

Development of Architecture and Design Direction the Significance of Colors in School Classrooms

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Annotation: No one denies that school classrooms, their design and building project, designed for learning, play an important role in the effectiveness of the educational process. Researchers conducted research on the impact of design environment in educational institutions and obtained the main results.

Key words: Modern architecture, light and color in the interior, warm and cold colors, color effects.

Modern research on school architecture and space mainly focuses on the operational qualities of the space: natural daylight, air cleanliness, temperature and noise level. Temperature, classroom heating and fresh air are the most essential elements of the environment, impact on individual learning. In the details, it is stated that as a result of the improvement of air quality, the attendance of children in classes has increased. In the classroom, the height of the ceiling decreased when the classroom was full of students. But in preschool educational institutions, it was observed that children with a lower ceiling had higher learning rates. A study of children's behavior on the furniture used in the classroom showed that the newly designed furniture gave a much better result in the children's performance.

The arrangement of the desks in the classroom is a very important factor: the arrangement of the desks in a row is the most convenient for individual work and allows time to complete tasks more easily. Students who do not learn well in lessons are affected by the wrong arrangement of desks, if the desks are arranged in a row, their learning will improve. For the effectiveness of group work in primary classes, they should be placed around a common table. Unfortunately, in practice, the size of the group is determined not by general educational or pedagogical logic, but by the arrangement of classroom furniture.

Tables should be placed in a circular or semi-circular form for effective joint organizational work of students and for ease of interaction of students with each other and with the teacher, as well as for monitoring their movements.

The problems of using computers at school are also shown. In particular, the issues of lighting and organizational individual workplaces were also considered. Ergonomic furniture in computer rooms has a positive effect in the educational environment. These factors affect learning, collaboration and mastery.

Convenient and thoughtfully placed bookshelves in the classroom and at home will increase the time allocated to the student's tasks. From the point of view of architects, large areas for the display of children's work appear to be congested in the visual space. But it increases their

involvement and allows to increase motivation in children. A comfortable school yard stimulates active movement in children's learning.

Thus, it is known that the architectural and design environment has a positive effect in every educational institution and gives effective results in students' learning and acceptance of lessons. In our country, the exterior and interior of educational institutions are important for attracting children and spending their free time effectively in non-school educational institutions. Therefore, if attention is paid to the design environment in non-school educational institutions, the quota of the educational institution will increase and the educational efficiency will be improved.

Interior lighting design is a multi-level system of various lighting devices. At the same time, the tasks of this or that building solve the functional, aesthetic and emotional tasks, respectively. Lighting design in general has an element of magic in all its rationality. Light is such a strong and plastic "material" that it can be used to "make" objects of any shape. Theater, cinema, photography - all these art forms achieve amazing effects as a result of the magic of light.

In accordance with the interior, the role of light, not just a living space, has grown to a surprising extent for the modern man. The design of the lighting system is one of the most important moments of the designer's work when creating a palette of different images in the interior. Each ray has many characteristics, that is, different luster - strength and brightness of that ray of light. It is possible to create different types of lighting equipment from them.

The light has many characteristic luminous flux, brightness and luminous power. And lighting devices of various constructions "play" with them.

Artificial light has color. Different colors depend on the nature of the light source. For example, heating bulbs will produce more yellow light and no additional blue or violet. Therefore, it is more difficult to transmit blue and green rays in the interior through the lamp than with ordinary colored lights.

Light, like color, is divided into warm and cold types. These properties are determined by the color filter installed in the lighting equipment. Also, the types of texture given to the surface of the wall, the light falling on the wallpaper softens it. In some lighting equipment, the system of its reflection aspects is also installed, developed. The surface of the convenient gold-colored lamp is copper or yellow anodized. Artificial light source. The more natural the light in the room, the more harmless it is to a person's vision. Three types of lamps are used in modern buildings: incandescent, halogen, and daylight lamps. No matter how great they are, they still cannot replace the sun, they are only similar to the sun. Each "family" of lamps emits light in its own range at a specific location. There are two traditional systems of lighting: local and festive. Earlier, candlesticks were first used for the first case, then table lamps and floor lamps, and chandeliers for the second case. As a result of the development, these two tasks can be performed by any lighting equipment, of course by some on-off switch or remote control. In recent years, the work on electric light has grown to the "starry sky". They are a light conductor, a projector and a light filter. All light-transmitting glass fibers have different thicknesses and transmittance properties. The light filter disc rotates slowly due to the heating of the equipment, and the "starry sky" formed on the ceiling changes its color and shines in a wavy manner. Fibrous, mysterious rays appear in the air. As a result of the development, these two tasks can be performed by any lighting equipment, of course by some on-off switch or remote control. In recent years, the

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Types of light flux. Interior design uses all the possibilities of light. First, it is a beam directed to a specific point. In this case, the light beam comes from a certain point and is at an average or lower level on the ceiling of the room (in a table lamp, etc.). The light emanating from one point will be directed and undirected depending on where and why the svetilnik (table lamp) is placed. For example, when developing table lamps, a designer needs to place them according to their place in the room, where and how they will emit light.

Secondly, it can be a spherical or wall-mounted lamp that emits light in a wide area. The third can be natural light. And natural light is the most harmless light. But natural light is also useful depending on where and how much. If you read a book in the excessive sunlight falling from the window, your eyes will hurt and water. If the warmest and yellowest light of the sun is far away, and you read a book only in its light, this light will not tire the eyes. It is for this reason that a shading system is being installed on currently produced lighthouses. The light stream from the lamp first hits the shading system, then shines on the ceiling of the room and around the room. Light and color in space. The light will change the colors of the room. The effect of artificial light generated by electricity on "cold" and "warm" colors, there is a special table that determines the amount. It is known that the color of the walls, ceiling and floor of the room can change the size of the room as we perceive it. In interior design, electric lighting affects every color in the room. This light can completely change the color of the appearance of the equipment in the room. Depending on how the light falls, one of the devices will appear to be away from you, and the other will appear to be close to you. Dark colors make the room look small and the ceiling low. Bright colors optically make the room wider and the ceiling higher. Cold air colors give the impression of spaciousness. The wall and ceiling optically move away. Warm reddish colors have the opposite effect. It seems as if the wall and the ceiling are approaching the viewer. It is known that the color of the walls, ceiling and floor of the room can change the size of the room as we perceive it. In interior design, electric lighting affects every color in the room. This light can completely change the color of the appearance of the equipment in the room. Depending on how the light falls, one of the devices will appear to be away from you, and the other will appear to be close to you. Dark colors make the room look small and the ceiling low. Bright colors optically make the room wider and the ceiling higher. Cold air colors give the impression of spaciousness. The wall and ceiling optically move away. Warm reddish colors have the opposite effect. It seems as if the wall and the ceiling are approaching the viewer. It is known that the color of the walls, ceiling and floor of the room can change the size of the room as we perceive it. In interior design, electric lighting affects every color in the room. This light can completely change the color of the appearance of the equipment in the room. Depending on how the light falls, one of the devices will appear to be away from you, and the other will appear to be close to you. Dark colors make the room look small and the ceiling low. Bright colors optically make the room wider and the ceiling higher. Cold air colors give the impression of spaciousness. The wall and ceiling optically move away. Warm reddish colors have the opposite effect. It seems as if the wall and the ceiling are approaching the viewer. How the ceiling and floor are painted can change the

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Yellow warm colors are less aggressive than red. Dark colors narrow the room, and light colors make it appear wider. If the room is too long, in this case, the light beam is used again to show its size in the norm. In this case, the walls of the room are illuminated more, artificial width is created, and light is not given to the long side of the room. The participation of light in the building project means "magic lantern". That is, without this light, we cannot even imagine the "theater of shadows". This applies to both natural and artificial light. Here the screen is a wall. The driving force is plants, statuettes, lights of various shapes. And the light is precisely directed as a rule. It moves out of the center and towards the screen. The aesthetic effect from the screen is great. Shadows are reflected on the walls, and new ideas and meanings appear in the room. For example, a fire approaching a dark forest... Colored lighting is also popular because it gives a new mood to the interior. In addition, colored lighting can improve a person's mood and make him feel good. It is known that different colors affect emotions and evoke different feelings, invigorate, give strength and give peace. Researches of psychologists and designers and their analysis on the influence of colors on the psyche and mood of children

Color is important in our environment. Color not only in the human space, but also creates a mood in the person himself and even affects his health. In the East, there are 300 different ways to treat a person with color. Colors have a positive and negative effect on human mood and ability to work.

The fact that a person changes his favorite colors depends not only on his mood, but also on his age. Red, purple, yellow, green, blue, sky blue, and ink are not the normal colors of the rainbow, but the primary colors of the sunlight spectrum. This wonderful seven was discovered by the English scientist Isaac Newton. In physics, it is said that colors are light scattering, waves of different lengths. Rays of light have no color, it appears in the process of perceiving everything through the human eye. For humans, colors are an emotion, a way of communication in which people understand each other. It is not for nothing that the concept of "color communication" exists. With the help of colors, there are special diagnostics for determining the psychophysiological state of a person, stress tolerance, activity and communicative abilities. It was developed by the Swiss psychologist Max Lüscher. In his test, a person is asked to arrange colors in a sequence based on his personal interests. Each color has its own specifications. As a result of his several years of observations, Lüscher knew the symbolism of colors that affect people and brought out the essence of 8 colors. Each of the colors symbolizes a certain psychological necessity [28]. Thus, according to the observations of Max Lüscher: Blue is the knowledge of grief, sensitivity, sacrifice, self-sacrifice, emotional comfort, the need for deep affection. Green - determination, stability, criticality,

Yellow - towards the future, striving for innovation, freedom. Red is the beginning of creativity and leadership. Activity. Rejection of red color requires protection from excitatory factors. Gray color - the need for rest, free from obligations. Purple color is a bright display of individualism, departure from reality, subjectivism. Brown color - panic, need for physical and psychological comfort. Black - objection, negativism in relation to external pressure. The need for freedom. Designers have given the characteristics of each color based on their experience: Yellow is the first color that catches the eye, even if it is used in trace amounts in the interior. Soft shades of yellow give a mood of "sunny" cheerfulness. Bright yellow colors are attractive and should be used in moderation when used as an accent. Because if it increases, it will give excessive stimulation and tire the eyes. High visibility of yellow color allows clear and quick thinking. Local yellow is warm, cheerful, memorable and attractive. Some countries have a certain symbol of yellow. For example, death in Syria, despair in Brazil, power in China, cowards, scoundrels in mythology, the color of tragedy. And in America, it is a sign of prosperity.

Green is associated with nature. It calms and at the same time helps to concentrate. Dark green is self-sufficiency, a sign of a person's high status. Green color in the interior is soothing and relaxing. It is difficult to immerse yourself in work in a green room. Local green is a sign of hope for Americans, popularity for Austrians, and death for Egyptians.

Blue evokes a pure feeling, coolness and relaxation. Soft shades of blue indicate an open and light air. Dark blue is a symbol of wealth, power, respect, and confidence in a person. In the interior, the blue color always gives elegance and grandeur to the room.

Blue gloss in the interior of the room. Purple is a noble, complex color. Light soft shades of purple bring romantic thoughts. In the interior, dark purple color is used in small quantities. It gives a great effect when used as an accent. The whole wall cannot be painted with this color. The reason is known, it is very dark, such a colored wall looks like darkness. Purple color looks very beautiful in small sizes: stones, accessories and decor. It is not recommended to use dark purple in children's rooms. Because it can cause fatigue and aggression in children. Red is attractive, evokes excitement and raises blood pressure. Intense red stimulates, stimulates active movement, but if used excessively, it causes negative emotions and fatigue. Because red is a symbol of power and energy, it is used in public places and hotels. Children love this color and for them it is a color of activity, boldness and celebration. Excessive red color in children's rooms causes insomnia.

Pumpkin color has names such as warm terracotta and peach color. Like other intense colors, pumpkin color is exhausting and boring in the interior, but it is appropriate to use it in moderation in

the children's room. Details and accessories in this color are very attractive. This color can be called an excellent mood color. It represents the most cheerful, open, harmony and emotion. It slightly accelerates the pulse, but does not increase blood pressure. Appetite.

Gray color - its bright colors are relaxing, even in some cases cool the mood, do not panic, cause self-doubt and anxiety. It is not recommended to use this color in the decoration of offices, it is not able to create a working atmosphere. Black evokes feelings of fear. But it creates the impression of pride and wealth. Black can visually make a large space look smaller. In the 16th century, Queen Anne of England decreed that wearing black dresses was a traditional sign of mourning. White represents purity, peace, fullness, lightness, mystery. One of the main characteristics of white color is that it does not express any emotion. Often, a white base is considered colorless. In that universe, all paints lose their color. Therefore, white represents silence in our psyche and evokes imagination. This silence is not an absence, on the contrary, it means full of opportunities. The black base, on the other hand, represents impossibility, helplessness. Black is like a dead spot. Like silence without a future. Gray comes from the mixture of white and black.

The child perceives the color clearly and without any exaggeration. It forms an attitude to color. There are also opinions that "children are fed with colors as if they were fed with real vitamins." Adults tend to go for warm, pastel and duller colors tired from everyday work, while children tend to go for bright colors. When decorating the interior of children's educational buildings by choosing a gamut of colors, it is necessary to take into account that sensory development is the main factor in the gradual growth of children. This development of perception improves the functioning of the sense organs. In this, the presentation of the external properties of objects is formed (color, shape, size, taste, etc.).

Sensory development is important for preschool children. It helps to form the child's ideas about the world and shows his ability to education and creativity. Not being able to correctly perceive colors, it is impossible to successfully perceive its shape, size, position. Doctors recommend to equip the child's environment with bright colors from the time of infancy. It is necessary to have enough imagination for the mental development of the child. Research shows that children distinguish red, yellow, green and blue colors well from the time they are 4 months old. It seems interesting to the child to watch, hold and learn these things.

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