

Application of visual element technology in landscape design and construction

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Abstract. With the continuous improvement of economic construction and the continuous improvement of people's living standards, material life can no longer satisfy people's growing spiritual pursuits. The emergence of garden landscape has improved and beautified the urban environment. The integration of garden landscape and modern urban life is only the inheritance of garden landscape culture for thousands of years, but also allows long-term life in the city. People who face the cold steel and cement buildings every day feel the visual impact and enjoyment given to them by the garden landscape. Therefore, this article briefly describes the general situation of modern garden landscape design and construction and the importance, and elaborates the application of visual elements in garden landscape design and construction.

1 Introduction

In recent years, as the pace of economic development and urbanization process has gradually accelerated, there are many tall buildings everywhere, making people's lives full of depression. Therefore, the application of garden landscape in a fast-paced modern city plays a very important role for the busy people living in the city. The beautiful environmental landscape can not only play a role in protecting the ecological environment, but also provide a place for people to relax after high-tempo work [1]. However, most traditional gardens at present only consider the environmental protection effect of the city, but ignore the ornamental nature of garden landscape art. In the garden design, the aesthetics brought by the visual elements should be fully considered to ensure the ecological greening of the garden while increasing its ornamental nature and providing people with visual enjoyment.

2 Landscape design and construction

Garden landscape design is a comprehensive course, which combines landscape art and construction technology on the basis of garden design to create a relaxed and comfortable living environment for urban residents. The design basis of the garden landscape design is based on the combination of local topography, plants, and architectural styles to comprehensively design a landscape style suitable for local characteristics. It can be seen that with the improvement of people's living standards, people's aesthetics is constantly improving. It further reflects the designer's respect for local life, architecture and culture. In the past garden design and

construction, what was considered was the function of green. It ignored that the garden landscape was also a kind of beauty. Vision is an important way for people to obtain information and perceive the surrounding things. People perceive the surrounding environment through vision. A good garden landscape design can touch people's vision. If the garden landscape design still pays attention to trees and maintains greenery as before, without any artistic characteristics, greening will not bring people a visual experience in the long run [2]. Therefore, in today's garden landscape design, designers need to integrate visual elements to construct unique landscape works to make the urban environment more comfortable and pleasant.



Figure 1. Landscape picture

3 The significance of visual elements in landscape design and construction

Vision is one of the most important ways for people to obtain external information. Compared with smell and touch, the amount of information received through vision

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is the largest. People’s cognition of strange things through vision is a process from feeling to perception, from perceptual to rational. However, from the current point of view, the application of garden landscape design is becoming more and more extensive. Whether in terms of scope or content, whether it is urban or rural, street or park, traditional landscape design can only show its greening effect. It can not meet the development needs of contemporary society. Landscape can be an art, and it can green the city and make people relaxed [3]. Therefore, the application of visual elements in landscape design and construction makes landscape design with unlimited possibilities. Everyone’s visual perception is different, and the connotation they experience is also different. It can apply visual elements to garden landscape design for different places, such as parks, streets, residential areas. Different places show different design implications. Therefore, it is very important to fully display the visual elements in the garden landscape design.

4 Application of visual elements in landscape design

From point to line to surface in visual elements, every design element can be well applied in garden landscape design, and every small element may affect the ornamental nature of garden landscape design and the whole construction project. [4]. Therefore, the application of different visual elements makes the garden design more diversified and humane.

Table 1. Types and manifestations of visual elements

Types of visual elements	Expressions in landscape design
Point	Green plants, rivers
Line	Paths, bridges, handrails
Surface	Ponds, squares
Shape	Statue, rockery
Colour	White walls, orange lights

4.1 Application of Point Element in Landscape Design

From an artistic point of view, everything is composed of many point elements. As the most basic design element in garden landscape design, in the process of garden landscape design, the artistic concept of point elements is integrated into the design to achieve an eye-catching effect. In the process of garden landscape design, green plants and rivers can be used as a point to enrich its connotation. In the practical application of garden landscape design, point elements are often used to represent functional objects or ornamental objects. For example, the green vegetation in the garden not only has the function of greening the urban environment, but also has important ornamental value. The point element of green vegetation can be used with point elements of different sizes through solitary planting, paired planting, scattered planting, etc. The plant point elements here are arranged in a reasonable combination according to our aesthetic and visual requirements.

4.2 Application of line element in landscape design

In mathematical geometry, lines are made up of countless small dots. The same is true in garden landscape design, where multiple point elements are arranged in an orderly manner to form a line element. In the garden landscape design, the line elements are mainly reflected by the paths in the garden. The shape of the line element does not require too much, either a straight line or an arc [5]. In the visual elements, the straight lines give people a sense of directness and refreshment, and the arc lines give people a soft feeling. Different structures and design emotions can be expressed through line elements, such as paths between gardens, bridges by creeks, handrails of step. The combination of straight lines and arcs makes the whole design artistic conception straightforward and tactful, giving people a visual and ideological impact.

4.3 Application of surface element in landscape design

The composition principle of surface elements is the same as that of line elements, and countless line elements can form surface elements. In the process of garden landscape design, the application range of surface elements is wider, and the visual effects presented by it are more obvious. The surface element can divide the space, showing a more vivid sense of plane and three-dimensionality. In the process of garden landscape design, surface elements usually take the form of water surface, ground, square, lawn, etc., and subdivide the surface elements into virtual surface and real surface [6]. Lawn, square, and ground can be regarded as real surface, and water surface can be regarded as virtual surface. Therefore, it can choose a combination of virtual and real design techniques. The surface element has a wide range of applications. When designing, the designer can combine and apply the surface element in many aspects according to the specific design style to give play to the value of the surface element.

4.4 Application of form in landscape design

In the spatial structure, the body element can be said to be another form of expression of the surface element. It can be expressed that different types of surface elements move in different directions, and the edges of the surface elements are connected to form a body element. In the process of garden landscape design, the physical elements can vividly express the sculptures, rockery and other objects with rich shapes. In the process of garden sightseeing, some peculiar and creative shapes and structures often attract people’s attention and stop to admire them. Therefore, designers should get rid of the shackles of traditional design concepts, combine the design style of the surrounding buildings of the garden and the design needs of the garden landscape itself, combine point elements, line elements, and surface elements, and boldly innovate. The design of a novel and unique physical structure makes the garden landscape visually giving people a super fresh sense [7]. In addition, the shape

elements mentioned above all refer to the complete shape. Semi-three-dimensional elements, such as reliefs, can also be incorporated into the design to enrich the artistic

conception of garden design and attract viewers to stop and observe.



Figure 2. Landscape mapping

4.5 Application of color elements in landscape architecture

In the past design experience, people have concluded that incorporating color elements into the design can not only give people a visual impact, but it is also worth noting that different colors will give people different psychological hints. For example, red and yellow in bright colors are the colors that people choose when celebrating, and they often give people a sense of excitement [8]. Therefore, the application of color elements to the garden landscape design can better highlight the visual effect. Since most of the gardens are green vegetation, the color elements are not incorporated into. It is easy to make the viewers aesthetically tired. With orange lights, white walls and other elements, the entire garden landscape can be more novel and amazing.

5 Application of visual elements in landscape construction

In summary, the above points refer to the theoretical application of visual elements in garden landscape design. In the actual construction process of the garden, whether it is possible to flexibly use various visual elements according to the theoretical design, it should also be analyzed in detail. For example, a straight road will make people feel very ordinary, but if you combine street lights and chairs on both sides of the road, it will give people a very warm feeling. This is the result of combining point elements and line elements. For another example, in the construction of the square in the garden, if only one color of floor tiles is selected, it will give people a single and boring feeling. Combining surface elements with color elements and using floor tiles of different colors will give people a strong sense of plane. In addition, the cutting method of floor tiles can also be innovated. Secondly, in order to ensure the coordination of the overall space of the garden landscape, rich rockery, vivid and visually

impactful waterscapes can be placed to attract the attention of viewers. In the process of garden landscape construction, it is necessary to keep the natural landscape and garden landscape in harmony as much as possible, reflect the visual elements in the design, and make the entire garden design more real and vivid.

6 Conclusion

To sum up, in the process of garden landscape design, the integration of visual elements can not only show the ecological greening value of the garden, but also reflect the ornamental value of the garden. In the fast-paced city life, it provides a place for viewers to stop and relax. The intertwining of visual elements such as points, lines and planes makes the whole garden project more beautiful. While making achievements in garden landscape design, it should continue to innovate and reform, learn new design concepts, and promote the better development of landscape design in China.

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