



## PEDAGOGICAL CONDITIONS FOR DEVELOPING METACOGNITIVE SKILLS IN PRESCHOOL CHILDREN.

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**Abstract:** *This article examines the pedagogical conditions for developing metacognitive skills in preschool children. Particular attention is paid to the development of children's ability to understand, plan, monitor, regulate, and evaluate their own cognitive activities. The study highlights the importance of creating a child-centered and supportive educational environment, using play-based, interactive, problem-based, and reflective methods, and providing systematic pedagogical guidance. The role of the educator in organizing activities that promote children's independent thinking, self-regulation, reflection, and problem-solving skills is also considered.*

**Keywords:** *preschool children, preschool education, metacognitive skills, metacognition, pedagogical conditions, cognitive development, self-regulation, reflection, self-assessment, play-based learning.*

**Аннотация:** *В статье рассматриваются педагогические условия развития метакогнитивных навыков у детей дошкольного возраста. Особое внимание уделяется формированию у детей способности осознавать, планировать, контролировать, регулировать и оценивать собственную познавательную деятельность. Раскрывается значение создания личностно ориентированной и поддерживающей образовательной среды, использования игровых, интерактивных, проблемных и рефлексивных методов, а также систематического педагогического сопровождения. Рассматривается роль педагога в организации деятельности, направленной на развитие самостоятельного мышления, саморегуляции, рефлексии и способности решать проблемные ситуации.*

**Ключевые слова:** дети дошкольного возраста, дошкольное образование, метакогнитивные навыки, метакогниция, педагогические условия, когнитивное развитие, саморегуляция, рефлексия, самооценка, игровое обучение.

**Annotatsiya:** Ushbu maqolada maktabgacha yoshdagi bolalarda metakognitiv ko'nikmalarni rivojlantirishning pedagogik shart-sharoitlari yoritilgan. Bolalarning o'z bilish faoliyatini anglash, rejalashtirish, nazorat qilish, boshqarish va baholash qobiliyatlarini shakllantirish masalalariga alohida e'tibor qaratilgan. Shuningdek, shaxsga yo'naltirilgan va qo'llab-quvvatlovchi ta'lim muhitini yaratish, o'yin, interaktiv, muammoli va refleksiv metodlardan foydalanish hamda pedagogik qo'llab-quvvatlashning ahamiyati ochib berilgan. Pedagogning bolalarda mustaqil fikrlash, o'z-o'zini boshqarish, refleksiya va muammoli vaziyatlarni hal etish ko'nikmalarini rivojlantirishga yo'naltirilgan faoliyatni tashkil etishdagi roli tahlil qilingan..

**Kalit so'zlar:** maktabgacha yoshdagi bolalar, maktabgacha ta'lim, metakognitiv ko'nikmalar, metakognitsiya, pedagogik shart-sharoitlar, kognitiv rivojlanish, o'z-o'zini boshqarish, refleksiya, o'z-o'zini baholash, o'yin asosida ta'lim.

Nowadays, within the modern education system, not only the acquisition of ready-made knowledge by children but also their ability to think independently, plan their activities, monitor the actions they perform, and evaluate the results achieved is regarded as one of the essential competencies. These requirements necessitate the improvement of pedagogical approaches aimed at consciously organizing children's cognitive activities from the preschool education stage.

The preschool period is considered a crucial stage in the intellectual and personal development of a child. It is precisely during this period that such activities as cognitive curiosity, asking questions, comparison, generalization, searching for solutions to problematic situations, and explaining one's own actions begin to

develop. These processes serve as a foundation for the subsequent development of more complex metacognitive skills.

The concept of metacognition has become one of the important categories of cognitive psychology and educational psychology since the second half of the twentieth century. J. Flavell associated metacognition with individuals' knowledge about their own cognitive processes and their ability to regulate these processes [1]. A. Brown substantiated the importance of metacognitive control, monitoring, and self-regulation in learning activities [2].

The relevance of developing metacognitive skills in preschool-aged children lies in the fact that these skills facilitate children's adaptation to subsequent educational activities, independent learning, and overcoming difficulties encountered in the learning process. Therefore, identifying pedagogical conditions that promote metacognitive development in preschool education is of considerable scientific and practical significance.

The present study is theoretical and analytical in nature. Its methodological framework is based on theories of metacognition, cognitive development, constructivism, sociocultural development, and self-regulation.

The study employed the methods of theoretical analysis of scientific literature, comparative analysis, generalization, systematization, and pedagogical interpretation. Scholarly perspectives on metacognition were analyzed on the basis of the works of J. Flavell, A. Brown, L. S. Vygotsky, J. Piaget, J. Bruner, A. Bandura, D. Kuhn, D. J. Hacker, J. Dunlosky, A. C. Graesser, and other researchers.

Metacognition is a complex psychological and pedagogical phenomenon that refers to an individual's ability to understand, monitor, control, and regulate their own cognitive processes. Its essential characteristic is that an individual not only possesses particular knowledge or skills but also understands how that knowledge has been acquired, how it is being applied, and how the effectiveness of the activity can be improved.

J. Flavell relates metacognitive knowledge to knowledge about the person, the task, and strategies [1]. According to this approach, when performing a particular task, a child gradually begins to take into account their own capabilities, the complexity of the task, and the strategies that may be used to accomplish it.

A. Brown identifies planning, monitoring, and control as important components of metacognitive activity [2]. These components may manifest themselves in simple forms among preschool-aged children. For example, during a construction game, a child first plans what kind of structure to create, monitors their actions during the activity, and, if the result does not meet expectations, chooses an alternative method.

Metacognitive skills can conventionally be divided into the following components:

1. Metacognitive knowledge — the child's understanding of themselves, the task, and activity-related strategies.
2. Planning — setting a goal and determining in advance the means of achieving it.
3. Monitoring — observing one's own actions and results during an activity.
4. Control and regulation — modifying the method of activity when necessary.
5. Reflection — thinking about the completed activity and its results.
6. Self-assessment — evaluating one's own capabilities and the results achieved.

These components are interrelated, and their consistent development contributes to the formation of children's independent cognitive activity.

Although metacognitive abilities are not yet fully developed during the preschool period, their initial elements can be observed in children's everyday activities. Children begin to distinguish between what they know and what they do

not know, recognize when they need assistance in completing certain tasks, and try different actions in order to achieve successful results.

L. S. Vygotsky emphasized the importance of social interaction in the processes of learning and development and explained children's ability to perform activities beyond their current level of competence with the assistance of adults or more competent peers through the concept of the “zone of proximal development” [4]. This theory provides a theoretical basis for substantiating the importance of pedagogical support in the development of metacognitive skills.

J. Piaget's theory of cognitive development also demonstrates that children's thinking processes develop gradually and systematically [5]. Although preschool children's thinking differs from that of adults, they improve their cognitive activity through comparison, classification, identification of causal relationships, and problem solving.

An important feature of metacognitive development during the preschool period is its direct connection with activity. A child may not be able to provide an abstract answer to the question, “How is my thinking process proceeding?” However, questions such as “What should we do first?”, “How can we do this?”, “Why did the mistake occur?”, and “What if we try it differently?” can involve the child in metacognitive activity.

Therefore, the teacher's task should not be limited to providing the child with ready-made answers. Rather, the teacher should encourage the child to explain, select, plan, and evaluate their own actions.

Based on the analysis of theoretical sources, several pedagogical conditions can be identified as essential for the effective development of metacognitive skills in preschool-aged children.

#### 1. Creating a child-centered developmental learning environment

The first important condition is the organization of an educational environment that takes into account children's individual abilities, interests, needs, and developmental pace. A psychologically safe environment is necessary so that

children can freely express their ideas, are not afraid of making mistakes, and are able to experiment with different solutions.

In such an environment, the teacher acts not as a person who directly controls every action of the child but as a facilitator who guides the child toward independent activity.

## 2. Using play activities as a primary developmental tool

For preschool-aged children, play is one of the leading forms of activity and provides an opportunity to develop metacognitive skills naturally. During play, children set goals, understand rules, select strategies, monitor their actions, and evaluate outcomes.

For example, while working with construction materials, the teacher may ask questions such as: “What do you want to build?”, “What should you do first to build it?”, “Which piece fits here?”, “Why did this part not work?”, and “What will you do differently next time?”

Such questions encourage children to reflect on their own actions and use metacognitive strategies.

## 3. Using reflective questions

Reflective questions are an important tool for developing metacognitive skills. Questions should encourage children not merely to repeat a ready-made answer but to think about their own activities.

For example:

- “How did you do it?”
- “What did you start with?”
- “Which method helped you?”
- “Where did you experience difficulty?”
- “How did you find the mistake?”
- “What will you do differently next time?”

These questions contribute to the development of children's planning, monitoring, and reflection skills.

#### 4. Organizing problem-based situations

For metacognitive development, it is important for children to encounter situations for which there is no predetermined answer. Problem-based situations encourage children to search for different solutions, compare them, and select the most appropriate strategy.

For example, tasks such as grouping toys according to specific characteristics, constructing a stable structure from building materials, or finding a solution to a problem faced by a character in a fairy tale create favorable conditions for metacognitive activity.

#### 5. Pedagogical scaffolding — gradual support

Children's independent activity does not develop immediately. Initially, the teacher demonstrates a model of the activity, then provides guiding questions, and subsequently creates opportunities for the child to make independent decisions.

This process can be organized according to the following sequence:

“demonstration — joint performance — partially independent performance — fully independent performance.”

Such pedagogical support enables children to gradually develop the ability to independently regulate and manage their own activities.

#### 6. Creating opportunities for self-assessment

Self-assessment among preschool-aged children can be implemented not through complex verbal forms but through simple and visual means. For example, children may evaluate a completed activity using categories such as “It was easy for me,” “It was a little difficult,” or “I needed help.”

Assessment using colored symbols, pictures, emoticons, or other conventional signs helps develop children's conscious attitudes toward their own activities.

#### 7. Strengthening the teacher's role as a facilitator

Within metacognitively oriented education, the teacher's role changes. The teacher acts not only as a provider of knowledge but also as a facilitator who supports

children's thinking processes, asks questions, organizes problem-based situations, and guides children toward reflection.

Instead of immediately correcting a child's response, the teacher should encourage independent thinking through questions such as “What do you think?”, “How can we check this?”, and “Is there another way?”

Play activity is one of the most natural pedagogical tools for developing metacognitive skills in preschool-aged children. During play, children plan their activities, remember rules, select strategies, monitor their actions, and evaluate outcomes.

Through didactic games, children develop skills in comparison, grouping, classification, identifying sequences, and drawing logical conclusions. Role-playing games provide opportunities for planning, social interaction, decision-making, and selecting strategies appropriate to particular situations.

Construction and building games are particularly suitable for planning problems and testing solutions. In physical games, children have opportunities to remember rules, control their actions, and correct mistakes.

Therefore, it is important to organize play activity not merely as a means of recreation but as a pedagogical technology that promotes children's cognitive and metacognitive development.

Theoretical analysis indicates that metacognitive skills can develop during the preschool period and that their initial forms are manifested in children's everyday activities. However, the effective development of these skills depends not simply on children's spontaneous activity but on a purposefully organized pedagogical environment.

The views of J. Flavell and A. Brown on metacognition emphasize children's understanding and regulation of their own cognitive processes [1; 2]. L. S. Vygotsky's sociocultural theory demonstrates the importance of interaction with adults and pedagogical support in this development [4]. J. Bruner's constructivist perspective emphasizes children's role as active subjects who construct knowledge

through learning activities [6]. A. Bandura's social cognitive theory places particular emphasis on self-regulation, goal setting, and evaluation of activity outcomes [7].

Based on the synthesis of these theoretical perspectives, the following logical model of metacognitive development in preschool education can be proposed:

pedagogical environment → goal setting → planning → activity → monitoring → adjustment → reflection → self-assessment.

This sequence represents the basic cycle of metacognitive activity. Initially, the child performs this process with the assistance of the teacher; subsequently, as pedagogical support is gradually reduced, the child moves toward independently regulating and managing the activity.

Thus, the primary pedagogical task in developing metacognitive skills is not simply to provide children with ready-made knowledge but to create conditions that enable them to understand and regulate their own activities.

Based on the analysis of theoretical sources, the following pedagogical conditions are considered important for the development of metacognitive skills in preschool-aged children:

1. Creating a child-centered and psychologically safe educational environment.
2. Enriching play activities with metacognitive tasks.
3. Guiding children toward goal setting and planning.
4. Regularly using reflective and metacognitive questions.
5. Creating problem-based situations and opportunities for independent decision-making.
6. Organizing pedagogical scaffolding and gradual support.
7. Introducing simple forms of self-monitoring and self-assessment.
8. Strengthening the teacher's facilitative and guiding role.
9. Taking into account children's individual developmental characteristics.

10. Allocating regular time for reflection and discussion of activity outcomes within the educational process.

These conditions are likely to be most effective when implemented not separately but as interconnected components of an integrated pedagogical system.

In conclusion, the development of metacognitive skills in preschool-aged children is of significant importance for fostering independent thinking, planning, monitoring, regulating, and evaluating their own activities. Theoretical analysis demonstrates that metacognitive skills can be developed as early as the preschool period and that this process should be purposefully organized from a pedagogical perspective.

In preschool education, the integration of a child-centered educational environment, play activities, problem-based situations, reflective questions, self-assessment, and pedagogical support is essential for promoting metacognitive development. In particular, play activity serves as an effective means of developing metacognitive skills because it corresponds naturally to children's developmental needs and interests.

Accordingly, preschool educational practice should focus not only on teaching children “what to do”, but also on helping them understand “why they are doing it,” “how it can be done more effectively,” and “how the result should be evaluated.” Such an approach creates a strong pedagogical foundation for children's intellectual independence, self-regulation, and successful learning at subsequent stages of education.

#### References

1. Flavell J. H. Metacognition and Cognitive Monitoring: A New Area of Cognitive-Developmental Inquiry // American Psychologist. – 1979. – Vol. 34, No. 10. – P. 906–911.
2. Brown A. L. Metacognition, Executive Control, Self-Regulation, and Other More Mysterious Mechanisms // Weinert F. E., Kluwe R. H. (Eds.).

Metacognition, Motivation, and Understanding. – Hillsdale, NJ: Lawrence Erlbaum Associates, 1987. – P. 65–116.

3. Kuhn D. Metacognitive Development // Current Directions in Psychological Science. – 2000. – Vol. 9, No. 5. – P. 178–181.

4. Vygotsky L. S. Mind in Society: The Development of Higher Psychological Processes. – Cambridge, MA: Harvard University Press, 1978.

5. Piaget J. The Origins of Intelligence in Children. – New York: International Universities Press, 1952.

6. Bruner J. S. Toward a Theory of Instruction. – Cambridge, MA: Harvard University Press, 1966.

7. Bandura A. Social Foundations of Thought and Action: A Social Cognitive Theory. – Englewood Cliffs, NJ: Prentice-Hall, 1986.

8. Kluwe R. H. Executive Decisions and Regulation of Problem Solving Behavior // Weinert F. E., Kluwe R. H. (Eds.). Metacognition, Motivation, and Understanding. – Hillsdale, NJ: Lawrence Erlbaum Associates, 1987. – P. 31–64.

9. Tobias S., Everson H. T. The Importance of Knowing What You Know: A Knowledge Monitoring Framework for Studying Metacognition in Education. – In: Hacker D. J., Dunlosky J., Graesser A. C. (Eds.). Handbook of Metacognition in Education. – New York: Routledge, 2009.

10. Whitebread D., Coltman P., Pasternak D. P., Sangster C., Grau V., Bingham S., Almeqdad Q., Demetriou D. The Development of Two Observational Tools for Assessing Metacognition and Self-Regulated Learning in Young Children // Metacognition and Learning. – 2009. – Vol. 4. – P. 63–85.