POTENTIAL OF EXTERNAL SUBJECTS: SUBJECT AND OBJECT-SUBJECT COMMUNICATIONS BETWEEN PROFESSORS AND STUDENTS OF HIGHER SCHOOLS OF ARCHITECTURE

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ABSTRACT

This paper explores the potential of external object-subject communications to enhance the professional competences of professors and students at higher schools of architecture. The urgency for development of communication between the academic community and the external environment is explained by the need to increase the competitiveness of architectural schools and their graduates. The axiom is that the condition of competitiveness is the ability to respond to changing social preferences for artistic and stylistic, engineering-technological, economic and ecological qualities of architecture and to adapt acquired knowledge in methods of architectural design and professional education. The hypothesis of the study is the idea that the acquisition of relevant professional competences by students and the renewal of existing professional competences by teachers within architectural schools occurs in conditions of activity object-subject inter-professional, interdisciplinary and social communication. In order to obtain objective and reliable information on the role of communications in the acquisition of universal and general professional competences, two questionnaires of sociological research (for teachers and students) are prepared for 2022. During the preparation of the questionnaire, the potential of pedagogical communication, reflected in scientific and theoretical research by Russian and foreign scientists, the experience of modern architectural activity, and the legislative conditions for the activity of higher schools of architecture of the Russian Federation were used. The developed questionnaires are attached along with the material for scientific discussion (see Appendix).

Keywords: inter-professional communications, public engagement in architecture, social and communicative education environment, object communications, knowledge's inversion.

1 INTRODUCTION

The relevance of the study of methods of professional competences inversion of teachers at schools of architecture is based on the idea of ensuring the competitiveness of architectural higher schools and their graduates in scientific, technical and socio-cultural progress environment. New requirements for the level of comfort, safety and ecology of the spatial environment are continuously emerging, as are new legislative requirements for design and construction. They rely on the development of new building materials and structures, new construction methods and technologies, and the design and maintenance of buildings. Given that the evolution of innovations, their diversity and high financial costs require careful selection and testing, it takes considerable time to put them into practice. During this period, the competences of teachers at architecture higher schools become somewhat obsolete and require replacement – that is inversion. Students appear far more disadvantageous because they are even further removed from the new methods of architectural practice. These phenomena explain the importance of developing methods for entrenching new knowledge into architectural education.

Designers of new building materials, constructions and technologies are interested in collaborating with architects and architectural and building schools and are cooperative.

Despite the fact that architectural students and university applicants are considered to be the least trained to perceive engineering and technological innovations, due to the lower level of professional competence and for the lack of practical experience.

Public interest in architecture increases during periods of reconstruction and is manifested by participation of different social groups in the evaluation and discussion of project options. The permanent public interest in architecture as an art that links the cultural traditions of generations explains the public concern for the artistic, stylistic and other qualities of the spatial environment.

The conception of this research is to develop the basis for a psychological and pedagogical study of the role of external (professional, interdisciplinary, social) communication for inversion of professional competences of teachers and students at architectural schools.

2 RESEARCH METHODOLOGY

2.1 Purpose, objectives, methods of research

In the first stage of the research, the current practice of architectural activity is analyzed, communication conditions and subject—object situations are identified and classified in order to obtain, validate, create and introduce new knowledge in the field of architecture, necessary to ensure the competitiveness of architects.

The second stage of research focuses on a comparative analysis of professional education standards and communication situation forms in architectural practice targeted at identification of types and forms of communication situations, that promote acquisition and inversion of professional competence of teachers and students at architectural schools.

In the final stage, psychological and pedagogical research questionnaires for teachers and architectural students are developed on the basis of the identified communication situations and their potential. The study is planned for 2022 and is aimed at evaluating their level of professional communication.

Subjects of educational communications in architecture and their motivation to participate in educational communications.

There is a large number of studies devoted to educational communication between students (student groups) and teachers. Their subject areas are aimed at identifying ways of influencing subjects of learning, exploring the features of learning in the perception of information by diverse senses, differences in educational interaction in individual and group communications [1]. Communication in education and pedagogical communication study the process of transition from a normal communicative situation to a professional situation through a system of pedagogical intervention methods, in which the subjects of communication are represented by a teacher and a student or group of students, a professor and students (Davydov [2], Veggetti [3] and other followers). The role of human psychophysiological features in pedagogical communication was studied by Shirshov [4], Zubova [5], Kargina [6], and others. It was identified that pedagogical communication has three main functions: cognitive, expressive and managing. And, regardless of age, communication processes are necessary for their self-education, for the development of intelligence, for finding the direction of professional growth [7]. The current research of the motives of the subjects' participation in pedagogical communication shows them to be cognitive in nature and indicates that subjects need self-knowledge, self-education and self-orientation, and should be in compliance with personal and practical approaches to professional training [8].

3 RESULTS

3.1 Subjects and objects of educational communication in higher schools of architecture

Pedagogical communication is social in nature, and its main social functions constitute three motives for the interaction of subjects: activation (prompting action), interactive (limiting and stopping action), destabilizing (prompting and restricting simultaneously) [9], [10].

The pedagogical competences of teachers include managing competences that are formed in the process of educational communication. They are studied with the reference to the goal of developing strategic directions for universities and implementing foresight projects in uncertain environment. Managing aspects of communication manifest themselves in the development of innovative components of educational content and are studied in the anticipative pedagogy [11].

The key groups of subjects of educational communication at university feature students at all levels (students, postgraduate students, future applicants, persons receiving additional vocational education) and teachers. In the context of this study, we focus on an extended network of communicators that allows us to model communications that are relevant to professional architectural activities and that promote representatives of the academic community (teachers and students) to update professional knowledge. The use of subjectobject communications for inversion of professional knowledge is the indicator of the level of respondents' professional communication skills.

The purpose of the students' educational activities is to obtain a professional qualification and subsequently to enter the labor market. The object of teachers' activities is to train competitive specialists, and their professional quality depends on pedagogical competence. Monitoring data show that more than 80% of university staff have no pedagogical education, have a good command of the subject matter, but do not know the teaching methods and the organization of education and have to acquire them in the course of their work [12]. Each object reveals a group of administrative, managerial, methodological, scientific-pedagogical, socio-cultural, technological, economic tasks, based on pedagogical competences [13]. On the basis of the nature of the tasks to be solved, we identify the group of results that can be achieved by university teachers in creating communicative situations and include them in the research. The degree of achievement of the planned results indicates the level of professional communication skills.

The teaching competences of architectural teachers include:

- Administrative and managerial competencies for planning and organizing the educational process: in planning the development strategy of the department, faculty, and university;
- Methodological competences, which include: the ability to improve and introduce new methods of architecture education, the use of didactic tools in the training process, and an insight in the psychological mechanisms for teaching architecture to different groups of architecture activity;
- Scientific and pedagogical competence, carried out in the course of scientific research and the educational process, which consists of justification, conduct, approval and implementation of scientific research, organization of all forms and types of education for architecture and self-education of teachers:
- Socio-cultural and educational: needed in the formation of moral and ethical principles and norms of architectural activity and corporate culture of the university;



- Technological competences are based on the ability to solve varied tasks arising in the process of architectural education and research; they manifest themselves in the ability to apply heuristic methods in non-standard situations;
- Administrative and economic competences make themselves visible when treating the
 educational system as part of an economic subsystem governed by economic
 instruments; they are implemented by teachers with grants and sponsorship support;
 allowing for the behavior of the labor market and educational services.

The largest social group in the university is composed of students, postgraduates and students enrolled in additional education programs. The competences they acquire are regulated by the Federal State Educational Standards and the additional architectural education programs for children and adults approved by the university. The development of a questionnaire for the sociological study of the effectiveness of interdisciplinary, public communications for the acquisition of professional competences by students of architectural faculties is based on the study of general professional and universal competences described in the Federal Standards for Bachelor and Master of Architecture, the experience of teaching future applicants of higher architectural schools and comparing them to the types of communicative situations in architectural practice.

Russian professional training standards are in line with accepted international standards [14]–[16]. The analysis of legal documents and studies of the professional competences of architects in Russia, the European Union, the United States and Asian countries made it possible to identify a group of competences, and the degree of acquisition is evaluated in cooperation with the external social environment. These include:

- Artistic and graphic competences required to present design solutions (General Professional Competence (GPC) 1);
- Design and analytical competences required in the process of pre-project analysis (GPC 2);
- General engineering competences that provide up-to-date engineering, technological and environmental requirements for design, construction and operation of facilities when working with a project team (GPC 3, GPC 4);
- Interaction in the external society is necessary for students to develop the ability to engage in social and intercultural interaction (Supra-professional or General Competencies (GC) 3, GC 4).

Interacting with external social environment, Master's and postgraduate students improve the quality and results of their research work through the use of external experts, wider numerical coverage of respondents, while at the same time acquiring organizational skills: managerial competence.

Students in secondary vocational education and bachelor's degrees, as well as the acquisition of vocational qualifications determined by the federal educational standards, require vocational guidance, knowledge about the possibility of continuing architectural education and career development. And this proves the necessity of including questions concerning a choice of professional development in architecture in the questionnaire.

3.2 Objects of scientific and educational communication in architecture

The result of an architectural activity is an architectural object or a fragment of a spatial environment which is expressed in a material form. Architecture itself is a material object of communication that preserves and transmits knowledge about society, the methods it uses



for design, construction and operation. The study of architecture can be considered a method of interaction between subjects, and the process of obtaining new knowledge and competences in the study of architecture can be seen as object-subject communications. Knowledge of architectural design methods and professional competence obtained in the process of studying architectural objects is preserved by means of textual descriptions (books, treatises, letters, etc.), visualized in drawings, architectural measurements, sketches, threedimensional images, including digitized ones, stored in databases. They become objects of communication available for use by other specialists. Their subjective perception is explained by the variety of opinions and views on the reasons for the formation and development of creative methods in architecture [17].

The perception of professional experience and knowledge directly from their carriers takes place during the process of subject-subject communication and is implemented in the form of lectures, seminars, master classes and other forms of personal communication. Subject-object communications are realized in practice as exhibitions, presentations, architectural quests, architectural objects, etc.

Digital space and virtual communications due to force majeure limitations and face-toface communication have become widespread. A positive effect of digitization is the growing importance of self-education. Its negative consequences include teacher's exclusion from the educational process [18] and dissociation of subjects of architectural design. Prior cognitive experience limits the use of digital communication for communicating between subjects of training. People gained this experience in the process of social and neurobiological interaction with the outside world [19].

To enhance the professional competences of teachers and students of architectural faculties, the emphasis in the study of the potential of educational communication will be placed on in-person intra-professional, interdisciplinary and subject-subject and subjectobject interaction.

4 CONCLUSIONS

The effectiveness of communicative architectural and scientific research methods in architecture is assessed by means of qualitative psychological and pedagogical research methods, including extrospective observation, overt observation, oral interviews, written questionnaires, testing.

The main body of research comprises a written survey of MARHI teachers and students involved in inter-disciplinary and social communications. The completeness of the research is achieved by identifying the issues related to the acquisition of professional competences and vocational guidance in the external communication process.

The processing of the results of the study is done by correlation analysis of written data, considering the distribution of respondents by educational level. The study should result in identifying correlations between the participation of teachers and students in different types of communication, and

- Acquiring new professional knowledge and competences in architecture;
- Popularization of socially significant ideas in architecture and special development;
- Entrenching a sense of pride and respect for the historical and cultural heritage of cities and a negative attitude towards vandalism in architecture;
- 4. Enhancing the prestige of the architectural profession and the status of architectural education;
- 5. Awareness of the social expectations of architectural activities and industries that limit project implementation;



6. Identification of factors influencing the formation of strategies for the development of architectural education.

The value of the acquired professional competences can be assessed from the perspective of respondents' participation in presentation, marketing, comparative, vocational guidance, innovation, impressionist, restorative, crowd funding, and corporate types of communication educational situations [20].

APPENDIX

QUESTIONNAIRE FOR PSYCHOLOGICAL AND PEDAGOGICAL RESEARCH INTO THE EFFECTIVENESS OF EDUCATIONAL COMMUNICATION IN THE STUDY OF ARCHITECTURE (PROFESSORS)

1.	Please indicate which public events you have participated in with students:	
2.	What level of education did the students participate in public events with you?	
	(Tick V): Pre-university students Master's degree level	
	Bachelor level Postgraduates and Certified Architects	
3.	Other than architecture students, who participated in the event? (Select 1):	
	Representatives of the architectural community (architects, bureau directors, etc.)	
	Representatives of professions related to architecture (engineers, technologists, economists, producers of building materials and constructions, designers, etc.)	
	Representatives of society (administrators, architectural critics, schoolchildren, pencils and other city residents)	
	What benefit did participation in a public event have in raising your professions	
	educational level? Please evaluate each factor from 0 to 10 (0 is not a significant	nt
	target, 1 is the least important, 10 is the most important)	_
3.1	Helped to define the development strategy of the 0 1 2 3 4 5 6 7 8 9 1 department, to organize the educational process with students	0
3.2	Helped to improve and create new teaching 0 1 2 3 4 5 6 7 8 9 1 methods to understand the psychological mechanisms of teaching architecture to students at different levels	0
3.3		0
3.4	Helped to explain the moral and ethical 0 1 2 3 4 5 6 7 8 9 1 principles and the rules of architecture, and to create a corporate culture at the university	0
3.5	Contributed to the solution of the heuristic 0 1 2 3 4 5 6 7 8 9 1 problems of architectural education, including.	0
3.6	in the organization of student volunteer activities Helped in obtaining grants, sponsorship, 0 1 2 3 4 5 6 7 8 9 1 assistance in acquiring educational facilities	0

4.	What do you think these events have benefited learning architectures? Please
	evaluate each factor from 0 to 10 (0 is not a significant target, 1 is the least important,
	10 is the most important
41	Participation in a public interactive lecture master class discussion about

4.1	Participation in a public interactive lecture,	ma	iste	er	cla	ss,	di	scu	SSI	on	ab	out
	architecture? Encouraged the search for new forms and	0	1	2	3	4	5	6	7	8	9	10
	methods of presenting the design solutions	Ü	1	_	5	•	,	Ü	,	Ü		10
	Help to fully analyze the situation and complete	0	1	2	3	4	5	6	7	8	9	10
	the pre-project studies											
	Promoted new engineering and technological	0	1	2	3	4	5	6	7	8	9	10
	developments in design											
	Promote the understanding of artistic and	0	1	2	3	4	5	6	7	8	9	10
	aesthetic, ecological, socio-economic, customer											
	preferences (society as a whole) Led to the realization of artistic, constructive,	Λ	1	2	2	1	5	6	7	0	9	10
	functional, investment, environmental and other	U	1	2	3	4	3	O	/	0	9	10
	parameters of the architectural project											
	Help to focus the interests of students (learners)	0	1	2	3	4	5	6	7	8	9	10
	and guide their further professional development											
	Help to define the level of confidence of	0	1	2	3	4	5	6	7	8	9	10
	scientific hypotheses and research results in											
	architecture											
4.2	Participation in the exhibition (competition) and d	liscu	ISS	ion	of	arc	hit	ecti	ıra	l pr	oje	cts,
	including students.	0	1	2	2	4	_	,	7	0	0	10
	Encouraged the search for new forms and methods of presenting the design solutions	U	1	2	3	4	3	0	/	8	9	10
	Help to fully analyze the situation and complete	0	1	2	3	4	5	6	7	8	9	10
	the pre-project studies	U	1	2	J	•	5	U	,	O	,	10
	Promoted new engineering and technological	0	1	2	3	4	5	6	7	8	9	10
	developments in design											
	Promote the understanding of artistic and	0	1	2	3	4	5	6	7	8	9	10
	aesthetic, ecological, socio-economic, customer											
	preferences (society as a whole)			_	_		_	_	_			
	Led to the realization of artistic, constructive,	0	l	2	3	4	5	6	7	8	9	10
	functional, investment, environmental and other parameters of the architectural project											
	Help to focus the interests of students (learners)	Λ	1	2	3	1	5	6	7	Q	Q	10
	and guide their further professional development	U	1	2	5	7)	U	,	o	,	10
	Help to define the level of confidence of	0	1	2	3	4	5	6	7	8	9	10
	scientific hypotheses and research results in	-	-	_	-		-	-	,	-	-	-
	architecture											
4.3	Participation in the exhibition(s) of architectural	desi	gn.	, in	clu	din	g s	tud	ent			
	Encouraged the search for new forms and	0	1	2	3	4	5	6	7	8	9	10
	methods of presenting the design solutions											





	Promote the understanding of artistic and aesthetic, ecological, socio-economic, customer	0	1	2	3	4	5	6	7	8	9	10
	preferences (society as a whole) Led to the realization of artistic, constructive, functional, investment, environmental and other parameters of the architectural project	0	1	2	3	4	5	6	7	8	9	10
	Help to focus the interests of students (learners)	0	1	2	3	4	5	6	7	8	9	10
	and guide their further professional development Help to define the level of confidence of scientific hypotheses and research results in	0	1	2	3	4	5	6	7	8	9	10
4.4	architecture Participation in scientific research (focus group	s, e	exp	ert	sui	rve	ys,	qu	est	ion	nai	res,
	brainstorming, etc.) Encouraged the search for new forms and	0	1	2	3	4	5	6	7	8	9	10
	methods of presenting the design solutions Help to fully analyze the situation and complete	0	1	2	3	4	5	6	7	8	9	10
	the pre-project studies	0	1	2	2	4	_	_	7	0	0	10
	Promoted new engineering and technological developments in design	U	1	2	3	4	3	6	/	8	9	10
	Promote the understanding of artistic and aesthetic, ecological, socio-economic, customer	0	1	2	3	4	5	6	7	8	9	10
	preferences (society as a whole) Led to the realization of artistic, constructive,	0	1	2	3	4	5	6	7	R	9	10
	functional, investment, environmental and other	Ü	•	_	,	•	,	Ü	,	Ü		10
	parameters of the architectural project Help to focus the interests of students (learners)	0	1	2	3	4	5	6	7	8	9	10
	and guide their further professional development											10
	Help to define the level of confidence of scientific hypotheses and research results in	0	1	2	3	4	5	6	7	8	9	10
5.	architecture Communication facilities											
	Have you used the architectural works or fragment information about the design methods that create											
	photographic fixations, models, layouts)? More often "yes", go out and study a site for des: "spirit of a place"	ign,	it i	s n	ece	essa	ıry	for	fee	elin	g	
	More often "yes", we are exploring objects measurement, sketches, photography	and	d t	erri	tor	y 1	by	me	ean	s c	of	
	More often "no", everything can be underst	tood	l f	ron	1 8	iva	ilab	ole	bo	ok	s,	
	drawings, photographs and other materials										Ĺ	
	Name and Surname, Position, University											

Date and Signature

QUESTIONNAIRE OF THE SOCIOLOGICAL SURVEY FOR STUDENTS IN THE DIRECTION OF ARCHITECTURE

1.	How long have/did you study architecture (tick one)?
	< 3 months
2.	How do you view your future professional activity? (tick one or several possibilities)
	Building design Urban planning
	Interior and exhibition design
	Architectural criticism Renovation and rehabilitation
	Other, what exactly:
3.	Who, besides architecture students, participated in the event (mark one)?
	Representatives of the architectural community (architects, bureau directors,
	etc.)
	Representatives of professions related to architecture (engineers, technologists,
	economists, producers of building materials and constructions, designers, etc.)
	Representatives of society (administrators, architectural critics, schoolchildren,
	seniors and other city residents)
4.	What do you think these activities have been of use to your architecture studies?
	Please evaluate each factor from 0 to 10 (0 is not a significant target, 1 is the least
	important, 10 is the most important)
4.1	If you participated in a public interactive lecture, a master class, a discussion about
	architecture? If so then:
	Has it helped you to find new spatial and spatial 0 1 2 3 4 5 6 7 8 9 10
	forms and methods of presenting design
	solutions? Did this help you to analyze the project situation 0 1 2 3 4 5 6 7 8 9 10
	from different sides in a comprehensive way and
	to carry out the preliminary research?
	Did it facilitate the introduction and use of new 0 1 2 3 4 5 6 7 8 9 10
	engineering and technological developments in
	design?
	Contributed to your understanding of artistic and 0 1 2 3 4 5 6 7 8 9 10
	aesthetic, ecological and other preferences of
	modern society?
	Had that led to an awareness of the artistic, 0 1 2 3 4 5 6 7 8 9 10
	constructive, functional, investment,
	environmental and other parameters of the
	architectural project?
	Has it helped in defining your focus and 0 1 2 3 4 5 6 7 8 9 10
	choosing the direction of your further
	professional development?
	Did the event help determine the level of 0 1 2 3 4 5 6 7 8 9 10
	reliability of scientific hypotheses and results of
4.2	your scientific research?
4.2	Have you participated in exhibitions or design competitions and discussed them
	publicly with representatives of related professions and the public? If so, then:

	Has it helped you to find new spatial and spatial forms and methods of presenting design solutions?	0	1	2	3	4	5	6	7	8	9	10
	Did this help you to analyze the project situation from different sides in a comprehensive way and to carry out the preliminary research?	0	1	2	3	4	5	6	7	8	9	10
	Did it facilitate the introduction and use of new engineering and technological developments in design?	0	1	2	3	4	5	6	7	8	9	10
	Contributed to your understanding of artistic and aesthetic, ecological and other preferences of modern society?	0	1	2	3	4	5	6	7	8	9	10
	Had that led to an awareness of the artistic, constructive, functional, investment, environmental parameters of the architectural project?	0	1	2	3	4	5	6	7	8	9	10
	Has it helped in defining your focus and choosing the direction of your further professional development?	0	1	2	3	4	5	6	7	8	9	10
	Did the event help determine the level of reliability of scientific hypotheses and results of your scientific research?	0	1	2	3	4	5	6	7	8	9	10
4.3	Have you participated in public exhibitions (c	com	pet	itic	ons) a	nd	dis	scu	ssic	ons	on
	architectural design? If so, what? Has it helped you to find new spatial and spatial forms and methods of presenting design solutions?	0	1	2	3	4	5	6	7	8	9	10
			1			4					0	
	Did this help you to analyze the project situation from different sides in a comprehensive way and to carry out the preliminary recearch?	0	1	2	3	4	5	6	7	8	9	10
	from different sides in a comprehensive way and to carry out the preliminary research? Did it facilitate the introduction and use of new engineering and technological developments in											10
	from different sides in a comprehensive way and to carry out the preliminary research? Did it facilitate the introduction and use of new engineering and technological developments in design? Contributed to your understanding of artistic and aesthetic, ecological and other preferences of	0	1	2	3	4	5	6	7	8	9	
	from different sides in a comprehensive way and to carry out the preliminary research? Did it facilitate the introduction and use of new engineering and technological developments in design? Contributed to your understanding of artistic and aesthetic, ecological and other preferences of modern society? Had that led to an awareness of the artistic, constructive, functional, investment, environmental and other parameters of the	0	1	2	3	4	5	6	7	8	9	10
	from different sides in a comprehensive way and to carry out the preliminary research? Did it facilitate the introduction and use of new engineering and technological developments in design? Contributed to your understanding of artistic and aesthetic, ecological and other preferences of modern society? Had that led to an awareness of the artistic, constructive, functional, investment, environmental and other parameters of the architectural project? Has it helped in defining your focus and choosing the direction of your further	0 0	1 1 1	2 2	3 3	4 4	555	6 6	7 7	8 8	9 9	10 10 10
	from different sides in a comprehensive way and to carry out the preliminary research? Did it facilitate the introduction and use of new engineering and technological developments in design? Contributed to your understanding of artistic and aesthetic, ecological and other preferences of modern society? Had that led to an awareness of the artistic, constructive, functional, investment, environmental and other parameters of the architectural project? Has it helped in defining your focus and	0 0 0	1 1 1	2 2 2	3 3 3	4 4	555	6 6	7 7 7	8 8 8	9 9	10 10 10

4.4 Did you participate in scientific research (focus groups, expert surveys, brainstorming, etc.) together with townspeople or representatives of related professions (engineers, technologists, lawyers, economists, etc.)? If so, then:

	Has it helped you to find new spatial and spatial forms and methods of presenting design solutions?	0	1	2	3	4	5	6	7	8	9	10
	Did this help you to analyze the project situation from different sides in a comprehensive way and to carry out the preliminary research?	0	1	2	3	4	5	6	7	8	9	10
	Did it facilitate the introduction and use of new engineering and technological developments in design?	0	1	2	3	4	5	6	7	8	9	10
	Contributed to your understanding of artistic and aesthetic, ecological and other preferences of modern society?	0	1	2	3	4	5	6	7	8	9	10
	Had that led to an awareness of the artistic, constructive, functional, investment, environmental and other parameters of the architectural project?	0	1	2	3	4	5	6	7	8	9	10
	Has it helped in defining your focus and choosing the direction of your further professional development?	0	1	2	3	4	5	6	7	8	9	10
	Did the event help determine the level of reliability of scientific hypotheses and results of your scientific research?	0	1	2	3	4	5	6	7	8	9	10
4.5	Have you been involved in volunteer projects (enveitizens? If so, then:	viro	nm	ent	al,	edu	ıcat	tion	al,	etc	.) v	vith
	Has it helped you to find new spatial and spatial forms and methods of presenting design solutions?	0	1	2	3	4	5	6	7	8	9	10
	Did this help you to analyze the project situation from different sides in a comprehensive way and to carry out the preliminary research?	0	1	2	3	4	5	6	7	8	9	10
	Did it facilitate the introduction and use of new engineering and technological developments in	0	1	2	3	4	5	6	7	8	9	10
	design? Contributed to your understanding of artistic and aesthetic, ecological and other preferences of modern society?	0	1	2	3	4	5	6	7	8	9	10
	Had that led to an awareness of the artistic, constructive, functional, investment, environmental and other parameters of the	0	1	2	3	4	5	6	7	8	9	10
	architectural project? Has it helped in defining your focus and choosing the direction of your further professional development?	0	1	2	3	4	5	6	7	8	9	10
	Did the event help determine the level of reliability of scientific hypotheses and results of your scientific research?	0	1	2	3	4	5	6	7	8	9	10

5.	Communication facilities
	Have you used the architectural works or fragments of built environment for getting
	information about the design methods that created them (drawings, measurements,
	photographic fixations, models, layouts)?
	More often "yes", go out and study a site for design, it is necessary for feeling
	"spirit of a place"
	More often "yes", we are exploring objects and territory by means of
	measurement, sketches, photography
	More often "no", everything can be understood from available books,
	drawings, photographs and other materials
	Name and Surname, University, Department, Academic Title
	Date and Signature

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