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Didactic Support for The Cognitive Development of Older Preschool Children Based on Neuropedagogical Approaches

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Abstract:

This article discusses the organization of the cognitive development of older preschool children based on neuropedagogical approaches and the issues of its didactic support. The study analyzes the influence of didactic tools, game technologies, and interactive methods on children's attention, memory, thinking, and perception processes. In addition, the effectiveness of the educational process organized on the basis of neuropedagogical approaches is substantiated. The research findings demonstrate that the systematic application of didactic support enhances children's cognitive activity and contributes to their cognitive development.

Keywords: Neuropedagogy, Cognitive Development, Didactic Support, Didactic Games, Game Technologies, Attention, Memory, Thinking, Preschool Education

Introduction

At present, considerable attention is being paid to neuropedagogy in the field of education. This approach is based on modern achievements in neuroscience and plays an important role in supporting children's brain development and positively influencing the learning process. In preschool education, the foundation is created for children's preparation for formal schooling and overall development. During this period, the neuroplasticity of the child's brain enables the rapid processing of information. Therefore, it is essential to apply the most effective methods of teaching and upbringing in the educational process [1]. Preschool age (3–7 years) represents the most intensive stage of brain development, during which neuroplasticity remains at a high level and experiences exert a profound influence on brain structure. Research indicates that neuropedagogical approaches are more effective in developing cognitive processes compared to traditional methods, as they correspond to the neurological mechanisms of the brain. For example, stimulating cognitive development through play-based and sensory-rich environments strengthens children's attention

and memory [2].

Therefore, based on the above considerations, it can be stated that didactic support plays a significant role in modern education. In preschool educational institutions, organizing the educational process through didactic support is considered one of the most effective approaches. Moreover, there are various types of didactic resources and didactic games, among which educational games are of particular importance [3].

Materials and Method

In the modern education system, didactic support plays an important role in ensuring the effectiveness of the teaching process. Didactic support refers to the set of materials, methods, tools, and technologies used in organizing and managing the educational process, directly influencing the quality and effectiveness of education. In pedagogical science, the concept of didactic support is considered an integral part of the educational process. Prominent pedagogical scholars such as A. Avliyoqulov, Z. Muminova, and G'. Yo‘ldoshev have defined didactic support as a system directly connected with the technological foundations of teaching. According to their views, the correct selection and application of educational tools are important factors in delivering educational content to learners. Rational use of didactic support forms students’ positive attitudes toward learning and makes lessons more visual, understandable, and interactive. Especially in today’s digital era, the use of digital resources creates a more effective learning environment for students. Furthermore, didactic support simplifies teachers’ lesson preparation processes, saves time, and provides opportunities for pedagogical improvement. Since students perceive learning materials in various formats such as text, images, videos, and interactive tasks, they achieve a deeper understanding of knowledge.

Results

During the research process, the impact of didactic support organized on the basis of neuropedagogical approaches on the cognitive development of older preschool children was investigated. The observations revealed that the systematic application of didactic tools significantly enhanced children’s cognitive activity [4-6]. The use of didactic games and developmental activities contributed to improvements in children’s concentration, short-term and long-term memory, and thinking processes. In particular, logical tasks and game-based activities promoted the development of children’s problem-solving abilities. In addition, the use of visual and interactive didactic tools increased children’s level of comprehension of educational materials. Information presented through various formats, such as pictures, cards, and visual materials, was assimilated by children more quickly and effectively. The study also demonstrated that educational activities organized through play-based learning increased children’s interest in the educational process and ensured their active participation. As a result, children developed skills of independent thinking, rapid decision-making, and creative approaches. Furthermore, it was observed that organizing didactic support on the basis of neuropedagogical approaches contributed to the activation of children’s brain activity, thereby ensuring the comprehensive development of cognitive processes [7-9]. These findings indicate that the systematic use of didactic tools enhances educational effectiveness. At the same time, it was determined that educational activities organized through play serve as an important factor in children’s cognitive development, which is also consistent with the findings of previous scientific studies [10-13].

Discussion

The obtained results indicate that didactic support organized on the basis of neuropedagogical approaches has a positive impact on children’s cognitive development. In particular, didactic games enhance children’s attention, memory, and thinking processes [14]. These findings confirm scientific views regarding the importance of didactic tools in increasing educational effectiveness. Proper organization of didactic support contributes to the activation of children’s cognitive activity.

In our opinion, didactic support organized on the basis of neuropedagogical approaches ensures children's cognitive development in a comprehensive manner and facilitates the effective acquisition of knowledge [15].

Conclusion

In conclusion, didactic support organized on the basis of neuropedagogical approaches serves as an important factor in the cognitive development of older preschool children. The research findings confirmed that didactic games and interactive tools positively influence the development of children's attention, memory, and thinking processes. The systematic and purposeful application of didactic support contributes to increasing the effectiveness of the educational process. Activities organized through play-based learning enhance children's cognitive activity and increase their interest in the learning process. At the same time, neuropedagogical approaches make it possible to take into account children's individual characteristics. The rational use of didactic tools helps to organize the pedagogical process more effectively. Therefore, the wide implementation of this approach in preschool educational practice is considered appropriate. Furthermore, the development of new methodological materials in this field remains one of the urgent tasks for future research.

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