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Methodology For Forming Children's Research And Creative Skills About Nature Based On Real Models

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Abstract

This article provides information on the appropriate use of real models in the process of educational activities in preschool educational organizations, namely their role and importance in the educational activity of familiarization with the environment. In particular, it is shown that the process of using small studies in educational activities sets itself the following tasks: intensive development of logical thinking in the process of familiarization with nature, intensive use of real models in the process of educational activities, increasing the interest of students in conducting research in the process of educational activities. The article also provides a review of scientific research conducted within the framework of the topic.

Keywords: real, model, modeling, logical thinking, research, pedagogical modeling, component, approach, motivational, creative.

Introduction.

In our country, under the words of our President, "Speaking about the education system, which is of decisive importance in our lives, it is necessary to repeat and repeat the wise words of our grandfather Abdulla Avloni: education is a matter of life and death for us. No matter what field we choose, we cannot achieve any changes or a prosperous life without educating modern, mature personnel. The preparation of such personnel, a healthy gene pool of the nation, begins, first of all, with the preschool education system" [1], the tasks of modernizing preschool educational organizations and implementing modern educational programs and technologies in educational processes, including the comprehensive intellectual, spiritual-aesthetic, and physical development of children, as well as radically improving the quality of their preparation for school, have been set. In particular, the preschool education system is the primary, most important link in continuous education. According to scientific conclusions of experts and educators, 70 percent of all the information and knowledge a person receives during his life is received by the age of 5, this fact alone clearly shows how important preschool education is in the development of children as mature and well-rounded individuals.

Another important issue is the development of advanced pedagogical methods and techniques that meet modern requirements in this area, the creation and publication of a new generation of educational and educational-methodological literature is also an extremely urgent task. In implementing these tasks, a correct and active approach to the process of educational activities, the organization of each type of activity on the basis of realistic models, and strict adherence to the age and individual characteristics of the students in the process of educational activities are important.

Literature review. Today, in the modern educational process, the organization of educational activities in preschool educational organizations on the basis of modern pedagogical technologies and real models is considered an urgent pedagogical problem. In particular, in developing various aspects of the issues of introducing children to the environment and highlighting its importance, the following pedagogical scientists have made great contributions: P. Yusupova, G.E. Dzhanpeisova, X.D. Jabborova, A. Tokhtayev, M.I. Nuriddinova, M. Umarova, Sh. Sodiqova, M.A. Rasulkhozhayeva, M. Azamova, A. Ergashev, B.G. Ziyomuhammedov, U. Yoziyeva, Y. Turayev.

In particular, P. Yusupova in her research work entitled "Formation of the beginnings of a materialistic worldview in older preschoolers in the process of introducing them to plants in the conditions of Uzbekistan" noted the methodologist A.V. Zaporozhes rightly cites the following idea: "... preschool didactics should be organized in such a way that children get acquainted not only with

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the external aspects of the surrounding objects, but also with the simplest connections between them, the closest causes of the observed phenomena, some features of their changes and development, such material is not only appropriate to the level, but also interesting for the preschool child." The child learns the laws of nature by understanding these connections.

Kh.D. Jabborova in her textbook "The Peculiarities of Providing Ecological Education to Preschool Children" provides detailed information about the role and importance of ecological education in the education and upbringing of preschool children, in the mental and moral development of preschool children, about the methods and techniques used in the process of familiarization with the environment, the role of the educator and the requirements placed on him.

CIS scientists such as R.S. Nemov, A.S. Simonovich, O.V. Dibina, V.P. Zinchenko, E.F. Kozina, S.A. Kozlova, T.A. Kulikova, B. Spinoza, A.P. Usova, M.E. Ferreira, R.A. Fisher put forward various ideas about the harmony of nature and society, the influence of biological and social factors on the formation of personality, the role and importance of surrounding events and phenomena in the upbringing of a child, and the fact that familiarization with the environment creates the basis for the intellectual development of a child.

Psychologist R.S. Nemov in his works provides valuable information about the influence of the environment and the surrounding world on the formation of personality, and the development of cognitive activity in a child through them. In this regard, it is appropriate to quote his following thoughts: “A person can receive all knowledge from various sources. In childhood, a person encounters people around him, that is, he communicates with his parents, relatives and other people who replace them. As the child enters into communication with adults, under the influence of their attitude and opinion towards the child, he masters speech, develops a sense of self-esteem and self-confidence, forms personal ideas, learns to understand the things and objects around him, people” [5; 13-b]. As a result, the child evaluates his cognitive activity, volitional and other qualities”.

Portuguese scientist M.E. Ferreira in his scientific work on the topic “Ecological education of children based on a friendly attitude to the environment” substantiated the importance of providing environmental education through practical exercises, instilling environmental education [6]. The place and role of nature in the formation of a personality is of paramount importance, and its importance is also clearly visible in the education, work and spiritual formation of a person. Labor activity is organized in the bosom of nature, through the use of tools. In this, a person is active in satisfying his needs and receives spiritual nourishment from the work he does. These and other needs also exist in children, and he tries to satisfy them through various activities. The scientist justified the need to implement an integrative approach in this process. An integrative approach is considered important in the harmonious implementation of all areas of development of state requirements in introducing children to the world around him.

Russian scientist A.P. Usova substantiates the formation of knowledge in children in two categories: “In the first category, children acquire knowledge in the family environment, in everyday communication with adults, in the process of play and observation; in the second category, knowledge and experience are acquired in the process of education, in training and educational activities” [7].

A.S. Simonovich “To help children develop a positive attitude towards each other and other people around them; to analyze existence and the world around them through games; "developing emotional intelligence in children in practical and life-like ways; drawing conclusions through story-based games; teaching children the cause and effect of a given reality; teaching children how to behave at school and in the classroom" [8]. He compares the achievements of his peers, his own personal successes and failures, and develops the ability to analyze himself. All this happens as a result of the influence of the environment on the child.

The American scientist R.A. Fisher (The University of Tennessee at Chattanooga) in his doctoral thesis on "The Influence of Environmental Education on the Understanding of Words and Creativity of Preschoolers" analyzed the influence of the environment on the development of children's vocabulary and speech [9]. As is known, the entire environment surrounding us is a gift of nature. Teaching children to protect nature from an early age is one of the important issues.

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In the process of introducing children to the world around them, it is important to read and use literary and popular literature along with scientific literature. If a child hears, sees, and involuntarily participates in an experiment on the topic being studied, if he independently performs it, he can remember it for a lifetime.

Research Methodology

The criteria for developing research and creative skills in preschool children—such as a rich imagination, high-level creative thinking, a broad worldview, and curiosity—were determined by prioritizing individual personality traits, including originality, adaptability, sensitivity, and agility.

The process-content and activity-oriented block of the model for forming children's research and creative skills was refined by adapting it to key stages of the child's cognitive process, including intuition, attention, perception, and memory.

The process of developing children's research and creative skills using real models was enhanced by integrating methods that foster these skills through educational and play-based activities, such as experiments, excursions, and walks.

The methodology for fostering research and creative skills in preschool children—through didactic games and integrative exercises—was clarified by prioritizing fundamental principles of educational and play-based activities. These principles include promoting the child's independence in creative activities, encouraging an innovative approach to task completion, motivating children in the learning process, and ensuring the free organization of various activities.

Results and Discussion

In the context of modern social reforms, including the modernization of education, fostering an active cognitive attitude toward reality is of great importance. The ability and motivation to explore new and complex aspects of the changing world, along with the development of original strategies for behavior and activity, are highly valuable. One of the key priorities in education is the cultivation of children's thinking and understanding, which is facilitated through research activities. These activities enable children to independently acquire knowledge about the world and develop effective strategies to achieve desired outcomes.

Research is an activity focused on studying and transforming the surrounding environment. Through research, individuals gain insights into the properties and relationships of objects that cannot be fully understood through direct perception alone.

Children's experiential learning is crucial not only for the development of cognitive processes and mental operations but also for fostering independence, goal-setting abilities, and the capacity to modify objects and phenomena to achieve specific results. This process is enriched by emotional engagement, which deeply influences the child's personal development. Independent exploration of new objects allows preschoolers not only to observe and interact with them but also to understand their internal relationships and connections.

Children's experimentation is highly flexible, as it enables them to adapt to unexpected results and modify their approach accordingly. When new information about an object emerges, children can set more complex goals and attempt to achieve them through innovative methods, leading to the development of goal-setting abilities.

In the context of children's experiments, independent activity is most prominently expressed, fostering autonomy and creativity. Experimental settings also provide opportunities for social interaction, allowing children to engage with peers and adults as equal participants in collaborative activities.

A crucial component of research activity in children is the process of trial and error, which plays a fundamental role in their cognitive and problem-solving development. When attempting to reach a goal, children initially apply familiar methods. If these methods fail, they experiment with new combinations and reconstructions. This iterative process stimulates problem-solving skills, enhances exploratory behavior, and strengthens research abilities. Through experimentation, preschoolers gradually overcome the fear of making mistakes, which fosters intellectual courage and resilience.

Moreover, experimental activities contribute to children's self-development. As they manipulate and transform objects, they uncover new properties, which in turn leads to the

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acquisition of deeper knowledge. This knowledge enables them to engage in increasingly complex transformations, further advancing their cognitive and creative capacities.

The appropriate use of real models in children's experiments gives an effective result. Through experiments conducted using real models, the child understands the essence of the learning process more deeply.

The concept of "model" is borrowed from the French language and means modele - measure, standard. A copy of something exactly as it is or reduced or enlarged, which serves as a template for many productions.

In modern science, it is used as a research method in the following cases:

When information about the object of study is incomplete; when there is a need to predict the future activity of the object; when existing views are not enough to reveal the essence of the problem; when there is a need to test the created idea in a real situation; when the object of study is too small or too large; when testing the research object is environmentally dangerous or requires significant costs; when there is a need to interpret the idea created in a real situation. Below are examples of experiments that can be conducted in classes for introducing preschool children to the environment.

O'rdak qichqirig'i

Nima sodir bo'ladi?

1. Plastik stakanning tubini tugma bilan teshib oling. Teshikni qalam yordamida kengaytiring.

2. Qo'lingiz uzunligidagi rezina tasmani kesib oling. Rezinalarning bir uchiga tugun bog'lang.

3. Rezina tasmasini teshikdan o'tkazing, tugun tashqarida qolsin, rasmdagi kabi.

4. Qog'ozli sochiqni ho'llang. Bir qo'lingiz bilan stakanga, ikkinchi qo'lingiz bilan sochiq bilan rezina tasmani torting.

Siz rezina ipni tortganingizda va nam sochiq bilan ushlaganingizda, qo'l bir muncha vaqt tebranadi va bu tebranish stakanga o'tadi. Shu bilan birga, o'rdak qichqirig'iga o'xshash o'ziga xos tovush paydo bo'ladi.

Ovoz balandligini o'lchash

Nima sodir bo'ladi?

1. Selofanni imkon qadar mahkamroq kosaga torting. Qog'ozli salfetkadan kichik sharlar yasang.

2. Bir nechta sharlarni selofan ustiga soching. Kosani magnitafon dinamikasi yoniga qo'ying.

3. Har qanday musiqani yoqing, avval jimgina, so'ngra tobora balandroq. Qog'oz sharlari biroz sakrab tura boshlaydi.

4. Turli xil musiqalarni yoqing. Har bir ovoz balandligida qog'oz sharlarining "raqsga" tushishini kuzatib boring.

Dinamik ovozi havoni tebratadi. Ovoz balandligi qancha yuqori bo'lsa, tebranishlar shuncha kuchli bo'ladi. Natijada, salfetkadan qilingan kichik to'plar plyonkada tebranadi. Har xil musiqa turli chastotali tebranishlarni keltirib chiqaradi. Plyonka ba'zi ovoz balandliklarida kamroq, boshqalarida esa ko'proq tebranadi.

Conclusion

In conclusion, the problem of forming children's research and creative skills related to nature is not only one of the urgent problems of modern education, but also in ancient times this issue has been the focus of attention of scholars and thinkers. In particular, their ideas that “education should be carried out in harmony with nature” have not lost their relevance for today. Therefore, teaching

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such ideas to the younger generation and developing their research and creative skills related to nature is one of the important tasks of pedagogy.

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