

On Application of Conceptual Design in the Teaching of Environmental Art Specialty

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Abstract—As a creative means of teaching design, conceptual design in environmental specialty can effectively improve students' thinking ability and innovation and personality of design works. By expounding the meaning of conceptual design, this paper analyzed several ways of the generation "concepts". On the one hand, it is from the objective conditions, and on the other hand it stems from the subjective expression of one's own emotions. This paper was intended to reflect the creative method of conceptual design into the teaching of environmental art, so that students pay more attention to the theme, integrity and logic of the design process.

Keywords—conceptual design; environmental art specialty; teaching design

I. INTRODUCTION

Environmental art is a discipline that focuses on students' theoretical study, aesthetic consciousness and design ability, emphasizing students' practical ability in application. Along with the rapid development of the construction industry, the development of environmental art has penetrated into various levels of people's life. People's requirements for architectural space are not limited to design functionality, nevertheless, the spiritual needs and good space experience endowed with the site have gradually been the key to impress people^[1-2]. Recent years have seen an increasingly valued cultivation of innovative talents on higher education. The training mode of environmental art education shall not be limited to professional skills, but also the development of students' innovative capability. Conceptual design, as a design thinking mode, is involved in the field of environmental art education, proposing innovative requirements for the conception ability and creative mode of the program. Combining conceptual design with teaching demonstrates an effective form of innovative talent training of environmental art, hence encouraging students to adapt to the needs of current social development.

II. DEFINITION OF CONCEPTUAL DESIGN

Since the beginning of philosophy, concept means to summarize the characteristics of the perceived things in the cognition process of things, forming an expression of self-recognition. "Conceptual design" appeared in the field of art design and originated in Italy in the 1950s and 1960s^[3]. The

design goal is not limited to realistic conditions such as material and technology; it pays more attention to the expression of spiritual and emotional concepts contained in the works and enhances people's understanding of the process of generating things and the essential attributes. Conceptual design existed for a relatively short time in China, and its application in the design field mainly focused on industrial design, such as the design in the automotive industry. In the field of environmental art design, conceptual design is also called conceptual concept. It is often involved in the initial stage of the design process and runs through the whole design process. As a mode of thinking, it promotes the innovative development of design creation. For example, Kisho Kurokawa, the representative designer of the Japanese architecture "Metabolism", who combines modern technology with philosophical thinking and proposes that architecture, as the metabolism of organisms, should represent movement and changes and architecture provides space diversity purely as a structure to meet the different needs of people^[4]. Conceptual design enjoys a theme for design, playing an important role and meaningful significance for the integrity, personalization and innovation of design.

III. SIGNIFICANCE OF "CONCEPTUAL DESIGN" IN ENVIRONMENTAL ART EDUCATION

Environmental art education in domestic art colleges usually emphasizes more on the cultivation of professional skills. The courses offered generally consist of basic and professional design courses while conceptual design course often appears in the training plan as a specialized elective one. However, it can be found that the performance of the student's model coursework tends to be presentational during the teaching process, which is manifested in the plagiarism, similarity and patchwork of the design works in terms of the detachment of environmental factors such as the base site, building structure and nature of the space^[5].

Strengthening training of conceptual thinking in the teaching process can help students care less about the performance of design model while paying more attention to the expression of the theme and concept in the design work, which is positive on the overall shaping and individualized performance of the work. Meanwhile, in the design teaching,

students can also report on the theme and design concept of the work in the course, which not only helps students to sort out the logic of design creation in the process of language organization, but also exercises students' expressive ability. The interactive discussion also exerts a positive impact on the atmosphere of teaching activities.

IV. GENERATION STRATEGY OF "CONCEPTUAL DESIGN" IN ENVIRONMENTAL ART EDUCATION

In the teaching activities, the behavior of using "concept" as the starting point of creation is also called creation motive. The way of creating motive mainly includes external conditions and intrinsic motivation. The former one is based on the creation of objective environment, that is, yielding a solution through the comprehensive analysis of the external information; the second is the subjective expression of the

object, namely present the psychological world by the the imagination or emotional expression of the object or intrigue same thinking towards the society^[6]. It is worth noting that many students misunderstand conceptual design and believe that conceptual design is a design that does not consider realistic conditions. In fact, conceptual design should be dependent on "concept", guiding by the principles of aesthetics and relying on scientific and technological conditions to come up with a creative approach eventually in the form of creation (Fig. 1). Different from the traditional design teaching focusing on "results", this design activity emphasizes concept, stressing the motivation and process of design creation and the integrity and logic of design. It is an organized and purposeful creative process from abstract to concrete and primitive to detailed.

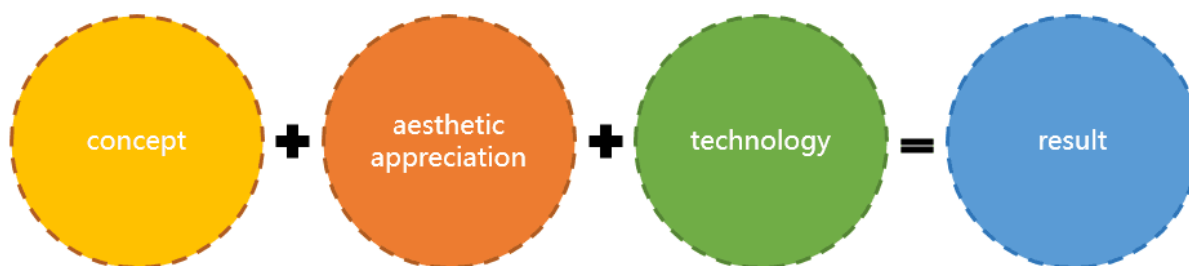


Fig. 1. Complete process of design creation

A. Creation of the objective environment

1) Guiding of the issue

The essence of design is to solve problems. Cognitive psychologist Herbert Simon once said: "All activities of artificial creation, including 'design' in a broad sense, are the process of problem solving." Concept can be generated by introducing problems, encouraging students to observe and analyze a series of problems exposed by environmental objects and proposing targeted solutions to the problems and responding to the base's demands on the basis of the full

exploitation of needs of the object (Fig. 2). The design concept generated by the problem-stimulating guide can effectively grasp the core of the problem, and then transform the design requirements into problem-solving. For instance, students are required to transform a space filled with column structure in the teaching, and then pillars in the design become "annoying". Therefore, it is significant to put forward problem-solving concept strategy for the "pillar" and creatively deal with the column network in the space to turn "trouble" into a surprise highlight.



Fig. 2. Generation of concept design process based on issue-guiding

2) Site conditions

The conceptual design based on the site value is a design method that mainly relies on the objective conditions of the design object. This method emphasizes the understanding and combing of comprehensive site information such as humanities conditions (cultures), natural conditions (ground veins) and historical conditions (history) by collecting materials and visiting in the early stage of design. Hence, the entry point of design can be found, allowing the designer to establish a close and intuitive connection between the creative theme and the site. This is usually the most direct and effective way of conceptual design and it can also maximize the value of the base^[7]. This conceptual design based on site conditions has certain objectivity. For example, the sculpture design of a certain park in Nanjing, because the base is located in a place with a long history and culture in the ancient city of Nanjing, so students were asked to read through the ancient books in large numbers, combing and summarizing at the beginning of

the design concept, and they finally found the famous poet Li Bai once described it in verses and then transform the textual abstract words into figurative modeling design, obtaining the final conceptual design scheme by combing the context of the site^[8].

Conceptual design based on objective conditions of the site sometimes resort to the use of software, such as parametric design and data analysis. By means of program operation, various design conditions will be analyzed to clarify the design orientation. For example, in the course “Digital Technology” offered by the School of Architecture of Southeast University, students designed a small courtyard, using programming software to analyze the six elements of the landscape, including paving, pavilion, main tree, small shrub, stone and flowers and set the quantity and condition requirements, finally receiving several different “modeled courtyard” layout schemes(Fig. 3).

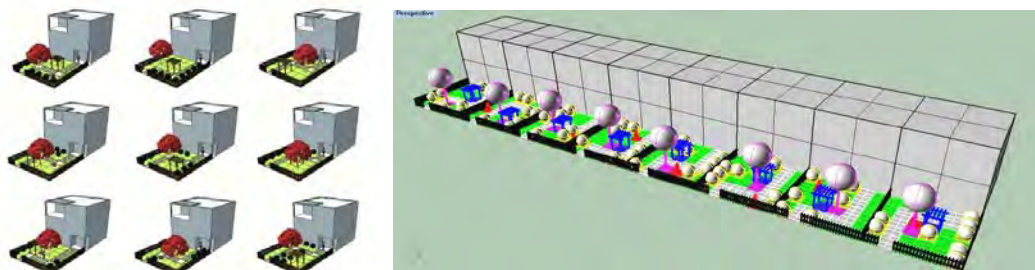


Fig. 3. Courtyard combination operation

B. Subjective expression

The conceptual design dominated by human subjective emotions advocates the integration of certain concepts, emotions or philosophical thinking ideas into the architectural space to explore the spiritual meaning of the architectural space. This can provide students with more open-minded and deeper thinking to motivate students to think positively and to integrate emotions and concepts into the space in the form of artistic expression, expressing them in a hidden form finally.

1) Typical experience and association

People's perception of the object and the environment comes from the collection of external information by the human senses (eyes, ears, nose and skin) and then people process it by the brain, forming a perceptual image of the object eventually. Objects that have been perceived by the brain can be traced in the brain in the form of experience, and we can recall their image and characteristics if necessary. This method can effectively mobilize the perceptual information, and establish the external association of image and logic of the spatial space through the perception of memory, association, experience and so on. Brian Storming, which is often used in art design teaching activities, is a perceptual-based creative thinking method that inspires students to divergently associate and illuminate the existing knowledge and experience of the object to stimulate creativity and afflatus.

For example, in a course “Conceptual Image Design” in School of Architecture of Southeast University, “Time” is the

theme of the teaching, which aims to express the relationship between space and time through images. Through association and correlation, students establish connection between time and gears and represent the passage of time by the rotating speed of multiple gears through images in a closed space (Fig. 4)^[9].



Fig. 4. Time, space and conceptual design of image

It is noticeable that in teaching, the association method of the concept should also focus on effective guidance, divergence and correction to ensure that the design results are presented reasonably and appropriately. For instance, in the design of a rabbit food processing base, the method of empirical association was introduced at the very beginning. Many students simply used the cute image of the loving rabbit to shape the architecture, however, the work showed a single and similar way. But as a food processing area, the cute image of rabbit has some contrast with the edibility. After being guided by the teacher, some students associate the image of rabbit with the traditional Chinese idiom “The wily hare has three holes to his burrow”. The architectural style imitates the rabbit cave when in design, creating a “multiple” concept, effectively reversing people’s image of loving rabbit while feeling discouraged about the rabbit food.

2) Emotional orientation

Conceptual design based on emotional orientation advocates the convergence of people’s experience and emotions on objects, and expresses them in a metaphorical way to strengthen people’s thinking about objects^[10]. For example, School of Design in Netherlands has designed a costume work full of emotional memories in its teaching activities. This top looks very ordinary; nevertheless, it has a lot of wrinkles at the waist to satisfy the normal use of female customers due to changes in body shape after pregnancy. Such clothing enjoys a new meaning before and after the birth of life. It is not only fashionable and functional, but also boasts emotional value. The conceptual design of emotional sustenance is also applied to the design of the Jewish Museum in Berlin. The entire venue is a container full of memories and emotions and the space expresses the designer’s thinking about “survival” and “death” here and there. When visitors walk along the entire upward stairway in the pavilion, the irregularly arranged beams above the stairs break the order of the conventional building beam structure, conveying tension and oppression in an uncertain and slanted design language. This space design is a manifestation of the state of mind of Jewish at the time.

V. CONCLUSION

Conceptual design is a process of transforming abstract “concepts” into concrete “objects”. Introducing conceptual design into environmental major teaching can encourage students to guide design behaviors with “themes”, which can not only strengthen students’ comprehension about space and enhance the creativity and imagination of students’ design ability, but also ensure the diversity and individuality of design works. In the meantime, it enables students to actively explore the connection between design topics and related knowledge. Multidisciplinary and interdisciplinary learning can be achieved in this kind of teaching activity, hence helping students learn more knowledge by taking full play to initiative.

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