DEVELOPMENT OF INTUITION SKILLS ABOUT LIGHT/COLOR RELATIONS

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ABSTRACT
The 3-D concept of space and the subsequent propensity to light of designed planes is based on elementary investigations, which, in terms of perceptions and from a conceptual point of view, can help students understand the role of light and colour in spatial constructions.

Students of my junior classes in “Plastic Disciplines” of the Art High School have designed the exercises on this topic. After constructing simple, but dynamically arranged volumes, they have analysed the dynamic results of shades and light, composing colour zones, also with different colour tones depending on their spatial position.

The colour choice was necessarily intuitive, thus becoming a sort of creative discovery of colours depending on the spatial arrangement.

Students could realize how complex our perceptions are and that the relationship between natural light, space, colour, and volume are a composite assembly of complex perceptions. This can become a valuable tool to enrich future design works, also intuitively.

Keywords: Colours, Creative Discovery, Light, Space

1. INTRODUCTION
The topic of this conference is undoubtedly linked to the most advanced forms of contemporary architecture. Indeed, in a previous research work entitled “Contemporary Aspects in the Relationship between Colour and Architecture”¹ I presented the structures by William Alsop, Sauerbruch Utton, Mansilla + Tunon, and Jean Nouvelle, where colour, in its synergistic relation with light, is designed to mark surfaces and spaces, while informing ever different pathways, as well as hinting at light sources and patches of shade. The extension of surfaces is clearly in close relation with the degree of brightness transmitted by chromatic planes.

Research works on the same issues have been illustrated at several conferences and presentations. Hence, owing to my educational and artistic approach, the need was felt to identify any likely forms of educational applications on the synergy between light, shape, and colour. Elements were to be looked for, which, while simple and primary, could help promote intuitive and creative solutions by students also for their future projects. Therefore, the work carried out in the first and second year of Plastic Disciplines at Liceo Artistico (Art High School) Klee Barabino in Genoa will be described here below.
2. PROJECT DESCRIPTION

Fig.1 - See paper 2.1
Fig.2 - See paper 2.2

Fig.3 - See paper 2.2, 2.3
Fig.4 - See paper 2.4

Fig.5 - See paper 2.5
Fig.6 - See paper 2.6
The following work steps have been identified:

1. To begin with, plastic intentionally simple elements of composition are designed, expressing natural light and patches of shade (Fig. 1).

2. Colour design follows, leading to the discovery of chromatic matches and embodying autonomous brightness features. 3-D application of colour is thus obtained according to a personal preference, while plastic compositions are designed featuring surfaces painted with ever different colours (Figures 2 and 3).

3. Students observe how colour yield different levels of brightness when related to the various planes (Figure 3).

4. Students are free to choose the colours, while keeping an eye to the composition (Figure 3).

If tone is opted for, a more harmonious relation will be achieved with natural light; conversely, when timbre is selected, the relationship with light will often be a contrasting one.

Colour, as a “3-D expression” may affect the direction of planes, the perception of surface extension, as well as the depth and projection of volumes.

In this step, students find out what are the physiologic and psychological aspects of colour: it is a discovery proper of colour linked to the concepts of spatiality and brightness.

Resulting perception solutions differ on equivalent plastic compositions, offering changing expressions and numerous likely solutions.

The three-dimensional role of colour interfering with natural light brings about an overall synergistic perception.

On a more sectoral level, other investigations on colour can be designed to determine the direction, surface extension, depth, or projection.

In this way, students can use colour to interact with their own creative design according to a dynamic perception.

4. Some final tables (Figure 4) will exclusively concern the quantity and quality of individually chosen colours by highlighting the chromatic features of each project, as well as freely selected colour matches in exclusively 2-D solutions. In this way, a further project phase will be implemented, where colour, although expressing itself, is presented with a range of previously designed tones.

5. With the following exercise, students may appreciate different chromatic values on equivalent surfaces (Figure 5).

6. Other exercises involved the design of more complex spatial shapes (Figure 6) in relation with light as a constructive element in the composition of planes, thus leading to one single specific construction.

The latter is then reproduced in several coloured, as well as black and white specimens.

Students here match light with colour, thus obtaining plastic constructions providing overall diversified perceptions.

With this exercise, it was possible to better understand the role of colour depending on space collocation of the various elements, through different points of view, so that multiple results can be obtained also through movement.

With these composition works, students can understand the value of colour as a value of brightness within the plastic compositions designed by them.

For more details, please refer to the attached figures.
3. RESULTS AND DISCUSSION
Educational aspects developed through the light-colour-plastic volumes relationship and targeting younger students can also be applied to other similar projects, following a creative approach that can foster learning and awareness of the various possibilities given by colour application\textsuperscript{5}.

4. CONCLUSIONS
The topic of light-colour-architecture relationship according to the project presented here has some synergistic elements. If duly and more accurately examined, it can help enhance intuition, knowledge, and sensitivity in students, as well as promote their understanding of the role of colour in environmental research.
Training students in contemporary design also means realising that personal experience too is important to acquire sensitivity and creativity.
The goal is also to employ new research pathways in modern educational practices, toward wider, more stimulating, and suggestive perceptive spaces. Hence, students will need to be involved in parallel experiences reflecting like new horizons on our contemporary times, as expressed through most recent architecture\textsuperscript{6}.

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