



PSYCHOLOGICAL AND PEDAGOGICAL FEATURES OF CHILDREN'S COLOR PERCEPTION AND THEIR IMPLEMENTATION IN WATERCOLOR PAINTING

Jennet Gurbannepesova,
Artist, USA

ABSTRACT	KEYWORDS
This article examines the characteristics of color perception in primary school-aged children, its psychological and pedagogical aspects, and the possibilities of implementing these characteristics in watercolor painting. It analyzes the patterns of color perception development, the role of color in shaping emotional and artistic perception, and reveals methodological techniques for using watercolors as a means of developing children's creative abilities.	Color perception, watercolor painting, art education, psychological and pedagogical features, primary school age.

INTRODUCTION

The scientific novelty of the article lies in the substantiation of pedagogical conditions and methodological approaches to the development of color perception in children of primary school age by means of watercolor painting, as well as in revealing the role of color as a key psychological and pedagogical tool for the development of emotional and imaginative thinking and creative abilities of students.

Modern art and aesthetic education in primary school aims not only to impart basic skills but also to promote the child's overall mental and personal development. In this process, color acts as a universal expressive language, actively influencing the emotional, cognitive, and motivational spheres.

Vygotsky's ideas emphasize the close connection between the development of color perception and the formation of figurative thinking, imagination, and emotional responsiveness. Color is not perceived in isolation; it is integrated into a system of semantic associations, which is critical for the development of higher mental processes [1].

Primary school children have their own particular color perception:

- the visual analyzer is actively developing and differentiation of sensations (perception of shades) occurs;
- color becomes a key means of self-expression and conveying emotional states [2].

A crucial goal of primary art education is to foster a lasting interest in color and the ability to use it consciously. Among painting techniques, watercolor offers unique opportunities for achieving this goal. Its transparency, the ability to create smooth transitions, and the ease with which a variety of shades can be achieved make watercolor an ideal tool for developing aesthetic perception and artistic taste, emotional intelligence and creative thinking, sensory development, concentration and fine motor

skills, and emotional self-regulation, stimulating children to experiment and fostering a positive attitude toward art [3]. Thus, watercolor serves not only to master technique but also to develop the ability to "think artistically".

The relevance of this issue lies in the search for effective psychological and pedagogical tools that promote harmonious personal development through artistic activity. Within the framework of a competency-based approach, it is particularly important to teach children to perceive and use color as a means of cognition and self-expression.

The aim of our study is to analyze the characteristics of color perception in primary school students and determine the best ways to implement them in the process of teaching watercolor painting.

Color perception is a complex psychophysiological process that is important for a child's emotional, cognitive, and artistic development. In early school age, children progress from basic color discrimination to understanding shades, combinations, and symbolism.

Psychologists, including L. Vygotsky, emphasize that the development of color perception is inextricably linked to the formation of higher mental functions: imagination, attention, and emotional response [1]. Color acts as a mediating element that helps the child comprehend and emotionally color the world around them.

According to research by T. S. Komarova, primary school children actively use color as a means of expressing feelings and moods. The emotional and associative perception of color at this age becomes the foundation for the development of artistic thinking [2].

Similar positions are found in the works of E. A. Lutsenko, who emphasizes that the ability to perceive and convey color mood is one of the key indicators of a child's creative development [4]. The ability to convey color mood becomes a key indicator of creative and artistic thinking.

Psychological and pedagogical studies identify three successive stages in the development of color perception in children of this age:

1. Sensory stage. The child learns to distinguish primary colors and their brightness and to perceive color as an objective property of an object.
2. Emotional-associative stage. Color acquires symbolic meaning, evokes an emotional response, and becomes strongly associated with personal experiences and feelings.
3. Figurative-symbolic stage. The child begins to consciously use color as an expressive means to realize artistic vision.

In art pedagogy, the psychological influence of color is taken into account: warm colors (red, yellow) are used to create an active, invigorating mood, while cold colors (blue, green) promote calm and tranquility [5].

The development of color perception is directly linked to a child's sensory culture. L. A. Wenger emphasizes that the richer the sensory experience, the greater the child's ability to differentiate shades, understand color relationships, and effectively use them in visual activities [6].

Table 1 - Stages of formation of color perception in children of primary school age and their psychological and pedagogical characteristics

Stage of development	Age range	Characteristics of perception	Psychological characteristics	Pedagogical tasks	Examples of watercolor techniques
Sensory	6–7 years old	Distinguishing between primary colors and brightness	Attention to color is low, perception is fragmented	To develop sensory sensitivity and introduce basic colors	Fills with one color, "color wheel", exercises with water
Emotional-associative	7–8 years old	The emergence of emotional connections with color	Color is associated with personal experience and mood.	Develop emotional perception and associative thinking	Thematic drawings ("The color of my mood", "Weather in color")
Figurative and symbolic	8–10 years	Conscious use of color in compositional design	Color becomes a means of artistic expression	To develop an understanding of artistic means and individual style	Compositions with multiple planes, mixing shades, complex fills

Therefore, color perception in primary school children is not simply a sensory skill, but a multi-layered psychological and pedagogical process that includes the development of the emotional sphere, artistic thinking, and personal expressiveness. With properly organized art education, color becomes a powerful tool for developing a child's creative abilities.

To effectively implement the psychological and pedagogical characteristics of color perception in visual arts, a systematic and methodologically sound approach is necessary. Watercolor painting, thanks to its accessibility, expressiveness, and rich possibilities, is one of the most effective means for developing color perception and artistic thinking in young students.

Training should adhere to the principle of the "zone of proximal development", assuming a gradual increase in the complexity of tasks and the creation of conditions for independent exploration of artistic solutions [1]. When working with watercolors, this requires a gradual mastery of technique and the development of an emotional perception of color.

A key principle of artistic education is the integration of sensory, emotional, and imaginative experience [7]. This is achieved through a variety of techniques, such as observing color in nature, working with artistic motifs, and freely experimenting with paints.

In the process of learning watercolor painting, it is advisable to use the following approaches:

1. Sensory-cognitive approach. Focuses on developing the basic skills of distinguishing, naming, and combining colors. Emphasis is placed on familiarization with primary and secondary colors, the concepts of warmth and coldness, and contrast [6].
2. The emotional-figurative approach. Uses the child's emotional reactions as the basis for artistic expression. Color is viewed as a means of conveying mood, associations, and internal state [2].

3. An activity-based , experimental approach. This involves active exploration and creative initiative [3]. It includes techniques such as mixing paints, working on a wet sheet of paper (the "a la prima" technique), and the use of various effects (drip, layering).
4. An integrative approach. Combines visual arts with other activities (music, literature). This integration of the arts enhances the child's depth of perception and personal relationship with color.
5. A differentiated and individually-oriented approach. It takes into account the individual characteristics of the child (pace, level of development), helping to develop confidence in artistic endeavors and facilitating the development of each student [8].

Table 2 - Methodological approaches to developing color perception in watercolor painting in primary school children

Methodological approach	The main goal	Methodological techniques	Expected results	Examples of tasks
Sensory-cognitive	Developing basic color perception skills	Color wheel, contrast and nuance exercises, observation of natural objects	Distinguishing between primary and secondary colors, understanding warmth and coldness	Find Warm and Cool Colors, Rainbow Transitions, and Nuances of the Sky
Emotional and figurative	Formation of emotional responsiveness to color	Work on impressions, discussion of emotional reactions to color, associative exercises	Using color to convey mood and feelings	"My Mood Color", "Sounds and Colors of Rain", "Quiet Morning"
Activity -based and experimental	Development of creative exploration and artistic initiative	-wet painting , layering, drip technique, color blending	Ability to use the expressive potential of watercolors, development of independence	"Magic Spots", "Floating Clouds", "Colors of Summer"
Integrative	Deepening the perception of color through the synthesis of arts	Use of music, poetry, observations of nature, interdisciplinary connections	Deepening associative connections, formation of aesthetic perception	"Music of Color", "Poems in Colors", "Song of the Forest"
Differentiated, person-oriented	Taking into account the individual characteristics of children, developing confidence in artistic activities	Individual tasks, different difficulty levels, free choice of composition	Confidence in artistic expression, development of individual style	"My World in Colors", "My Story", "What I Am Today"

It's important that methodical work with color in watercolor combines educational and developmental components. The teacher's task is not simply to teach technique, but to create conditions for the development of individual artistic experience, stimulating emotional perception and creative expression.

Modern researchers note that the use of watercolor painting in the art education system of primary schools contributes not only to the development of sensory and visual skills, but also to the formation of creative thinking, emotional intelligence and aesthetic taste [9].

The practical significance of watercolor painting in the artistic and aesthetic education of primary school students goes beyond theory. It lies in the broad possibilities of its practical pedagogical application for the child's comprehensive development. Working with watercolors allows teachers not only to teach artistic techniques but also to specifically develop color perception and sensory abilities, as well as emotional development and creative thinking.

As L. Vygotsky pointed out, a child's creativity develops most productively when they are given freedom of expression through visual and sensory means, primarily through color [1]. Thus, watercolor serves as a powerful tool for revealing the creative potential of the individual.

Table 3 - Practical directions for using watercolor painting

Direction of work	The purpose of pedagogical activity	Practical techniques and methods	Expected result
Sensory development	Development of perception of color, shades, tonal relationships	Color games, paint mixing exercises, working with warm/cool tones	Formation of color perception, development of observation skills
Emotional and imaginative development	Developing emotional responsiveness and the ability to express feelings through color	Mood painting, musical and artistic compositions	The ability to express emotions through color, emotional intelligence
Development of creative thinking	Stimulating creativity, searching for unconventional solutions	"Unfinished Pictures," a free improvisation in watercolor	Development of imagination, individual style
Inclusive education	Supporting children with different educational abilities	Individual assignments, simple techniques (wet work), free composition	Increased confidence, decreased anxiety
Social and communicative development	Developing interaction in a group, respect for others' perceptions	Collective panels, joint projects	Developing cooperation and empathy skills

The introduction of watercolor painting into the educational process can be achieved through the following practice-oriented tasks and mini-projects aimed at developing artistic and meta-subject skills:

Table 4 - Examples of practical teaching techniques with watercolors

Methodological technique / project	Brief description of the task	Key development results
"Mood Color" (abstraction)	Creating an abstract composition based on a chosen color that corresponds to the child's current emotional state, followed by a discussion of associations.	Formation of emotional responsiveness, development of color perception and self-regulation.
"The Color Palette of Nature"	Painting a landscape in watercolor after observing nature. The emphasis is on finding and capturing not only the primary colors but also the midtones and shades found in nature.	Developing observation skills, sensory skills and the ability to work with nature.
Watercolor Experiments	A series of practical exercises to explore the properties of watercolor: practicing washes, gradients, and color mixing (on a palette and on paper).	Mastering technical skills, developing research interest and creative initiative.
"Collective Panel"	Group work in which the class is divided into teams to create parts of a single, overall composition.	Developing communication skills, the ability to collaborate and respect the ideas of others.
Watercolor and Music	The creation of an abstract work set to the sound of a piece of music with the aim of conveying its mood and rhythm solely through colour and form.	Synthesis of arts, development of emotional-imaginative thinking and the ability to interpret non-verbal information.

To ensure the effective development of color perception and artistic skills using watercolors, teachers are advised to adhere to the following principles:

1. The principle of gradualism. Build training from simple to complex – from basic color recognition to the creation of complex, expressive compositions.
2. Playful forms. Actively introduce play elements that stimulate sensory development and cognitive activity.
3. Create a comfortable environment. Provide an emotionally supportive atmosphere, excluding harsh criticism and encouraging creativity and self-expression.
4. Forms of work. Competently combine individual and collective forms of artistic activity.
5. Interdisciplinary connections. Actively utilize integration with other disciplines (music, literature, the world around us) to deepen perception.

The use of watercolor painting in accordance with these recommendations is of high practical value for the pedagogical process:

- ensures variability of educational technologies in primary school;
- it becomes possible to adapt the process to the different age and individual characteristics of students;
- the technique serves as an effective tool for psychological support and correction of the emotional state of children;

- motivation for educational activities and the overall involvement of schoolchildren significantly increases.

- the development of not only artistic skills, but also universal learning activities (ULA), including analysis, planning and self-expression, is achieved.

Thus, color perception in primary school children is a complex psychological and pedagogical process encompassing sensory, emotional, and imaginative perception. Watercolor painting, thanks to its unique expressive properties, is recognized as an effective tool for developing color perception and artistic thinking. When methodically organized, working with watercolors promotes comprehensive development: it not only develops artistic skills but also enhances the child's emotional development, creativity, and self-confidence.

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