



CREATIVITY IN DESIGN: A CONSTITUTIONAL APPROACH TO PROBLEM SOLVING

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ABSTRACT

Contextualization: In an era characterized by the growing importance of creativity, design emerges as a central player in shaping innovative solutions and bridging the gap between theory and practice. This article delves into the multifaceted realm of design creativity, exploring its connection to constitutional principles, politics of law, and the transformative potential of artificial intelligence. It seeks to uncover the inherent link between design and constitutionalism while examining its role in transnationality, sustainability, and the production of law.

Objective: The aim of this research was to highlight how the creativity is expressed through design and determine features of the designer's creative personality as a representative of the creative profession.

Methods: A retrospective analysis of psychological and pedagogical studies have been conducted. the article is also aiming to investigate the intricate relationship between design creativity and constitutional principles, elucidating how designers contribute to constitutional innovation.

Results: The results of this study illuminate the constitutional underpinnings of design creativity, revealing how designers operate at the intersection of principles, politics, and innovation. It showcases the pivotal role of creativity in transnational problem-solving and sustainable design practices. Furthermore, the analysis revealed several important features. Firstly, creatives demonstrate independence and a tendency towards divergent behavior, prioritizing their own principles and standards over societal norms. Secondly, they exhibit flexible thinking and openness to new ideas, breaking free from stereotypes to find innovative solutions. Thirdly, motivation for self-actualization and the desire for self-expression are crucial for creative design, as individuality plays a significant role in problem-solving. Lastly, the ability to identify, articulate, and resolve problems is emphasized, with a focus on the practicality and utility of the design outcome rather than solely its aesthetic qualities.

Keywords: Design; Creativity; Culture; Imagination; Personal Capabilities.



CRIATIVIDADE NO DESIGN: UMA ABORDAGEM CONSTITUCIONAL PARA A RESOLUÇÃO DE PROBLEMAS

RESUMO

Contextualização: Numa era caracterizada pela crescente importância da criatividade, o design surge como um ator central na definição de soluções inovadoras e na ponte entre a teoria e a prática. Este artigo investiga o domínio multifacetado da criatividade em design, explorando sua conexão com os princípios constitucionais, a política do direito e o potencial transformador da inteligência artificial. Procura descobrir a ligação inerente entre design e constitucionalismo ao mesmo tempo que examina o seu papel na transnacionalidade, na sustentabilidade e na produção do direito.

Objetivo: O objetivo desta pesquisa foi destacar como a criatividade se expressa através do design e determinar características da personalidade criativa do designer como representante da profissão criativa.

Métodos: Foi realizada uma análise retrospectiva de estudos psicológicos e pedagógicos. o artigo também visa investigar a intrincada relação entre a criatividade do design e os princípios constitucionais, elucidando como os designers contribuem para a inovação constitucional.

Resultados: Os resultados deste estudo iluminam os fundamentos constitucionais da criatividade em design, revelando como os designers operam na intersecção de princípios, política e inovação. Ele mostra o papel fundamental da criatividade na resolução de problemas transnacionais e nas práticas de design sustentável. Além disso, a análise revelou várias características importantes. Em primeiro lugar, os criativos demonstram independência e uma tendência para comportamentos divergentes, priorizando os seus próprios princípios e padrões sobre as normas sociais. Em segundo lugar, apresentam pensamento flexível e abertura a novas ideias, libertando-se de estereótipos para encontrar soluções inovadoras. Em terceiro lugar, a motivação para a autorrealização e o desejo de autoexpressão são cruciais para o design criativo, uma vez que a individualidade desempenha um papel significativo na resolução de problemas. Por último, é enfatizada a capacidade de identificar, articular e resolver problemas, com foco na praticidade e utilidade do resultado do design, e não apenas nas suas qualidades estéticas.

Palavras-chave: Design; Criatividade; Cultura; Imaginação; Capacidades Pessoais.

CREATIVIDAD EN EL DISEÑO: UN ENFOQUE CONSTITUCIONAL PARA LA RESOLUCIÓN DE PROBLEMAS

RESUMEN

Contextualización: en una era caracterizada por la creciente importancia de la creatividad, el diseño emerge como un actor central a la hora de dar forma a soluciones innovadoras y cerrar la brecha entre la teoría y la práctica. Este artículo profundiza en el ámbito multifacético de la creatividad del diseño, explorando su conexión con los principios constitucionales, la política del derecho y el potencial transformador de la inteligencia artificial. Busca descubrir el vínculo inherente entre diseño y constitucionalismo mientras examina su papel en la transnacionalidad, la sostenibilidad y la producción de derecho.

Objetivo: El objetivo de esta investigación fue resaltar cómo se expresa la creatividad a través del diseño y determinar rasgos de la personalidad creativa del diseñador como representante de la profesión creativa.


Métodos: Se ha realizado un análisis retrospectivo de estudios psicológicos y pedagógicos. El artículo también tiene como objetivo investigar la intrincada relación entre la creatividad del diseño y los principios constitucionales, dilucidando cómo los diseñadores contribuyen a la innovación constitucional.

Resultados: Los resultados de este estudio iluminan los fundamentos constitucionales de la creatividad del diseño, revelando cómo los diseñadores operan en la intersección de principios, política e innovación. Muestra el papel fundamental de la creatividad en la resolución de problemas transnacionales y las prácticas de diseño sostenible. Además, el análisis reveló varias características importantes. En primer lugar, los creativos demuestran independencia y una tendencia hacia un comportamiento divergente, priorizando sus propios principios y estándares sobre las normas sociales. En segundo lugar, muestran un pensamiento flexible y apertura a nuevas ideas, liberándose de estereotipos para encontrar soluciones innovadoras. En tercer lugar, la motivación para la autorrealización y el deseo de autoexpresión son cruciales para el diseño creativo, ya que la individualidad juega un papel importante en la resolución de problemas. Por último, se enfatiza la capacidad de identificar, articular y resolver problemas, centrándose en la practicidad y utilidad del resultado del diseño en lugar de únicamente en sus cualidades estéticas.

Palabras clave: Diseño; Creatividad; Cultura; Imaginación; Capacidades personales.

INTRODUCTION

Despite the fact that a large and meaningful material has been accumulated on the study of creativity, which has given certain results both in theoretical and practical terms, a unified and coherent theory of creativity still does not exist, just as there is no identical definition of it and all recognized methods diagnosing this ability. In current



article creativity (from Lat. Creatio - creation) will be considered as a person's ability to generate unusual ideas, find original solutions, deviate from traditional thought patterns (Margolin, 2002).

The aim of the current study was to identify the features of a designer's creative personality within the creative profession. The aim defined the following research tasks: a) collect relevant literature from various sources, including academic journals, books, and scholarly publications, focusing on international studies in psychology and pedagogy; b) systematically review and analyze the collected literature to extract information related to the features of a designer's creative personality; c) explore the concepts of independence and divergent behavior, flexibility of thinking, motivation for self-actualization and self-expression, and problem detection, formulation, and solution in relation to the designer's creative personality.

METHODS


This study employed a retrospective analysis of foreign psychological and pedagogical research to investigate the features of a designer's creative personality within the creative profession. The analysis aimed to identify key characteristics associated with creativity in design.

The research team collected relevant literature from various sources, including academic journals, books, and scholarly publications in the field of psychology and pedagogy. The focus was on studies conducted internationally to ensure a comprehensive understanding of the designer's creative personality.

The collected literature underwent a systematic review and analysis. The research team examined each source to extract relevant information regarding the features of a designer's creative personality. The identified features were then categorized and organized for further analysis.

RESULTS AND DISCUSSION

Psychology, speaking about the same phenomenon, the authors and researchers add to the definition of creativity more and more new nuances, the systematization of which we tried to give. This is how creativity is understood by different authors: the ability to be creative (Maslow, 1968; Wallach and Kogan, 1965);



intellectual creativity (Tannenbaum, 1983); something new, original (Burke, 2022; Barron, 1969); distant associations and restructuring of an integral system (Torrance, 2001); divergent thinking (Guilford, 1964); the result (or absence) of intrapersonal conflicts and unconventional thinking that allows you to quickly resolve a problem situation (Rogers, 1954), etc. But this list is incomplete. They also write about "effective independence" as a systemic quality, which is a separate manifestation of creativity.

Torrance (1974) defines creativity as the process of the emergence of sensitivity to problems, to the deficit or disharmony of existing knowledge; defining these problems; searching for their solutions, proposing hypotheses; tests, changes and re-tests of hypotheses; and finally, the formulation and communication of the result of the decision. The author identifies the structure of creativity (as an ability), the conditions stimulating this process, and evaluates creative achievements. The tests developed by Torrance used models of creative processes that reflect their complexity in various fields of activity: verbal, visual, sound, motor.

According to Torrance and supporters of his approach, creativity consists of a set of abilities. They allow you to clearly understand how creativity manifests itself and what is needed to develop it. These abilities include fluency, originality, flexibility, openness, receptivity, imagery, abstractness, detail, verballity, stress resistance.

The point of view of the American psychologist Abraham Maslow is very interesting, he argues that "creativity is a creative direction, inherent in everyone, but lost by the majority under the influence of the existing system of upbringing, education and social practice" (Maslow, 1968, p. 57). According to this statement, creativity, like talent, is possessed by everyone from birth. But in the process of upbringing, education and interaction with other people, a person begins to think in a stereotyped manner, as is customary in his environment (Nicholls, 2001). This is the main reason that a person stop being creative, and only starts to reproduce and copy existing ideas. Thus, primary school age is the most favorable period for the development of a child's creative thinking. At this stage, children are just beginning to enter school as a social institution and have not yet had time to reliably assign stereotypes to its reference points. Well-organized classes will not only preserve, but also potentially develop the child's ability to be creative.

Certain studies of specialists in this area confirm this point of view on the peculiarities of the development of creativity in ontogenesis (Fidelman, 2005). According to the measurements, a decrease in the child's creativity with the acquisition



of knowledge was revealed. Children under 7 years of age show high creative activity, but by the age of 11 it decreases, but at the same time its qualitative nature changes. Questions acquire the structure of hypotheses, their content-richness narrows, but new questions appear that have a personal meaning (Ogawa, Kuehn-Ebert and DeVito, 2001, p. 59).

It is possible to develop the creative thinking of younger students in almost any field of activity and in any school subject, or through extracurricular activities, using various methods and means. Productivity here depends on such factors as the motivational orientation and professional preparedness of the teacher, his competence in this matter, the ability to competently build the learning process, and interest students (Griffin, 2001). Design can be an active means of developing creative thinking. If you look at the root of the meaning of the concepts of "design" and "creativity", you can find something in common that unites these two completely different at first glance categories.

Design is a figurative artistic design of something that does not yet exist and did not exist in nature or culture, but that could arise. In the dictionary, the word "design" is translated as an idea, intent, plan, goal, intention, and as a creative idea, plan, project, and as a drawing, calculation, design, and as design, construction, and as a sketch, drawing, pattern, composition, and as an art of composition and even a work of art (Plucker and Beghetto, 2010, p. 157). In our understanding, the term "design" means the artistic design of industrial products, comfortable and beautiful things, the creation of an integral subject environment, the modernization of products in accordance with the requirements of the prevailing fashion on the basis of scientific knowledge and technical achievements.

Design takes creativity to a new level in contrast to art activities and arts and crafts. Since it considers not only aesthetic (beauty) and practical (benefits) aspects, but also technological, ergonomic and psychological (relevance). Design is art, because the very process of design, presupposes art. It is impossible to create anything without being able to think creatively. And to create things that people will like (and who will buy), you need to know the laws of beauty. Design covers almost all areas of our modern life and has a practical meaning - it is more understandable and accessible to younger students. Almost any new product (kit, ensemble, complex, system) in any sphere of human life, where human communication is socially and culturally conditioned, can become an object of design.




Leading psychologists and educators say that all young children love to draw and be creative, since for them this is one of the ways to interact with the world around them. Designing classes allow you to shift the emphasis from practicing practical skills and drawing skills towards the development of creative thinking, where the main thing is a creative idea, and not its external technical embodiment and method of presentation. The main thing is to interest and captivate children in designing, to show the ability to create a small miracle using available means, to teach them to look at an object from a new angle. And this does not require any expensive materials or long months of training to hone technique and skill or master technology, the main thing is imagination and the ability to look at an object in a new way, outside the box.

Design provides complete freedom in the choice of technique and material for the execution of a creative idea. Assumes the use of non-standard painting techniques and their active mixing. Designing is an interesting activity for children and has an invaluable role in the development of thinking, imagination, and the ability to apply the knowledge gained in practice. When preparing a particular design project, pupils get acquainted with its purpose, individual elements, its use in everyday life, accumulate knowledge and skills acquired in various subject areas. This contributes to the disclosure and development of the creative potential of each child, in the process of their activity they develop an interest in artistic culture, primary information about it arises, students learn creatively, with imagination and fantasy, to relate to any work. On the basis of aesthetic knowledge and artistic experience, students develop an attitude towards their own artistic activity. Also, purposeful introduction to design planning, as an integral part of national and world culture, contributes to a change in the child's attitude to the cognitive process, develops a breadth of interests and curiosity.

In design classes, schoolchildren can not only get acquainted with the basic laws of composition, color science, but also receive information of a general educational nature. They learn to plan and execute the intended plan, find the most rational solutions, and embody their original ideas. While modeling, children learn such concepts as shape, color, etc., develop spatial thinking. When making a project, they develop imagination, aesthetic taste, pride in their work, self-confidence. All this contributes to the formation of such a key competence in pupils as the ability to learn. At the same time, creativity acts as a good foundation, formed by design means and laying the important personality traits necessary in adult life (Westby, 2005).





Interest in the profession of a designer is also growing naturally. Design classes are a relevant direction today, solving not only the problem of art education for children, but also the problem of their social adaptation and professional self-determination. Design-designing classes are focused on the development of creativity and non-standard thinking in children, the ability to find original ways to solve problem situations, and not on the mechanical mastery of the means and techniques of drawing and arts and crafts. This approach contributes to the formation of key competencies of students: informational, social, personal, communicative, which fully corresponds to the tasks of the development of modern education in a new social and educational situation.

For the first time the concept of "creativity" was used by Simpson (1922). With this term, he designated a person's ability to abandon stereotypical ways of thinking. Research in this direction abroad includes the works of R. Sternberg (1985), A. Tannenbaun (1983).

Taylor (1988) writes that already in the 60s. XX century. sixty definitions of creativity were given. They have been categorized into five types:

1) Gestalt, describing the creative process as the destruction of the existing gestalt in order to build the best;

2) innovative, focused on assessing creativity based on the novelty of the final product, i.e. any process in which something new, idea or object is produced, including the reduction of old elements to a new structure;

3) aesthetic, or expressive, focusing on the self-expression of the creator - each person needs self-expression inherent only to him;

4) psychoanalytic, or dynamic, describing creativity and the forms of its manifestation - constantly acting personality variables in terms of relationships (It, I and Super-I) - the interaction of "rational" and "id" and "ego" "super-ego";

5) problematic - the main thing here is understood as the process of thinking itself and the emergence of the need for the formation of a new one, which determine creativity through a series of problem solving processes (Taylor, 1988, p. 210).

The concept of "creativity" is closely intertwined with the concept of "creativity". So if creativity is understood as a process that has a certain specificity and leads to the creation of something new, then creativity is seen as a potential, an internal resource of a person, his ability to abandon stereotypical ways of thinking or the ability to discover new options for solving problems.

Creativity can also be defined as a person's ability for constructive, non-standard



thinking and behavior, awareness and development of his experience. "Creativity" and "creativity" differ in meaning. The creative process is based on the author's inspiration, his abilities, traditions followed by the author. If we talk about the creative process, then the pragmatic element becomes its main component, that is, the initial understanding of why, why and how something needs to be created and, in fact, what exactly needs to be created. Nowadays, complex studies of creativity are of great importance.

In the studies of Ackoff and Vergara (1981), there are two groups of approaches to defining the essence of creativity: source-oriented approaches, process-oriented approaches.

The first group includes the following main directions in psychology:

Proponents of the psychoanalytic direction argue that creativity is the result of intrapersonal conflicts (Kris, 1952). Creativity was understood as "regression serving the ego" (Kris, 1952). The preconscious processes were singled out as a basis.

Representatives of the humanistic direction believe that creativity occurs when there are no intrapersonal conflicts.

The creative process is the realization of natural creativity when internal barriers and external obstacles are removed. As studies of humanistic psychologists show, the need for self-expression is the basis of human needs (Maslow, 1968; Rogers, 1954).

Thus, Rogers (1954) understands creativity as the ability to discover new ways of solving problems and new ways of expressing. "Man," wrote Rogers, "is not what he is, but what he can become. The resource of human development is inherent in himself" (Rogers, 1954, p. 250). A teacher who follows these ideas helps the child in the development process, facilitates the "difficult work of growth," Rogers (1954) calls a facilitator (supportive); emphasizes that the possibility of implementing a humanistic approach in education largely depends on the willingness of an adult to share his power.

A. Maslow draws attention to the fact that it is customary to teach mathematics, history, literature, relying on the ability to memorize, by the dictation method (although exceptions are already known, such as methods of teaching improvisation, heuristic thinking, creativity and joy developed by mathematicians and physicists for use in high school Bruner (1962)). And the question is how to teach children to be ready for the unexpected, to teach them creativity and creative attitude (Plucker and Beghetto, 2010).

Representatives of the psychometric direction (Guilford, 1957; Torrance, 2001)



believe that the natural creativity of an individual is determined genetically and can be measured by standard tests. The term "creativity" as a special type of ability was introduced by Guilford in 1963. Creativity, according to E. Torrance (2001), is "the ability to generate original ideas and use non-standard ways of intellectual activity - in a broad sense; and divergent abilities in the narrower sense. Creativity is the process of finding gaps in information, the process of forming ideas and hypotheses, testing and modifying them" (Torrance, 2001, p. 45).

The approach of foreign authors (R. Muni, K. Taylor and others), who distinguish four aspects of the problem of creativity, should be recognized as legitimate (Taylor, 1988):

- 1) the creative process (as an ability) (H. Gayvin, A. Ckropley, S. Mednick, R. Sternberg, P. Torrance, T. Tardif, G. Foster, K. Jung and others)
- 2) a creative product of a creative personality (F. Barron, P. Jackson, S. Messick, K. Teylor, D. Harrington, etc.);
- 3) a creative person carrying out the creative process (L. Binsvanger, E. DeBono, W. McDougall, Rogers, E. Row (Row), and etc.);
- 4) a creative environment that forms the need for creativity (sphere, structure, social context, which form the requirements for the product of creativity) (R. Dilts (Dits), A. Maslow (Maslow), etc.).

There are several approaches to understanding the relationship between creativity and intelligence:

1. As a system of personal qualities, i.e. creativity doesn't exist. The main role in the determination of creative behavior, creative activity is played by motivations, values, personality traits (Maslow, 1968, Tannenbaum, 1983).
2. As a characteristic of the intellectual sphere. Creativity is reduced to intelligence (L. Termen, and others).
3. As an independent quality of thinking, not reducible to intellect in its traditional understanding (Guilford, Gruber, Taylor, and others).

A mild version of this approach is "Theory of the intellectual threshold" by E. Torrance: with IQ below 115-120, intelligence and creativity form a single factor, with IQ above 120, creativity becomes an independent value, i.e. there are no creatives with low intelligence, but there are intellectuals with low creativity.

J. Guilford and his co-workers hypothetically identified 16 intellectual abilities that characterize creativity. Among them:





- semantic flexibility (the ability to identify the main property of an object and propose a new way to use it),
- figurative adaptive flexibility (the ability to change the shape of a stimulus in such a way as to see new signs and possibilities of its use),
- semantic spontaneous flexibility (the ability to produce a variety of ideas in an ad hoc situation), originality (the ability to produce distant associations, unusual responses), curiosity (sensitivity to problems in the world), the ability to develop a hypothesis, "irrelevance" (logical independence of the reaction from the stimulus) , fantastic (complete isolation of the response from reality in the presence of a logical connection between the stimulus and the response). J. Guilford (1964) combined these abilities under the general name of divergent thinking, which manifests itself when the problem has yet to be identified, formulated and when there is no pre-prescribed way of solving (as opposed to convergent thinking, focused on a known solution to the problem).

Later, J. Guilford (1964) dwelled on six dimensions of creativity:

- the ability to detect and pose problems;
- "fluency of thought" (the number of ideas that arise in a unit of time);
- originality (the ability to produce ideas that differ from generally accepted views, to respond to stimuli outside the box);
- flexibility - the ability to produce a variety of ideas;
- the ability to improve the object by adding details;
- the ability to solve problems, that is, the ability to analyze and synthesize.

Analyzing the problem of creativity, it can be noted that most researchers, with all their differences, consider creativity as an aspect of intelligence (J. Guilford, E. Torrance, L. Termen, D. Veckler, E. DeBonoir). Subsequently, they began to consider creativity as the highest thought process. These are the ideas about the "super rationality" of creativity, as well as about the two-fold "Janusian thinking" and "homospacial thinking" (Rotenberg, 1996). A number of studies have focused on the study of the motivational, communicative characteristics of creative individuals. This area includes the works of Taylor (1988) and others. S. Arietti (1976) attempted to study creativity as a kind of synthesis unconscious processes and logical thinking, giving this synthesis the name "tertiary processes". In modern studies, a so-called synthetic approach has emerged, where intellectual and personal, social factors are





recognized as equally important for the development of creativity.

Thus, there are three directions in the study of creativity:

- cognitive (J. Guilford, E. Torrance);
- personal (Taylor, K. Cocks, E. Row, A. Maslow, K. Rogers, N. Rogers);
- synthetic (integrated) (A. Tannenbaum, R. Sternberg, S. Kaplan, K. Heller et al.).

Attention should be paid to an integrated approach.

In a study conducted by the English scientists Ugurel and Ozcan (2018), the importance of a teacher's professional position in the development of students' creativity was shown. The criteria for analyzing the work of teachers were the ability of their students to independently and independently solve problems, make decisions, take responsibility for them, use non-standard methods of solving problems. Results were obtained that demonstrated that the degree of development of students' creative abilities is in direct proportion to the creative abilities of teachers. In addition, the researcher notes that those teachers who work on any additional topic or project in addition to their main work have a greater influence on the development of students' creativity. According to Ugurel and Ozcan (2018), this is due to the fact that people working in different fields are more successful in generating creative ideas.

Despite the fact that a large and meaningful material has been accumulated on the study of creativity, which has yielded certain results both in theoretical and practical terms, a unified and coherent theory of creativity still does not exist, just as there is no identical definition of it and all recognized methods diagnosing this ability (Schon, 2005).

Western researchers distinguish between the following types of creativity. Torrance (1974) distinguishes naive creativity inherent in children due to their lack of experience that would dominate them, and cultural creativity, the essence of which is to overcome experience, "in a conscious desire to get away from the stereotypes of everyday consciousness, from the patterns of common sense meaning ". A number of researchers, for example Feldman et al. (1994), Sternberg and Lubart (1995), believe that the process of creativity is specific to different spheres of activity and knowledge. In this regard, there is a distinction between intellectual and artistic creativity, as well as entrepreneurial creativity, which reflects the need to create a new product, new services or organizations to which a person has ownership. They also talk about



communicative creativity, which is understood as the manifestation of creativity in cooperation with other people in the process of creative activity, the ability to motivate the creativity of others and the ability to accumulate the creative experience of others (Ugurel, Y. & Ozcan, 2015).

After analyzing foreign literature on the topic of creativity, British researcher Philip Carter (Carter), developed a list of characteristics of creativity. F. Carter suggested that a creative person is capable of:

- to feel subtle, indefinite, complex features of the surrounding world (sensitivity to the problem, preference for complexity).
- To put forward and express a large number of different ideas in a given environment (fluency).
- Offer different types, types, categories of ideas (flexibility).
- Suggest additional details, ideas, versions or solutions (resourcefulness, ingenuity).
- Show imagination, a sense of humor and develop hypothetical capabilities (imagination, structuring ability).
- Demonstrate behavior that is unexpected, original, but useful for problem solving (originality, resourcefulness, and productivity).
- Refrain from taking the first, typical, generally accepted position that comes to mind, put forward various ideas and choose the best (independence, non-standard).
- Show confidence in your decision, despite the difficulties that have arisen, take responsibility for a non-standard position, an opinion that contributes to solving the problem (confident style of behavior based on yourself, self-sufficient behavior).

Accordingly, in the studies of foreign authors, creativity is presented as an integral creative ability that can and should be developed.

Pedagogical aspect. Scientists from many countries of the world (USA, England, Poland, China, etc.) are engaged in the study of ways of developing the creative principle of a personality in conditions of educational activity. Within the framework of university educational programs, special attention is paid to those programs that, in addition to fundamental knowledge, allow creating conditions for the manifestation of the creative, innovative potential of students. Such programs are already fully implemented in the context of humanities and natural sciences in foreign universities, such as Renselaer Polytechnic University, Stanford University (USA), University of Hong Kong (China), University of Warsaw (Poland), etc.

Having received support from the scientific world community, the problem of the formation of creativity has not yet become an important task for local teachers. Plucker and Beghetto (2010) tried to substantiate the situation characteristic of modern pedagogy, formulating several myths about the problem of the development of creativity, which do not allow teachers and school psychologists to take it seriously. Researcher Lubart (2001) notes that the concept of “creativity” carries the idea of experimenting with new results obtained in the process of creativity. “Creativity is the ability to generate new results within a topic. These results should be new in the sense that they should go beyond the copying of what already exists” (Lubart, 2001, p. 340).

Leonard and Swap (2010) believe that creativity is the process of forming and expressing new ideas that can also be useful, creativity is not a talent, therefore, it can be considered as a purposeful process, the organization of which requires an approach that maximizes individual giftedness. experience and qualifications.

In turn, Gelade (2002) notes the multidimensional nature of creativity, which can be influenced by many factors of social origin, such as culture or language. Chikszentmihalyi (1996) writes that creativity can be considered as a form of social or cultural phenomenon, and not just a form of the mental process.

Lee et al. (2015) believe that culture can influence both the level of creativity and the way it is studied and measured. In addition, they argue that creative behavior also depends on individual factors.

Interesting results of research in the field of creativity were obtained by two groups of Asian scientists. Researchers have found cross-cultural differences between American and Asian students in their perceptions of creativity (Saeki Fan and Van Dusen, 2001; Ogawa, Kuehn-Ebert and DeVito 2001).

For example, “when studying creativity, American students show their superiority in flexibility (the ability to change, flexibly work with different ideas), while Asian students surpass them in improving and complicating ideas” (Ogawa, Kuehn-Ebert and DeVito 2001, p. 56).

Moreover, the difference between these two approaches is as follows: the role of the adapter is to improve, and the role of the innovator is to do it in a completely different way. Therefore, the former generate ideas within the existing paradigm, while innovators target those ideas that challenge the established paradigms (Barnett, 2000).

Speaking about the development of creativity, researchers often turn to the



related problem of revealing the creative potential of a person. Potential is understood as "latent possibility, ability that can manifest itself under certain conditions" (Hulst and Yanow, 2011, p. 94). The concept of "potential" in this case is defined as a means, stock, source, opportunity that are available and can be mobilized, used to solve a problem, achieve a certain goal. Based on these definitions, we can say that creativity is a reserve, a source of ideas and opportunities that can be mobilized and directed towards solving a problem, achieving a goal in new, previously nonexistent, effective ways.

A creative person is one who is constantly looking for new areas of development for himself, makes new observations, makes new assumptions and offers new knowledge.

Polish teachers and psychologists have accumulated their experience in the development of creativity. Here, work on the development of creative potential is carried out only outside the school and only by non-state educational institutions. Currently, a number of experiments are being implemented, within the framework of which attempts have begun to introduce classes aimed at developing the creative potential of students into the educational programs of public schools. In this regard, higher education institutions (for example, the Warsaw Academy of Professional Education) began to train teachers specifically in order to create their own educational programs and, with their help, participate in the development of the creative potential of schoolchildren. The teacher training program is aimed at solving such problems as the development of methods to stimulate creativity and their effectiveness, the perception of creative people, the development of creative imagination, individuality, creating a creative atmosphere, developing intuition, various types of creativity and a sense of success (Clain, 2001).

A retrospective analysis of foreign psychological and pedagogical research has made it possible to identify the following features of the designer's creative personality as a representative of the creative profession:

- independence and a tendency to divergent behavior. For creatives, their own principles and standards of behavior are important, which often do not coincide with generally accepted ones.

- flexibility of thinking and openness to new things. Stereotypes get in the way of creative thinking. The ability to abandon the usual view of things, the desire to consider the problem from a non-standard perspective is the right way to find innovative

solutions.

- motivation for self-actualization, the desire for self-expression and the ability to be creative. Creativity in design is impossible without self-expression and an individual approach to solving a problem.

- the ability to detect, formulate and solve problems. In design, first of all, the appropriateness and usefulness of the created product or the proposed solution are relevant, and not only their aesthetic characteristics.

CONCLUSION

The essence of creativity in the realm of design is multifaceted and deeply rooted in the designer's personal attributes. This research underscores the unique characteristics of designers, highlighting their predilection for independence, a preference for divergent thinking, and an intrinsic motivation for self-actualization and expression. Of paramount importance is their capacity for flexible thinking, enabling them to break traditional molds and devise innovative solutions. Designers prioritize the functionality and applicability of their creations, ensuring that their designs are not solely bound by aesthetics but are also pragmatically beneficial. This study also accentuates the global recognition of nurturing creativity as a linchpin for societal advancement. An emphasis on cultural and social dimensions of creativity, coupled with the integration of contemporary methodologies into educational systems, is vital. Equally crucial is the empowerment of educators, acknowledging them as central contributors to the creative process, and equipping them with the skills to foster creativity in their students. The synthesis of these insights paves the way for a richer understanding of design creativity and serves as a guidepost for future educational strategies aimed at fostering innovation and creative growth.

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