Methodological aspects of participatory architectural and landscape design

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Abstract: The methodological aspects of participatory architectural and landscape design in interaction with methods of interactive training in the disciplines "Compositional Modeling" and "Architectural and Landscape Organization of the Territory of Residential and Public Buildings" are considered. The article substantiates the need to introduce active learning and social interaction in the process of professional and additional education of gaming technology architects with the possibility of its direct use here and now. Further, the authors speculate on participation in interactive interaction, activity games, visual fixation of the study of the historically developed language of architectural semantics, a holistic worldview and the ability to solve traditional architectural problems with actual means. The authors provide the methods for the establishment of operative feedback by means of infographic with a designation of a problem and an illustration of means of its decision, use of game prototypes involving citizens of different ages and social status in the collective processes.

1. Change of emphasis in the organization of the project process
Architectural and landscape design in civil society changes "from causing good to public law to the city" and reflects social ideals and financial investments in the formation of space for functions. The accents in the organization of the project process are shifted towards cooperation of architects - professional participants with representatives of local communities, public organizations, other entities, which can be given the status of "unprofessional" participants in architectural and landscape activities. Citizens become "players" on the bridgehead of making design decisions, have the opportunity to observe and receive information on the outcome of the "game [1-3].

2. Game technologies in communicative interaction
To overcome the communication gaps between the participants in the architectural activity, it is proposed to attract a new specialist - the consultant architect, who organizes and conducts multi-stage communication "games", which necessitates the introduction into the process of professional and additional education of the architects of gaming technologies of active learning and social interaction available in foreign practice additional architectural education and domestic business education [1,4,5].

However, training in "participatory design" methods for effective inclusion in the process of obtaining and direct (here-and-now) use of knowledge has not yet been disseminated in practice.
The works of Jean-Jacques Rousseau and Robert Stuart Mill devoted to the study of the participatory process of political decision-making by informed, interested and involved citizens. Laureate of the Pitzker Prize Chilean architect Alejandro Aravena, Canadian architect Michael Geller, methods, means and stages of participatory design are developed; forms and measures to attract citizens of different ages to identify the main meanings and values, the true needs and problems of written and oral stories, drawings are considered in the writings of scientists [2, 5, 6, 7, 8, 9].

Communicative function of architecture through spaces and signs in semiology and sociology [10-14]; issues of interaction to solve problems (D. Dewey, I.Ya. Lerner, G.S. Altshuller, A.M. Orlov and others); the basis for active learning in the studies of psychologists and teachers in problem-based learning (T. V. Kudryavtsev, A. M. Matyushkin, M.I. Makhmutov, V. Okon, A.V. Khutor); organizational and activity games (L.V. Zankov, V.V. Davydov, I.P. Ivanov, G.K. Selevko, T.I. Tarabarina, M.V. Trofimova, D.B. Elkonin); gaming technologies in high school (A.A. Verbitsky, S.V. Emelyanov, V.N. Burkov, A.G. Ivanovsky, D. Akhmetov, L. Gurie, M.V. Clarin); technology of perception and transmission of information [15-20].

3. The task of the study

The task of research in the organization of teaching methods of "collaborative design" through gaming interaction in the process of teaching the disciplines "Compositional Modeling" and "Architectural and landscape organization of the territory of residential and public buildings" and checking the effectiveness of not only receiving but also immediate (here-and-now) use of knowledge by students.

4. Game forms of architectural and landscape design

Any kind of activity begins to be mastered in a game form, changing in the future the concepts of organization of form and space and involving the young generation (the scientific show "Science standup" on the channel "Russia Culture", the playgrounds of the Eurasian festival of landscape art "Atmosphere 2018".

The emergence of game forms of education in the university audience is caused by the requirement to increase the effectiveness of training due to the more active involvement of students in the process of not only receiving, but also direct (here-and-now) use of knowledge. Games - a convenient basis for building imitative activities to resolve various (including practical) problems.

Simulation games are the basis of architectural and landscape design. In the legendary Hanging Gardens built in the desert at the behest of King Nebuchadnezzar to establish communication with his beloved wife, whose motherland is in the mountains with lush vegetation. The Babylonian king ordered to build an artificial mountain on stone pillars: on its ledges were planted beautiful trees and flowers, for irrigation they used a unique way of water supply (Figure 1).

Joseph Paxton is a greenhouse construction engineer (gardener), who designed for the world exhibition the Crystal Palace with the constructive capabilities of large-span metal coatings invented in such a way that even not very skilled workers who assembled the palace from prefabricated parts could not make a mistake and erected a huge structure in a record short time - 4 months (Figure 2).

An example of effective interaction between unskilled citizens and professionals In the design process at the construction level, a modern example at the level of the layout (Figure 3).
Figure 1. Hanging Gardens of Babylon.

Figure 2. Joseph Paxton. The Crystal Palace, 1852-1854.

Figure 3. Magnetic game - planning of houses and interiors.

The concept of artificial "revival" of public space through legends and advertising slogans of the basic basic national values in verbal - illustrative form. An example of a chess costume festival at Piazza Castello, benches as a social improvement element (Figure 4,5).

Figure 4. Chess costume festival at Piazza Castello. Figure 5. Social student project.

Social games are reinforced in gaming methods of presentation of mock-ups. For example, the sounding layout of Le Corbusier, presented at the open competition of the Palace of Soviets in 1930. The commission, under the chairmanship of Stalin, listened attentively to the brief introduction of the Maestro with a description of the parameters of the palace laid down in the project. Then the assistants took out a double bass and a cloth covered with a cloth. Corbusier, took the instrument and played the International, the assistants in the rhythm of the music took off the cloth from the layout (Figure 6).

Figure 6. Le Corbusier's sound model.

In the course of the game, several types of mental activity develop at once: abstract theoretical, visual-figurative and visual-effective (practical) thinking, as well as accelerated mastering of objective activity by transferring active positions to learners: from the role of the player to the co-author of the game. Business game should contain a game and educational tasks, allowing to organize the transfer of gaming into work activity. The game task - the performance of certain professional activities by the player.

The game in the educational process of the university gives the opportunity: to generate motivation for learning; assess the level of preparedness of students; assess the degree of possession of the material, transfer it from a passive state - knowledge - into an active - skill; to transform communication of various types of interactivity into creative competition.
Three types of interactivity: the interaction of the student and the subject of learning; interaction between the student and the teacher; interaction of students.

Forms of interactive learning: interactive excursion, videoconferencing, round table discussion, brainstorming, debates, focus group, organizational and activity, business and role-playing games, (analysis of specific practical situations), trainings, etc.

In interactive forms of learning, there is always the difficulty of getting feedback.

5. Effective feedback organization of participatory design

Visualization of the result of interaction (perception, thinking and memory, taking into account the modern "clip-consciousness" of citizens) allows to compile an integral picture of the studied material in solving the actual problem through:

− Written questionnaires, answers to questions in workbooks, compilation of thematic issues, solution and compilation of crossword puzzles, scandvors and keywords for engaging at the level of theoretical interest;
− Illustrating the means of solving the formulated problem in infographic for the popularization and actualization of knowledge;
− Breadboarding with game functions for constructive decisions of organized interaction and accelerated mastering of objective activity by transferring active positions to citizens: from the role of the player to the co-author of games, various ways of presenting panoramic, landscape, exterior, interior layouts in public places: stationary, dynamic, theatricalized music and lighting effects; modern replicability and new materials, allowing to attach to the history and art of architecture a large number of people of different ages; connection of manual creativity and Internet technology (Figure 7).

Figure 7. Costume layout view.

Establishing communicative interaction through written language allows foreign-speaking citizens to use the dictionary. Replacing words with an illustration facilitates the communication process and saves the time resource. Modeling with gaming functions involves people of different ages and social status in the process of participating in designing.

Participation in interactive interaction, activity games, visual fixation of the study of the historically developed language of architectural semantics, a holistic worldview and the ability to solve traditional architectural problems by topical means

The main provisions of the methodology:
− Motivated diagnosed goal personally and socially significant with the definition of criteria and deadlines for the assignment;
− Setting a theoretical educational problem for "obtaining knowledge" in game forms that activate interaction
− Analytical and research activities and finding the truth (the emergence of new agreed knowledge) in cooperation;
− Application of the revealed "true" ways to the set goal in transforming creative activity,
Self-organization and self-assessment (self-assessment) for the fulfillment of the assignment by the established deadline.

The methodological aspects of participatory architectural and landscape design in interaction with methods of interactive training in the disciplines "Compositional modeling" and "Architectural and landscape organization of the territory of residential and public buildings" are considered.

The need to introduce in the process of professional and additional education the architects of gaming technologies of active learning and social interaction is conditioned. Information-diagnostic materials in workbooks "ABC of Architectural Composition" and "Tasks of Architectural and Landscape Design" were collected as an operational link in the chain of public experience - teacher-learner—a new educational result used to transmit updated information in a generalized form, current and final control.

Thus, the methodological aspects of participatory architectural and landscape design as rules for a joint game for the popularization and study of public commercial, social and spiritual needs, both already existing and promising, include general questions of organization of activities and interactive interaction.

Verification of the effectiveness of the organization of teaching methods of "collaborative design" through gaming interaction was carried out in the process of organized pedagogical experiment in the classes of disciplines "Compositional modeling" and "Architectural and landscape organization of the territory of residential and public buildings." Diagnostic tools and means of mathematical statistics were used. The results of the research were discussed at scientific conferences and published in printed forms of articles and monographs.

6. Conclusions

Thus, the information support of an active citizenship position on the improvement of cities in Internet projects (Velonation blog, Park Season website, the Five Steps of Improvement program, etc.) with the possibility of information exchange in the comments is combined with fixed answers to problematic issues in the developed workbooks " ABC of architectural composition "and" Tasks of architectural and landscape design of the territory ", compilation of information-capacious infographics illustrating means of solving actual problems, searching for new values and meanings, animating public spaces, the development of game mock-ups involving citizens in the process of participating design

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Acknowledgment
The work was supported by Act 211 Government of the Russian Federation, contract no.02.A03.21.0011.