

THEORETICAL FOUNDATIONS OF DEVELOPING METACOGNITIVE SKILLS IN PRESCHOOL CHILDREN THROUGH PLAY ACTIVITIES

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Abstract: *This article examines the theoretical foundations of developing metacognitive skills in preschool children through play-based activities. Play is analyzed as an important pedagogical tool that promotes children's cognitive activity, independent thinking, planning, monitoring, and evaluation of their own activities in the preschool education process. The study also provides a theoretical analysis of the content and structural components of metacognitive skills and the possibilities of developing these skills through play activities. Particular attention is paid to developing children's ability to understand their own thinking processes, solve problem situations, make decisions, and evaluate their own performance during play.*

Keywords: *preschool education, preschool children, play activity, metacognitive skills, metacognition, cognitive activity, independent thinking, self-monitoring, self-assessment, pedagogical process.*

Аннотация: *В статье рассматриваются теоретические основы формирования метакогнитивных навыков у детей дошкольного возраста посредством игровой деятельности. Игра анализируется как важное педагогическое средство развития познавательной активности, самостоятельного мышления, планирования, контроля и оценки собственной деятельности детей в процессе дошкольного образования. Также раскрываются содержание и структурные компоненты метакогнитивных навыков, а также теоретические возможности их развития*

посредством игровой деятельности. Особое внимание уделяется развитию у детей способности осознавать собственные мыслительные процессы, решать проблемные ситуации, принимать решения и оценивать результаты собственной деятельности в процессе игры.

Ключевые слова: дошкольное образование, дети дошкольного возраста, игровая деятельность, метакогнитивные навыки, метакогниция, познавательная деятельность, самостоятельное мышление, самоконтроль, самооценка, педагогический процесс.

Annotatsiya: *Ushbu maqolada maktabgacha yoshdagi bolalarda o'yin faoliyati asosida metakognitiv ko'nikmalarni shakllantirishning nazariy asoslari yoritilgan. Maktabgacha ta'lim jarayonida o'yin bolaning bilish faolligi, mustaqil fikrlashi, o'z faoliyatini rejalashtirishi, nazorat qilishi va baholashini rivojlantiruvchi muhim pedagogik vosita sifatida tahlil qilinadi. Shuningdek, metakognitiv ko'nikmalarning mazmuni, tarkibiy qismlari va ularni o'yin faoliyati orqali rivojlantirish imkoniyatlari ilmiy-nazariy jihatdan asoslanadi. O'yin jarayonida bolalarning o'z fikrlash jarayonlarini anglash, muammoli vaziyatlarni hal qilish, qaror qabul qilish va o'z faoliyatini baholash ko'nikmalarini rivojlantirish masalalariga alohida e'tibor qaratiladi.*

Kalit so'zlar: *maktabgacha ta'lim, maktabgacha yoshdagi bolalar, o'yin faoliyati, metakognitiv ko'nikmalar, metakognitsiya, bilish faoliyati, mustaqil fikrlash, o'zini nazorat qilish, o'zini baholash, pedagogik jarayon.*

In line with global trends in innovative development in the field of education, particular attention is being paid to improving the preschool education system based on competency-based requirements. In

particular, extensive research is being conducted worldwide on the development of creative technologies aimed at enhancing children's psychophysiological, intellectual, creative, and personal potential; the establishment of learner-centered and innovative educational environments in preschool institutions; and the improvement of quality management mechanisms in preschool education based on the principles of strategic management.

These studies place particular emphasis on improving the information and methodological management system of preschool education, diversifying the provision of high-quality educational services, introducing information and communication technologies (ICT), interactive and problem-based teaching methods into the educational process, developing the professional innovative competencies of preschool education personnel, and implementing effective forms and methods for their assessment in practice.

At present, significant conceptual reforms are being implemented in the Republic of Uzbekistan in the field of preschool education. These reforms are aimed at fundamentally improving the regulatory and legal framework, integrating advanced international practices, scientific developments, and innovative technologies into the activities of preschool educational institutions, and supporting scientific and innovative pedagogical activities in the field of early childhood development.

Elucidating the theoretical foundations of metacognition is considered one of the key areas of contemporary educational and psychological research. Today, it is important not only for learners to acquire knowledge but also to develop the ability to understand their own thinking processes and regulate them effectively. In this regard, the

concept of metacognition plays a significant role in an individual's intellectual development.

A theoretical analysis of the essence, structural components, and mechanisms underlying the development of metacognition contributes to a deeper understanding of scientific perspectives in this field. Furthermore, the role of metacognitive processes in learning activities and their influence on the effectiveness of teaching and learning are regarded as important areas of scientific inquiry.

Exploring the content of metacognition from various scientific perspectives demonstrates that it is a multifaceted and complex phenomenon. At the same time, identifying the pedagogical conditions and effective methods for developing metacognitive skills serves as an important factor in improving the quality of education.

Thus, a consistent and systematic study of the theory of metacognition provides a deeper understanding of its practical significance and creates a foundation for improving contemporary educational processes.

Metacognition is a complex psychological construct that refers to an individual's ability to understand, monitor, and regulate their own cognitive processes. The concept emerged within the field of cognitive psychology during the second half of the twentieth century and has since acquired significant importance in learning activities, thinking processes, and problem-solving.

Metacognition consists of two major components: metacognitive knowledge and metacognitive regulation. Metacognitive knowledge encompasses an individual's understanding of their own knowledge, cognitive strategies, and the conditions under which these strategies should be applied. This knowledge is commonly classified into three

types: declarative knowledge (knowing what), procedural knowledge (knowing how), and conditional knowledge (knowing when and why). Metacognitive regulation, in turn, involves processes such as planning, monitoring, and evaluation. Through these processes, individuals are able to regulate their activities and enhance their overall performance.

From a theoretical perspective, metacognition is examined through several major scientific approaches. The cognitive approach conceptualizes metacognition as a higher-order level of information processing. The social-cognitive approach, in turn, emphasizes the significant role of the social environment and interactions with teachers and peers in the development of metacognitive processes. According to the constructivist approach, metacognition develops through the active construction of knowledge and processes of reflection.

The development of metacognition occurs gradually throughout ontogenesis. In children, basic elements of monitoring emerge initially, followed by the development of more complex skills in strategic planning and self-regulation. The development of metacognitive skills within the educational process significantly enhances learners' independent thinking, critical analysis, and overall learning effectiveness.

Therefore, fostering metacognition is considered one of the important objectives of contemporary pedagogy. To achieve this, reflective questioning, self-assessment techniques, strategic teaching technologies, and problem-based learning methods are widely employed. As a result, learners not only acquire knowledge but also develop an awareness of how they acquire, process, and apply that knowledge.

The development of metacognitive skills is one of the important areas of preschool children's development, as it contributes to their ability to understand and regulate their own cognitive processes.

Through metacognition, children develop an understanding of how they learn, learn to plan their thinking processes, monitor their activities during task performance, and evaluate the outcomes of their actions.

During the preschool period, these skills can be developed particularly effectively through play activities. In the course of play, children set goals, plan their actions, make decisions in problem situations, and analyze their own activities. These processes constitute key elements of metacognitive functioning. Consequently, children not only acquire knowledge but also develop the ability to consciously regulate and manage their own learning processes.

The development of metacognitive skills supports children's independent thinking, problem-solving abilities, and self-regulation. This, in turn, provides a strong foundation for effective learning and successful adaptation to subsequent stages of education.

Metacognition is an important scientific concept referring to an individual's ability to understand, monitor, and regulate their own cognitive processes. It has emerged at the intersection of psychology and pedagogy and reflects a higher-order dimension of human cognition. Furthermore, metacognition is considered a significant factor contributing to effective learning and teaching processes.

From a psychological perspective, metacognition is interpreted as a higher-order level of cognitive processes. These processes are closely associated with memory, attention, thinking, and problem-solving activities. Metacognitive activity enables individuals to assess their level of knowledge, identify their strengths and weaknesses, and modify their strategies when necessary. Consequently, the learning process becomes more conscious and goal-oriented. Within the psychological foundations

of metacognition, processes such as reflection, self-monitoring, and self-assessment play a significant role.

From a pedagogical perspective, metacognition is regarded as an important means of enhancing educational effectiveness. The development of metacognitive skills in the teaching and learning process promotes learners' independent thinking and encourages them to take greater responsibility for their own learning activities. In this context, the teacher assumes the role of a guide and facilitator, supporting learners in analyzing, planning, and evaluating their own thinking processes. Methods such as reflective questioning, problem-based situations, and self-assessment tasks are considered effective tools for fostering metacognitive development.

The pedagogical and psychological foundations of metacognition are closely interrelated and complement each other. While psychological mechanisms reveal the internal nature of metacognitive activity, pedagogical approaches determine the ways in which it can be implemented in educational practice. In this regard, educational strategies aimed at fostering metacognition are increasingly becoming an integral component of contemporary education systems.

From a psychological perspective, metacognition is regarded as a higher-order mechanism for monitoring and regulating cognitive processes. According to the theory of Lev Vygotsky, human cognitive activity is closely interconnected with the social environment, and metacognitive skills are likewise developed through social interaction and collaborative activities. Vygotsky's concept of the "zone of proximal development" explains metacognitive development as a process in which learners perform activities beyond their current capabilities with the assistance of adults or more capable peers.

Similarly, Jean Piaget, in his theory of cognitive development, emphasized that children's thinking develops progressively through distinct stages and suggested that elements of reflection and self-awareness become more pronounced at higher stages of cognitive development. This perspective provides a theoretical basis for understanding the evolutionary nature of metacognition throughout ontogenesis.

From a pedagogical perspective, metacognition is of strategic importance for enhancing the effectiveness of the educational process. In Jerome Bruner's constructivist approach, learners are viewed as active agents who construct knowledge through their own experiences and activities. Within this process, metacognitive strategies—namely, planning, monitoring, and evaluating one's own learning—play a central role.

Furthermore, within the framework of Albert Bandura's social cognitive theory, the concept of self-regulation is closely associated with metacognition. Bandura emphasizes that an individual's ability to monitor their own activities, set goals, and evaluate outcomes has a direct impact on successful learning.

In contemporary pedagogical research, the development of metacognitive skills is closely associated with the formation of learners' competence for independent learning. Activities such as reflection, self-assessment, strategic reading, and decision-making in problem situations are regarded as key indicators of metacognitive development. This also transforms the role of the teacher in the educational process, positioning the teacher not merely as a provider of knowledge, but rather as a guide, facilitator, and collaborative partner.

The pedagogical and psychological foundations of metacognition have been enriched by various scientific approaches and theories, all of which contribute to developing an individual's ability to consciously regulate their own cognitive activity. When these theoretical perspectives are applied in educational practice, they contribute not only to an improvement in learners' level of knowledge, but also to the development of their thinking culture and independent learning skills.

The theoretical foundations of metacognition in preschool children have been investigated by a number of scholars within the fields of psychology and pedagogy at different stages of scientific development. In analyzing the concept of metacognition and the mechanisms underlying its development, J. Flavell (1979) initiated a fundamental line of scientific inquiry by introducing metacognition as an individual's ability to understand and regulate their own cognitive processes.

In subsequent studies, A. Brown (1987) extensively examined metacognitive control, self-monitoring, and the regulation of learning activities, thereby substantiating the significance of metacognition in the educational process. These approaches provide an important theoretical foundation for identifying the structural components of metacognitive activity and understanding the mechanisms through which they can be developed.

The concept of metacognitive development in preschool children is also grounded in the theory of L. S. Vygotsky (1934). His concept of the "zone of proximal development" provides a theoretical basis for understanding the formation of higher mental functions through social interaction and adult assistance. This perspective is particularly important for explaining the sociocultural nature of metacognition.

The works of scholars such as L. I. Bozhovich (1968), D. B. Elkonin (1981, 1989), N. G. Salmina (1988), H. Kravtsova (1991), N. V. Nizhegorodtseva, and V. D. Shadrikov (1999, 2001) are also of considerable importance for studying the psychological development of preschool children, their readiness for learning activities, motivation, and processes of reflection. Their studies demonstrate that school readiness is not limited to a set of knowledge and skills, but is also associated with the child's level of intellectual and personal development, particularly their ability to understand and regulate their own activities.

In general, the theoretical foundations of metacognition in preschool age have developed on the basis of the scientific perspectives advanced by J. Flavell (1979), A. Brown (1987), L. S. Vygotsky (1934), as well as later scholars, including L. I. Bozhovich (1968), D. B. Elkonin (1981, 1989), N. G. Salmina (1988), H. Kravtsova (1991), N. V. Nizhegorodtseva, and V. D. Shadrikov (1999, 2001).

The English scholar R. Kluwe also distinguishes two systems involved in coordinating and regulating cognitive activity within metacognitive processes. In particular, these include the following:

Monitoring process — a guiding process that encourages the identification of the task, evaluation of one's own activity, planning of subsequent actions, and achievement of effective outcomes.

Regulation process — a process that facilitates the allocation of resources required to complete a given task and determines the algorithm or sequence for carrying out the task.

In their studies, D. Rigley, P. Shetts, R. Glantz, and S. Weinstein characterize metacognition as a process involving reflection aimed at consciously understanding and learning one's own knowledge. They also

define it as a set of behaviors intended to determine strategies for one's own thinking and cognitive activity.

According to these scholars, planning, the development of action strategies, and monitoring cognitive processes play an important role in consciously organized learning and cognitive activity. S. Tobias and H. T. Everson proposed a hierarchical model of metacognition, emphasizing the importance of knowledge evaluation, assessment of the quality of instruction, planning of future learning activities, and selection of appropriate learning strategies.

According to these scholars, monitoring one's knowledge represents an important step in the development of metacognitive skills, as it enables individuals to reflect on what they know well and what they still need to learn. Such monitoring contributes to the conscious regulation and improvement of learning activities.

The Russian scholar M. A. Kholodnaya, like other researchers, emphasizes that metacognitive processes cannot be reduced solely to the conscious control of knowledge. In her research on the intellectual development of preschool-aged children, M. A. Kholodnaya identifies three stages in the formation of mental abilities:

- **Cognitive knowledge (experience)** — a mental component involving the organization, interpretation, and perception of incoming information;
- **Metacognitive knowledge** — the reception, management, and regulation of directly and indirectly acquired information in the process of controlling intellectual activity. Metacognitive knowledge ensures intellectual monitoring of directly acquired information and contributes to the further development of metacognitive knowledge;

- **Intentional knowledge (experience)** — a mental component that directs intellectual dispositions and tendencies.

Research findings indicate that children who possess developed metacognitive skills demonstrate higher levels of intellectual ability after entering school. Metacognitive skills contribute to the development of children's thinking and metacognitive processes. In performing tasks, children learn to maintain attention, select and organize relevant information, and evaluate their own activities.

Various manifestations of human metacognitive activity have also been reflected in J. Piaget's theory of cognitive development, J. Bruner's cognitive concept, the theories of thinking developed by A. Newell, J. Shaw, P. Lindsay, G. A. Simon, and others, as well as in the concepts of the development and activation of mental processes proposed by P. Ya. Galperin, N. F. Talyzina, and other scholars. These theoretical perspectives highlight the individual's capacity to monitor and regulate cognitive processes.

An analysis of the aforementioned scientific perspectives, theories, and concepts demonstrates the importance of developing metacognitive skills in preschool children as part of their preparation for formal schooling. Such skills contribute to children's ability to consciously organize their activities, regulate their behavior, monitor their cognitive processes, and evaluate the outcomes of their actions.

One of the important components of metacognition is **metacognitive strategies**. According to J. Flavell, these strategies serve to enable individuals to control and monitor their own learning goals and cognitive activities. The scientific perspectives of D. Kuhn and V. A. Molyako also examine the structure of individuals' personal

cognitive strategies and the ways in which these strategies influence cognitive activity.

In conclusion, the development of metacognitive skills in preschool children is of significant importance for fostering independent thinking, planning, monitoring, and evaluation of their own activities. Theoretical analysis demonstrates that play activity is one of the most natural and effective means of developing metacognitive skills in preschool children. During play, children develop the ability to think, solve problem situations, make decisions, analyze their own actions, and engage in reflection. Therefore, organizing play-based activities in preschool education through a metacognitive approach can contribute significantly to children's intellectual and personal development, while also providing a strong foundation for their readiness for subsequent stages of education.

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