time and place for studying, and the challenges include involving students in the feedback process. Frascara (2017) emphasizes the importance of socio-economic disciplines in the curriculum for design students. The author substantiates the thesis that design should work for people. Accordingly, in order to effectively fulfill its mission, economic and aesthetic, a designer must have a set of knowledge about people. It is fair to say that the problem of design education is relevant not only for the foreign scientific community. Ukrainian scientists also have a significant body of work in this area. The need for transformation and modernization of design education in Ukraine is confirmed by the research of domestic scientists. Among its pressing problems are: an outdated methodological apparatus; a mismatch between market demands and the content of curricula; insufficient practical training of graduates (Dyachenko, 2021). Averianova and Gook (2021) also add to the above the lack of special artistic training for students, the dismissal of academic staff without academic degrees but with real practical experience. Along with the statement of existing problems, Dyachenko (2021) notes that the active development of non-formal design education, despite its inherent shortcomings, partially solves these problems, so one should not underestimate the possibility of cooperation between higher education institutions and its informal link.

Fursa (2020), Kozak, Shvets, and Kolomiiets (2020) focused on finding specific solutions to transform the design of education in Ukraine. In particular, Fursa (2020) proposes to consider the postulates of continuity and multilevelness as basic in the implementation of domestic design education. This, in particular, should be implemented in educational complexes. Instead, Kozak et al. (2020) emphasize the need for dual design education, when a higher education institution provides thorough practical training, and internships at enterprises and firms provide a practical component.

Bazyl, Orlov, Fursa, and Jruzha (2021) focus on the importance of developing entrepreneurial competence in design students. The researchers substantiate the thesis that entrepreneurial competence is a crucial component of a person's further successful professional self-realization, as it minimizes possible economic risks and miscalculations not only of a designer but, first of all, of an entrepreneur.

Given the topicality of the study of educational issues in the scientific community, design education is not ignored. Global and local challenges determine the constant need for its transformation. It is especially acute in countries with weak economies and unstable geopolitical situations. Unfortunately, Ukraine is currently among such countries. The need to transform the humanitarian vector of education is obvious. It is relayed in a number of domestic scientific developments. The dynamic nature of the problem and the irreversibility of the need to reform design education actualise our research, which aims to study the experience of highly developed countries in the field of design education and the possibility of its integration and interpretation into modern Ukrainian realities.

2. Methodology

The focus of the research was on achieving the set goals and objectives through a theoretical analysis of the problem of design education. With this in mind, the following scientific principles were observed: objectivity (consisted of an impartial analysis of scientific sources, relaying the opinions and judgements of scientists without subjective speculation and distortion of information), systematicity (allowed to analyse the problem of design education in the context of global problems and challenges such as the COVID-19 pandemic, digitalisation, and the full-scale Russian invasion of Ukraine), consistency (ensured a phased solution to the scientific goal, the formation of a research algorithm - from the analysis of thematic scientific developments to specific proposals for the modernisation of Ukrainian design education), comprehensiveness (allowed to consider design education as a unity of material resources, interactions in the student-teacher system and, at the same time, a component of the global educational sphere), information content (involved the use of reliable, relevant data from reliable sources - global scientific repositories and official websites of educational institutions), as well as academic integrity, and respect for knowledge (consisted of mandatory references to the theses of researchers whose work was used in the analysis of the problem, as well as compliance with the rules of direct and indirect citation of scientific research in accordance with the current requirements of APA). The theoretical analysis of the problem was based on such general scientific

methods as analysis and synthesis (the tandem of these methods ensured, at the first stage, the search and extraction of scientific paradigms and scientifically proven theses that relay educational issues necessary to solve the problem, and at the next stage, allowed us to develop a unified approach and offer specific recommendations for the transformation of design education in Ukraine); axiological method (despite the observance of the paradigms of logic, the problem of design education was covered through the prism of a value-based approach to the subjects and objects of the educational process, taking into account the importance of education in general as a human-centred, humane field); the method of comparison (involved comparing and highlighting both common and distinctive features, in particular, it concerned the description of foreign experience of design education on the example of certain aspects of the work of selected higher education institutions); and the method of modelling (this method allowed to visualise individual developments in the form of graphic objects). The research algorithm included several stages.

The initial stage was to find the evidence base for the problem of design education. It was carried out by analyzing the scientific studies available for review, accumulated in the repositories of educational institutions. For the correct search of information, we used the Google Scholar search engine; the Directory of Open Access Journals; scientific resources Elsevier, Researchgate, EBSCO-Publishing. The search was carried out using the terms: “high education”, “professional training”, “design education”, “designer”, “digitalization”. The selection of scientific studies was carried out in accordance with the criteria defined in the context of the problem, in particular: direct relevance to the problems of education (globalisation processes; transformation of the educational segment; problems, challenges and promising vectors of educational development); highly specialised research with a focus on the humanities and design education, in particular; clarity and relevance of coverage of innovative educational methodology with an emphasis on the use of digital innovative technologies; relevance of scientific and Thus, relevant scientific sources for the period 2019-2023 were selected and analysed. The next stage was the systematisation of scientific developments from more general issues (the impact of globalisation on the educational segment, digitalisation and the possibilities of innovative technologies for modernising the educational process) to solving more specific, highly specialised problems (basic requirements for the personality of a design specialist, specific practical recommendations for improving design education).

Since the focus was on analyzing and accumulating the best international experience in design education, the next step was to familiarize ourselves with such developments. For this purpose, five higher education institutions in five countries were selected. The selection criteria were as follows:

- overall economic development of the country;
- the credibility and diversity of the country's cultural heritage and its importance for the global cultural community;
- the level of assimilation of design traditions in other regions;
- content of the official website of the educational institution, completeness and accessibility of information for review.

Given the impossibility of becoming a physical insider of the educational process in foreign higher education institutions, the last of these criteria was perhaps the most important. Clear navigation, up-to-date information about certain aspects of the educational process, opportunities for further employment of graduates, and the main vectors of the educational institution's activities made it possible to accumulate a general idea of the peculiarities of training design students.

Thus, four countries from the European region (Norway, the United Kingdom, France, and Italy) and one (Japan) from the Asian region were selected for comparison. The dominant aspects that were in focus when analysing the information available on the official websites of higher education institutions were: clarity and comprehensibility of the prevailing educational ideology; transmission of national cultural characteristics and traditions into the educational process; availability of information on educational programmes, terms of study, etc.; list of academic disciplines; information on material and technical support of the educational process; coverage of cooperation between educational institutions and enterprises and business; disclosure of the problem of communication and patronage of design graduates; information on further employment of graduates.

By analyzing the information available in the public domain on official websites, a generalized model of training a design student in the mentioned countries was compiled. Based on the information obtained, general recommendations for the transformation of design education in Ukraine were proposed.

The obtained data are described, and some aspects are presented in the form of Tables and Figures in accordance with APA requirements. This methodological composition is focused on achieving the goal of scientific research - a

theoretical analysis of the problem of transforming the system of training design professionals in Ukraine through the prism of foreign experience.

3. Results

Permanent global and local historical, social, economic, and cultural metamorphoses put social institutions in a position to quickly adapt to new conditions and modernize the orthodox way of life. First and foremost, this affects the education system, which a priori must respond to certain challenges of today, be flexible, and mobile. This is evidenced by the transformation of classical forms of education during the global pandemic. It was the transformation from tradition to innovation that ensured the stability of interaction in the teacher-student or student-teacher systems, which, accordingly, did not stop the educational process but moved it to a new plane.

The full-scale war in Ukraine has become a determinant of fundamental changes in the work of social institutions. Hostilities that result in the destruction of architectural monuments; the destruction or theft of works of art are things whose loss is irreversible. It is a war on the artistic front as a tool for destroying the cultural identity of Ukrainians. The team of authors Trach, Tolmach, Chaikovska, and Gumeniuk (2020) emphasize that the systematic and thorough digitalization of cultural monuments in this case is fully justified. After all, preserved architectural monuments today are opportunities for cultural tourism, which is the last factor in the development of both individual regions and the state as a whole (Sabadash et al., 2020). In addition to the above, the virtualization of the material historical heritage will allow preserving it for future generations and representatives of artistic professions, for whom familiarization with the best examples of national and world art is a way to learn from the past and transform it in the future. This case is especially relevant for designers. The above cultural metamorphoses are directly correlated with the challenges faced by the national design education system.

The transformation of the design education system in Ukraine has a dual character - on the one hand, it is determined by external factors (historical, political, social, economic), on the other hand, it is an active subject of future market relations, as it trains specialists who will work tomorrow and determine the trends of this system in the future. Global and local metamorphoses have shown that the adaptive potential of domestic design education sometimes does not withstand the existing challenges and requires conceptually new ideas for its development. Therefore, the focus should be shifted to the best international experience in this area. First of all, it is worth noting that the training of relevant specialists is carried out both during various thematic courses and at higher education institutions. We will take into account only educational and professional training programs implemented in the relevant higher education institutions. To this end, we analyzed the websites of the relevant educational institutions, which describe the key features of training design students at their educational institutions.

3.1 Some Aspects of Design Education at Seian University of Art and Design (Otsu, Shiga, Japan)

The approach to the training of design professionals at Seian University of Art and Design (Otsu, Shiga, Japan) is noteworthy. The approach to the educational process is permeated with an original philosophy inherent in Eastern countries. “Individual guidance,” “learning that guarantees expertise,” and “career support” are the triad that contains the quintessence of the approach to the educational process. According to the official website, classes are held with small groups of students. This individualization of the educational process allows for maximum learning and unlocking the creative potential of each individual. The educational process acts as an intermediate link that, by involving students in public projects, contributes to the cultural development of the region. The courses offered to students are imbued with national cultural characteristics, many of which are related to painting in its various incarnations. Students are focused on utilitarian design with national characteristics (“Seian university of art and design”, 2023).

3.2 Some Aspects of Design Education at The Royal Collage of Art (London, Great Britain)

The Royal Collage of Art (London, Great Britain) provides students with a wide range of opportunities for learning and creative self-realization through a variety of courses - more than thirty different programs. A higher education student can choose either a more utilitarian or a deeply conceptual direction - this is the first feature of the Royal Collage of Art. Secondly, due to the close cooperation of the educational institution with industry and fashion brands, students' education is not limited to theoretical training. There is a thorough practical component to the educational process. Graduates, having received the appropriate training, have all the necessary knowledge, skills, and abilities to integrate their, even the most conceptual design solutions and ideas, into the practical plane of real life («School of design», 2023).

3.3 Some Aspects of Design Education at The University of Bergen, Faculty of Fine Art, Music and Design (Bergen, Norway)

It is also worth describing the experience of training designers in an educational institution on the Scandinavian peninsula - the University of Bergen, Faculty of Fine Art, Music and Design (Bergen, Norway). One of the strategic directions of the school's policy is the exchange of experience and international cooperation. Due to the multidirectional nature of communication links, the graduate's professional outlook is multicultural and sensitive to the perception of new ideas and impressions. We cannot ignore the fact that graduates of the Faculty of Fine Art, Music, and Design, in cooperation with relevant enterprises, are given the opportunity to start their own business, i.e., it is a kind of patronage of students who have successfully completed the educational program. As for the educational process itself, students have access to more than thirty workshops where they work directly with various types of materials, exploring their basic properties and possibilities in practical implementation. With this in mind, as well as taking into account the list of programs with a design focus, the focus is on pragmatic, practical design ("Kunst, musikk, Design - department of Design", 2023).

3.4 Some Aspects of Design Education at KEDGE Design School (Marseille, France)

The approach to design education at KEDGE Design School (Marseille, France) is a symbiosis of traditional forms of education and continuous transformation, determined by permanent socio-economic and cultural challenges. From the module on drawing to vector drawing and UX design, students have the opportunity to gain a wide variety of knowledge in this field. The basic method of working with students is design. Its purpose is to develop practical skills and abilities, to prepare for direct professional activity. Project development skills, internships at relevant enterprises in tandem with a thorough theoretical background allow 82% of graduates to find a job in the first three months after graduation ("Bachelor Design", 2023).

3.5 Some Aspects of Design Education at Istituto Pantheon Design & Technology (Rome, Italy)

The correlation and complementarity of art and technology is a cornerstone at Istituto Pantheon Design & Technology (Rome, Italy). Innovative technologies here have a dual character: on the one hand, they are a tool in the educational process, on the other hand, they are an object of study. That is why the following training programs are offered: Digital Applications For The Visual Arts, Design, Graphic Design, Graphic & Game Design, Design Of Culture And Tourism. It is worth noting that at the beginning of their professional career, graduates communicate with Alma Mater employees for a certain period of time, i.e., it is a kind of patronage ("Chi siamo", 2023).

3.6 Defining Features of Design Education in Japan, the UK, Norway, France and Italy

As the experience of design education described in the quintet of developed countries shows, its various variations have the right to exist: individualization of the educational process and deep integration of national cultural traditions, as in Japan; pragmatic design and exchange of experience in the international plane, as in Norway; deeply conceptual design and close cooperation with industrial enterprises and firms, as in the UK; the dominance of the project method as the basic method in the process of forming a symbiosis between the theoretical and empirical components of student training, as in France; materialization of design ideas with the help of innovative technologies, as in Italy. Each of them was formed under the influence of internal, local, and external, global factors; accumulated educational traditions inherent in a particular region; and reflects state policy. The above features are summarized in Table 1.

Table 1. Some Aspects of Design Education Abroad (on the Example of Educational Institutions in Japan, The Uk, Norway, France, Italy)

LOCATION	*Seian University of Art and Design (Otsu, Shiga, Japan)*	*Royal Collage of Art (London, Great Britain)*	*The University of Bergen, Faculty of Fine Art, Music, and Design (Bergen, Norway)*	*KEDGE Design School (Marseille, France)*	*Istituto Pantheon Design & Technology (Rome, Italy)*
FEATURES	1. Individualization of the educational process. 2. Involvement of students in cultural processes in the country. 3. Design is presented through the prism of national culture. 4. Focus on pragmatic design	1. A wide range of educational courses in design. 2.Close cooperation of the educational institution with industry. 3.Thorough practical training of students.	1. Multi-vector international cooperation 2. Patronage of graduate students. 3.Focus on utilitarian design.	1. Dominance of the project method in the educational process. 2. Multivariability of the curriculum. 3. Practical training through internships.	1. Symbiosis of art and innovative technologies. 2. Constant work with innovative technologies in design. 3. Patronage of graduate students.

Source: authors' own development

3.7 Scientists' View on the Practice of Training Design Professionals

When considering the problem of design education, it would be a mistake to limit ourselves to the experience of educational institutions, but we should also outline certain aspects of relevant thematic research. In particular, Frascara emphasizes the importance of including socially oriented design disciplines in the curriculum:

Designers need to learn about people's needs and wishes, feelings, expectations, possibilities, and limitations, preferences, and behaviours, and understand them in their contexts. This is why design has to be user-centered. (I say user-centred and not human-centred because «human» is what all of us are, but in connection with design, we are users, engaged in interaction with design creations)…

…Successful outcomes require user studies. User studies require assessment of the situation of use, the purpose of the design, and the various contexts that surround the interaction of people with communications, objects, and services. This links design with the social sciences, since design is about people…

…Students in design must be conscious of the need to be accountable for results, and the way to form them in this is by engaging them in projects that are real, and that can be evaluated. We are otherwise forming handicapped professionals that believe the job is complete when they hand-in the designs to the client (Frascara, 2017, pp. 125, 127).

It is obvious that the scientist's statement is relevant because no matter what design milestone we are talking about, the ultimate beneficiary is a person. And it doesn't matter what area of design we are talking about - the service sector or material things. Therefore, along with professional courses, design students should have an arsenal of knowledge about a person as a person, about a person as a consumer with needs, desires, and preferences. After all, even deeply conceptual art finds its connoisseur because it meets his or her aesthetic preferences.

The mainstream of a significant layer of scientific research in recent years is the problem of developing so-called soft skills in higher education students. The importance of this problem for designers, whose professional activity focuses not only on interaction with material objects but also on interaction with society, cannot be underestimated. However, as Tsekhmister et al. (2023) rightly point out, the level of soft skills is difficult to measure and, as a result, to adjust the program of their formation.

A cohort of Ukrainian scientists (Bazyl et al., 2021) focus on the need to develop the entrepreneurial competence of design students. Their study notes that design graduates often lack the motivation and knowledge to start their own business. And those who dare to do so do not always take into account the potential risks and business prospects. According to scientists:

In the field of design, entrepreneurial and career competence includes such personality qualities as initiative, creativity, ability to organize their own work, entrepreneurial activity, and teamwork; characterized by the ability to leadership and managerial actions, willingness to effectively self-realize in the process of organizing and successful development of their own business, the ability to analyze and evaluate their own professional opportunities, abilities and compare them with the needs of the labor market; skills to create, implement and evaluate business plans, develop basic business models and make economically and environmentally substantuated decisions; present and disseminate information about business results (Bazyl, Orlov, Fursa, & Oruzha, 2021, p. 500).

Therefore, by leveling the importance of the economic component in the system of training design professionals, domestic education narrows the possible prospects for professional self-realization of graduates and, as a result, makes them uncompetitive in the labor market. Such negative trends directly affect the overall economic situation in the country, when the funds spent by the state on training specialists do not find their realization in the relevant sector of the economy, and the graduate is either forced to change his or her professional direction due to his or her lack of demand on the labor exchange or is simply unable to run a profitable business.

Turning to the problem of modernizing the national education design system, Fursa (2020) notes that any processes should correlate with the cultural and economic vectors of the state's development. At the same time, the researcher emphasizes the continuity of design education, which should begin with working with children as potential applicants to design higher education institutions.

3.8 Vectors of Transformation of the System of Training Design Professionals in Ukraine

The analysis of the source base and the real, obvious problems of the national, Ukrainian, design education system prove the urgent need to eradicate archaic dogmas and approaches and actively reorient to the vector of Eurocentrism. After all, as Rakhimov and Mukhamediev (2022) rightly point out, it is crucial for the educational sphere of post-Soviet countries, which, unfortunately, includes Ukraine, to focus on its continuity, as well as to train a specialist with a creative and critical type of thinking, rather than a reproductive one. This approach should be adopted for both general education and higher education, including design education.

Delving deeper into the problem of training humanitarian specialists, Aljad (2023) emphasises the multifaceted nature of the specialist's personality, which should have the appropriate level of communication skills, digital competence and act as a mediator. Accordingly, the educational process of training specialists should be flexible enough, ready for permanent adaptation, global and local challenges. This is facilitated by the symbiosis of diverse strategies and methods of teaching material, active use of the capabilities of modern digital technologies (Aljad, 2023). This should become one of the priority vectors of transformation and the Ukrainian realities of design education. The rigidity of the educational segment is reflected in the future in the level of competence of practitioners who, in the face of fierce competition, are often unable to find their own niche in the labour market, to fully realise their professional potential.

Referring to the already described experience of design education in Japan, Norway, Great Britain, France and Italy, it is worth noting that it is extremely valuable for the Ukrainian education system and not only when it comes to the design vector. Of course, categorical copying and implementation of other people's practice in the domestic realities is unacceptable. However, we can identify certain components that should be adopted by Ukrainian educators-reformers: establishing close cooperation with enterprises and institutions to ensure that students complete internships and, accordingly, acquire professional skills; individualization of the educational process; development of professional competence through the prism of national identity; opportunities for the widespread use of innovative technologies; expanding the number of design training programs; active involvement of students in the design industry; and more. A generalized scheme is presented below (Figure 1).

Thus, rethinking the current structure of the educational system and integrating new trends will have a positive impact on the effectiveness of training designers. This, in turn, will reduce the outflow of working-age people abroad and improve the economic situation of the state in the long run.

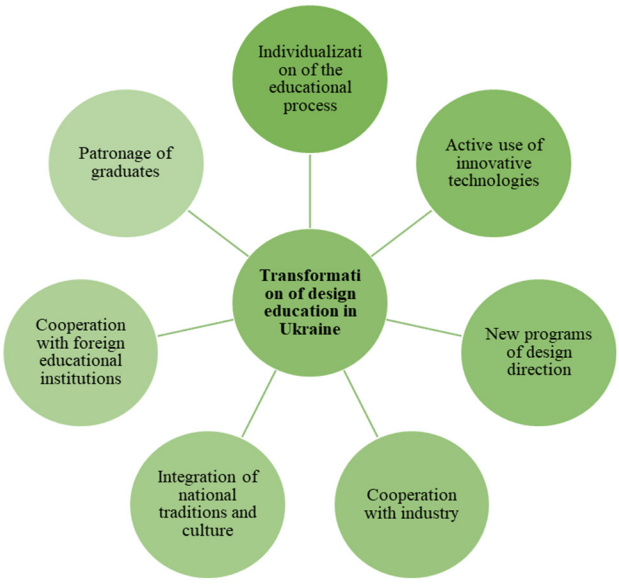

Figure 1. Components of the Transformation of Design Education in Ukraine

Source: authors' own development

4. Discussion

The topicality of educational issues in academic circles is evidenced by multi-vector developments. However, the most relevant vector, especially after the experience of the COVID-19 pandemic, is the effective integration of innovative digital technologies into the educational process. This is emphasised by Wojciech et al., (2021), Järvis et al., (2021), Zeyab and Alayyar (2023). A relatively new, but rather acute problem is the use of artificial intelligence (Huang et al., 2023). Given the ambiguity in views on compliance with academic integrity and the reliability of information offered by AI, the tandem of artificial intelligence and education will still require substantial empirical and theoretical work.

Studies of design education itself, both in Ukraine and abroad, are not ignored. Scholars focus on the specific features of the organisation of the educational process and the content of educational programmes. They substantiate the importance of a student-centred approach as a guarantee of high motivation and, accordingly, educational independence of students (Pontis & van der Waarde, 2020). The need for design students to actively study the disciplines of the socio-economic cycle is proved (Frascara, 2017), and this thesis can be argued by the developments that also relate to the problem of training artistic professionals (Aljad, 2023). The critical need to study and implement online learning is confirmed by Fleischmann (2019).

Awareness of the unresolved problems of Ukrainian design education has shifted the vector of domestic scientific developments from the analysis of these problems (Dyachenko, 2021; Averianova & Gook, 2021) to an attempt to provide specific advice on how to solve them and improve the overall efficiency of the educational process (Fursa, 2020; Kozak et al., 2020; Bazyl et al., 2021)

The problem of transforming the design education system should not be underestimated. Precisely because its beneficiaries are professionals who, following current trends, dictate future trends and styles, design education must be flexible and mobile in terms of adaptation, both segmental and global. At the same time, the adaptation strategy must meet the conditions and challenges of today.

The need for modernization and transformation of both the educational system in Ukraine in general and design education, in particular, prompted a theoretical study of it. Although this problem is relevant, at the same time, it is quite diverse and requires a more extensive scientific study to fully disclose. Therefore, brevity determined certain limitations in the study.

We analyzed the world experience of design education only by describing official educational institutions and did not take into account various trainings and short educational courses. It would be interesting to answer the question:

"Can design courses be considered an alternative to a full-fledged educational program for training specialists? What is the effectiveness of such courses?" Perhaps there is no need to finance years of education for a designer if everything you need can be presented in a more concise form and in a shorter period of time.

The proposed research will be relevant for future applicants, students, teachers of higher education institutions, educational managers, educators, and reformers.

5. Conclusion

The analysis of the source base of the issue of design education has shown that it is quite relevant in the scientific community. It is analyzed both in the spectrum of a global, social phenomenon, part of regional policy and in the context of the formation of specific skills and competencies of a specialist. Comparing the research vectors of foreign and domestic, Ukrainian, scholars demonstrate, first of all, the extent to which design education in Ukraine does not meet international standards. While foreign scholars describe and analyze new methods and opportunities for introducing innovative technologies into the educational process, Ukrainian scholars state a set of unresolved problems and the unwillingness of domestic education to abandon ineffective, traditional tools.

6. Limitations

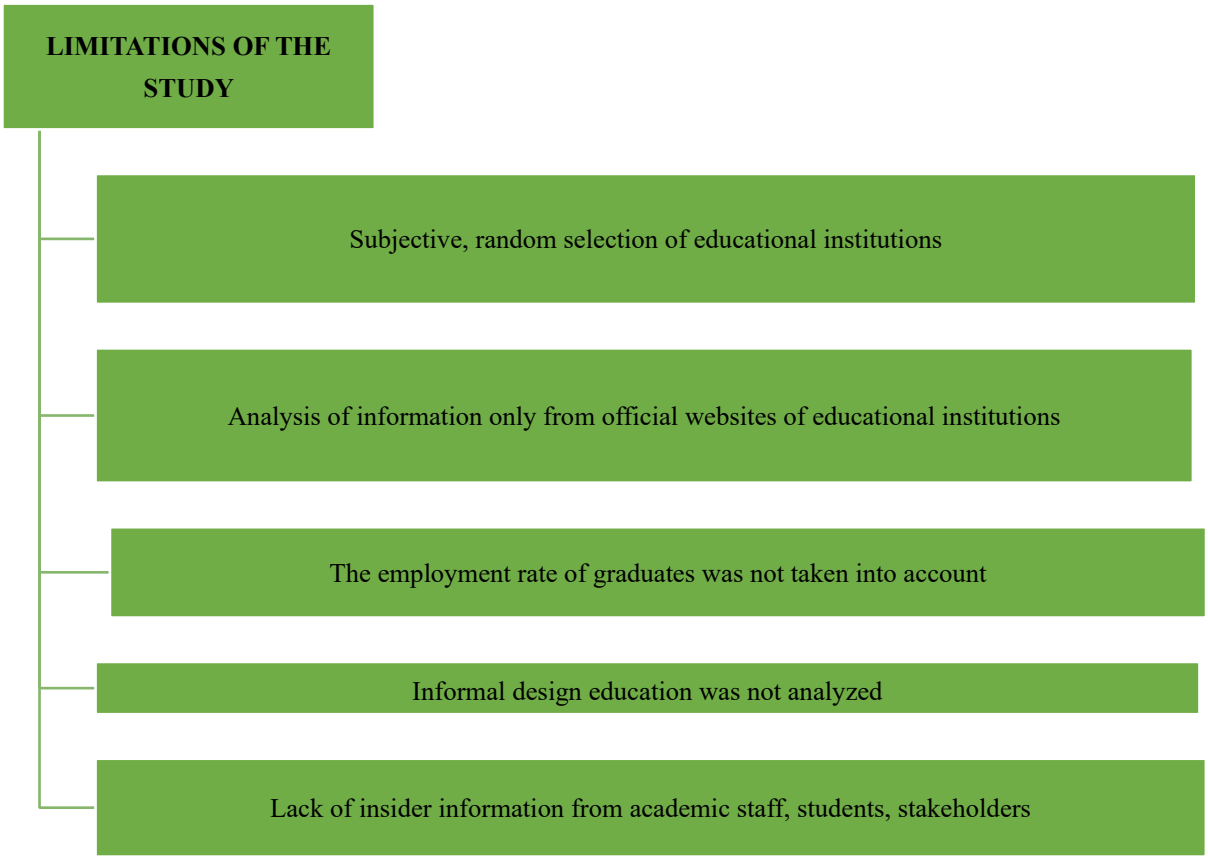

Figure 2. Of the Study of Design Education in Educational Institutions in Japan, the UK, Norway, France, and Italy

In view of the above, the focus of the research problem was primarily on familiarizing ourselves with the experience of design education abroad. Despite the wide range of information sources, scientific research has certain limitations. First, the five educational institutions analyzed were chosen entirely subjectively. Such a random sample is not representative, although it reflects certain socio-cultural features and educational traditions of the countries where the described educational institutions are located. Secondly, the analysis of the information provided on the official website alone cannot demonstrate the underlying foundations of the educational process. A more in-depth study should be carried out by the method of continuous observation, i.e., one should be an absolute insider of the situation. Third, the effectiveness of the educational process, as demonstrated by the level of employment of graduates, their demand in the labor market, and opportunities for professional self-realization, was hardly taken into account. Fourthly, the experience of non-formal design education, such as seminars, trainings, courses, etc. was not taken into account. Fifth, insider information from academic staff and students was not analyzed (Figure 2).

While the modernization of design education in Ukraine, trends, and innovations in it have already been reflected in a number of studies, there has been no analysis, even if fragmentary, of foreign experience. This is what made our study relevant. In order to achieve its main goal, we have identified the following characteristic features of the training of design students in higher education institutions in Japan, the UK, Norway, France, and Italy, as far as possible. Among them:

1. The dominant role of innovative technologies.
2. Cooperation of educational institutions with enterprises and business.
3. Individualization of the educational process.
4. Active international cooperation.
5. Wide opportunities for creative and professional self-realization of the individual through an extensive list of educational programs in design.

Thus, these components, if adequately integrated into the realities of the national design education system, could ensure its effective functioning. Especially given the fact that it is the design segment of education that directly correlates with the most sensitive socio-economic and cultural metamorphoses in the country.

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Authors contributions

Anatolii Brovchenko and Olha Krykun were responsible for study design and revising. Tetyana Borisova was responsible for data collection. Andrii Korkushko drafted the manuscript and Volodymyr Tymenko revised it.

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