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## Scientific Preschool Environmental Education And Training Research Methodology

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### ABSTRACT

The article innovatively describes the methodological basis of scientific research on the example of preschool environmental education and upbringing.

### KEYWORDS

Sociological survey, science, research, methodology, teaching, ecology, education, upbringing, systematization, recommendation.

### INTRODUCTION

The President of the Republic of Uzbekistan Sh.M.Mirziyoev in his address to the Oliy Majlis said: “The greatest wealth is intelligence and knowledge, the greatest heritage is a good upbringing, the greatest poverty is ignorance! That is why the acquisition of modern knowledge, true enlightenment and high culture should become a constant vital need for all of us. It is essential and necessary to acquire digital knowledge and modern information technologies in order to achieve development” [1]. Achieving science and

enlightenment through the selection of methods relevant to the digital economy in the methodology of researchers is a very relevant public policy. One of the requirements for preschool education and upbringing is the research methodology. Because the main problem of the theory of sciences in pedagogy is its research methodology. Therefore, in the curriculum 1.01 - block of general methodological disciplines of all specialties of the master's degree of pedagogical higher education is taught 36 hours (18 theoretical +

18 practical lessons) subject "Methodology of Scientific Research" [2]. But to find out to what extent this subject is being taught as a course

or training module, we conducted a sociological survey (Table 1) among master's and doctoral students.

## THE MAIN PART

**Table 1**

### **Questionnaire reflecting the content and essence of the subject «Methodology of Scientific Research»**

<b>T / r</b>	<b>Question</b>	<b>Answer</b>
1.	Give a scientific understanding to the word "science"!	Science is - ...
2.	Give a scientific understanding to the word "subject"!	Subject is - ...
3.	Explain the general and specific aspects of the words "Science" and "subject"!	General aspects - ... Special aspects - ...
4.	What do you understand by "scientific research"?	Scientific research - ...
5.	Give a scientific definition of the term "methodology"?	The methodology is ...
6.	Give a scientific definition of the term "method"?	Method is - ...
7.	Give a scientific definition of the term "Methodics"?	Methodics is - ...
8.	Are you satisfied with teaching the subject «Methodology of Scientific Research» in the general methodological block of the master's degree?	Satisfied, because - ... Dissatisfied - because ...
9.	How to teach the subject "Methodology of Scientific Research" in the master's degree? Your suggestion	According to the curriculum - ... According to the training course or module - ...
10.	What research methodology did you use in preparing the "Regulations"?	Knowledge is - ...
11.	What would you like to know about this science?	

The results of the survey show that the majority of respondents, i.e. none of the researchers involved in it, do not have a single understanding of the word, word unit, term or terms. This is because the various publications on the Methodology of Scientific Research have given different interpretations to them or have not explained their content and essence. [3]

One of the questions reflected in the survey is the theoretical definition of the word "science". "Science," says O. Fayzullaev, "is a system of knowledge about the world, one of the forms of social consciousness." [4] . But

knowledge or knowing the world is realized not only through science, but also in a non-scientific way - parascientific, doctrinal, quasi-scientific, anti-scientific, pseudo-scientific [5] . Therefore, it is expedient to use the term "scientific knowledge" in the concept of science. In our opinion, **science** is

a system of scientific knowledge with a social character. It is a system, because every science, and process closely, both small and away from the side or vice versa is directly placed in the vertical subdivision or learn the parts hierarchy.

"Science" is a word, not a term. The name of science in any of its terms through the field of science or learning module (course), name, stands. For example, the term "pedagogy" refers to both a science and a course or module. The same is the case with terms like "Psychology", "Ecology", "Biology" [6] or in such terms [7]. Usually, if these terms are used as a subject of research of the researcher, they are considered as a field of science. If they are viewed from the perspective of the learner, they are taken as a training course or module. A course or module with science does not mean the same thing. For example, "Preschool environmental education and training" or "Fundamentals of Ecology" is not a subject, but a course or module that provides generalized or substantiated enlightenment and spirituality by these types of education (teachers and students of preschool education organizations). In the textbooks, curricula and programs, unfortunately, it is not logical to refer to them as a 'curriculum' of a course or module.

The explanatory dictionary of the Uzbek language gives 3 different definitions of the word "science"[8]. But its first version, knowledge - to learn to read, research, analysis is achieved with the **knowledge**, skills, information, is closer to science. It's closer because of the fact that according to the later versions in the dictionary, if a human receives information it does not mean that he has become educated. In the dictionary of S.I. Ojegov, the most popular in the Russian language, knowledge is described as understanding the world through consciousness[9]. The free encyclopedia Wikipedia describes knowledge as the result of cognitive activity or the acquisition of information by an individual that is necessary in finding a solution to a problem [10]. In general,

the word "**knowledge**" is reflected differently in different literatures. In our view, knowledge belongs to the human community in the social sciences, and to the individual in the humanities, which is the conscious understanding, knowledge, and understanding of being.

**Science in preschool environmental education and upbringing** – students' (or rather, children's) [11], understanding the world with the help of their teachers. In accordance with the Law of the Republic of Uzbekistan "On Preschool Education and Upbringing" adopted on December 16, 2019, MTT is not only an educational, but also a separate independent stage of primary national education. At this stage, we will need to create the first elements of education and upbringing for children.

In the explanatory dictionary of the Uzbek language **tadqiqot (research)** is used in two different senses [12]. The first case study, research, study, and the second is the result of the work of the scientific **research**, as viewed. Unfortunately, this dictionary does not reveal the true meaning of the word research.

We take another look at S.I. Ojegov's dictionary[13]. In this dictionary research is described as the scientific study and observation. But observation is a method or method of learning. According to Wikipedia [14] research has a broad sense, the systematization of learning in order to search for new sciences or to identify facts. In the narrow sense, it is called the scientific method of studying something. There is also no clarity, because many people do not pay attention to all the evidence or determining facts 'systematization'. Nor can it be called the 'scientific method' given in the definition in the narrow sense. Oral research is not a method; it is the collection of any facts. For example,

environmental education and training, research ecologist specific compiling a variety of techniques (statistical, survey, mapping) unavoidability. These methods can be scientifically based or non-scientific in practice. For example, when a preschooler is exploring the world around him, he cannot even imagine that there are methods and that they need to be approached systematically.

The word 'research' from the philosophical point of view - it is one on one situation, event, by those accustomed to the process and cover the opening, to be discovered. The word 'research' is a social category, a process inherent in human society. Exact process. It is either scientific or nonscientific. Scientific research, event and process people (individuals) by certain structured methods are accustomed to be made, in writing, as well as the opening of the discovery process to explain the results. That is why the methods of scientific knowledge systematized in science are called methodology.

Data on environmental relations in preschool education are collected, analyzed and conclusions are made by the head of the MTT, educator, psychologist, methodologist or defectologist using specific methods.

Belarusian scientists pedagogues understand **methodology** as a system of theoretical and practical activities and the establishment of principles [15]. Russian specialist G.A. Fedotova[16] "**Methodology** is the science of understanding the objective being, the direction and methods of the processes that take place in it, and the general principles of processing." In the most authoritative national encyclopedic dictionary in Uzbekistan "**Methodology** - a system of principles and methods of organization, restoration of theoretical and practical activities of the

researcher and the doctrine of such a system" [17] has also been described as a doctrine of methods or a method of general knowledge.

In these literatures, methodology is seen as teaching how to approach methods and reality in general. "Synergetics" to the methodology used in the study of metaphysics, the methodology used to study the linear development of reality, the process of change and the interrelationships between its constituent elements, dialectics, the methodology used in the study of sudden, catastrophic changes in reality, nonlinear development processes as an example. It is said that methodology can also be viewed as an algorithm for scientific knowledge, understanding and changing reality.

P. Feyerabend (1975, 1986) argues that the methodology can be scientific and generate new ideas only if it is free from any political pressure, separate from the state administration and approaches the issue freely [18]. However, P. Feyerabend does not take into account the fact that individuals or individuals conducting research in a particular country can take a methodological approach to an issue in terms of government governance policy, social status, economic opportunity, and institutional situation. Otherwise, it is impossible to deny that such methodological research will not be possible in practice, and its results will remain on paper and will not find its place in practice.

In general, it should be noted that the concept of "methodology" uses dozens of words: method, reality, objective being, process, principle, tool, doctrine, principle, theory, practice, organization. This does not allow the methodology to be put into practice and easily understood by researchers (especially by preschool environmental education and training educators). For example, in the

general education block of the master's curriculum of the 1st stage of higher education institutions of the Republic of Uzbekistan there is a 36-hour training module "Scientific Research Methodology". However, when studying masters for the "questionnaire" method, the level of mastery of this course did not increase by 15-20% (Table 2). Because in the textbook "Methodology of Scientific Research", published by Professor N. Shermuhamedova [19], but the author does not give specific conclusions that will serve as a single generalization and a program for future masters. The same situation is reflected in the educational and methodical complexes prepared for masters of higher educational institutions of the Republic of Uzbekistan, in the literature on the methodology of scientific research published nationally and internationally. That is why this issue is at the center of the debate of philosophers and educators, and, unfortunately, not all disciplines have a single opinion on this issue.

Methodology is an abbreviation derived from the Greek words "metodos" - knowledge or research "logos" - doctrine. In general, it can be called Methodology in science - a set of teachings on scientific methods of knowledge, or rather a system here. Because the parts of the methodology listed below, the research methods are systematized in a specific sequence and hierarchy.

Methodology is not a method and, in contrast, can be changed in an evolutionary or non-evolutionary way, depending on the circumstances and time. The method does not change, new ones are created, and they are applied in scientific knowledge instead of the existing ones. The systematization of methods arises from a particular social, political, economic, institutional (sustainable merger) situation. For example, the methodology of almost all sciences during the Soviet era

**Table 2.**

***Indicators of mastering the course "Scientific research methodology" by masters of ecology and methods of teaching geography***

The name of the university	The direction of the master's degree surveyed	The number of masters involved in the experiment	Those who gave an incomplete answer	Those who could not answer
			In %	
National University of Uzbekistan	Ecology and environmental protection	23	20	80
Gulistan State University	Methods of teaching geography and ecology	6	15	85
Tashkent State Pedagogical University	Methods of teaching geography	16	18	82



was adapted to a political system based on the idea of building utopian communism of Marxism-Leninism. The utopia of a planned economy to achieve equal social security for all, the economic attitude of not lagging behind the United States at the expense of natural resources, the methodology of spiritual and enlightenment propaganda reflecting the idea of a single nation are clear examples of this.

After the collapse of the former Soviet Union and the emergence of independent states, a reasonable question arises as to what methodological basis scientific research was armed with. In the independent states, each of which has entered its own path of development, especially in Uzbekistan, there is a "methodological vacuum", as in many disciplines. Because Uzbek scientists, freed from the pressure of the Union, did not conduct in-depth research on theoretical and methodological issues of science. Islam Karimov, the first President of the Republic of Uzbekistan, once said: "It is necessary to prevent a vacuum in politics, social life and science. That is, if you do not have your own idea, an idea from abroad will come and dominate your country. In this sense, if we do not have independent-minded people, if we do not restore the history of our state, our people, our nation, if we do not write it objectively, others will write it differently. If it is limited to writing, it will try to guide us, the younger generation, and even our scientists." Therefore, it is very important to create an existing methodological framework for preschool environmental education and upbringing.

The methodology in the broadest sense, which summarizes the above ideas, is the selection and systematization of methods in the conduct of a particular study based on the real political situation, social conditions, economic

opportunity, institutional situation. Methodology in the narrow sense is a system of teachings on the methods of scientific knowledge.

Thus, the methodology of scientific research is a category belonging to the social, that is, human society, which consists of concepts from a set of 2 words and 1 term:

- Science - conscious understanding, knowledge and understanding of being;
- Research - the process of studying, discovering, discovering and describing an event, process, situation using clearly structured methods;
- Methodology - the selection and systematization of methods in the conduct of a particular study based on the real political situation, social conditions, economic opportunities, institutional situation.

Summarizing all three concepts, **scientific research methodology is the selection and systematization of methods based on the real political situation, social conditions, economic opportunities, institutional situation for the purpose of conscious understanding, knowledge and understanding of the situation, event, process for a specific research purpose.**

**Preschool environmental education and training at school** b children up to the age of the methodology of scientific research of environmental education and training in order to erase the event, the process is a conscious understanding, to know and understand the real political situation, social conditions, economic opportunity, and institutional situation from the ecological teaching and learning methods to select and systematize them.

It is advisable for each researcher to follow the following systematic approach in conducting research methodology in environmental education and training in preschool:

1. Conscious understanding, knowledge and understanding of the situation, event, process in preschool environmental education and upbringing;
2. Identify the problems of environmental education and training and know the level of scientific research on its solution;
3. To be able to clearly imagine the goals and objectives of the research and to define the topic in terms of its object (ecosystems) and subject (protection of ecosystems, rational use of their resources, restoration of damaged ecosystems);
4. Identify the methods used in research on preschool environmental education and upbringing on the chosen topic;
5. Distinguish the identified research methods from those relevant to public policy, social conditions, economic opportunities, institutional situation;
6. Systematization of the separated methods according to the process of ecological research, ie their placement in a hierarchical position in a certain sequence;
7. Make additions and changes to the methodological approach based on the situation in the research.
8. Follow a systematic approach in writing the obtained methodological results.

Taking into account the political situation in the research methodology of preschool environmental education and upbringing, it is important to emphasize the forward-looking concept, program, plan, strategy or roadmap of society, state, international community on the chosen topic. For example, paragraph 4.4 of the Action Strategy for the five priority areas of development of the Republic of Uzbekistan

for 2017-2021 states "Further improvement of the system of continuing education ..." and paragraph 5.1 states "... environmental problems that harm the environment, public health and gene pool...; Improving the system of prevention and response to emergencies. Law of the Republic of Uzbekistan "On Preschool Education" dated December 16, 2019, Resolution of the President of the Republic of Uzbekistan dated May 8, 2019 No PP-4312 "On approval of the Concept of development of preschool education in the Republic of Uzbekistan until 2030" It is necessary to take into account the implementation of Resolution No. 434 "On approval of the Concept of development of environmental education in the Republic of Uzbekistan" and joint decisions of the State Committee for Ecology and Environmental Protection of the Republic of Uzbekistan and the Ministry of Preschool Education No. 7/1 and 6 dated August 6, 2019.

The choice of research methods should take into account the social conditions and the possibility of mastering the system of knowledge, norms and values that educate and bring up children [21]. This means that "Philosophy" is based on scientific knowledge, "Sociology" on the development of social associations (for example, the development of peoples and countries according to their social conditions), "Psychology" on the mental state of people, "History" on the periodic change, "Ethnography" it is necessary to take into account the laws and regulations in the life of the local people. Otherwise, the research methodology may not yield its positive results, and especially practical results. For example, quantitative and qualitative assessment of social status within certain objects is an effective tool in the selection of methods for

environmental research in preschool education. [22]

Research methodological approach to **economic opportunity** as a result of its consideration of their finds are encouraged to reflect. But the researchers and scientific research institution or office or carry out research in this modern equipment. They do not have sufficient financial and material resources to purchase and launch them. In this case, it is advisable to refrain from choosing this method. For example, claiming to environmental education and training for the digital economy of the techniques selected. **Digital economy** - economic activity based on digital technologies, i.e. the development of digital goods and services related to e-business and commerce [23]. US Massachusetts University of Technology professor Nicholas Negroponte ng physical condition and size symbols of the goods, but the numbers of expression and reasonable offer [24] . However, the author keeps the innovative methods secret. While this technology is not possible to buy their own methods and methodology of scientific research at the use of the temporary waiver.

Another issue is to take into account the **institutional situation in the** research methodology, i.e. the individual researcher has to “sustainably unite” with practitioners, scientists and experts to conduct important research in preschool environmental education and upbringing. The stable association with whom I should be, and what techniques to use, and that is fair to ask. Taking this situation into account, the application of scientific research methodology will undoubtedly yield effective research results.

## CONCLUSION

To carry out scientific research methodology and **to express in writing** at a systematic approach [25]. Because the process of scientific knowledge requires a certain hierarchy (step by step) of the process of scientific knowledge, from hypotheses, concepts, plans, to the development or definition of its theoretical basis, and to the methods of practical application.

In short, the research methodology of preschool environmental education and upbringing is a process that plays a primary role in achieving a positive outcome of scientific research.

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