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The Latest Pedagogical Ideas for Development of Creative Abilities in Preschool Children

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Abstract: The article attempts an author's technology to develop the creative abilities of preschool children in drawing classes. The authors have reviewed the latest neurophysiological aspects of creativity and have taken them into account in modeling the framework model of the development of creative abilities of preschool children in drawing classes. The aim of the article is to pursue two successive theoretical and methodological steps: a natural neurophysiological justification of the educational law of forming the visual development of elementary school children valid for teachers' understanding and use and a framework morphed structuring of reflexive, cognitive, and reflective activity of schoolchildren. It is possible with synergetic and, in fact, parallel realization of sensitivity, figurative assimilation of signals of the surrounding world, acquisition of experience and (as a cumulative result) - spontaneous, but framed by facilitative intervention, creative realization of the child's deep needs. The main result of the article was that we realized: a training module can be represented as a synergy of educational-neurophysiological correlations. That is, training modules consist, on the one hand, of target, content, technological and productive settings and expectations, and on the other hand, these settings are inseparable from associative, sensual-aesthetic, activity and motivational (cognition - satisfaction) manifestations of children's psyche. The international significance of the article lies in the reception of the latest pedagogical and neurophysiological ideas for development of creative abilities in preschool children for development of the author's technology. This can be used by practicing teachers as a model for implementation of pedagogical style in the cultural, social and educational conditions of the Eastern European region.

Keywords: *Psychophysiology of teaching; structural components; methodological approaches; pedagogical ideas and principles; modules of development of creative abilities; model of organization of artistic and aesthetic activities.*

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Introduction

Development of creative abilities in preschool children is one of the priority objectives of preschool education. The Law of Ukraine "On Preschool Education" states that the preschool education objectives are not only preservation and strengthening of physical, mental and spiritual health of the child; development of the child's personality and creative abilities.

This leads to study of the phenomenon of children's creativity and search for effective ways to develop creative abilities in preschool children.

We have noticed that in the works of Ukrainian methodologists for some reason everyone emphasizes the modulation and modification of the educational environment as if this is a universal way to optimize the process (Komogorova, 2021; Melnyk et al., 2019; 2021; Sheremet et al., 2019); But the nature of compliance has somehow gone out of fashion and undeservedly considered only in historical and pedagogical contexts.

Thus, Sokolova among significant shortcomings of modern education lists the following: disregard of age psychophysiological qualities of children, sensitive periods of their development, individual inclination to certain activities; dominant focus of the educational process on development of the left hemisphere of brain and reducing tension on the right one; lack of active position of children in the educational process; its weak focus on development of children's social need for self-realization (Sokolova, 2013).

Examining the problem of psychophysiology of learning, Doctor of Medical Sciences Bazarny concluded that "informatization of the child's brain" cannot be a priority in education. Brain development occurs during active exploration of space using feet, transforming the world using hands and speech", the processes of thinking and muscular effort are combined in a child, so "early purposeful development of a stable structure of sensory dominants, addressed to good, accumulation in memory of feelings of spiritual human desires, painstaking formation of creative hands and creative speech" is necessary (Bazarny, 2009, p. 32).

Among the existing shortcomings of modern preschool education are the contradictions between the need to develop children's creative abilities and the lack of effective educational technologies aimed at solving this problem; the requirements of society to meet the needs of children in the creative realization and insufficient activities of teachers in preschool educational establishments in this direction; the need to develop the emotional and sensory sphere of children based on age and individual neurophysiological resources.of these contradictions and shortcomings of art education of preschool children is the first step to overcoming of the

disciplinary-authoritarian model in preschool education, where the child is perceived as a "receiver" who "learns, appropriates, reflects "the influences of an adult.

The need to overcome the identified shortcomings and contradictions defines the relevance of the article, and its purpose is to create technology for development of creative abilities in preschool children, based on neurologically sound principles of systematicity, integrity, child-centeredness, naturalism, polyartism, cultural conformity, complexity aimed at developing and meeting the needs of children focus in creative self-fulfilment, which will meet current educational requirements.

We will use methods of system-logical analysis of the existing Ukrainian and foreign literature, generalization of views of Ukrainian scientists, the method of content analysis of methodological literature (selection of sources that substantiate the neurophysiological and neuropsychological basis of children's creativity); the method of generalization of relevant principles, approaches and technologies, as well as the method of modelling (creation of the author's model of development of children's creative fields.

Data analysis. Since our article is theoretical, the data analysis is a collection and study of methodological and environmental patterns and their mutual extrapolation: a) consideration of neurophysiological predictors of creative development of the younger pupil; b) educational framework modeling based on understanding of the background facilitative role of the teacher; c) development, based on the synergistic complementarity of the previous two points (extrapolation of the framework methodology to natural ability), of an invariant training module for the development of the child's visual abilities.

Given this, the technology of creative abilities' development we will consider as a model of organization of artistic and aesthetic activities of pre-schoolers, aimed at developing children's emotional and sensory experience of aesthetic reflection in relationship to the world and self-expression (their creative "Ego").

The research hypothesis lies in the assumption that the optimal structural components of the author's technology may become the following modules: conceptual-target, semantic, technological and resultant, implementation of which allows to effectively influence the main components of development of creative abilities in preschool children: associative, sensual, and model-constructive.

The main thesis of our article is that the teacher must accept the child's natural emotional and figurative reflection as neurophysiologically

conditioned and stop "teaching" the child visual art and become a background facilitator. We propose a methodological framework for background facilitation of the child's visual potencies in the form of a theoretically grounded teaching module.

The ethics of the study implies no sharp criticism of traditionalist approaches, respect for the authors and scientific sources being analysed (in case of appropriate vocations).

Neuroscientific bases of art activity

Although neuropedagogy has become extremely popular in raising children, researchers understand that it cannot be applied tactically and instantly in a class or a group of pre-schoolers. Correlation of individual, age and specific activity components within the neuro approach requires observation, preparation and interpretation. Howard-Jones and colleagues argue that educators and teachers need to "build pedagogical concepts together" to avoid profanity, over-fascination with neuro methods, and mythologizing about their universality (Howard-Jones et al., 2008). These researchers studied the cognitive neuroscience of creativity in collaboration with trainee teachers and concluded that educators tend to focus on metacognition of cognitive processes, on their own reflexive ability, to show sensitivity to neurophysiological manifestations of children's subjectivity and self-expression. However, such "neuroscientific orientation" relies more on intuition rather than on proven techniques. This generates general methodological and personal errors.

These problems can be solved if the teacher actively studies neuroscientific achievements and their possible consequences for education, as well as to take an active part in formation of their own neuropedagogical tools. For more than a quarter of a century, educators have been actively using interdisciplinary approaches to understanding intelligence, emotions, creativity, and memory, which has confirmed validity of the bio-psycho-social approach. In general, most educators are well versed in the mechanisms of cognitive behaviour. However, Geake and Cooper warn against simplified neuropedagogical approaches and models. They argue that the most universal for children's learning and creative development may be a neurophysiological model of adaptive plasticity, which is based on increased stimuli and therefore leaves a deeper "educational trail" (Geake & Cooper, 2003). Fine art is a discipline that represents very vivid visual and emotional stimuli. It can be a powerful tool for personal development - up to talent.

For neuropedagogy of creativity it is important to generalize experimentally and empirically proven neurophysiological mechanisms of

artistic creativity. Scientists argue that the neurophysiology of fine arts can be described even without the participation of an artist, but only from the observation and psychological analysis of their artifacts. Back in the late twentieth century scientists described universal neural mechanisms of image reflection and presented the so-called "theory of artistic experience" (Ramachandran & Hirstein, 1999). The authors analysed the images of caricatures or figures of the human body and noticed that the characteristics traits of the object are always more expressive, have sharper angles, larger dimensions. Thus, artists consciously or unconsciously use the mechanism of sharpening (shift of vertices) of the depicted object, which allows to emphasize its characteristic and semantically or practically important features. If extrapolate these patterns to the field of children's art, we can assume that the hyperbolic and unnatural image of objects in children's drawings attracts "supernatural" stimuli to excite areas of form in the brain stronger than natural" (Ramachandran & Hirstein, 1999, p 15). The same applies to the shape, colour, grouping of objects, which enhances the connection of visual sensors and limbic structures, and therefore - sharpens the brightness of emotions from creativity.

These neurophysiological regularities of reflection normal condition have been observed previously in children with pathology. For example, contour drawings of children with Savant syndrome or autism can be very aesthetic and expressive, which confirms the surge of neurohormonal pleasure from the sharp activation of the connection between the visual centres and the limbic system.

However, contemporary neurophysiology of children's activity and creativity has confidently moved into the realm of normality (in pathologic condition, all processes exacerbate and become easier to study). Scientists have realized that the neurophysiological mechanisms of creativity include both stable cognitive processes and states (excitation, motivation, inspiration).

Reliability of facts of neurophysiological nature of creativity was confirmed by the parallel use of non-standard creative tasks and magnetic resonance measurements of brain activity by scientists. For example, the method of incorrectly structured visual tasks puts the artist (professional or amateur) in a situation of uncertainty in the presence of desire (inspiration). With the complex interaction of the perceptual-sensory system, subjective imagination and creative efforts, the artist performs tasks flexibly. As a rule, they do not imagine the exact end result, but enjoy the process and the result (Lazar, 2018). Such pleasure is connected not with deep instinctive mechanisms, but with the highest manifestations of neuropsychological

activity, and, consequently, with the neurohumoral regulation. It can be long-lasting, affect the mood, self-esteem, affirmation of the existential "self" and leave a long impression in the form of conditioned-reflex connection.

Due to the spontaneous, playful, naive and syncretic nature of the artistic activity of pre-schoolers and primary school students, scientists propose to study it through the prism of "intercultural neuropsychology". This approach found that any creativity activates the dorsomedial frontal lobe, regardless of the type of artifact created and the type of creativity (Duggan et al., 2019). Instead, learning activities are more related to the ventromedial frontal lobe (Vaidya & Fellows, 2017). Both types of activities are associated with a positive stimulus, reward, but didactic decisions need more motivation, because the stimulus (praise, evaluation) is external. During drawing, a child receives both external and internal positive support. However, the use of WAIS-IV interpretation tests testifies to the common motivational and hedonistic nature of children's creative solution of various problems.

Recently, studies have been conducted comparing the cognitive profile of creativity of talented children and children who draw but do not show creative abilities (Sadana et al., 2017). Scientists found that creatively gifted children show a qualitative and quantitative advantage in visual-spatial working memory, speed of decision-making, concentration and attention, executive functions, speed of learning something new, etc. However, the overall mechanisms involved were the same, but different in plasticity, speed, and quality of communication between intelligence, mental response, concentration, and the ability to interpret objects freely.

Thus, a teacher of fine arts should have not only knowledge of the general neurophysiological mechanisms of creativity (as is customary in Ukraine), but also be able to form a lateral and creative portrait of the student. This can be done by observing-fixing changes in emotional state, the way of drawing, the presence of pauses or "flashes" of creative activity, repeated attempts, etc. (Benedek & Fink, 2019). Also, this knowledge and the results of observations should be taken into account when building a model and specific technologies for development of creative abilities in preschool children in painting classes.

Implementation of the first objective – formation of skills on creation of associations during experimental and constructive activity with materials, expansion of imagination when trying out motor, vocal or other possibilities.

The second objective – development of sensory perception of aesthetic reflection, noticing nuances, artistic details, other aesthetically or semantically important moments (objective or subjective), as well as the ability to express them improvisationally beyond the template in color, drawing, orally, etc.

The third objective – creative expression of his still flexible and unformed "Ego". This can be done on the basis of such a natural need and the emotional satisfaction of its realization through an artifact.

Content module for children's visual development

The technology of developing creative abilities in preschool children in painting classes involves designing the educational process through a system of developmental games and exercises, experimental activities with colours, aimed at developing the emotional and sensory sphere of children in accordance with educational guidelines, goals, content of education and ensures meeting the goals of development of creative abilities in children.

Therefore, the introduced technology for development of creative abilities in preschool children in painting classes is defined by us as a model of organization of artistic and aesthetic activities of pre-schoolers, aimed at developing their emotional and sensory perception of the world, forming a creative self-expression.

The structural components of this technology are the following modules: conceptual-target, semantic, technological and resultant, implementation of which allows to effectively influence the main components of development of creative abilities in preschool children: associative, sensual and constructive, which are in synergy.

Let's consider the structural components of the model of technology for development of creative abilities in pre-schoolers in painting classes.

The conceptual-target module reflects the purpose, objectives, methodological approaches and principles of technology. The purpose of the developed technology is determined how to creatively develop the students of the 1st-4th grades when drawing in the classroom. It seems possible if partial but synergetic tasks are realized - formation of sensuality, aesthetic reflection, figurative representation of the world (its object-existence and virtual environment) and ability to express it in visual artifacts (by known methods or improvisedly).

Implementation of the first objective. We develop associative connections (they generate images in children's minds), the ability to spontaneously (and later methodically) explore the world and convey a personal picture of it with the means available to children: from gestures and

words to drawings and sketches. Ideally, to teach how to creatively solve current educational, life and personal problems and challenges.

The second objective - development of transformation of children's sensitivity through aesthetic reflection into the ability to notice, separate, react to semantically or pragmatically meaningful objects and objectify their attitude to them, their vision through the tools of color, contour, figure and more complex images.

The third objective - can be developed by instilling in students elementary techniques and methods of artistic representation, which will reinforce the need for such representation and the satisfaction of creativity. This stimulates a permanent (in time - periodic) pictorial occupation of the young schoolboy. He draws because he wants to, can and enjoys it.

Educational material in the technology is divided into the following modules: "Art material", "Colour", "Fine arts" ("Beauty of decor", "Landscape", "Still life", "Animalistic", "Portrait"), which provides its deep mastery by children at the level of acquaintance with artistic materials and expressive means, colour and its combinations, nature, objects of the surrounding world, animals, human and creation of their images in art; emotional and sensory cognition; active game interaction; artistic self-expression. Classes with the youngest preschool children take place in the following modules: "Art material", "Colour"; with children of middle preschool age – In the following modules: "Art material", "Colour", "Fine arts" ("Beauty of decor", "Landscape", "Still life"); with senior pre-schoolers – in the following modules: "Art material", "Colour", "Fine arts" ("Beauty of decor", "Landscape", "Still life", "Animalistic", "Portrait").

The educational material of the modules is implemented on thematic cycles in painting classes in each age group, which gives children opportunity to immerse themselves in a particular topic, solve problems of the modules and perform different types of drawings: object, subject, decorative. In each cycle, distribution of educational material depends on the didactic purpose: acquaintance, repetition, consolidation.

Based on the classical typology of preschool didactics classes (classification of classes for didactic purposes: classes on learning new competencies, skills, abilities; classes on consolidation and deepening of knowledge, skills, abilities; classes on creative application of knowledge, and skills; combined classes on simultaneous solving of several didactic tasks) and, taking into account requirements of the competence approach, we have identified the following types of painting lessons: lessons in comprehending objects of the world, lessons in reflecting on acquired experience, lessons in

the technique of separating sensory-image experience, and lessons in creativity (the creative process itself).

All classes are aimed at development of creative abilities in pre-schoolers, formation of skills in artistic and productive activities, aesthetic perception of the world. However, each type of training has priority tasks.

Cognitive classes (gaining artistic and aesthetic experience) enrich children's artistic and aesthetic experience with emotional and sensory perception of graphics, Ukrainian arts and crafts, works of various genres of painting (portrait, landscape, still life, animalistic, household), acquaintances with the works of famous national and world artists. The priority tasks of cognitive classes (awareness of artistic material, colour, fine arts) are formation of the sense of beauty in its various manifestations, appreciation of the content of the material world, art, artistic activity.

Thus, classes on acquaintance with art material open to children features of colours, various kinds of paints, other materials. Due to the age-intrinsic animism, artistic material is revived, its holistic perception is formed: what it looks like, where it lives, what character it has, what it likes, what it doesn't like, with whom it makes friends, what it can do, what it dreams about, and so on. Younger preschool children in these classes "meet" with a brush, coloured pencils, paint, markers, white and coloured chalk. Middle preschool children get an idea of the features of pastels, charcoal, and the older pre-schoolers get acquainted with drawing ink. At the first acquaintance with the new art material, the emotional and sensory sphere of children gets activated, and in the process of subsequent classes, activity of the left hemisphere of the brain is switched, which ensures children's mastery of art techniques and its successful use for self-expression.

Classes to acquaint pre-schoolers with colour involve emotional and sensory "immersion" in a particular colour, its visual perception, characterization, finding colour-identical objects in the world around, establishing associations with smell, temperature, sounds, mood, taste. Within the framework of these classes, children's research activities are organized to combine new colours and shades. Thus, younger pre-schoolers discover for themselves features of yellow, blue, green, red, white, black, brown, orange, purple colours. Middle pre-schoolers explore combination of chromatic and achromatic colours: red and white, deep blue and white, light blue and white, black and white, green and white, blue, red and white. Older pre-schoolers explore colours in nature, features of the seasonal colour palette, weather conditions, mood, smell, music.

Classes to acquaint pre-schoolers with fine arts introduce children to the world of graphics, painting, arts and crafts; reveal characteristic features of genres: landscape, still life, portrait, animalistic, genre art; features of different types of decorative painting. Thus, younger pre-schoolers get acquainted with arts and crafts, with rhythm in a painting and reproduce a melody in decorative drawing by means of a monotype, decorate plane forms with decorative elements. Middle pre-schoolers get acquainted with the genre of landscape, still life, decorative art of Opishnya. Older pre-schoolers familiarize with the artistic and aesthetic achievements of national and world culture through acquaintance with the painting of Petrykivka, Kosovo, the art of Easter painting, the animalistic genre, portrait.

The priority tasks of technical classes (for technical application of artistic experience) are the following: formation of basic artistic and productive skills, acquisition of practical experience by children in orienteering in a variety of properties of objects; awareness of different ways of creating artistic images, development of independence, the culture of artistic activity. At technical classes: ability to convey flair, reflection, and introverted imagery in concrete embodiment, portrayal, object, decorative drawing with the help of various means of expression (line, shape, colour, composition) is formed; skills of experimental activity on research of the basic colours (yellow, red, blue) and derivatives (green, violet, orange), technical skills for working with art materials (gouache, watercolour, brush, coloured pencils and chalk, markers, pastels, charcoal, sanguine, ink) are developed; the ability to convey shape, structure, proportions of parts, colour, characteristic details and features of objects (object drawing) are developed; children learn to compose images of objects and phenomena of the world around, to reproduce plots of familiar fairy tales, folk traditions and holidays, imaginary events, spatial relationships (top, bottom, side, next to), to convey colour (subject drawing), decorate with patterns, ornaments of floral and geometric elements, lines, strokes, dots, use rhythm and symmetry in composition of decor, choose colours to achieve its brightness and expressiveness (decorative painting).

During such classes, pre-schoolers:

- create artistic images in any technique, where they independently choose artistic material, colour, composition, means of expression, subject, etc.;

- create patterns from geometric, floral elements based on various types of Ukrainian decorative painting, decorate plane forms with patterns, create decorative images of objects, flowers, birds, animals, subjects based on fairy tales, holidays;

- implement in the artistic image personal ideas and impressions of the beauty of the world (nature, animals, people, things, events).

Therefore, in creative classes (creative application of personal experience) the priority tasks are development of neurophysiological creative needs and abilities of children: their creative self-expression, use of personal emotional, artistic and aesthetic experience in creating an artistic image. In class, pre-schoolers develop artistic perception, imagination, figurative, associative thinking, ability to fantasize, improvise during emotional and sensory perception of paintings, play exercises and creation of artistic images; a positive personal and aesthetic attitude to manifestation of beauty in the environment, interest in painting and experimental artistic activity, emotional and value attitude to art is formed.

Implementation of technological module through the stages of technology implementation

The technological module is implemented through the standard steps for linear implementation (start - base - finish), but we will do it in the framework of technologies that ensure integrity, naturalness and synergy.

At the initial stage, aesthetic and subject environment is created and professional training of preschool teachers is provided.

Aesthetic and subject environment is a territory arranged for art classes in the building of a children's educational establishment and in the playground area; a place for thematic, personal, general art gallery of children's creativity, for exposition of reproductions of outstanding artists in group rooms, a music hall, on stairways, in corridors, recreation zones, halls of a preschool educational establishment, etc. Such a room can be an art studio, where painting classes are held with children of all ages, or a group room. The studio should have an attractive design and be equipped with media equipment (projection screen, projector, computer, audio system); demonstration board for drawing; a board and a stand-podium for demonstration (plane and 3D forms); carpet and pillows to accommodate children during meeting with artistic and aesthetic objects, performing game exercises; easels; tables for children's artistic activity, which are easily transformed from an individual place into a module for collective creative activity, chairs; area for painting on the wall, floor, glass, etc.; cabinet for storage of technical materials; vernissage area for exposition of children's art works and thematic exhibitions. To move classes from the studio to the fresh air in the summer, it is necessary to have a table-shelf on wheels to move demonstration and handout materials.

Painting classes can take place in a group room, where it is necessary to create comfortable conditions for children to meet artistic and aesthetic objects (the room should be equipped with a carpet, sofa, floor pillows, etc.), have a stand for demonstration, media panel, demonstration drawing board, tables and chairs, shelf for storing technical materials. In order to support self-initiated artistic creativity a group room should be equipped with a corner of the artist: a comfortable place for individual art with a variety of artistic and non-traditional materials in sufficient quantity, a place for exhibition of children's art at an eye level for independent exhibition of a drawings.

An artist's workshop (on the wall or floor of the pavilion, asphalt, etc.) can be set up on the group's playground to draw with chalks and other materials during an outing.

A place for thematic, personal, general art gallery of drawings of students of a preschool educational establishment, an exposition of works of outstanding artists can be a music hall, stairways, corridors, recreation areas, halls of the establishment.

Professional training of preschool teachers of a preschool educational establishment at the preparatory stage of technology will consist of questionnaire of educators to analyse their readiness to develop creative abilities of children in painting classes, acquaint them with the technologies, formation of teachers' for its application through seminars, round tables, trainings, projects, master classes, colour settings, role-playing games, creative groups, coaching sessions, etc. using conversations, discussions, debates, trainings, communicative exercises, games, case-study method.

The second stage of the technology implementation, the main one, is based on the principles of complexity and systematicity and will consist in organization of a system of painting classes in preschool education establishment.

The system of classes for development of creative abilities in children consists of thematic cycles, each of which allows a child to immerse in a particular topic: to experience it emotionally and sensorily, to comprehend it, to express one's feelings and impressions in any form through emotion, facial expressions, words, actions, movements, etc., to translate an image in the picture.

Thus, the system of classes for younger pre-schoolers consists of cycles aimed at acquainting children with colour or art materials; for middle pre-schoolers – from thematic cycles aimed at revealing a certain topic; system of classes for senior pre-schoolers – from thematic, genre and technological cycles.

Each cycle will include two or three lessons sharing a theme, genre or art technique. The first lesson motivates children to transform their own impressions in art on the basis of interest in drawing, activation of perception, manifestation of emotional and aesthetic response. It is aimed at developing children's inner motivation to further immerse in the topic and activate the desire to express their attitude to it. The second lesson of the cycle (technical) involves formation in the practical experience of children of artistic and imaging skills and abilities through acquainting them with the techniques of imaging. The third lesson of the cycle (creative) is aimed at creating by children their own images, first in their mind, then - in the art form. It aims at self-expression of pre-schoolers and their enjoyment of creative process. As a result of such immersion, each topic becomes emotional-sensory and intellectual discovery, which finds expression in personal image of a pre-schooler and ensures development of his creative abilities.

Thus, the cycle of classes for younger pre-schoolers to get acquainted with the blue colour consists of three classes: the first one – "Birthday of the blue paint", the second one – "The little rain", the third one – "How the sun met the cloud". The first lesson involves meeting of children with the blue colour, exploring its features at the level of senses, getting to know its "character" and "friends", defining "relationships" with other colours, using it to paint a planar shape. At the second lesson development of feeling blue colour continues: in an adaptive game exercise children turn into rain, play, sing, move freely, reproducing the cheerful and sad nature of rain, draw in the air a song of its drops, then an educator helps them master the technique of finger painting, reproducing movements of raindrops on paper. At the third lesson, children are given the opportunity first to convey in a free form the meeting of the sun with the cloud – by staging, body movements, words, facial expressions, gestures, and then – In drawing. In emotional and motor activities, children consolidate characteristics of yellow and blue colours, in the game "establish a certain relationship between the sun and the cloud" and draw their meeting on paper.

Each lesson of the cycle solves a number of tasks: creating an atmosphere of interest and activation of children's attention; development of sensory perception of the object of beauty; expression of personal impression; creating an image in the process of fantasizing, improvisation; visualization with accompanying reflection (awareness of oneself in creation and the object of creation).

The first classes of cycles (cognitive) consist of motivational, sensory-cognitive, artistic-communicative, creative-activity, reflexive-value stages. Therefore:

- motivational stage sets children up for a positive emotional mood and forms an internal motivation for artistic and creative activities;
- the sensory-cognitive stage takes place in the form of a meeting with an aesthetic object, induce a feeling of surprise and desire to join its perception by various sensory organs;
- artistic-communicative stage provides internal communication with the object, visual and aesthetically significant design of the results of communication (impressions, opinions) with the help of pantomime, facial expressions, gestures, words, sounds, which is a prerequisite for artistic activity, because at kinaesthetic reproduction of an image work the muscles of large motility, which gradually change to the hands movements in the air, convey the features of drawing at first large and then small in size artistic image, which is a necessary preparation for its image in the picture;
- creative and activity stage includes creation of an artistic image with the help of various artistic materials;
- reflexive-value stage contributes to the value experience of the results of own work and the work of other children.

The second classes of cycles (technical) consist of motivational, exploratory, artistic and reflective-technical stages:

- motivational stage sets children up to reveal secrets of an aesthetic object and forms an internal motivation for artistic research activity;
- the research stage is aimed at cognition of an object, its research with the help of game exercises ("getting into character", "entering the picture", "drawing in the air") and organization of experimental activities with artistic materials and expressive means;
- artistic activity involves creation of an artistic image with the help of artistic materials, a large number of visual aids, a step-by-step demonstration of the drawing process, collaborative with the teacher or independent artistic activity;
- reflexive-technical stage activates the aesthetic thinking of pre-schoolers to a generalized conclusion about artistic materials and means of expression, with which created different in nature artistic images, allows to assess technical capabilities of lines, dots, strokes, colours in implementation of artistic design.

The third lessons of the cycles (final, creative) include stages: motivational, emotional uplift, artistic-improvisational, artistic self-expressional and reflexive-value:

- the motivational stage sets children up for free expression of personal attitude to aesthetic objects, freedom of choice of artistic materials, means and ways of creating an artistic image, forms internal motivation for creative self-expression;

- the stage of emotional uplift directs to admiration, a sense of harmony of colours, rhythm in patterns during the aesthetic perception of nature, art, awakening of imagination when entering the picture, getting into the character and inspires artistic expression;

- the artistic-improvisational stage allows to create a unique artistic image with the help of imagination and emotional-motor imagination (pantomime, facial expressions, gestures, words, melodies), to endow it with a character, special qualities, mood, history;

- the stage of artistic self-expression is aimed at creating a unique artistic image with the help of physical or virtual means and tools, feelings, fantasies;

- the reflexive-value stage provides a valuable experience of creative results, aesthetic pleasure, satisfaction from one's own results, acceptance of unique manifestations in the work of other children, a tolerant attitude and a desire to feel their mood.

Methodology of each painting lesson in the technology of developing creative abilities in preschool children is a real pedagogical drama, in which form and content, plot and composition, methods and techniques are harmoniously combined, which helps produce a creative space for communication with beauty, feeling the participation effect of artistic images at the perception of works of painting and music, promotes getting into character and development of fantasizing, improvisation, association, realization of one's own ideas.

The following types of classes are defined as effective pedagogical tools for realization of: a fairy tale lesson, a game-lesson, a research-lesson.

A fairy tale lesson is a type of lesson, the course of which is based on the plot of a famous fairy tale or its fragment, with the hero of which children meet for the first time. During such a lesson, children are immersed in a certain episode of a fairy-tale, meet its characters, transform into a fairy tale character. Thus, at a painting lesson based on the fairy tale "The Little wooden house" in a middle preschool group, the educator prepares a group room for the lesson (places the attributes of the fairy tale in its corners) and invites kids for a walk to the fairy tale to be recognized. Children walk in the group room behind the educator, as if in the field, and meet fairy-tale heroes and fairy-tale circumstances (props, illustration in the book, drawing, handcraft, toy, etc.). In this part of the lesson, children gain cognitive

experience at the sensory level: imitation, pantomime, getting into character help everyone to better know the fairy tale character, feel its features, reproduce them with large motor skills before depicting them small in the picture. Getting into the character causes them emotional uplift, forms a personal and value attitude to the characters of the fairy tale. The educator places the recognized character near the little wooden house (a drawing, a toy) and offers to draw the fairy tale. At the fairy tale lesson, they use paintings, book illustrations, video fragments, audio recordings, music to achieve the effect of presence in the fairy tale.

In the technology this type of training also includes such organization of creative activities, during which children meet with the object of beauty: artistic image, objects of the world around, a work of arts and crafts, painting, plastique, etc. A fairy tale lesson helps children, thanks to their ability to animism, to revive an object and turn it into a meeting character by fantasizing, communicating with it, improvising its life story, inventing a common or a personal fairy tale. Thus, at a lesson with the senior preschool children, the educator introduces the children to a guest – Mr. Pumpkin, offers to greet him, offer to settle on a comfortable stand (as a model) and tell his story: where his home is, who his parents are, who his friends are, what he likes, why he is so big, who gave him such an orange kaftan, how he made such a hairstyle (ponytail, scalp lock), where he travels, etc. Children answer the questions with their fantasies and a fairy tale about Mr. Pumpkin is composed. An improvised plot of a fairy tale created together, the resulting product of fantasy – a fairy tale character with an attitude, an interesting story, adventure, evoke a positive mood in children, fantasy gives freedom to creative activity, motivate children to independently create an artistic image through creative means.

A lesson-game is a type of a lesson during which the educator uses the following to solve educational problems: the plot, rules, techniques, situations, game, in the process of which children create an artistic image. The main feature of such lessons is a game plot. Thus, at the lesson "Transport" in the senior preschool group, the educator begins activities for children with the story game "Bus", where everyone plays their role (a driver, a passenger, a conductor). A bus runs down the street (between toys, furniture), at the bus stops the passengers go out and go to work at a machine-building corporation (tables with various art materials, books, illustrations, photographs, drawings depicting cars). Each child chooses a place and creates the image of a modern car with the help of selected art material. At the end of the work, each designer drives away in his car and runs down the street to the parking lot, where he leaves it (pins up a picture

at the exhibition). At such a lesson, creation of an artistic image is part of the game in which each child plays his role according to the rules of the plot.

A research lesson is a type of activity during which children engage in experimental activities with the help of material, color, techniques, etc: lines, dots, strokes, spots, prints, etc. The research can be accompanied by a fairy tale, the characters of which will name a problem and encourage an artistic experiment. Thus, in the group of younger pre-schoolers, children meet with butterflies – a daddy and a mommy (drawn on a sheet of paper): the daddy's wings are blue, and the mommy's are yellow. Butterfly parents ask children to paint the babies' wings, while the mommy says that the baby looks like her, and the daddy claims that it looks like him. Each child independently chooses the way in which they will create a butterfly similar to both daddy and mommy: paint half a butterfly yellow, half – blue; first yellow, then blue or vice versa and others. But in the process of colour research, each child will receive a green colour, which in his cognitive experience will be referred to as the colour of a baby butterfly, whose mother and father are yellow and blue. Later, when the child grows older, in his understanding there will be a replacement of only the following concepts: colour-child (orange, green, purple) – combined, colours-parents (yellow, red, blue) – the main ones, and the essence will remain unchanged, with correct colours. The experience that a child receives in the process of research lesson, allows to independently reveal the secret of colours, shapes, lines etc. Features of these classes are an atmosphere of ease, freedom in choosing materials and free expression of the child through various creative tools, creative search for different options and ways to create an artistic image, support active research behaviour and encourage ingenuity, originality, uniqueness.

To determine the methods of pedagogical support in the technology of developing creative abilities, we used the approach of Lerner, which defines information-receptive, reproductive and heuristic teaching methods (Lerner & Zhuravlev, 1994). In view of this, within our technology there are:

- information-receptive methods are aimed at obtaining information by child with the help of various analysers (visual, auditory, olfactory, taste, tactile-motor), which are interactive and provide versatility and completeness of worldview (Sukhorukova et al., 2010, p. 195). The specifics of the use of these methods in technology is in their synthesis and combination with creative perception, which activates associative thinking and allows to obtain the effect of synaesthesia: yellow leaves in the picture rustle, it smells like autumn, rain; a slice of red watermelon with shiny dark brown seeds and a thick green rind gives a fragrant aroma and a premonition of sweet juicy

flesh; the sounds of music fly like colourful butterflies, circling in the air in a dance and forming coloured patterns that move like a kaleidoscope;

- reproductive methods – imitation of the pattern of creative behaviour (an educator, an artist, other child), methods of action in situations of choice (idea, theme, content, format, materials, methods of self-expression, images, means of expression); use of a large amount of models, step-by-step demonstration of the drawing process, exercises in different techniques; working next to the teacher. The specifics of use of these methods in the technology is that thanks to them children first join imitation, in the process of which they gain self-confidence, become more active, more independent and change over in search of creative behaviour;

- search methods: choice of artistic materials, experimentation and game interaction with it, discussion, research of means of artistic imaging, "getting into the picture", "reincarnation in the image", fantasizing, improvisation. Search methods give artistic activity a research character at all its stages and promote development of creative potential of an individual. These methods actualize imagination, figurative thinking, figurative memory, increase the degree of freedom of children, their activity, ingenuity. Children find themselves in conditions in which they should independently find ways to implement the plan and experience the situation of "discovery", "enlightenment", "insight" (Sukhorukova et al., 2010, p. 196). Search methods in the technology are used at all stages of the lesson: motivational (set up for free expression of personal attitude to aesthetic objects, the freedom of choice of artistic materials, means and ways to create an artistic image, form an internal motivation for creative self-expression), sensory-cognitive (cause a sense of surprise and desire to join the sensory perception), artistic and communicative (provide playful interaction with the aesthetic object, activate the child's self-expression, creating an artistic image through pantomime, facial expressions, gestures, words, sounds), creation of an artistic image with the help of pantomime, facial expressions, gestures, words, sounds), research (help in experimental activities to gain cognitive experience, explore the object during "getting into the character", "getting into the picture", "drawing in the air"), the stage of artistic self-expression (contribute to the creation of a unique artistic image through various artistic materials, methods and means of expression of personal ideas, feelings, fantasies), reflexive-value (allow to experience the results of their own and other children's creativity).

We agree with researchers, who call play one of the main methods of creative development of preschool children (Denysovets, 2017; Ponimanska, 2006; Sysojeva, 2006, p. 203). The game is related to

creativity in terms of internal emancipation, is a trigger for creative improvisation, a source of positive emotions, inspiration and provides a high concentration of involuntary and post-voluntary attention.

Game of the technology of development of creative abilities is used in order to create the appropriate mood, identify and realize the potential of a child, development of its abilities, actualization of the need for self-expression, imitation, knowledge of the world. This is actually a constant rehearsal and constant background creativity in the classroom.

In the game technology developed by us are integrated with various means of art (colour, outline, shape, word, genres of art, etc.), what becomes the object of study, association, fantasizing, interpretation, improvisation. The content of pedagogical activity is designed to activate the emotional and sensory sphere and associative-figurative thinking. The offered semantic component of the technology allows to use games at different stages of painting lessons: at acquaintance with art material, works of art, expressive means, a new word, in the course of scanning models, at getting into character, during the process of creating, at viewing creative works. The main game techniques are: "getting into the picture", "communicating with a pencil (paint, brush, etc.)", "help the colours to meet", "meeting of the word with a melody in the air", "compliments to the studio guest", "getting into the character", "drawing in the air", "a song of a smear on paper", etc.

When getting acquainted with the artistic material, game techniques introduce children to a new world of relationships. Paints, brushes, paper, pencils, markers for a pre-schooler who can enliven everything around, are not just pictorial objects, tools for drawing – they can become true friends, conveying the mood and state of mind of a little artist. The results of further creative activity depend on how the child builds his attitude to the subject. Reviving the pencil helps the child to imagine its character, to invent a story, to communicate with it. The result of such acquaintance is a valuable attitude to the artist's materials and the child's technical awareness of the use of artistic materials.

When getting acquainted with the means of artistic expression, research games allow children to learn about characteristics of colour, lines, spots, dots. Thus, during a game-experiment with the basic colours, children discover the secret of the birth of a new colour, get acquainted with a variety of shades, colour harmony, establish a connection between colour and smell, mood, taste, sound, temperature, voice, movement. In the process of such acquaintance with colour children develop associative and figurative thinking, imagination, creative abilities.

When getting acquainted with works of art through play, children "enter" into the picture, can "inhale" aroma of the season, "listen" to the

rustle of autumn leaves, trembling of a young leaf that has just been born in spring, "enjoy" the taste of a honey pear, "get" in the thicket of a forest and feel its infusive coolness on a hot summer day, to "soar up" on the wings of a bird high in the sky, where your breath is taken away from the vastness of space.

When learning a new word, the play exercises ("Draw a word in the air", "Show a word by motion", "Show the mask of a word", "What colour is the word?", "What music plays the word?", "What does the word smell like?" "What does the word taste like?" etc.) introduce children to the world of artistic terms, help unravel their mystery, to establish associative series between word and colour, word and smell, word and taste, word and music, word and movement, word and facial expressions, word and image. In the process of performing the exercises "Whisper the word", "Shout the word", "The word jumps"; "The word sings"; "Sad word"; "Surprised word"; "Disappointed word"; "Calm word"; "A word of joy" etc. children say words with different strength of voice and emotional stress, different rhythm and melody. Such exercises contribute to the fact that pre-schoolers quickly and easily understand and memorize the word, they develop communication skills, emotional speech.

When viewing a model, the game introduces children to the realm of objects and helps see them through the eyes of an artist, learn about their lives, feel the mood. If the game takes place in the form of "Guest in the studio", the children play the role of hospitable hosts: greet "the guest", make compliments, invite to display in the picture etc. The compliments speak of the qualitative characteristics of the subject: colour, shape, size, etc. An example is a game in which compliments to the "guest" should be expressed according to the scheme, where the beginning will be the address: "Ah, dear Tulips, you are so …". The children continue the game with epithets that describe the Dutch guests – sunny, gentle, fragrant, fragile, silky, etc. Such approach to description of a model allows in an emotionally sublime form to consider features of the subject, connecting all senses (tactile, hearing, smell, taste, sight), imagination and establish new associations with the phenomena of the world around, which complements the picture of the world which establishes in the mind of a child. In addition, such games bring pre-schoolers to the level of improvisation, which contributes to effective development of their creative abilities.

When exploring the image, the game allows the child to become any character and play its role. To do this, the technique of imitation of movements is used, which is enriched with a personal sense of the role, imagination of the child and its emotional mood. Thus, in the game "I am the

sun" four-year-old children easily turn into the sun that wakes up and rises above the ground, washes his eyes, smiles, grows into a big sun and stretches its rays to the ground, grass, flowers, the stream, gives its warmth to the whole living world. Getting into the image causes positive feelings in children, helps relieve tension, internal complexes and generally causes a psychotherapeutic effect. Imitation movements help draw a large image of the sun in the air and colour further creation of an artistic image with personal impressions. When using simulation play exercises, most children lose the need for a sample in the process of drawing, because the image of the sun drawn in the air and its structural components (circle, rays) provides free and confident self-expression of children in art.

In preparation for creation of an artistic image in the picture, the game exercise allows to move the brush in the air: to reproduce the shape of the image, its size, structural parts. Before decorative painting the effective exercises are: "Finger jumps", "Brush on a walk" etc., that allow to reproduce position of the brush in the hand, movement of the finger in the air with a rhythmic alternation of certain elements: dots, strokes, lines. Sensorimotor game exercises set free the child's hand in drawing. Thus, the exercise "Brush dances" turns the brush into a baton, which moves easily in the air due to the looseness of the hand, forearm and shoulder. Musical accompaniment emotionally colours the child's actions and relieves tension. This exercise helps prepare children for colouring large forms, drawing on large sheets of paper.

When creating an artistic image, the game is successfully integrated with drawing through unity of the creative basis. Children, having played their fantasies in the given games, exercises and situations, create an image on a sheet of paper, convey the associative connections gained in the game exercises by various visual means.

Thus, the main stage of the technological module is based on different types of classes, game exercises and situations, active communication with the beauty of the world around (nature, art, items, etc.) and involves activation of emotional and sensory perception, creating a positive mood, providing a high level of motivation for art, creating conditions for free expression and successful self-realization of each individual, which generally ensures development of creative abilities of pre-schoolers (Shulga, 2015).

The third stage of the technology is the final one, related of pre-schoolers in painting classes. At this stage, a teacher helps children reflect on evaluation of the results of their activities, analyses their own work, systematizes and summarizes the experience gained, highlights and presents the results of introduction of the art abilities' development technology on

web resources, in professional publications, methodological, scientific and practical activities at different levels.

The content of the developed technology at the final stage is implemented through organization of exhibitions, festivals of children's creativity, discussion of generalization of the experience of teachers in introduction of technology for development of creative abilities in pre-schoolers it is popularized through workshops, seminars, conferences, etc.

Conclusions

Therefore, the introduced technology for development of creative abilities in preschool children in drawing classes is defined by us as a model of organization of artistic and aesthetic activities of pre-schoolers, aimed at realization in them of neurophysiological needs for creative discovery of the world: children's emotional sensitivity and natural figurative reflection contain enormous creative-reflective potential and a resource for self-expression of each child. Its structure is presented in the following modules: conceptual-target (purpose, tasks, methodological approaches, semantic, content (actually didactic content and its modular twisting, thematic cycles, technologies; components of creative development: sensitive, associative (figurative), constructive (procedural-creative) (stages of technology implementation: initial, main, final; forms and methods of working with children on development of their abilities in painting classes), effective (the teacher's ability to diagnose the effectiveness of a child's creative progress without numerical evaluation).

The technology developed by us in the visual-subject and methodical filling is multimodal, interdisciplinary and combines fine arts with adjacent forms of activity and artifacts - folklore.

This corresponds to the syncretic nature of neuropsychological mechanisms of children's assimilation and transformation of objects of reality.

The authors theoretically confirmed the hypothesis of the study, as they were able to optimally combine their own understanding of the problem, its methodological solution with the framework structural components of the development of creative abilities in preschool children.

We predict that introduction of such technologies will increase effectiveness of art classes and will be able to bring educational activities closer to the individual and age neurophysiological needs of children in self-knowledge and discovery of the world.

Research limitations. The given theoretical generalizations and the developed technology are presented in the article as a theoretical and methodological model that needs to be tested, improved and supplemented.

Against the background of the above and based on the analysis of theoretical and methodological sources, we can now define the **international significance** of the article. For the first time, it consists in a moderate application of directive methodological settings and a synergistic combination of educational modeling of framework external pedagogical factors (conditions, facilitations) with the prevalence of naturalness of deployment of deep neurophysiological expressive-reflective intensions of a 6 - 9-year-old child. Also the international significance of the article is determined by our critical attitude to the analyzed literature, which can be formulated by the following key theses: a) confirmation of the rhythmological approach (alternating attempts and successes, pauses and bursts of creative activity (Benedek & Fink, 2019); b); , but the distinct individual quality of the connections between intelligence, reflection and the way the urge for creativity is realized (Sadana et al., 2017).

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