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Use The Theoretical Foundations Of Color Science In Teaching Students To Work With Educational Productions From Painting

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ABSTRACT

The article provides students with information about color in painting lessons, a brief history of its development, the basics of color science in teaching students to work with drawings. As a practical exercise, a step-by-step example of painting a still life is given.

KEYWORDS

Painting, color science, composition, achromatic and chromatic colors, color gamut.

INTRODUCTION

At all stages of the lifelong education system, there are special areas, departments or classes for the preparation of qualified specialists in the field of fine arts. Naturally, the curricula in these areas include graphics, composition and painting. Below we will talk about the lessons of painting, its theoretical laws, which are the main link of the fine arts in these disciplines.

The first theoretical works on the relationship between color and light, their nature, we find in Ancient Greece. At a time when the laws of nature were not well understood, the concepts

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of color were usually reflected in the secular concepts of Greek philosophers. Ancient scholars discovered that in the theory of color, there were all colors between light and darkness, contrasting between white and black. But they could not say exactly what caused the incidents. But Aristotle spoke about the importance of a "transparent" environment between the eye and the body.

Democritus taught about the existence of bodies and atoms that form their images in the eyes. Euclid, on the other hand, explained that the "rays of vision" radiate from the eyes and that the external world covers the objects and reflects the image.

The great German poet, humanist and scientist Johann Wolfgang Goethe (1749-1832) created The Doctrine of Color. The mental (emotional) changes that occur as a result of the effect of color on the human body, the fact that each color has its own mood-stimulating force has a special place in the play. Goethe said, "Color is the product of light, the product of emotion, the part of a chain of light-color-emotion."

Goethe interpreted his doctrine of colors in the form of a clear system. But Goethe's teaching was based on the laws of physics and was in a much more primitive, unscientific way than his discovery through many experiments and research.

Nevertheless, Goethe's ideas about color continue to serve as one of the basic teachings to a certain extent for artists.

Newton was the first to create color corridors through an optical prism and to explain it scientifically. He put an end to unscientific notions about color and laid its scientific foundation. Newton argued that the white light of the sun consists of a sum of rays with different refractive powers, and that each light has a specific color-calling property. He found that the light sent through glass prisms was separated into colored rays, and if those colored rays were passed through the collecting lens, they became white light again, the resulting white light, if passed through the prism lens, then no colored rays appeared, no colors at all. Newton divided the spectral colors into seven pieces and arranged it in a circle. The terminology he used to define colors was very clear. That is, he was not talking about red or green light, but about light rays that evoke a sense of green and red. Thus Newton's invention gave us a clear idea of the physical nature of colors. The rays of the spectrum are red, orange, yellow, green, blue, blue, and purple, and we call them the colors of the spectrum. Colors in nature are divided into two types according to their properties: achromatic (colorless) and chromatic (colored). Achromatic colors include white, gray, and black. Other colors are chromatic colors. When they are mixed together, they form several more shades of color. When we add a darker gray to a chromatic color, its attractiveness decreases and it becomes dimmer. This indicates a low saturation of the color, ie a decrease in the composition of the dye. So, whether the color is saturated or not, it is necessary to understand the degree of color, purity, compared to gray.

THE MAIN FINDINGS AND RESULTS

If the color range is divided into two equal parts, in the first half there are red, orange, yellow, yellow, and in the second half there are air colors, blue, blue, purple. The first half of the circle is warm colors and the second half is cool colors. The reason for this name is that the colors red, yellow, orange are reminiscent of

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fire, hot iron, coal, the color of air is blue, and green is reminiscent of ice, the color of water.

When two spectral colors are dropped on top of each other, the colors combine to form a complex color. When combined with red, air, and purple, it produces beautiful shades of pink, crimson, and yellow. Spectral colors that give white when added are called complementary or complementary colors. Because they complement each other until a white color is formed. Such colors include yellow, air color, red, blue, green, and purple. There is a difference between the addition of dyes and the addition of spectral colors. When three primary spectral colors are added: red, green, and air, white are formed. The addition of primary red, yellow, and air color dyes results in a black color. The addition of yellow and air colors in the spectrum results in white. However, if we mix yellow and air dyes, a green color is formed.

Opinions about color have been evolving since ancient times. But the doctrine of color was initially considered without a clear theoretical approach to natural phenomena.

In the course of the subsequent development of various disciplines, the increase in the concept of color and the demand for its scientific substantiation led to the creation of a clear theoretical system. If you get acquainted with the teachings about color, you can see its historical development, color problems, first of all, how physiological features of a person are related to light and color complex, as well as the role of color and light phenomena in changing a person's emotional mood.

Philosophy, and later the natural and technical sciences, began to deal with color problems. But when it comes to color, we know that in ancient times, people had a very delicate taste about the relationship of colors, that is, their combination. This is evidenced by the murals of ancient Egypt, Greece, Rome, various pottery, the remains of household appliances, and so on. We see that their colorful decorations on clothes are highly developed in the field of color selection in the field of cosmetics.

In our country, too, our ancestors had a very high level of color in comparison with the remains of Central Asian murals, sculptures, household items, pottery, various examples of painting. Spontaneous phenomena of nature have formed various mental impressions and images in the human imagination. Colors, the various rays associated with light, gradually began to take on a symbolic character in the minds of people (dark-black, black-mirror, yellow-yellow, like a red tulip, like a white angel in a blue sky, like a black night, etc.). The choice of the color of clothing according to the decoration of the house and its age, or the colors of the clothes associated with various ceremonies, have been taking place in the social life of nations since time immemorial.

In general, the choice of color is very important in the existence and participation of people in social life. Therefore, the doctrine of color in its scope includes philosophical, aesthetic, natural-scientific problems. The fact that each of these areas has its own problems, its own way of observation, its own terminology, its own research method, complicates the study of color issues.

As an example of the basics of coloring above, let us consider a step-by-step example of a still life staging done in the national style. In order to perform the initial exercises in watercolor painting, the staging should consist of 3-5 to 12-15 and more items, depending on the qualification of the students, and the color and

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color relationships should be less complex in shape.1 picture.

It is wrong to switch to complex nature productions without diligently developing simple productions and achieving positive results. In watercolor painting, it is advisable to perform the exercises regularly and gradually complicate them. To create a creative still life, you need to rely on life events. In this case, when creating a beautiful and interesting composition, it is advisable to take a group of things from the objects and items used in everyday life. The main task of painting is to accurately depict the volume, material and color qualities of objects and things as a natural staging, and to complete the staging as a whole.

Before undertaking any long-term task, it is important to complete the initial short-term studies. The resulting paints help to find the correct composition of the depicted nature on a large cloth or paper, and during processing are an example of an accurate transfer of the first impressions of nature and a visual display of the characteristics of its color ratios.

When creating a training still life, the following rules must be observed: The content of each training still life must have a clear purpose and task, as shown in the drawing program. We need to be able to imagine exactly what theoretical knowledge and practical skills students will acquire in the process of describing the setting of nature. In addition to educational tasks, a still life must meet aesthetic requirements:

- The items and things belong to the same subject;
- Forms are meaningful and effective in terms of content;
- Must put forward a certain idea in the staging.

An educational still life differs from a creative still life in that the objects are sorted, grouped and illuminated in such a way that the educational task is successfully completed. You can get at least a little convention in etude still life.

In the composition of a still life, thoughts usually arise before the creation of a natural setting of things. On the basis of an educational or creative task in the mind of the artist, an idea is formed about a sketch of a future staging of nature. For example, N. Mashkov ordered a baker to bake bread to depict the still life "Bread".

During the creation of the still life, the shape is decorated with small patterns, it is better not to use complicated objects. Folded fabric can be added to complex items. The still life staging is extremely complex in shape and color, and it is difficult to understand the essence of color relationships in staging.

It is preferable that the still life setting be below the horizon line because the bottom of the object and objects (their base) should be clearly visible on the table. If the base of the object is laid on a line, the horizontal plane of the table surface will be invisible, which will negatively affect the spatial resolution of the still life. When creating a still life, you should also take into account the height of objects, their location in the plane of the image, the color and shape. It is wrong for a group of things to come together on one side. Larger items may be partially obstructing other items, albeit partially. The forms in the staging should be arranged in such a way that each of them can be clearly seen at a glance. The colors of

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things in a natural setting should be somewhat close and similar to each other.

In educational productions, the background is important. It has a significant impact on the perception of things of different colors and saturation, with the same strength of contrast. On a light background, the semi-shady and shady sides of things are noticeable. On a dark background, things can show more of their light qualities. The background color is moderate between light and dark objects, the color is smooth and imperceptible to the eye, which contributes to a successful depiction of nature. For example, for dark red objects, the background is selected as neutral red, if things are saturated with light green it is preferable that the background is less saturated with dark green. If possible, the base (the horizontal plane of the table) against the background of the still life should be natural. Instead of a background, you can also use the wall of a room, the width of the interior, the outer walls of a wooden house, or the width of a distant landscape. In any case, he must be able to reflect the realities of life in the production, and the composition of a still life etude has different solutions.

If a student clearly sees the colors and shades of objects in the performance, this does not mean that he can draw correctly and skillfully. He can easily describe chiaroscuro and volumes of individual objects, superficially blindly copying them, but he cannot perfectly reflect the most important qualities in reflection, namely materiality, space and state of illumination. In order to master the secrets of true painting, it is necessary to understand the purpose and meaning of its two main features from the very beginning of art education.

Only then will the young artist be able to embark on the path of education, and each new exercise he creates will be improved in terms of pictorial qualities. The peculiarity of the artist is that he competently depicts painting from nature, showing its volumetric, spatial and material qualities, based on the method of transmission in proportion to the limited colors in the palette, seeing and understanding color relationships in nature. The content of color relationships in painting comes from the nature of the relationships perceived by the artist's gaze. However, the construction of color relationships in color is carried out taking into account the overall hue and color state of the illumination (depending on the intensity and spectral composition of the illumination-subject to the color of illumination).

CONCLUSION

In short, we can say that the method of working with the ratio of forms, the foundations of the science of color is the basic law of pictorial literacy. An artist is a person who is able not only to feel the proportions well, but also to understand color relationships. It is important to note that the perception of color relations of objects in a natural setting is determined by a holistic comparison. It is through the impeccable mastery of these professional skills that a mature, emotionally impressive color image can be created. You need to work in a methodological sequence, understanding the interconnection of forms from the very beginning of training.

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