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THE IMPACT OF COLORS ON EMOTIONAL PERCEPTION IN VISUAL ARTS LESSONS AMONG SCHOOL STUDENTS: A PSYCHOLOGICAL ANALYSIS

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Abstract: This scientific article provides a psychological analysis of the characteristics of color perception among school students during visual arts lessons and examines the influence of colors on their emotional states. The study involved students from grades 1 to 9, and their color preferences, creative activity, and emotional responses during lessons were investigated through observation, color tests, questionnaires, and creative tasks. The results revealed that warm colors stimulate active and cheerful moods, while cool colors contribute to calmness and increased concentration. It was also found that dark colors produce different emotional effects depending on age, whereas contrasting colors enhance creative expression. The study demonstrates that colors play not only an aesthetic but also a significant psychological role and provides a foundation for developing methodological recommendations for the purposeful use of color in visual arts education.
Keywords: color psychology, emotional perception, visual arts, school students, color test, creative thinking, warm colors, cool colors, visual perception, psychological state, pedagogical methodology.

Introduction

Visual arts is considered one of the core subjects in general education schools that fosters students' aesthetic taste, creative thinking, visual perception, and emotional–intellectual development. Colors, in particular, as the most essential component of visual expression, are recognized as a powerful stimulus that activates students' emotional states, enhances aesthetic interest, and influences psychological development. Colors not only create visual imagery but also function as psychological factors that regulate mood, inner experiences, emotional balance, and creative initiative.

Psychological studies conducted by M. Lüscher, R. Arnheim, J. Piaget, and L. S. Vygotsky regard color perception as a crucial component of child development. The brightness, saturation, and contrast of colors directly affect students' emotional responses. For instance, warm colors intensify feelings of joy, activity, and energy, while cool colors foster calmness, stability, and concentration. Therefore, the application of color psychology in visual arts lessons is considered one of the key methodological factors in increasing instructional effectiveness.

At present, organizing visual arts lessons with consideration of students' emotional states has become an essential element of the pedagogical process. However, the emotional impact of colors, age-related differences in color perception, and methodological mechanisms for integrating color psychology into school lessons have not been sufficiently studied. From this perspective, the present research aims to conduct an in-depth investigation of the impact of colors on emotional perception in visual arts lessons, analyze students' emotional responses during color-based activities, and develop practical recommendations oriented toward pedagogical practice.

The relevance of this study is primarily determined by the growing need to support students' psychological well-being and creative activity. Identifying factors that shape emotional

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perception contributes to expanding the didactic potential of visual arts education and strengthening students' aesthetic worldview and emotional stability.

The influence of colors on human psychology, particularly on the emotional perception of school-aged children, has been widely discussed in psychological, pedagogical, and art studies. Early scientific investigations in this field are reflected in Gestalt psychology, cognitive development theories, and psychodiagnostic approaches based on color tests.

One of the most well-known studies on the emotional and psychological effects of color is the *Lüscher Color Test*, developed by Max Lüscher. Lüscher characterizes colors as indicators of individuals' internal emotional states and psychological stability. According to his interpretation, red represents activity and energy, blue symbolizes calmness and trust, green reflects determination and inner stability, while yellow expresses hope and optimism. This approach demonstrates the direct connection between students' color choices and their emotional states during visual arts activities.

R. Arnheim's research on visual perception provides a theoretical foundation for understanding the role of color in creating visual imagery. Arnheim emphasizes that color, together with form, composition, and rhythm, serves as a visual tool that enhances emotional meaning. In his view, children express their worldview, emotional experiences, and inner dynamics through color. This perspective highlights the necessity of integrating psychological approaches into the objectives and tasks of visual arts education.

J. Piaget, who studied age-related characteristics of children's perception, scientifically substantiated that the processes of classifying, distinguishing, and comprehending colors actively develop between the ages of 7 and 12. According to Piaget's theory, children at this stage transition from emotional perception to cognitive analysis, which increases the effectiveness of working with colors in visual arts lessons.

L. S. Vygotsky explains the emotional influence of colors through the concept of "external stimuli" in psychological development. According to him, colors serve as psychological factors that enhance children's motivation, interest, mood, and creative activity. Vygotsky also emphasizes the connection between color perception and socio-cultural context, noting that the process of color selection is based on children's personal experiences.

Contemporary pedagogical literature underscores the significance of colors in the educational process, noting that creating an emotionally supportive environment in visual arts lessons increases students' creative engagement. Research indicates that the application of color psychology effectively supports concentration, reduces stress, and develops compositional thinking.

Furthermore, modern studies in color psychology examine the neurophysiological effects of colors. For example, blue activates the parasympathetic nervous system and enhances calmness, while red increases heart rate and stimulates activity. These findings help explain how color choices influence emotional stability among school students.

In general, the literature review indicates that although the emotional impact of colors has been thoroughly explored from a scientific perspective, methodological approaches to applying color psychology in school visual arts lessons remain insufficiently developed. Therefore, this study aims to fill this gap by experimentally examining the effects of colors on students' emotional states and creative development and by presenting practical pedagogical recommendations.

Research Methodology

This study aimed to investigate the process of color perception among school students during visual arts lessons and to examine the influence of colors on their emotional states. A total of 90

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students from grades 1 to 9 participated in the research. For the purpose of comparing age-related characteristics, the participants were divided into three groups.

The study was conducted in two main directions: theoretical analysis and empirical research.

At the theoretical stage, scientific literature on color psychology and visual perception was analyzed. In particular, the concepts of M. Lüscher, R. Arnheim, J. Piaget, and L. S. Vygotsky concerning color perception and emotional development were examined. This stage provided a scientific foundation for understanding the role of color in child psychology.

At the empirical stage, several methods were applied to identify students' individual attitudes toward colors and to observe their emotional responses. These methods included:

- observation,
- the Lüscher Color Test,
- a short questionnaire,
- creative tasks based on color.

Students created three different compositions using warm colors (red, yellow), cool colors (blue, green), and neutral colors (white, gray). Within each color group, students' mood, level of activity, creative expression, and color preferences were systematically recorded.

Overall, the research methodology was designed to identify key factors influencing students' color perception and emotional development and enabled the formulation of scientifically grounded conclusions regarding the effective application of color psychology in the educational process.

Results

The study revealed several significant findings regarding students' color perception characteristics and the emotional impact of colors. First, noticeable differences in color preferences were observed depending on age. Younger students (grades 1–3) selected colors primarily based on emotional reactions, whereas students in middle and upper grades demonstrated a more conscious and aesthetic approach to color selection. This tendency corresponds to the stages of cognitive development described by Piaget.

The results showed that students working with warm colors (red, yellow, orange) displayed higher levels of joy, activity, and initiative. During the lessons, these students were characterized by increased emotional engagement, mobility, and creative initiative. This finding is consistent with M. Lüscher's theory of "activity colors."

In contrast, students exposed to cool colors (blue, green) worked in a calm, balanced, and focused manner. Their compositions demonstrated order, harmony, and visual balance, empirically confirming Arnheim's ideas regarding the calming effect of color on visual perception.

During the study, younger students working with dark colors (brown, black) exhibited emotional withdrawal, reduced interest, or negative moods. However, upper-grade students used these colors as tools for creating artistic dramatism. This clearly reflects age-related differences in perception.

Additionally, compositions created using contrasting colors demonstrated stronger creative expression. Students showed greater freedom of thinking, emotional intensity, and visual dynamism, which aligns with Arnheim's concept of compositional energy.

The results of the Lüscher Color Test confirmed the relationship between students' color choices and their emotional states. Specifically:

- students who preferred blue tended to be calm and emotionally stable;
- those who selected red were more active and initiative-driven;
- students choosing green demonstrated determination and inner stability;

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- those favoring yellow exhibited optimistic emotional states.

Overall, the findings indicate that colors exert a strong influence on students' psychological state, mood, and creative activity. Experimental results confirmed that emotional responses during creative tasks are directly related to color selection.

Discussion

The results of the study demonstrate that colors play a crucial role in students' emotional perception and creative activity. When compared with existing theoretical perspectives, the findings not only complement but also empirically confirm established views.

First, the enhancement of joy, activity, and initiative through warm colors corresponds closely with Lüscher's theory of the relationship between color and emotion. The energetic and cheerful behavior of students working with red and yellow colors illustrates how this theory manifests in real educational settings. This indicates the strong pedagogical potential of warm colors for increasing motivation in visual arts lessons.

Similarly, the calm, focused behavior observed when students worked with cool colors (blue and green) confirms Arnheim's views on the psychological impact of visual perception. The resulting compositions emphasized balance, order, and tranquility, indicating that cool colors support emotional stability and concentration during learning activities.

The finding that dark colors produced negative emotional effects among younger students but served as expressive artistic tools for older students aligns with Piaget's theory of age-related cognitive development. This suggests that color perception develops progressively and that understanding the symbolic meaning of color deepens with age.

The increased dynamism, emotional intensity, and expressive power observed in compositions using color contrast support Arnheim's concept of compositional energy. Contrasting colors stimulated students' cognitive activity and revitalized the creative process.

The strong correlation between color preference and emotional state, as revealed by the Lüscher Color Test, further validates the psychological linkage between color perception and students' inner emotional conditions.

Overall, the discussion confirms that colors function not only as aesthetic elements but also as powerful psychological tools. Colors contribute to emotional stability, stress reduction, creative activation, and increased motivation, highlighting the necessity of conscious and purposeful application of color psychology in visual arts education.

Conclusion: The conducted research demonstrates that the process of color perception in visual arts lessons is directly linked to school students' emotional development. The psychological impact of colors and their close relationship with age characteristics, creative activity, and learning motivation were scientifically and practically confirmed.

The results indicate that warm colors enhance joy, activity, and initiative, while cool colors promote calmness, balance, and concentration. Although dark colors may evoke negative emotions among younger students, they serve as effective tools for artistic dramatism in upper grades. Contrasting colors strengthen creative expression and increase the emotional intensity of visual representation.

Based on the theories of Lüscher, Arnheim, Piaget, and Vygotsky, the findings confirm that color perception is not a simple visual process but a complex psychological phenomenon closely connected with children's mental development, emotional stability, and creative thinking.

This study demonstrates that the conscious application of color psychology in visual arts lessons provides psychological support for students, activates their creative potential, and

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enhances instructional effectiveness. Therefore, the purposeful use of color as a pedagogical tool significantly expands the methodological potential of visual arts education.

References

1. Lüscher, M. *The Lüscher Color Test.* New York: Pocket Books, 2010.
2. Arnheim, R. *Art and Visual Perception: A Psychology of the Creative Eye.* University of California Press, 1974.–
3. Piaget, J. *The Child's Conception of the World.* London: Routledge, 1997.
4. Vygotsky L.S**.** *Psychology of Art.* MIT Press, 1971.
5. Eisner, E**.** *The Arts and the Creation of Mind.* Yale University Press, 2002.
6. Öztürk, H., & Yılmaz, M. "Color Preferences of Children in Relation to Emotional States." *Journal of Educational Psychology*, 2019, 15(3), 245–256.
7. Boyd, B. "Color and Emotion in Art Education." *International Journal of Art & Design Education*, 2020, 39(2), 320–332.
8. Johnson, D. "Color Psychology in Learning Environments." *Educational Research Review*, 2018, 12(1), 45–58.
9. Koffka, K**.** *Principles of Gestalt Psychology.* London: Routledge, 1935.
10. O'zbekiston Respublikasi Xalq ta'limi vazirligi**.** *Tasviriy san'at fani bo'yicha o'quv dasturi.* Toshkent, 2021