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Pedagogical Support for Designer Students at Kazan Federal University

Apoyo pedagógico para estudiantes de diseño en la Universidad Federal de Kazan

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ABSTRACT

The article presents the results of a study of the pedagogical support of the artistic and creative activities of design students in the process of learning at Kazan Federal University. Artistic and creative activity is considered as a type of activity of the subject, aimed at creating projects with social significance, based on the principles and laws of artistic shaping, focused on the target audience. The content of the artistic and creative activity of the training project is implemented by students — designers by doing increasingly complicating creative projects, and is based on the integration and systematic nature of the components: research, empathy, creative, cognitive, activity, value.

Keywords: Artistic and creative activity, creative project, learning process, pedagogical support.

RESUMEN

El artículo presenta los resultados de un estudio del apoyo pedagógico de las actividades artísticas y creativas de los estudiantes de diseño en el proceso de aprendizaje en la Universidad Federal de Kazan. La actividad artística y creativa se considera como un tipo de actividad de la asignatura, orientada a la creación de proyectos con significación social, basados en los principios y leyes de la conformación artística, enfocados al público objetivo. El contenido de la actividad artística y creativa del proyecto de entrenamiento es implementado por estudiantes — diseñadores haciendo proyectos creativos cada vez más complicados, y se basa en la integración y carácter sistemático de los componentes: investigación, empatía, creatividad, cognición, actividad, valor.

Palabras clave: Actividad artística y creativa, apoyo pedagógico, proceso de aprendizaje, proyecto creativo.

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INTRODUCTION

Modern social transformation forms new tasks for the organization of educational artistic and creative activities of designers and increases the level of requirements for the quality of their professional development. The modern economy significantly raises the bar of consumer expectations. In this situation, the guarantee of competitiveness is the design concept of the project that meets modern needs. Various theories that arise about "advanced design" and "creative" economics also contribute to the development of design methodology and the search for new forms of professional training (Mayorova&Fakhrutdinova: 2018, pp.78-80).

Richard Florida, one of the founders of the "creative economy" theory, argues that creativity is becoming a key factor in the development of the economy and society, and this is the true driving force of all processes. Representatives of the creative class go beyond the usual framework: they develop at a record speed and inspire others around it. Creativity implies a certain type of thinking and a model of behavior that must be brought up both at the individual level and at the level of the social environment in which a person lives (Florida: 2005, pp.357-359).

J. Guilford in his concept of creativity as a universal cognitive creative ability identified four main parameters of creativity:

1. Originality – the ability to produce distant associations, unusual responses;
2. Semantic flexibility – the ability to identify the main property of an object and suggest a new property for its use;
3. Imaginative adaptive flexibility – the ability to change the shape of a stimulus so that it sees new features and opportunities for use;
4. Semantic spontaneous flexibility – the ability to produce a variety of ideas in an unregulated situation.

Later J. Guilford

Identified six parameters of creativity:

1. The ability to detect and formulation of problems;
2. Ability to generate ideas;
3. The ability to the production of ideas – flexibility;
4. Outside the box the ability to respond to stimuli – originality;
5. Ability to improve by adding details;
6. The ability to solve problems, i.e. the ability to analyze and synthesize (Guilford: 1950, pp.444–454)

In modern design education, it is necessary to develop not only practical competencies, but also design thinking, students' understanding of the essence of the profession of designer. Design thinking promotes a new approach to innovation to avoid the global challenges facing humanity (Brown: 2014, pp.236-237). The formation of professional thinking should go in unity with the creative development of the personality, which requires a constant search for new ideas and means, knowledge of the market and the consumer, the ability to create and create, regardless of inspiration and mood (Kiseleva&Shokorova: 2016, pp.203-205). One of the pressing issues of learning is effective behavior in professional activities. Designers need the cognitive skills involved in the design process along with skills such as negotiation, problem solving, responsibility for results, interpersonal skills and project management (Lewis&Bonollo: 2002, pp.385-406). Experts in the field of design education note the importance of common fundamental knowledge, reinforced by specialized knowledge, aimed at solving professional problems: communication skills, creating concept ideas and their visualizations (Mayorova et al.: 2018, pp.279-286; Kuryaev & Osmukhina: 2018, pp.276-383).

The characteristics of the designer as a subject of professional activity have also changed. Successful work in the design profession requires the following personality traits: receptivity of images, interest in the world of things, understanding, ability to generalize the understood material, autonomy, ability to various types

of communication, a tendency to analytical and research work, discipline, perseverance, willingness to set and solve problems, the ability to plan and critically evaluate their activities, a sense of responsibility, the ability to assert themselves (Stojarová: 2018, pp.32-45).

The uniqueness of individual personality characteristics is considered by scientists as one of the important components of the creative process. The founder of the humanistic direction in psychology, K. Rogers wrote in this regard: "I understand by the creative process the creation by action of a new product that grows, on the one hand, from the uniqueness of the individual, and on the other — due to the material, events, people and circumstances of life" (Rogers: 1994, pp.323-324).

One of the largest design methodologists, professor of the University of California H. Rittel believed that there are certain design laws that can be "discovered" or "established" and called these methods "first-generation methods". Such an approach to the activities of the designer was appropriate at a time when designers were dealing with relatively stable project tasks, the rate of change of which was much slower than the pace of project development. At the present stage, the designer is forced to work in conditions characterized by high dynamism and special structural complexity, which determines the need to develop "second generation" methods: "Unlike solving problems based on logical analysis," Rittel notes,

The designer's reasoning is rather disordered, not because of intellectual sloppiness, but by the very nature of design problems. There is no clear division of activity into task setting, synthesis and evaluation. All this happens simultaneously. The design problem is constantly changing in the process of solving it, because the understanding of what should be achieved and the methods of achievement undergo continuous changes (Rittel: 1984, pp.317-327; Batory: 2016, pp.283-303).

Academician V. M. Monakhov developed a technology for designing the educational process based on the experience of Russian and foreign higher schools, the opinions of professional experts in the field of professional education, as well as the wishes of employers. In accordance with it, the process of building a methodological system for teaching disciplines at a University with specified properties contains a system of technological diagnostics for the formation of students' professional competence. Such a system can be represented as hierarchies of levels: 1) the set of partial competences for the formation of a professional competence (PC) of the future specialist; 2) establishment of a system of professional tasks (PS) for forming each of the plurality of private competences; 3) establishment of a system of educational tasks (Usc), ensuring students' acquisition of sustainable skills solutions professional (or quasiprofessional) task (Monakhov: 2011, pp.43–45; Cherny: 2017).

As a result, there is a need for new pedagogical approaches to organizing artistic and creative activities that contribute to the successful training of designers. This problem exists in educational systems in different countries of the world (Dewi: 2019).

For example, in Italy, an effective form of organizing design education can be a school, as a model of a creative university of a new type, operating within production, engaged in real design. In the UK, they are training by modules, the first of which takes place in a design studio. This module provides the opportunity to obtain professional skills, as well as gain experience in professional communication during the work on a specific project (Ilikova: 2019, pp.197-212). The English teaching methodology consists in the fact that design - education should prepare students for accelerating changes in society. Of great importance in educational design is given to its realism. The rector of the faculty of the College of Art at Hornsey College of Arts (Great Britain) P. Green, wrote back in the 60s:

No personal development is possible when engaging in contrived projects. Artificial problems are devoid of any value (Pirro & Róna: 2019, pp.603-626). The course of design education planned by us does not allow the idea that children play industrial designers, that is, they design products that no one will manufacture. And without that, too many art classes come down to a game that does not at

all help the youth to develop a critical approach and independent decisions, regardless of what the media or fashion imposes on it. We believe that a child needs the ability to cope with the changing conditions of the world today, to be aware of the pressure of commercial advertising and to better understand the reasons for the ugliness and functional squalor of most of his environment (Black: 1964, p.4-15).

The study and some borrowings of the most successful foreign experience in educational practice can contribute to an effective solution to this problem (O'Halloran: 2012, pp.91–124).

METHODOLOGY

The base of the experimental research was the group of students of the Kazan Federal University, studying in the direction 54.03.01 "Design", the department of design and national arts. The pilot study included 30 students from 1-3 years of studying (2014 year of admission to the university).

Educational project architectural and design Studio "Back stop design" contributes to the educational process in preparing students for modern design practice, stimulates their creativity and versatility of thinking when creating valuable projects. Artistic and creative activity of design students is implemented in practice. The content of artistic and creative activity of the student project consists in the implementation by design students of increasingly complex creative projects and is based on the integration and systemic nature of the components: the value component, necessary for the development of the project worldview and value orientations; cognitive, including knowledge of theoretical foundations; active, defined as the mastery of professional tools; empathy, necessary for productive professional communication; research, as the ability to analyze information sources.; creative component, aimed at the development of creative activity;

Artistic and creative activity of students involves the implementation of a creative project, which consists of several consecutive stages: 1) pre-project stage - understanding the content of the technical task, the formulation of the main goal, the student's independent search for information about the design object (development of the research component); 2) search and development - organizing stage, interaction of the student and teacher with the consumer in the process of developing the artistic concept of the design object in accordance with the needs of the target audience (development of creative and empathic components); 4) design and regulatory-controlling stage of the process of creating an image and project model, the variability and expediency of decisions made (development of cognitive and activity components.); 5) analyzing stage-evaluation of intermediate and final results of creative activity (development of the value component).

The content of the program of artistic and creative activity involves the implementation of progressively more complex courses of programs in the direction 54.03.01 " design", from 1 to 3 years of study ("design basics", " Theory and methodology of design", "formation".)

Program "Fundamentals of design " is mastered in the 2nd semester of the 1st year and is propaedeutical in nature. The purpose of the course is to prepare the student for artistic and creative activities of the 2nd year, removing the problem of developing practical skills to create creative projects independently.

This discipline is included in the section of the cycle of professional disciplines and belongs to the basic (General) part. The course includes 4 hours of lectures and 34 hours of practical training. The lecture content of the program includes the study of the basics of projection drawing, requirements for the projected object, design stages, the study of a simple object, its main characteristics and parameters. Practical tasks involve the implementation of creative projects, the creation of a creative project of industrial design and MAF.

In the 3rd semester of the 2nd year students master the course "Fundamentals of Design Theory and Methodology". The purpose of mastering the course is to formulate the methodological foundations of professional design stimulating creative solutions. Discipline refers to the module "Fundamentals of production

excellence" of the basic part of the professional cycle. The course includes 28 hours of lectures and 8 hours of practical training.

The content of the program includes the study of the stages of the design process, as well as stimulating methods (interpretation, inversion, iteration, divergence, convergence, design, control questions method, brainstorm, decomposition). Practical tasks are to carry out a creative industrial design project according to the chosen method.

The educational discipline "Formation" is the discipline of the module "Fundamentals of Artistry" mastered in 3rd, 4th, 5th semesters of 2nd, 3rd years. The study of the discipline is based on practical exercises, with a complexity of 108 hours. The purpose of the discipline is to study the basics of laws and means of shaping. According to research conducted by V. T. Shimko, the integral components of consumer perception of a design object are the basic categories: emotional orientation, scale, and tectonics of the design form (Shimko: 2007, pp.130-131). Therefore a professional designer should know the content of these concepts and be able to use them in the design process. In the 3rd semester of the 2nd year, the practical tasks are the implementation of a creative project — the construction of composite forms and the implementation of a creative industrial design project in 4th semester on the theme "Bionics". In the 5th semester of the 3rd year in practical classes, students carry out a creative industrial design project on the topic "My Innovation".

RESULTS

The result of experimental work is the assimilation of practical experience in the implementation of the project. Through participation in the implementation of projects, students of designers form an awareness of the significance and value of the profession, design thinking, communication skills, and professional tools.

In the process of project implementation, the emotional level, the degree of responsibility and organization are increased, so the assimilation of theoretical knowledge and practical skills is faster and better.

Criteria were developed to analyze learning outcomes.

And the level of preparedness of students is determined. Each criterion corresponds to 3 levels of student preparedness — high, sufficient and insufficient. The first diagnostic stage of the experimental research includes an entrance exam and the first creative projects carried out by a group in 1st and 2nd semesters, which are considered as a "starting", initial level of development of design competence. Analysis of the quality of completed projects allows us to determine the future paths of professional development of the student.

The formative stage of the experimental research (3rd and 4th semester) proposes to carry out two projects. Each problem included in the project task is formulated so that the student, albeit in a form insufficiently conscious from a professional point of view, will implement a professional approach to the implementation of the creative process. During this period, there is an accumulation of project practical experience of actions, so that the student begins to realize his actions as really important and necessary for independent project search.

DISCUSSION

When carrying out a creative industrial design project on the theme "Bionics" aimed at developing a design product with social significance, created on the principles and laws of art shaping and focused on the target audience, students developed research skills, the ability to read the technical task and formulate the problem, to search information for solutions to the problem; empathic (communicative) experience of interaction with the target audience and understanding of its needs were acquired; the concept of the creative project traced the originality and novelty of the solutions; students improved the skills of shaping and design methods based

on the knowledge gained; they also improved the quality of technical and presentation performance, as a result of which they have increased emotional attitude and interest in the creative project. The control phase of the experimental research (5th semester of the 3rd year) made it possible to assess the development of the design competence of students of the direction 54.03.01 "Design" in the process of implementing a creative project on the theme "My Innovation". A distinctive feature of this stage was the unity of the educational task and the reflection of the quality of the project. At this stage, the teacher regulates the sequence of actions, directs students to solving intermediate problems, observing conditions, ways to solve them, but at the same time, the degree of freedom and independence of students is much higher.

At the stage of emerging professionalism, the professionally-creative attitude is naturally increasing towards training as a development of one's professional activity.

CONCLUSION

The analysis of the results of experimental work with design students shows that the organization of art and creative activity should be oriented toward personality-developing and practice-oriented approaches, for example, note that "traditional design education tends to concentrate on preparing for career and social role more than on the subjective development of the individual. "Interactive designing adapts students to independent professional activities quickly and better.

To sum up, the pedagogical support of design education is aimed at bringing academism closer to real practice. The most effective form of organizing design education can be a design studio as a pedagogical method, through which artistic and creative activities are not imitated, but implemented. The design studio is considered as a platform where the formation of a holistic professional consciousness and the core principles of the methodology take place. Such kind of pedagogical experiments are oriented towards the formation of a predisposition to cognition ("cognitive design").

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