UDC 122: 7.012
DOI: https://doi.org/10.30839/2072-7941.2019.165097

THE IMPACT OF INNOVATIVE TECHNOLOGIES ON A DESIGN OF THE SPATIAL – OBJECT ENVIRONMENT AS A FACTOR OF GRADUAL DEVELOPMENT

© IRYNA, RIZHOVA
National University «Zaporozhye Polytechnik» (Zaporizhzhia, Ukraine)
E-mail: 17design 2017@gmail.com, ORCID iD: 0000-0002-9562-200X

© ALINA, SHMARINA
, National University «Zaporozhye Polytechnik» (Zaporizhzhia, Ukraine)
E-mail: a_shmarina@ukr.net, ORCID iD: 0000-0002-4552-4399

Abstract. **Actuality of the study** is that the rapid development, in particular, of innovative technologies, enables to bring the educational process to a new high level, which will provide a better training of specialists in the field of design, which are necessary for the prosperity of our country. The article explores design artifacts that are differentiated in the cultures of information society. The concept of how the innovative technologies influence on the design of the spatial-object environment is considered.

Problems of studying innovative technologies were taught by such scientists as: O.Bazilevsky, V.E. Barysheva, I.S. Rizhova. Problems of studying the design of the spatial-object environment were also carried out by Ukrainian scientists such as S.P. Migal, I.S. Rizhov, V.O. Timokhin, N.M. Shebek, T.V. Malik. Among the Ukrainian researchers, thinking about the existence of the city should be noted T. Voznyak, M.Karpovets, T.Kornienko, M.Prepotenska and others.

The realization of this goal requires solving such tasks as outlining different approaches to understanding the phenomenon of space-object environment design; definition of the specificity of innovative technologies in the modern ecological city. **Research methods**. In theory and practice of research of innovative technologies, methods of structural-system, structural-functional analysis are widely used. Methods of structural-system analysis are used to solve complex problems related to the activities of people in the city, as well as to identify the structure of the city as a dynamic system that promotes self-development of society and personality. Methods of structural-functional analysis are based on the interaction between the structural components of the space-subject environment and their relationship with the functions of the system. **The result of the study**. In order to solve the problems of the influence of innovative technologies on the design of the spatial-object environment, one should create a concept of the strategy for the development of innovative technologies, aimed at cooperation with leading companies in the industry and the production of domestic analogues in accordance with world standards. **Conclusions** Innovative technologies as a factor in the development of modern design of the spatial-subject environment represent a synergy of science, technology, cultural development, on the one hand, as well as state, education, creative social entrepreneurship - on the other. That is why innovative technologies represent the basis of intellectual and creative resources aimed at achieving economic and design success, which will represent the socio-cultural progress of society, which will take place thanks to innovative technologies and creativity of designers. **The practical significance of the research topic** lies in the fact that research designer artifacts that are differentiated in the cultures of the information society.

Keywords: design, innovative technologies, design of space-subject environment, modern city, sustainable development, ecodesign, bionics

Introduction

Statement of the problem in general and its connection with the important scientific or practical tasks

Relevance of research.

At the end of the twentieth century, the design turned into an important and specific part of being, where it performs various functions: cognitive, social and psychological, activity, modeling. Created in the twentieth century new artificial (designer) world reacted to changing the fundamentals of human life; it provides a relative standard of life of society and man, including and design means which are asserted as the most important type of spiritual and creative self-realization of man. The design creates its unique properties in order to influence the person with synthetic associations, the wealth of knowledge and emotions - a consistent expression of sound, color, tone, form, scale, rhythm - an artistic image, and this affects all spheres of being, including and designer innovative technologies.

Analysis of literary sources and problem statement

The concept of "innovative technologies" as a factor in the development of the modern design of the spatial-object environment has recently been used by both theoreticians and practitioners of different levels. This concept has undergone evolution in the strategy of development of scientific knowledge as a special activity in the production of scientific knowledge of modern design and ways of mastering the world, moving from cognitive-scientific to culturological sciences and processes. At the same time, innovative technologies consist of goals and methods (tools) that cultivate innovation activities in the field of design as a creative and creative process [1. p. 250-251]. The conception of "innovative technologies" plays the role of the cultural-oriented category and the role of regulatory means of cultural creativity in the field of design. Innovative technologies are needed to form a design concept as the main figurative idea of the future designer design idea about specific innovative goals and technologies that reflect the artistic design thinking of the designer about the phenomena of modern design development. Innovative technologies make it possible to create a holistic ideal concept of the future object and describe its quantitative and qualitative characteristics. The modernization of the modern design of the spatial-object environment depends on innovative technologies aimed at transforming the modern design through the introduction of innovations into design activities. This is a practical application of new design knowledge and its implementation in innovative technologies that promote the development of modern design, based on new techniques, techniques and techniques of design activities, which has a cultural nature. The essence of innovative technology is not limited to the meaning of innovation, it means that the development of design should

be regarded as a socio-cultural phenomenon.

In practice, this means going beyond purely economic approaches and creating conditions for innovation in the design field, which is culturally creative, creative, innovative. Innovation in the field of design is a complex activity, which includes a set of scientific, technological, educational, organizational, financial and other activities that in their totality lead to a design result that is commercially successful. Problems of the study of innovative technologies were taught by such as: O. Bazilevsky, V.E Barysheva [2], I.S. Ryzhova [3]. Problems of studying the design of the spatial-object environment were also studied by Ukrainian scientists such as S.P.Migal [4], I.S. Rizhova [5], V.O.Timokhin, N.M.Shebek, T.V. Malik [6]. Among the Ukrainian researchers in contemplating the existence of the city should be noted T. Voznyak [7], M. Karpovets [8], T. Kornienko [9], M.Prepotenska [10], and others.

The purpose of the research: conceptualizations of the influence of innovative technologies on the design of the space-subject environment.

Objectives of the study:

- outlining different approaches to understanding the phenomenon of space-object environment design;
- definition of specificity of innovative technologies in the modern ecological city.

Implementation problem

The growth of civilization load on natural landscapes is particularly noticeable on the territory of large cities. The end of the twentieth century. was marked by the active growth of urbanized areas, urban agglomerations, metropolitan areas, the functioning of which completely changed not only the appearance of landscapes, but also destroyed natural ecological chains of metabolism, radically changing the nature and direction of the processes that they once occurred. There was an urgent need for environmental analysis of the new situation and the development of innovative technology in the modern space-subject environment. As S.Migal notes, "Spatial-Subject Environment is a multidimensional vector phenomenon, a collection of natural and artificially created spaces and their substantive content, which are in constant interaction with a person. It covers natural, man-made, industrial, ecological and hygienic and socio-cultural elements" [11, p. 45].

Humanity in the conditions of globalization for self-preservation and development, through aesthetic and spiritual enrichment of space-time environments, involves these processes and design, but its value is not limited to aesthetic value, it has a universal volume, co-evolutionarily set, social functions: cognitive, psychological, etc. The most important impetus of modern design is the synthesis of socio-cultural determinants, the ability to aesthetic emotions that arise as a result of the most complex combinations of socio-natural connections (the higher the level of these connections, the more perfect, the more versatile forms of spatial reflection of life, the more stable the system). The space in design acts as a condition for localization of the design product, it is homomorphic and measured in metric

units. In the design of the spatial-object environment space is conceived locally and qualitatively, thus creating a spatial-temporal continuum, or a chronotope (chronos plus topos). In the design of a multimedia (virtual) product space is also inherent to time, it acquires the features of metaphysical reality and is specifically experienced by the subject of the virtual event.

The structure of the spatial-subject environment: a) the subject as a spatial-objective factor; b) the "core"; c) "periphery"; d) the boundary of the medium; e) place. Chronotop - a term that means unity of time (chronos) and space (topos). The continual unity of space - the time inherent in the mythopoetic models of the world, the emotional perception of the spatial-subject environment and the experience of the virtual event. That design has a general anti-entropy orientation, which leads to the improvement of the design world. The design image modulates the ideal life of a thing (object) in artistic perception, things are encoded as a compositional form, possessing internal harmony, completeness, integrity; and the content of the thing revealed in its socio-cultural existence. The design becomes a form of support for public relations, the emergence of biosocial conflicts, a communicative phenomenon that forms the basis of the socio-natural integrity of being, which synthesizes social and personal life experiences, crystallizing spiritual ideals, moral norms, oriented on values. In civilization, sign-symbolic discourses that determine the specific historical image and lifestyle, "technology of life", which does not contradict the values of a particular culture, are produced.

Research methods

In theory and practice of research of innovative technologies, methods of structural-system, structural-functional analysis are widely used. Methods of structural-system analysis are used to solve complex problems related to the activities of people in the city, as well as to identify the structure of the city as a dynamic system that promotes self-development of society and personality. Methods of structural-functional analysis are based on the interaction between the structural components of the space-subject environment and their relationship with the functions of the system.

Research results

The end of the twentieth century - the beginning of the twenty-first century was marked by the active growth of urbanized areas, urban agglomerations, metropolitan areas, whose operation completely changed not only the appearance of landscapes, but also destroyed the natural ecological chains of metabolism, radically changing the nature and direction of the processes that they once occurred. There was an urgent need for environmental analysis of the new situation and the development of innovative technology in the modern city. The modern city is a driving force of the country's economy, a center of culture and education, a platform for the implementation of technological and social innovations. In view of this, the competition of

cities is increasing considerably, because the development of comfortable infrastructure directly affects the city's economic performance, determines its attractiveness for skilled specialists and investors. Big cities have always been centers of civilization. There are many challenges facing modern cities, and perhaps the most difficult one among them is to combine comfort and social attractiveness for cities with developed infrastructure, environmental safety and the rapid development of innovative technologies.

The creation of a "smart" city involves complex social and technological transformations that are made possible by the development of modern innovative technologies, the development of new standards for energy efficiency and the emergence of a new quality of relations between the community and local authorities. Residents of a modern city cease to be solely users, turning into suppliers of urban services. A city with developed infrastructure, significant resources, great human and educational potential, a gradually growing innovation sector, primarily a segment of innovative technologies. Innovative technological revolution of modern smart-society is the way to the formation of a completely new social space, which involves the design of new management strategies implemented in response to processes occurring in the external environment. According to V.Voronkova, "the person is a subject of smart-society, which is based on the development of society as a high-tech, innovative, informational, requiring cognitive abilities and competences of a person, aimed at improving the technologies of digital economy as a result of high-tech development of society and information calls - technological revolution that changes the usual way of life" [12. p. 27].

Smart cities today are the foundation of economic growth and the social progress of the world. As R.Holl noted, "Smart City is a safe, environmentally protected (green) and efficient city center of the future with advanced infrastructure from sensors, electronics and networks that stimulates sustained economic growth and high quality of life" [13]. It is a city that strategically builds and implements the development of economy, human capital, city management, mobility infrastructure, environmental protection and quality of life. Such a development is based on a reasonable combination of endowments and activities of citizens, consciously and freely taking decisions [14]. From an economic point of view: "Smart city is a developed and high-tech city that unites people, information and elements of urban infrastructure. It has a simple system of management and maintenance of the municipal economy and uses new technologies for the sustainable formation of a green city (improving environmental protection), creating competitive and innovative trade and improving the quality of life" [15].

For the designer, the following indicators of lifestyle are of great importance: a) quality of life - an integrated economic characteristic of different ratios of the significance of indicators in it; b) standard of living -

an integral economic characteristic of living conditions, taking into account economic factors, the nature of needs and opportunities for their satisfaction; c) lifestyle - a holistic view of the peculiarities of behavior, communication, taste preferences of the individual or social groups. Design through the modernization of the subject-spatial environment affects the way of life of large social groups. From the informational and technological point of view: "Intelligent city" is an administrative unit of people's settlement (district, city, region or small country), for which a holistic approach to the use of information technologies working in real time to provide it (administrative unit) Sustainable Economic Development" [16].

Smart city is a modern model of urban transformation, in which information technology allows you to solve the most complex problems, to change the system of governance qualitatively and create conditions for the development of the community and every person. The future of the city is connected with its transformation from industrial to post-industrial, from post-Soviet to modern with the use of innovative technologies, which is impossible without the accumulation of social capital - active involvement of citizens in transforming the city into a key driving force of its development, economic and social growth of the "sustainable city". In our opinion, the "steel city", to which the Urban Bionics must endeavor to implement, means aesthetically equipped, health-promoting, psychologically comfortable city, on which territory all the prerequisites for sustainable development are met. Unfortunately, modern technologies do not allow to build an ideal city that would not pollute the natural environment at all. In fact, all modern countries are not ecological [17, p. 81-91].

Design is the basis of the choice of the subject of the goals, means, results and conditions of practice, which answer the question: "In the name of what this activity is carried out?" Design can enter into more complex spiritual formations and transformed through a chain of different states of the spirit that bring spiritual values to its implementation in the design process, which is being introduced in one of the types of design - the environmental direction. However, it should be noted that the theory, methodology and practice of domestic design significantly lagged behind the global process of environmentalization of design culture, which for the last decade came the following stages: 1) the stage of humanitarian criticism of the negative effects and trends of the technocratic and consumer concept of nature use; 2) the state of formation of ecological movement and ecological orientation of activity of public organizations of national and international scales; 3) the state of development of the general principles and objectives of the environmental strategy.

Today, the environmental design is closely linked with all the most important aspects of sustainable development of society: economic, political, socio-cultural, industrial,

commercial, intra-regional and international. In the context of design development, the ecological design is separated. Today, the concept of eco-design should be interpreted as a concept of image and lifestyle, in which the aesthetic values of design are increasing. The design, which is determined by environmental considerations, should be a connecting link between human needs, culture and environment, as any design should be environmentally friendly. As the main criteria for eco-design, it is proposed to comply with the requirements of the environment and save on natural resources. According to R. Lutz's conception, the designer must create not so much products, but systems and structures that are more related to the field of information and communication and, in general, should benefit society. In this regard, the design problems change also qualitatively: they are seen not so much in improved forms and functions of design, but in reducing the loss of products, in evaluating materials and technologies in terms of ecology, as well as in changing consumer requirements. In the function of modern design are formed new structures of needs, since the basis of environmental issues are valuable ideas about society, the ecological lifestyle. Arguments here should be efficiency, reasonableness, humanity, simplicity, naturalness, harmony. These ecological ethics, introduced in the consciousness, are intended to change the attitudes towards the material values in society, the ability to prioritize spiritual and intellectual values, and thus influence the development of cultural human needs and manage their structure.

Ecodesign, which arose in the 70's of the twentieth century, as a reaction to the element of the scientific and technological revolution, becomes one of the constructive directions of the global ecological movement and the development of design as a spiritual and practical direction. The advent of techno-science on the natural and cultural values of the peoples, the crisis of "international style" exacerbates the humanistic function of design in society, and awareness of the heredity of design in the sphere of material culture, generates interest in things as a reflection of cultural and spiritual values, promotes the formation of in-depth interest in ethno-cultural identity. In the works of design as in architecture, the cultural and aesthetic priorities of one or another people are reflected. Under their influence on the level of form, colour, design, and especially the decoration, there are certain persistent signs of national art, which are most fully expressed in folk architecture, and it, in turn, serves as a source of creative inspiration for the formation of professional and copyright works of a particular country. The presence of the established traditional features and characteristics of the subject-spatial environment becomes an important factor in the support and development of national identity.

The development of regional traditions of material culture has a decisive influence on eco-design, as in regions with a "mosaic" culture, the designer creates new cultural values that can not be obtained by direct borrowing. Therefore, he is expected

to be able to rely on his mentality, but also on the synthesis of different directions of cultural traditions. Today several directions in the development of regional design have been formed: 1) modernization or prototype, the main principle of which is the modernization of existing prototypes of design with minor adjustment; 2) analytical or factorial, which is to attempt to identify detailed factors specific to the area (climate, soil, atmosphere) to identify regional factors through the design culture. Hence the method, which allows to fully reveal the diversity of factors of formation; the method of factor analysis applied to the design culture in general, moving from the form of a single thing - to the variety of factors of its formation, from the single factor - to the diversity of the form of their embodiment.

An effective way of environmentalizing production and consumption in a globalized environment is the use of bionic forms in design . Bionic forms in eco-design involve the involvement of individual achievements of the evolutionary process, individual "details", "nodes", "equipment", living organisms, which is the design of natural products, which creates the preconditions for the co-evolution of its social biological system. Bionic aspects of architecture and design, the study of natural forms, the work of natural constructive systems and their use in architectural and design creativity is considered in the works of A.I.Lazarev [18], S.P.Migal [19], S.V.Syomka [20].

Successful results can be obtained by acting both within the engineering and within the bionic approach. The bionic approach involves designing not the actual design objects, but the process of their existence - production, consumption and subsequent use. In the context of eco-design, there is a need for re-materials. Already in the near future, it is expected to obtain materials whose properties can be controlled at atomic and molecular levels. In designing and synthesizing materials with given properties great attention is paid to the transition from universalization of properties to their differentiation, which will ensure the greatest effectiveness of design constructions in the context of the implementation of the bionic principle of their design. By contributing to solving environmental problems through the transition to an intensive co-evolutionary path of progress, the bionic approach as one of the methods of eco-design contributes to a large extent to the formation of a unified socio-ecosystem, where nature and man will cease to be in constant confrontation.

The new stage in the development of a spatially-objective informational environment should lead to the domination of new technologies, including informational, along with biotechnology, which has a leading role and which can reduce the dependence of design development on natural resources. According to some Western experts, the non-material factor in the future will occupy the most important place, so today's designers are turning to the world-

color, sensory and even olfactory (odorant) characteristics of the design environment. The first of these is the design of the so-called "lights cape" - artificial lighting as a factor contributing to the organization of space with artificial lighting, which gives a noticeable economic effect. The use of artificial lighting as a structural material consists in the return of the physical substance of light, the formation of a virtual space that performs the function of the carrier of communication. From the ecological point of view, it is important that new technologies make dematerialization of technical means in relation to the effects they produce.

In the informational and cultural space of the civilization of design inherent in such integrity: it reflects biosocial conflicts of human existence and builds on it to search for socio-natural harmony. The "anti-entropy content of beauty" in design, as the center of the beauty of life in its social-natural, spiritual integrity, opposes the "law of entropy that destroys everything." The design actualizes the aesthetics of nature and the drama of human life, which emerged from the biosphere and destroys it as a social being.

The design plays an important role in the "ontology of the survival of mankind," in which layers of universal content are laid down, the bio-historical time of mankind is modeled. An analysis of the evolutionary-genetic foundations of civilization shows that the selection of a person's susceptibility to beauty is the result of a co-evolution. Historical development of design as a practical phenomenon reflects the aesthetic paradigm of nature, intertwines with ideals socio-cultural, ethical, altruistic, heroic. As a means of understanding the world by the express method, modern design performs the most important functions of the discharge of intraspecific aggression, the emotional comprehension of the society, contributes to its physical and spiritual improvement of the inter-social dialogue, which during the co-evolution - rises to the global scale, becomes an active fact of history, the social world of man. Synergy of biosocial, which is codified in the design, correlates the expansion of differences between culture, nature, individuals, ethnic groups, peoples, individuals, ethnic groups, peoples, social groups; design potential is used in search of appropriate, harmonious types of socio-natural, socio-cultural ties. It is coupled with the generation of aesthetic emotions, consciousnesses that play a significant role in adapting the individual to the environment, in the accumulation of vital energy necessary for the development of man and society. It is the design of innovative civilization aimed at finding orderliness of life, harmony, laid down by the self-organization of the socio-natural system, because even in the context of the global crisis, humanity does not tear itself off the biosphere.

This is relevant in connection with the socio-natural, ethno-cultural conflicts of the civilization crisis, because the design still appears as "self-care" and the social adaptation of the individual to crisis conditions of life or to increase its aesthetics. The theme of aesthetics in the process of

transforming the prototype of wildlife into design is very relevant. According to S.Syomka, "Borrowed elements can be very beautiful (like a flower or a butterfly), or vice versa - to cause disgust) (like a toad or earthworm), however, in both cases the artist must either use" borrowed "beauty (as in the first case), or, abstracting from the real form, inventing, conceiving it (as in the second case), so that the projected object or object is both aesthetic, and beautiful, and comfortable, and easy to use" [20, p. 77]. Aesthetic categories in designing are not always considered separately, but in a complex with a large list of requirements for a new object or object being developed.

Design as a phenomenon of innovative civilization acts as a mediator: the world of people and the world of things; the natural world and the spiritual world; the sacred world of "high" art and the world of everyday existence; pragmatic activity, aimed at the development of commerce, and the formation of style and lifestyle; artistic (figurative) thinking and scientific thinking (systemic); anti-utopia of forecast (prediction) and utopia of the project (volitional influence); imitation of life realities and the formation of these realities; preserving the nature of things and transforming the subject world; the struggle against the chaos of the object forms and the direct aspirations of man to restructure this world; the ordering of the subject environment and the provocation of its diversity; self-perception of a person and the need to adhere to the norms of society; the transition from the design of things - to the design of information. Providing sufficient attention to the technologies of the future and the sufficient material support of innovative technologies will allow Ukraine to rise to a new level of development in the field of modern design.

Conclusions

Thus, innovative technologies as a factor in the development of modern design of the spatial-subject environment represent a synergy of science, technology, cultural development, on the one hand, and state, education, creative social entrepreneurship - on the other. That is why innovative technologies represent the basis of intellectual and creative resources aimed at achieving economic and design success, which will represent the socio-cultural progress of society, which will take place thanks to innovative technologies and creativity of designers.

REFERENCES

1. Starzhinsky, V. P., Tsepkalo, V. V. (2016). On the way to a society of innovations. Minsk: RIVSH, 446.

2. Bazilevsky, A. A., Barysheva, V. E. (2010). Design. Technology. Form: specialty textbook "Architectural Environment Design". Moscow: Architecture, 248.

3. Ryzhova, I. S. (2017). Smart – technologies as the factor of development of modern design. Humanities Bulletin of Zaporizhzhe State Engineering Academy, 69, 174–183. doi: https://doi.org/10.30839/2072-7941.2017.102141

4. Migal, S. P. (2011). Design of the space-subject environment in the context of new technologies and requirements of sustainable development. Bulletin of the Kharkov State Academy of Design and Arts, 5, 64–67.

5. Ryzhova, I. S., Prusak, V. F., Migal, S. P., Rezanova, N. O.; Ryzhova, I. S. (Ed.) (2017). Environment Design. Dictionary-directory. Lviv: Space-M, 360.

6. Timokhin, V. O., Shebek, N. M., Malik, T. V. et. al. (2010). Fundamentals of Architectural Design. Kyiv: KNUBA, 400.

7. Wozniak, T. S. (2009). The phenomenon of the city. Lviv, 334 .

8. Karpovets, M. V. (2013). City as the World of Human Being: Philosophical-Anthropological Analysis. Kyiv, 20.

9. Kornienko, T. A. (2013). Design of the city as the main concept of socio-philosophical discourse. Humanities Bulletin of Zaporizhzhe State Engineering Academy, 54, 203–215.

10. Prepotenska, M. P. (2014). Nomo urbanus: human phenomenon of a metropolis. Dnipropetrovsk, 420.

11. Migal, S. P., Dida, I. A., Kazantseva, T. E. (2014). Bionics in the design of the spatial-object environment. Lviv: Lviv Polytechnic Publishing House, 228.

12. Voronkova, V., Kivlyuk, O., Andriukaitene, R. (2018). Anthropological measurements of smart society: theoretical and conceptual experience. Humanities Bulletin of Zaporizhzhe State Engineering Academy, 73, 25–40. doi: https://doi.org/10.30839/2072-7941.2018.143880

13. Hall, R. E., Bowerman, B., Braverman, J., Taylor, J., Todosow, H., Von Wimmersperg, U. (2009). The Vision of A Smart City. 2nd International Life Extension Technology Workshop. Paris. Available at: https://www.osti.gov/scitech/servlets/purl/773961/

14. Giffinger, R., Gudrun, H. (2010). Smart cities ranking: An effective instrument for the positioning of the cities. ACE: Architecture, City and Environment, 12, 7–25. Available at: https://www.researchgate.net/publication/228915976_Smart_cities_ranking_An_effective_instrument_for_the_positioning_of_the_cities

15. Barcelona's Smart City Strategy. Available at: https://www.c40.org/case_studies/barcelona-s-smart-city-strategy

16. Achaerandio, R. et. al. (2011). Smart Cities Analysis in Spain. IDC White Paper. Available at: http://www.slideshare.net/cibbva/idcwp38-t-print

17. Ryzhova, I. S., Zakharova, S. O. (2018). “Smart-technology” influence on the development of “Smart-city” in the information society. Humanities Bulletin of Zaporizhzhe State Engineering Academy, 72, 81–90. doi: https://doi.org/10.30839/2072-7941.2018.130575

18. Lazarev, A. I. (2001). Bionic aspects of formation of spatially-temporal "developing" systems in architecture and design. Technical aesthetics and design. Kyiv, 78–86.

19. Migal, S. P. (2012). Areas of development of natural forms and structures of living organisms in the design of the space-subject environment. Traditions and innovations in the highest architectural and artistic education, 4, 8–61.

20. Syomka, S. V. (2017). Bionics in Environmental Design. Kyiv: Publishing House Lira-K, 248.

РИЖОВА І. С. - доктор філософських наук, професор, зав. кафедри дизайну, Національний університет «Запорізька політехніка» (Запоріжжя, Україна)

E-mail 17design 2017@gmail.com, ORCID iD: 0000-0002-9562-200X

ШМАРІНА А. П. - магістр кафедри дизайну, Національний університет «Запорізька політехніка» (Запоріжжя, Україна)

E-mail: a_shmarina@ukr.net, ORCID iD: 0000-0002-4552-4399

ВПЛИВ ІННОВАЦІЙНИХ ТЕХНОЛОГІЙ НА ДИЗАЙН ПРОСТОРОВО-ПРЕДМЕТНОГО СЕРЕДОВИЩА ЯК ЧИННИК СТАЛОГО РОЗВИТКУ

Анотація. Актуальність дослідження полягає в тому, що стрімкий розвиток, зокрема інноваційних технологій дає змогу вивести освітній процес на новий якісний рівень, що забезпечить більш якісну підготовку фахівців у сфері дизайну, які потрібні для процвітання нашої країни. В статті досліджуються дизайнерські артефакти які диференціюються в культурах інформаційного суспільства. Розглядається концепція як впливають інноваційних технологій на дизайн просторово-предметне середовище. Проблемами вивчення інноваційних технологій займались таки вченні як: О.О.Базілевський, В.Е.Баришева, І.С.Рижова. Проблемами вивчення дизайну просторово-предметного середовища займались таки українські вченні як: С.П.Мигаль, І.С.Рижова, В.О.Тімохін, Н.М.Шебек, Т.В.Малік. Серед українських дослідників в осмисленні буття міста слід відзначити Т.Возняк, М.Карповець, Т.Корнієнко, М.Препотеньську, та ін. Реалізація цієї мети потребує розв'язання таких завдань, як окреслення різних підходів до розуміння феномену дизайну просторово-предметного середовища; визначення специфіки інноваційних технологій в сучасному екологічному місті. **Методи дослідження.** У теорії і практиці дослідження інноваційних технологій широко використовуються методи структурно-системного, структурно-функціонального аналізів. Методи структурно-системного аналізу застосовуються для вирішення складних проблем, пов'язаних з діяльністю людей в місті, а також спрямовані на виявлення структури міста як динамічної системи, що сприяє саморозвитку суспільства і особистості. Методи структурно-функціонального аналізу ґрунтуються на взаємодії між структурними компонентами просторово-предметного середовища та їх зв'язку з функціями системи. **Результат дослідження.** Для вирішення проблем впливу інноваційних технологій на дизайн просторово-предметне середовище слід створити концепцію стратегії розвитку інноваційних технологій, спрямованих на співробітництво з провідними компаніями даної галузі та виробництво вітчизняних аналогів згідно світових стандартів. **Висновки** Інноваційні технології як фактор розвитку сучасного дизайну просторово-предметного середовища представляють собою синергію науки, техніки, культуротворчості, з однієї сторони, а також держави, освіти, креативного соціального підприємництва, - з іншої. Саме тому інноваційні технології представляють собою основу інтелектуально-творчого ресурсу, направленого на досягнення економічного та дизайнерського успіху, що й буде представляти соціокультурний прогрес суспільства, який буде відбуватися завдяки інноваційним технологіям та креативності дизайнерів. **Практичне значення теми дослідження** полягають в тому, що досліджуються дизайнерські артефакти, які диференціюються в культурах інформаційного суспільства.

Ключові слова: дизайн, інноваційні технології, дизайн просторово-предметне середовища, сучасне місто, сталий розвиток, екодизан, біоніка

РЫЖОВА И. С. - доктор философских наук, профессор, зав. кафедры дизайна, Национальный университет «Запорожская политехника» (Запорожье, Украина)

E-mail 17design 2017@gmail.com, ORCID: 0000-0002-9562-200X

ШМАРИНА А. П. - магистр кафедры дизайна, Национальный университет «Запорожская политехника» (Запорожье, Украина)

E-mail: a_shmarina@ukr.net, ORCID: 0000-0002-4552-4399

ВЛИЯНИЕ ИННОВАЦИОННЫХ ТЕХНОЛОГИЙ НА ДИЗАЙН ПРОСТРАНСТВЕННО-ПРЕДМЕТНОЙ СРЕДЫ КАК ФАКТОР УСТОЙЧИВОГО РАЗВИТИЯ

Аннотация. Актуальность исследования заключается в том, что стремительное развитие, в частности инновационных технологий позволяет вывести образовательный процесс на новый качественный уровень, что обеспечит более качественную подготовку специалистов в области дизайна, которые нужны для процветания нашей страны. В статье исследуются дизайнерские артефакты которые дифференцируются в культурах информационного общества. Рассматривается концепция, как влияют инновационных технологий на дизайн пространственно-предметную среду. Проблемами изучения инновационных технологий занимались такие ученые как: О.О. Базилевський, В.Е. Баришева, И.С. Рижова. Проблемами изучения дизайна пространственно-предметной среды занимались такие украинские ученые как: С.П. Мигаль, И.С. Рижова, В.О. Тимохин, Н.М. Шебек, Т.В. Малик. Среди украинских исследователей в осмыслении бытия города следует отметить Т. Возняк, М. Карповець, Т. Корниенко, М. Препотеньську, и др. Реализация этой цели требует решения таких задач, как определение различных подходов к пониманию феномена дизайна пространственно-предметной среды; определение специфики инновационных технологий в современном экологическом городе. **Методы исследования.** В теории и практике исследования инновационных технологий широко используются методы структурно-системного, структурно-функционального анализа. Методы структурно-системного анализа применяются для решения сложных проблем, связанных с деятельностью людей в городе, а также направленные на выявление структуры города как динамической системы, способствует саморазвитию общества и личности. Методы структурно-функционального анализа основываются на взаимодействии между структурными компонентами пространственно-предметной среды и их связи с функциями системы. **Результат исследования.** Для решения проблем влияния инновационных технологий на дизайн пространственно-предметной среды следует создать концепцию стратегии развития инновационных технологий, направленных на сотрудничество с ведущими компаниями данной отрасли и производство отечественных аналогов по мировым стандартам. **Выводы.** Инновационные технологии как фактор развития современного дизайна пространственно-предметной среды представляют собой синергию науки, техники, культуротворчества, с одной стороны, а также государства, образования, креативного социального предпринимательства, - с другой. Именно поэтому инновационные технологии представляют собой основу интеллектуально-творческого ресурса, направленного на достижение экономического и дизайнерского успеха, что и будет представлять социокультурный прогресс общества, будет происходить благодаря инновационным технологиям и креативности дизайнеров. **Практическое значение темы исследования** заключаются в том, что исследуются дизайнерские артефакты, которые дифференцируются в культурах информационного общества.

Ключевые слова: дизайн, инновационные технологии, дизайн пространственно-предметное среды, современный город, устойчивое развитие, экодизайн, бионика.

Стаття рекомендована до публікації д. філос. н., проф. О.П. Пунченко (Одеса, Україна)

Надійшла до редколегії: 04.03.2019 р.
Прийнята до друку: 14.03.2019 р.