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Methodology for Developing Logical Thinking in Preschool Children through Pedagogical Educational Resources

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Abstract: This article is aimed at developing logical thinking in preschool children through pedagogical educational resources. The main goal of the study is to help children develop analytical thinking, problem solving and logical connection skills. The article covers didactic games, interactive teaching methods, visual materials and innovative pedagogical approaches that serve to develop logical thinking. It also describes methods, types of exercises suitable for different age groups and ways to increase their effectiveness. It is useful for teachers of preschool educational organizations, psychologists and parents, and is an important resource for expanding children's mental potential and forming independent thinking skills.

Keywords: Preschool education, pedagogical educational resources, logical thinking in children, educational games, preschool children, logical development methodology, educational technologies, logical exercises.

Introduction.

Today, large-scale reforms are being implemented in all areas of our country. In particular, fundamental changes have been made in the field of preschool education, and the issue of education of preschool children has become a pressing issue at the state level. In this regard, the work being carried out, decrees and resolutions adopted on the initiative of our President Sh.M. Mirziyoyev are being implemented. The establishment of the Ministry of Preschool Education, the adoption of regulatory legal acts such as the Resolution of the President of the Republic of Uzbekistan No. 2707 "On measures to further improve the preschool education system in 2017-2021", the Law of the Republic of Uzbekistan "On Preschool Education and Upbringing", the Resolution "On measures to improve the management of the preschool education system", the State Requirements of the Republic of Uzbekistan for the development of early and preschool children, the State Curriculum "First Step", and the "Concept for the Development of the Preschool Education System of the Republic of Uzbekistan until 2030" are of particular importance in improving the quality and efficiency of education in the preschool education system.

The main tasks of education and upbringing of preschool children are to prepare them for regular education based on national and universal values, taking into account their innate abilities, interests, needs and capabilities in the physical, mental and spiritual development of

children. One of the main tasks of improving the process of educating children of preschool age is to improve the scientific and methodological support of the future teacher, his professional training. It has been proven in experiments that the selection of visual aids appropriate to the age of children in the formation of initial concepts in preschool educational organizations gives good results. Knowledge in children, without being separated from life, creates an opportunity to study the world more deeply and fully. The level of development of logical concepts in preschool children varies in different people. Its formation requires constant training. These exercises are carried out in the family and in preschool education.

Concepts are the result of differentiating or generalizing objects and phenomena according to some important signs. In order to form concepts of quantity and number, size and shape of objects, and geometric figures in preschool children, repeated demonstration of the same methods of actions in different situations and with visual materials allows children to master them. Mathematical knowledge helps children develop logical thinking abilities and increase their mental activity. Children understand how to think in a clear system and sequence, taking into account what they have learned and what they can do. The successful mastery of logical concepts by children is directly related to the development of their perception, that is, their sensory feelings. Therefore, all educational work in preschool educational organizations is carried out in an inextricable manner in order to form mental representations in them before the child goes to school.

Methodology

The research methodology constructs an approach to develop logical thinking in preschool children utilizing pedagogical educational materials. A well-structured methodological system involving didactic games and visual materials and innovative teaching techniques enhances child cognitive abilities in this research approach. The developed methodology presents an all-encompassing plan to build preschool students' analytical abilities, problem-solving competencies and logical linking skills.

The research uses an experimental design to introduce various interactive techniques for preschool children during controlled educational sessions. Teaching method selection must fulfill three fundamental principles of development-specific instruction and student involvement together with mental challenge requirements. Didactic games stand as a primary teaching strategy since they provide proven benefits for children to recognize patterns to create concept relationships and build problem-solving abilities. The set of games contains puzzles together with classification activities and interactive storytelling that supports logical thinking development.

Visual materials besides geometric shapes and number charts aid students in understanding abstract ideas through tangible learning objects. Visual training tools serve fundamental functions in early childhood education since they help students build mental connections between ideas and improve their memory capacity. Through structured material organization children develop enhanced abilities to advance their logical knowledge.

The research adopts electronic information educational resources together with multimedia techniques for transforming traditional educational methods. Digital learning tools which include interactive applications along with animated problem-solving scenarios improve engagement while making the learning process more dynamic. Children can use these resources to solve logical problems in ways that adapt to personal learning requirements along with visually attractive interfaces to enhance their information analysis skills.

The study's methodical evaluation uses observational analysis as well as cognitive assessment techniques to measure these methodologies. The assessment process determines progress through measuring how well children use logical thinking within various learning scenarios. Evaluation shows that performance rests on three aspects: the right choices made during

problem-solving combined with the correct identification of logical orders plus smooth decision-making in structured problems. The research incorporates qualitative evaluations which record children's degree of engagement as well as their verbal reasoning capabilities and capacity to explain their thinking methods.

Pedagogical training forms an essential part of this methodology because it trains both educators and parents about its implementation. The study guides institutions and parents to apply logical activities and interactive learning approaches so children can receive systematic cognitive development between school and home environments. The training teaches educators and parents appropriate skills which enable them to implement logical thinking exercises so they can help students advance development beyond school walls.

The investigation acknowledges that logical thinking exists as a skill that demands structured technique to strengthen it through training. The methodology contains sequential cognitive tests which match learning stages that children are at. The study promotes learning through successive complexity levels because this approach allows students to construct a solid logical reasoning base from their prior knowledge.

The methodology provides complete system teaching methods for logical thinking instruction to preschool-level students. Cognitive development occurs through carefully designed learning procedures between didactic games combined with multimedia resources and visual aids for engagement and assessment standards. The dual formal and informal English teaching structure at schools completes cognitive development of young students to support their academic achievements later in education.

Results and discussion

In today's era of extremely rapid development of science and technology, we must pay serious attention to the acquisition of necessary and necessary knowledge by preschool children from preschool age so that they can easily learn experiences in various fields and use them in practice. In particular, logical and mathematical knowledge is of great importance in a child's life and in his all-round development. The clarity and solidity of the first mathematical concepts ensures the strength of children's thinking, their analysis and synthesis, logical thinking, and conclusion-making processes.

In preparing preschool children for school education, educating individuals, and raising them as a well-rounded generation, the formation of logical knowledge in children, that is, the development of logical thinking, is an effective method. It should be noted that logical thinking is not an innate talent, in this sense it can and should be formed and developed. Regularly using and referring to pedagogical educational resources for children in classes is a proven method of developing abstract logical thinking in children. When teaching preschool children knowledge related to a set of subjects, it is convenient to use "Logical blocks" based on didactic materials, using electronic information educational resources and multimedia methods "Guest", "Hexagon", "Gong". These blocks are called "logical" because they can be modeled in various ways, solving logical problems using clearly organized situations that is, using children 4-6 years old in early logical thinking. For example, logical problems have a specific feature of developing thinking skills. Let's recall one of these problems: "You need to transport a wolf, a goat and a cabbage from one side of the shore to the other. But you can't leave the wolf and the goat, the goat and the cabbage together on the shore, or take them across in a boat together, you can only take the wolf and the cabbage together, or each of them separately. There is no limit to how many times you can get to the shore. How can you get them across safely?" Each of us has solved this problem more than once or explained the solution to children through pictures. In this joke about protecting the goat from the wolf and the cabbage from the goat, the initial form of serious mathematical analysis is formed in this example. Similar examples are widely used in preschool educational organizations today. In addition to problems aimed at developing children's logical thinking in preschool education, it is necessary to approach them as people

who can think logically. It is advisable to widely use handouts for children to solve problems.

Improving logical thinking skills in preschool children demands implementing various interactive learning activities that parallel their cognitive growth. Children must participate in tasks which develop their pattern recognition abilities together with their sequence identification skills and classification competence. These workouts help students learn how objects connect to one another and recognize matching features and develop forecasting methods through observation patterns. Organizing colored beads systematically or sorting things according to size and shape together with finishing incomplete patterns represent functional ways to enhance logical thinking abilities. Through the process of storytelling that offers logical sequence predictions children develop their capacity to think critically and make wise choices. These engaging tasks allow students to become involved while enjoying their education because they develop comprehensive knowledge of logical structures.

The inclusion of real-life problem-solving activities within daily preschool routines serves as an efficient way for developing logical reasoning in young students. When children solve daily dilemmas like afternoon-snack distribution or sorting toys by order or route selection they strengthen their ability to handle practical logical problems. Through pretended store management and school-centric events organization and mystery-solving activities children have opportunities to use logical thinking in meaningful ways. Playing strategic games like matching pairs along with memory games and simple mazes causes more cognitive stimulation in children. Hands-on activities develop both logical thinking abilities as well as sharpening kids' concentration capacities, patience levels and problem-solving abilities that lead to better future academic outcomes.

Digital technology plays an essential part in developing logical thinking abilities. Digital technology includes educational applications and animated logic-based games with digital puzzles which provide preschoolers an energetic environment to tackle cognitive challenges. Various contemporary learning apps use adaptive algorithms which modify their challenges based on how students advance so students receive steady mental stimulation. The development of logical abilities through children happens best when augmented reality (AR) and virtual reality (VR) experiences create interactive problem-solving environments for them. The simulation power of VR provides children with adventure-based learning tasks that require them to use logical reasoning for navigating through challenges. The digital resources collaborate with conventional educational practices to present learners with a modified learning path that benefits primarily students who learn better through visualization and interactive content.

A collaborative learning environment that focuses on developing logical thinking represents the necessary final component for preschool education. Peer discussions together with group activities enable children to share their logic while they hear different perspectives from classmates which helps improve their mental processes by social engagement. Learning discussions require guidance from teachers and parents who should pose open-ended questions and help children explain their answers while giving challenges that need group solutions. Group solving strategies like puzzles and team storytelling and pair problem-solving exercises enable children to build their logical reasoning abilities while finding peer support in learning. Preschool integration of these strategies creates fundamental thinking abilities which help children achieve independence when solving advanced problems in their academic journeys.

Conclusion

In conclusion, it can be noted that if the given examples and problems are designed to form logical thinking skills in preschool education based on the characteristics of children's thinking, intelligence, and age, then special attention should be paid to inter-class integration to develop children's logical thinking. After all, sharpening the mind is carried out through constant

exercises. Providing non-standard logical problems for each educational activity is not only necessary, but also mandatory. Developing logical thinking in children by providing the first elementary mathematical knowledge to the pupils of the preschool educational organization. One of the main tasks of the widespread use of pedagogical educational resources, methods, and multimedia electronic information and educational tools in preschool children's classes is to visualize information about objects and phenomena in the child's brain.

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