BG Pulse Journal USA
ISSN:1947-2536 http://www.bgpulseusa.com/index.php/bg

# FORMING MOTOR, COGNITIVE, AND CREATIVE DEVELOPMENT IN PRESCHOOL-AGE CHILDREN THROUGH ORIGAMI ACTIVITIES

**Bakhtiyorova Markhabo Ikhtiyor qizi**
Teacher at Asia International University

**Abstract:**This article examines the issues of forming the motor, cognitive, creative, and emotional development of preschool-age children through origami — the art of paper folding. Based on scientific and methodological literature, the article analyzes the pedagogical features of organizing origami activities for different age groups (junior, middle, senior, and preparatory), as well as the possibilities of integrating them with didactic games and other subjects. The article covers the process from the history and technological characteristics of paper to its practical application in preschool educational institutions, and methodological recommendations are developed for each age stage.

**Keywords:** origami, preschool education, fine motor skills, cognitive development, creative thinking, didactic games, age groups, preparatory group, pedagogical observation, modular origami.

Ensuring the comprehensive — physical, intellectual, creative, and socio-emotional — development of the child is one of the pressing pedagogical tasks of the modern preschool education system. Manual work, particularly activities involving paper, occupies a special place in this process. Origami — the art of creating various shapes and toys by folding paper — is recognized as not only a creative tool but also a complex developmental tool for working with children.

Paper is one of the most important inventions in human history, and its emergence involved several stages connected to ancient civilizations. Its origin is linked to ancient China, where in 105 CE the scholar Cai Lun produced the first high-quality paper. Early paper was made mainly from cotton, silk, and tree bark, and was used in religious ceremonies and for preserving writing and images. Papermaking technology spread from China to Asia and later to Europe. Arab scholars refined this process, contributing to the wide dissemination of science and culture. In the Middle Ages, paper became the primary writing material in European libraries and schools.

The modern papermaking process consists of several stages, using wood, cotton, and recycled paper fibers as raw materials. When working with children, paper must be safe, non-toxic, and flexible. Colored paper helps children develop color discrimination and visual thinking, while thick cardboard and sharp-edged paper may pose risks; therefore, these factors are specifically taken into account when selecting paper for activities in preschool educational institutions.

In preschool education, paper is a central tool for developing children's creative activity. The processes of folding, cutting, and gluing strengthen the small muscles of the hand, shape visual thinking and attention, and at the same time develop patience and independent creative thinking in children. The purpose of this article is to substantiate, on the basis of scientific-methodological literature and regulatory documents, the organization of origami activities by age group, their impact on children's development, and effective methods of applying them in pedagogical practice.

The relevance of the study lies in the fact that modern preschool education standards require equipping the child not only with knowledge but also with practical skills and creative thinking. The state educational program “First Step” (“Ilk qadam”) also sets as a priority task the formation

of children's competencies through practical-creative activity. Origami fully meets these requirements as a pedagogical tool that is inexpensive, safe, and applicable in any setting.

According to L.S. Vygotsky's theoretical views on the development of children's creative imagination, a child's creative activity is a complex psychological process formed as a result of practical interaction with the environment. Constructive imagination — that is, the ability to create a new image through working with a real object — is clearly manifested precisely in manual activities such as origami. By folding paper, a child not only follows a ready-made scheme but also learns to imagine the final shape in advance, that is, to unite internal and external activity.

Pedagogical literature notes that there is a direct connection between a child's hand movements and the speech and thinking centers of the brain. Activities that develop fine motor skills — including origami — have a positive effect on the rapid development of a child's thinking, memory, and speech. Origami activities are likewise recognized as a complex activity requiring hand-eye coordination, fine movements of the finger muscles, as well as concentration and consistency.

Origami activities have a direct effect on children's motor and cognitive development. By folding and bending paper, the small muscles of the hand are strengthened and hand-eye coordination develops. In this process, children learn patience and reinforce their ability to concentrate. Through origami, children learn to recognize shapes, compare them, and practically grasp the concepts of proportion and symmetry.

Performing tasks step by step reinforces cause-and-effect relationships and increases problem-solving ability. At the same time, the opportunity to create new shapes and toys in the creative process develops children's imagination and fantasy. Origami activities increase emotional stability in children; the feeling of success inspires them and strengthens their self-confidence. At the same time, children acquire teamwork skills and develop their social connections.

Thus, origami activity is a complex pedagogical tool that simultaneously covers several directions of development — motor skills, cognitive processes, creative thinking, and emotional stability.

Working with age groups in origami methodology is of particular importance, since each age stage has its own developmental characteristics, and the content, duration, and complexity level of activities are determined accordingly.

**Junior group (3–4 years).**

Children in the junior group, aged three to four years, should begin by working with shapes suited to their age. Simple shapes are chosen at the start. The educator demonstrates each step, and the children create the shape by following the instructions. Activities are short in duration, colored paper is used, and safe materials are selected. This process develops children's hand motor skills, attention, and patience.

**Middle group (4–5 years).**

Children in the middle group are those aged four to five years. They work with more complex shapes, such as animals, flowers, and birds. They are given the opportunity to perform each stage independently. The duration of activities is somewhat increased, and game exercises on color and shape harmony are added. This process develops cognitive, creative, and visual thinking.

**Senior group (5–6 years).**

Children in the senior group are those aged five to six years. They combine modules to create complex toys and stage decorations. They learn teamwork and perform independent creative tasks. The duration of the activity is increased, and children develop logical thinking, teamwork, and creative abilities.

**Preparatory group (6–7 years).**

Children in the preparatory group constitute the final stage of preschool education, corresponding to the period of psychological, intellectual, and creative preparation for school education. At this age stage, children's hand muscles are sufficiently strengthened, and the ability to concentrate attention for a long time has been formed; therefore, the complexity level of origami activities is raised to a higher stage.

In the preparatory group, children are able to perform multi-stage, complex origami shapes — for example, toys with moving elements, geometric constructions, modular compositions, and works performed independently based on diagrams (schemes). They now move from following the educator's verbal instructions to working according to step-by-step diagrams, which develops symbolic thinking and independent reading-comprehension skills. The duration of activities is increased to 25–30 minutes, which is an important preparation for adapting to the school lesson regimen.

In the preparatory group, origami activity serves to address the following tasks:

- Forming the skill of performing complex, multi-stage tasks consistently and independently;
- Working from diagrams and drawings, developing spatial imagination;
- Project-based work (for example, creating a collective composition based on a general theme such as “Our City” or “The Animal World”);
- Forming creative presentation skills — the ability of the child to explain their work in front of the group;
- Strengthening volitional qualities necessary for school education — concentrating attention, completing a task to the end, and working through mistakes.

In the preparatory group, the educator encourages children's independence while maintaining an individual approach: monitoring each child's work and, when difficulties arise, helping through guiding questions (without giving a ready-made answer). This approach forms in the child the experience of solving problems independently, which is one of the key competencies required for school education.

Modular origami is the art of combining several simple paper shapes to create complex constructions. Each module is made separately, and they are then combined to prepare a collective toy or decorative object. Modular origami in preschool educational institutions creates the following opportunities for children: teamwork skills are formed, creative and logical thinking is developed, and attention and patience are strengthened. The educator observes each child's work and provides help when necessary.

Combining origami activities with other subjects makes an additional contribution to children's development. For example, colors can be learned through colored paper, geometric concepts can be reinforced through shapes, and social skills can be developed during play. When integrating activities, the educator takes into account the characteristics of the age group, ensuring that every child participates actively and engages in independent creative activity. This process forms not only creative thinking in children but also logical and visual thinking, teamwork, and emotional stability.

When planning origami activities, the educator takes the following into account: the characteristics of the age group, the duration of the activity, the types of paper, and the complexity of the shapes. The educator demonstrates each stage, and the children create the shape by following the instructions. This process develops independent work, patience, and creative abilities in children.

Combining origami activities with didactic games develops logical thinking, attention, and imagination in children. The games are connected with shapes and colors; children select and adapt shapes and perform creative tasks based on a story or scene. This process forms in children the skills of independent thinking and finding creative solutions. Through didactic games, children practically learn mathematical concepts such as number, size, shape, and proportion. At the same time, teamwork and social skills develop, and the concepts of cooperation and helping one another are reinforced.

In organizing activities, the educator takes into account the characteristics of the age group. Children in the junior group begin with simple shapes, the middle group works with more complex shapes, the senior group combines modules to create complex constructions, and the preparatory group engages in independent and project-based activity based on diagrams. The educator observes each child's activity and helps when necessary. During the activity, children engage in independent creative work, harmonizing shapes and colors, as a result of which logical and visual thinking develops.

As a result of origami activities, children's hand motor skills develop, attention and patience are strengthened, and creative and logical thinking skills increase. By recognizing colors and shapes and adapting them, children strengthen their visual thinking. In addition, teamwork skills develop: children learn to help one another, express their own opinions, and learn to listen to others. Emotionally, children experience a feeling of success, which inspires them and strengthens their self-confidence.

The educator observes origami activities and assesses children's developmental indicators. Observation helps identify children's motor skills, visual thinking, creative ability, patience, and social skills. On this basis, future activities can be planned and the activity of each child can be encouraged. In the preparatory group, this observation is of particular importance, since the results obtained serve as additional pedagogical-diagnostic information in determining the child's level of readiness for school.

The assessment system for achievements in the developmental areas defined in the state educational program “First Step” (“Ilk qadam”) allows the educator to consistently monitor the individual developmental dynamics of each child and adapt the educational process accordingly. In this respect, pedagogical observation during origami activities serves as a convenient diagnostic tool that reflects not only practical skills but also indicators of the child's overall cognitive and socio-emotional development.

Further expansion of origami activities in preschool education can be carried out in the following directions:

- Integrating didactic and play activities;
- Creating and presenting children's creative portfolios;
- Developing pedagogical observation and individual development plans;
- Expanding project-based activity in the preparatory group, preparing children creatively and intellectually for school education.

These opportunities help to use origami activities not merely as a creative activity, but as a tool that supports children's development in a comprehensive manner.

**Conclusion**

The theoretical-methodological analysis examined in this article confirms, on the basis of scientific-pedagogical literature, that origami activities have a complex effect on the multifaceted — motor, cognitive, creative, and emotional — development of children in the preschool education process. The processes of folding, bending, cutting paper, and creating modules strengthen the

small muscles of the hand, develop hand-eye coordination, and at the same time form patience, attention, and independent creative thinking skills in children.

During the analysis, the specific pedagogical characteristics of organizing origami activities were identified for each age group — junior, middle, senior, and preparatory. In the junior group, activities are conducted with simple shapes under the educator's guidance, while in the middle group children move toward performing relatively more complex shapes independently. In the senior group, modular origami and teamwork predominate, while in the preparatory group children master working from diagrams, project-based activity, and creative presentation skills — which serves as an important factor ensuring their psychological and intellectual readiness for school education.

The literature analysis shows that origami activity yields the highest pedagogical effect not as an isolated activity, but when integrated with didactic games and other educational areas (mathematical concepts, learning colors, language development, socio-emotional education). Such an integrated approach makes it possible to harmoniously develop several competencies in the child at once — logical thinking, spatial imagination, teamwork, independent decision-making, and creative self-expression.

Furthermore, the sources reviewed reveal the role of pedagogical observation and assessment in increasing the effectiveness of origami activities. The educator's regular observation, taking into account the individual developmental dynamics of each child, and adapting activities accordingly, is one of the main conditions ensuring that this process is of high quality and produces results. In this regard, it is advisable to use the assessment mechanisms defined in the state educational program “First Step” (“Ilk qadam”).

In conclusion, it should be emphasized that origami is a highly potential pedagogical tool that is inexpensive, safe, and applicable in any preschool educational institution setting, while also serving to comprehensively develop the child's personality. Its effective application depends on the following conditions: consistently taking into account the characteristics of age groups, integrating activities with other educational directions, harmonizing individual and collective forms of work, and the educator conducting regular pedagogical observation.

The following can be proposed as practical recommendations:

Organizing origami activities in preschool educational institutions on the basis of a methodological guide developed separately for each age group;

Enriching origami activity in the preparatory group with project-based and diagram-based work, turning it into an additional tool for preparing children for school education;

Systematically integrating origami activities with didactic games and mathematics and language development activities;

Maintaining a creative portfolio for each child and regularly analyzing the results of pedagogical observation;

Organizing professional development courses for educators on origami methodology, widely introducing modern modular and integrated methods into practice.

Thus, origami activities should be recognized as an effective and promising tool for improving the quality of preschool education and for the comprehensive — physical, intellectual, creative, and socio-emotional — development of the child, which opens up broad opportunities for future pedagogical research and practical developments.

## REFERENCES

1. Law of the Republic of Uzbekistan “On Preschool Education and Upbringing.” — Tashkent, 2019.
2. Resolution of the Cabinet of Ministers of the Republic of Uzbekistan. On approving the State requirements for the development of early and preschool-age children, dated 03.07.2018, No. 3032. — Tashkent, 2018.
3. State educational program “First Step” (“Ilk qadam”) for preschool educational institutions (2nd ed.). — Tashkent: Ministry of Preschool Education, 2021.
4. Khasanova, Sh.T. Teaching children staging and creative activity: textbook. — Tashkent: Nizami TSPU, 2019. — 230 p.
5. Vygotsky, L.S. Imagination and Creativity in Childhood: A Psychological Essay. — Moscow: Prosveshchenie, 1991. — 93 p.
6. Vygotsky, L.S. Imagination and Its Development in Childhood // Collected Works: in 6 vols. Vol. 2. — Moscow: Pedagogika, 1982.
7. Afonkin, S.Yu., Afonkina, E.Yu. Origami Lessons at School and at Home. — Moscow: Akim, 1996.
8. Afonkin, S.Yu., Afonkina, E.Yu. All About Origami: From Simple Figures to Complex Models. — St. Petersburg: Kristall, 2000. — 224 p.
9. Afonkin, S.Yu., Lezhneva, L.V., Pudova, V.P. Origami and Appliqué. — St. Petersburg: Kristall, 1998.
10. Plutaeva, E., Losev, P. Development of Fine Motor Skills in Children // Preschool Education. — 2005. — No. 3. — P. 28–35.
11. Esonova, M.A. Problems of organizing educational processes in preschool educational institutions on the basis of the state educational program “First Step” (“Ilk qadam”). — DOI: 10.5281/zenodo.8026577