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**MODERN APPROACHES TO CONTINUOUS ARCHITECTURAL
EDUCATION IN JAPAN**

Irina V. Topchiy (a)*

*Corresponding author

(a) Candidate of architecture, RF Union of Architects member, Director of pre-entry study courses, Moscow Architectural Institute, (State Academy), Russia, 107031, Moscow, Rozhdestvenka street 11.
e-mail: top@markhi.ru*

Abstract

The article focuses on a comparative analysis of modern approaches to continuous architectural education in Japan, which includes the additional education of children, students of architectural departments and architects and the public. The author studies the grounds of the worldwide interest in Japanese architecture and Japanese architects, examines the features of the organization of the system of professional architectural education in Japan. It is concluded that many of the characteristic features of Japanese culture associated with the philosophy of Confucianism and Shintoism. Respect for nature and the use of natural materials by architects in architecture is coupled with the popularity of children's studios for teaching origami -the art of folding paper. The author, using her own experience of visiting leading architectural schools in Japan, interviews of students and teachers, data from official websites of the Universities of Kyoto and Tokyo, studies the features of additional education for students of higher architectural schools in Japan. The study of the next professional stage of continuing education of the architect is based on a comparative analysis of the activities targeted at obtaining architectural skills of two creative Unions: the Architectural Institute of Japan (AIJ) and the Japanese Institute of Architects (JIA). A new trend is identified in ensuring the quality of services in architectural design - transition from personal certification of architects - leaders of design bureaus - to certification of all employees. Conclusions are drawn about the potential and limitations in the use of the Japanese experience in Russia and other countries.

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1. Introduction

Foreign practices in the organization of professional and architects education in Russia first appeared in the middle of the 18th century, and was supported by the desire of the first Russian Emperor Peter I to strengthen and expand the country's borders. The political aspirations of Peter the Great were accompanied by tremendous construction work, which demanded a large number of architects on par to their best European counterparts. Thus, architecture obtained a new form of education – a “pensioners” travel. The “pensioners” returned to Russia experienced in designing in fashionable architectural styles and construction technologies, knowledge of the professional training methods of architects used in European arts academies (Topchiy, 2015). Europe remained for Russia a “trendsetter” in architecture until the second half of the twentieth century, when Russian architects and artists, carried away by the democratic ideas of the populist doctrine, created a new, “national” style in art. In the early 20th century, after the socialist revolution, the civil war and the emergence of the Iron Curtain, Soviet architects successfully carried out innovative searches for form-making (Metspalu & Hess, 2018). The architecture of Soviet modernism and the methods of abstract design, created during this period, have so far aroused a significant amount of interest in the world (Glushchenko, 2017; Inge, 2015). In the Soviet period and in the ensuing years, Russian architects, communicating in a closed environment, formed their own cultural traditions and felt a lack of foreign knowledge and experience. Japan, a country secluded due to its geographical remoteness with a language difficult for Europeans and politically closed, is of great interest to both Russian and foreign architects in terms of architecture and architectural education.

2. Problem Statement

In the 21st century, marked by global world processes and competition on the world labor market, Japanese architecture for foreign architects in their search for new ideas and knowledge has a special appeal. In 1960-1970s Japanese architecture rose to international fame thanks to the works of Kenzo Tange and in the first decades of the 21st century, the buildings of Kazuo Shijima and Ryue Nishizawa, Toyo Ito and Shigeru Ban (Zhongjie, 2010). All of them, the Pritzker Prize winners, were professionally educated in Japan. The exception is Tadao Ando, who has not received a formal architectural education. It is remarkable that the number of Japanese architects who are holders of the most prestigious award for architects in the past two decades, is significantly higher than that of other countries. From 2010 to 2017, among the winners of the Pritzker Prize, the most prestigious award in architecture, there were three representatives from Japan, and one each from Portugal, China, Germany, Chile and Spain.

In the 21st century Japanese architecture features a combination of cultural traditions, in which the religious aspects of Shintoism and the concern of climate hazards play a large role (Sidorov, 2014). Foreign researchers of Japanese architecture respond to external manifestations of the Japanese worldview, try to decipher the cultural codes, and transfer them on European and American practice though without much effect.

The system of Japanese professional architectural education manifests even more distinction and more closed nature (Guseva, 2015).

In the early post-perestroika years, at the beginning of the 21st century, unofficial professional contacts were set up between Russian and Japanese higher schools of architecture, and seminars were held with the participation of Japanese and Russian students. Both Russian and Japanese communities were isolated, so a step forward was already a great progress. But it is not as if a few facts of communication offered better mutual insights and contributed to the improvement of professional education in Russia. The problem of learning the Japanese experience is still relevant (Lomakina & Vvedenskij, 2014).

3. Research Questions

The Japanese succeed amid global competition, including such area as professional education. It is proved by position of twenty-two (!) Japanese universities in the top spots of the world university rankings. Tokyo and Kyoto universities rank first in Asian university rankings compiled by THE TIMES (Times Higher Education (THE) World University Rankings). Methods used for compiling ratings, in which the basic parameters are the number of international awards received by teachers and graduates of universities, do not always testify to the quality of architects training. The ranking of the university, with a school of architecture, shows the general level of teaching, the professional qualifications of teachers and graduates, and therefore often demonstrates the quality of the training of architects in it.

It is noteworthy that architectural education in Japan belongs to the group of technical professions; therefore, most architectural schools are part of technical universities. Just as in the countries of Europe and North America, there are schools of architecture in multidisciplinary universities and universities of the arts.

This article will dwell on the features of the modern system of continuous architectural education in Japan, a comparative study of the Japanese approaches to the formation and development of the professional skills of architects and the world practice. Special attention will be devoted to identifying the nature of the specific features arising from the national culture and geography of the country of the rising sun.

4. Purpose of the Study

To study the modern system of continuous architectural education in Japan, to define its specificity, to determine the limits and conditions for applying the Japanese experience in the Russian context.

5. Research Methods

When collecting the primary data, the author used the method of observation (visiting Japanese architectural schools in 2018); the study of literary references, including scientific publications, publications in mass media and data of official Internet sites, sociological methods of research in the form of interviews with students and teachers of architectural schools of Kyoto and Tokyo. A system analysis technique was used for spotting the distinguishing features of the Japanese system of continuous architectural education.

6. Findings

When comparing the Japanese experience of developing creative abilities of children with the world practice, the first stage of the research was devoted to the requirements for the preparation of prospective students of higher architectural schools, which set out the requirements for the content of pre-university forms of architectural education.

In Japan student recruitment to architectural schools is based on the results of mathematics and physics tests. Visual skills, as well as other personal qualities that are indicative of the ability to architectural activity among applicants of the Russian Federation, for example, spatial thinking, good oral and written skills, ability to think big, sports achievements, etc., are not taken into account. An ability to draw in a Japanese architect appears in “accidentally”, for example, is inherited and develops independently. As it was the case with Mayumi Miyawaki, the son of the famous Japanese artist Kazuo Miyawaki and his wife, also an artist. Available artistic skills and qualities still give the edge; multiply applicants’ chances of the transition to the "Master" level by creating a unique portfolio. And, which is very important for Japan, it helps teachers to see the level of ambition and the creative potential of a future master or a graduate student. Both of these qualities are important for entering most prestigious architectural schools, where renowned teachers and researchers work.

The absence of visual arts programs in professional architectural education in Japan and the isolation of the national professional community manifest themselves in the layout and interiors of the universities. There are no so customary for Europeans and Americans exhibitions of student works, models, drawings, photographs, educational projects and other evidence of student achievements (Romanovskij, 2017). University layouts do not feature exhibition space, required for expositions and discussions. City exhibition halls where students can meet and listen to their mentors are used by recognized masters of architecture for their own exhibitions and lectures (Topchiy, 2012). A venue for discussion of current student projects is a workshop of the professor (Sensei), assisted by an assistant - analyst and a secretary. A small circle of followers - students, who barely communicate with the external environment, is formed around Sensei. Thus, in the course of training the “us” and “them” division customary for Japan is formed.

The system of professional pre-university architectural or architectural-artistic education for Japanese children and teenagers, focused on continuation of professional education in higher architectural schools, does not exist. But there are a large number of art studios and circles for children in which they draw and acquire skills of making origami, a Japan’s traditional art of paper folding (Syahira, Jamil, Baharom, Ibrahim, & Samsuddin, 2018). There is no match for massive origami activities of Japanese children with any type of creative activity in Russia. This is evidence of observance of cultural traditions of the country (Konovalova, 2017).

Along with circles of applied and artistic creativity, which are run by artists, there are creative communities for children and adults, governed by architects. Similar studios and clubs supported by production corporations are run for children and adults; they team up representatives of local communities, which means that they function outside the system of professional architectural education. It is interesting to understand the motivation of Japanese architects for working with children.

The well-known Japanese architect and Pritzker Prize winner Toyo Ito managed to make the idea of training future architects into a regional social movement (Yo-rim, 2013). His idea to set up an architectural museum with a cultural center for children started up about ten years ago while visiting Imabari Island, the birthplace of Kenzo Tanghe. The “mysterious power” of the island, its nature and history gave the architect an idea of building a TIMA museum on the island. The idea was implemented and the island was turned into a center of tourist attraction. TIMA museum (Toyo Ito Museum of Architecture) together with the Detectives of Light public organization, designs fragments of the urban environment using energy-saving technologies "Let's make the city with Akari!" (Let's make the city bright!).

And this is not the only example. Japanese kids led by their tutors-architects, take an active part in international children's architectural festivals and competitions. Mock-ups and models of Japanese children are easily distinguishable from the works of children from other countries, because they use the motifs of traditional dwellings and temples. Japanese children use materials customary for the Japanese national dwelling: wood, bamboo stalks, paper, and cardboard. There far fewer children architectural studios than origami studios.

The system of supplementary architectural and artistic education of Japanese children is supported by cultural traditions, intercommunications within the architectural community and creativity competitions. The themes of the competitions, no less than the works themselves, testify to a tremendous role of traditions. Among them is construction of a tea house or spatial compositions based on Japanese symbols. Japanese society highly appreciates the architects' contribution to children's spatial creativity, because, together with other developmental activities of museums - lectures, concerts, exhibitions, performances, master classes, etc., it promotes healthy lifestyle ideas and helps to disseminate ecological ideas in the society.

The next stage of the system of continuous architectural education falls on the period of professional training for the “Bachelor of architecture” level. World experience shows that the task of additional education of students of higher architecture schools is development of new methods of architectural design and study of current trends in architecture. And this takes place during a study free time, in the summer and winter vacation periods. Communication and teamwork in foreign and domestic schools of architecture facilitate actual realization of the challenges set for architects by the modern society. At this point it is necessary to take into consideration the specific psychology of Japanese society, based on the philosophy of Confucianism and Taoism (Berthrong, 1998). Their fundamental concept is industriousness and serving the idea. For this reason, vacations that interrupt the main learning process in European and American universities are quite nominal in Japan. During the vacation period, university studies do not stop, teachers continue to give classes to students. Therefore, it is impossible to speak about the presence of lacunae of free time for students. However, students whose ambitions include participation in the global labor market can attend few summer schools (very little in number) to become familiar with the architectural heritage of European countries, primarily, Italy, Spain, France and Greece.

When traveling to Europe, students, as a rule, do not have enough proficiency in spoken English that is required for participating in workshops and problem-oriented seminars (Ting, 2019). Language barriers hamper their participation in the global architectural process, but do not interfere with

employment in the national labor market. As well as the ability to draw, the knowledge of foreign languages gains value when entering the Master's courses. It demonstrates high-driving professional ambitions, which teachers appreciate as a manifestation of a desire to get a Master's degree.

Additional gains of Japanese students have much in common with students of leading European and North American universities and are influenced by the global labor market.

They include:

- increase of competitiveness in professional training due to acquiring the learning skills, original design methods, methods of scientific research and obtaining additional communication skills;
- participation in making a professional career, in choosing the line of further professional development;
- expansion of insight into the profession of the architect and possible places of application of professional competencies;

Japanese students get immersed in world architecture, as well as becoming aware of the problems of the anthropogenic environment relevant for Japan, during a series of additional lectures, discussions and exhibitions of Japanese architects organized by universities. A possibility of personal communication with practicing designers is one of advantages of the non-formal additional education of students. Several examples of the issues that caught the interest of the students of Tokyo and Kyoto Universities in 2018 shall be useful: specific features of sustainable development in Asian countries, urban ecology, paper, cardboard and bamboo architecture, seismological construction.

The next, third level of AAE refers to the period of professional activity. Advanced training of practicing architects in Japan is centralized, with two professional creative unions of architects - the Architectural Institute of Japan (AIJ) and the Japan Institute of Architects (JIA) participating.

Today, Japanese professional education is busy searching for ways to overcome the corporate isolation, and, following European and North American universities, is actively using methods of social communication.

Japanese professional unions gear the stage of supplementary professional education of Japanese architects, following up the chain of additional education of children and students of higher architectural schools. And it directly depends on the cultural and geographical features of the country and the challenges of high seismic activity and a lack of space for construction set to Japanese architects. The territory of Japan lies almost completely in a seismically active zone, so national experts are constantly looking for new technical ways to protect buildings, and civil protection specialists are looking for ways to alert and evacuate people during natural disasters. The country's scientific community is constantly discussing the issues of ensuring the safety of individual buildings and urban life in general. They include studying and training on a wide range of interdisciplinary topics that are interesting to practicing architects, engineers, public safety professionals, administrative workers, and so on. Among the topics are damage compensation for destruction of buildings, assessment of potential damage from earthquakes in large Japanese cities, and the like.

Development of the professional competence of Japanese architects is aimed at involving them in solving global problems of architecture. First of all, such topics should include protection and restoration of historical and cultural heritage sites. Japan, that has been preserving the continuity of cultural traditions

over many centuries, and constantly at the risk of their loss as a result of natural disasters, boasts several centers of restoration. The most authoritative of the centers is the “Revived School of Cultural Property” or the “Cultural - Restoration School” of the Architectural Association of Japan (AIJ). The School has become a venue for learning and exchanging views of various social groups related to historical and cultural heritage sites such as property owners, restorers, lawyers, landscape architects and other interested persons.

A Certificate from the Professional Association of Japanese Architects (The Japan Institute of Architects, JIA), which monitors the ongoing professional development of architects, is an obligatory condition for independent practice in Japan. Most popular topics in Japanese architecture include the development of professional competences in project legislation (project ethics, design regulations and standards, architectural and construction legislation, etc.), new methods and technologies for design and construction (planning systems, structures, air conditioning, heating, transport and storage systems, etc.), the study of innovative methods of design and construction management.

In 2015, JIA set a new task - to move from personal certification to certification of design and construction bureaus, thereby ensuring continuous and comprehensive advanced training of all national designers.

For the countries - members of the International Union of Architects (UIA), including Russia, continuous professional development is comprehensive, and for all members of the design bureau is a new and promising course. Corporate training allows you to solve the problem of intellectual collaboration within the team.

Despite the fact that, because of Buddhism and Shintoism traditions the Japanese pursue stability and peace, do not like to change their place of residence, work, and avoid conflicts, Japanese architects, like their European and North American counterparts, undergo life trajectory changes. AIJ helps architects to get additional education and find a job in case of changes in the architecture labor market. This is an area of responsibility of Nikken Gakuin, one of Japan’s largest investment and construction corporations, which is in charge of preparing and conducting qualifying examinations for architects and investment-construction specialists. In addition to design, research and production departments, the company has a department for additional education, its own distance education system and a career development department for the company’s designers. Realizing the importance of self-education for architects, Nikken Gakuin publishes a specialized journal and manuals for training for qualifying examinations. Other design and construction companies and the Unions of Japanese Architects are collaborating with Nikken Gakuin because it gets a supply of new knowledge and practical experience from the complete design and construction cycle.

7. Conclusion

The study of the modern Japanese system of continuous architectural education results in the following conclusions:

With regard to approaches to professional architectural education, Japan is in keeping with global processes.

Japanese AAE has unique features that distinguish it from European and North American ones, which are defined by the specific geography and characteristic properties of national cultural traditions. The experience of creating a unified information system on the qualifications and professional development of certified architects and architectural and construction companies may be of interest to the Russian architectural community.

The Japanese experience of collaboration between architects, industrial corporations and museums can be used by Russian architects interested in creating new centers of additional architectural education for children.

A valuable experience in organizing professional AAE in Japan is an interdisciplinary approach, provided by the cooperation of national architectural, construction, land, and tourist associations within a single center - the Japan National Architectural Institute (IAJ).

The competitive environment within the professional architectural community of Japan is supported by the existence of two national creative unions of architects, which stimulates the search for new themes and trends of practicing architects, students of architectural schools, and additional architectural and artistic education of children. It also helps to reach a wider audience with "architectural" knowledge and contributes to revitalizing Japanese society.

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