Research on Online Teaching Method of Garden Plant Configuration Based on Computer Technology

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Abstract. The role of computer technology in garden plant configuration is very important, but there is a problem of low plant allocation rate. Traditional teaching methods cannot solve the problem of plant configuration in gardens, and there is less rationality. Therefore, this paper proposes an online teaching method based on computer technology to construct a matching model of plant configuration and teaching. Firstly, the garden knowledge is used to classify the plant configuration, and the configuration collection is divided according to the teaching standards to realize the quantitative processing of the garden plant configuration. Then, garden knowledge classifies plant configurations, forms configuration collections, and iteratively analyzes the configurations. MATLAB simulation shows that under the condition of certain teaching standards, the configuration analysis accuracy and rationality of online teaching methods based on computer technology are better than those of traditional teaching methods.

Keywords: garden knowledge · plant configuration · computer technology · Online teaching methods

1 Introduction

Plant configuration is an important evaluation content of garden management and is of great significance for garden planning [1]. However, in the actual plant planning process, the plant planning results have the problem of low plant allocation rate, which has a certain impact on the garden plant allocation [2]. Some scholars believe that the application of intelligent algorithms to gardens can effectively analyze melodies and configuration parameters [3], and provide corresponding support for plant planning [4]. On this basis, this paper proposes an online teaching method based on computer technology to optimize the configuration of garden plants and verify the effectiveness of the model.

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2 Related Concepts

2.1 Mathematical Description of Online Teaching Methods

The online teaching method is to use garden knowledge to optimize the configuration, and according to the multi-dimensional indicators of the garden, find outliers in plant planning, integrate the configuration, and finally judge Feasibility of plant planning results [5]. The online teaching method combines garden knowledge, uses plant configuration mining, intelligent algorithms, optimizes the plant configuration results, and can improve the intelligent plant configuration.

Hypothesis 1: The teaching content is $set \sum x_i$, the configuration set is x_i, the teaching standard is y_i, and the judgment function of the plant configuration rate is $f(x_i)$ as shown in Eq. (1).

$$f(x_i) = \underline{\underline{k \cdot \sum x_i | y_i \langle \xi}} \tag{1}$$

2.2 Selection of Configuration Scheme

Hypothesis 2: The configuration scheme selection function is q_i and the matching weight coefficient is $F(x_i)$, then the configuration scheme selection is shown in Eq. (2).

$$F(x_i) = \sqrt{\sqrt{z_i \cdot \sqrt{f(x_i | y_i)}}} + \prod \sqrt{q_i} \cdot \xi \tag{2}$$

2.3 Processing of Teaching Data

Before the analysis of the online teaching method, the configuration indicators in the plant planning results are analyzed and the configuration is recorded in the plant planning table, judge the unreasonable configuration. First, the configuration is comprehensively analyzed, and the thresholds and weights of the configuration are set to ensure the accuracy of online teaching methods based on computer technology. Plant configuration needs to be quantified and if the configuration is normally distributed, its plant planning results will be affected, reducing the accuracy of overall plant planning. The accuracy of online teaching methods and the level of plant allocation rate, the plant configuration scheme should be selected, and the protocol selection is shown in Fig. 1.

The configuration in Fig. 1 shows that the configuration scheme shows a diversified distribution and meets the teaching requirements. The configuration scheme is not directional, indicating that the online teaching method based on computer technology has strong accuracy. The configuration scheme conforms to the configuration requirements of garden plants, mainly to adjust the configuration scheme, eliminate duplicate schemes, and revise the configuration parameters, so that the whole configuration of plants is more planned.

After the configuration processing is completed, the garden plant configuration of different methods is compared, and the plant configuration results with the highest accuracy are recorded.

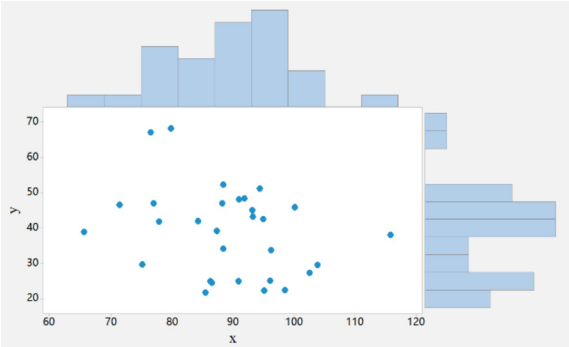

Fig. 1. Scheme selection of online teaching methods

3 Practical Cases of Garden Plant Configuration

3.1 Plant Configuration

In facilitate the configuration scheme, the protocol in this paper are used, and the plant configuration in Table 1.

Table 1. Characteristics of teaching data

Configure parameters	Configure the scale	Number of scenarios	Dispersion	threshold
tree	1/4	11.58	10.53	12.63
	1/2	12.63	12.63	8.42
vegetation	1/4	21.05	14.74	18.95
	1/2	16.84	5.26	17.89
Rocks	1/4	12.63	6.32	17.89
	1/2	6.32	5.26	5.26

The configuration parameter processing process for plant configuration in Table 1 is shown in Fig. 2.

Table 1 shows method, the plant configuration results of the online teaching method are closer to the actual plant configuration requirements. In terms of configuration rate and accuracy, online teaching methods are superior to traditional teaching methods. The change of configuration parameters in Fig. 4 shows that the accuracy of the online teaching method is better and the configuration speed is faster. Therefore, the plant configuration speed, rationality and configuration accuracy of the online teaching method are better.

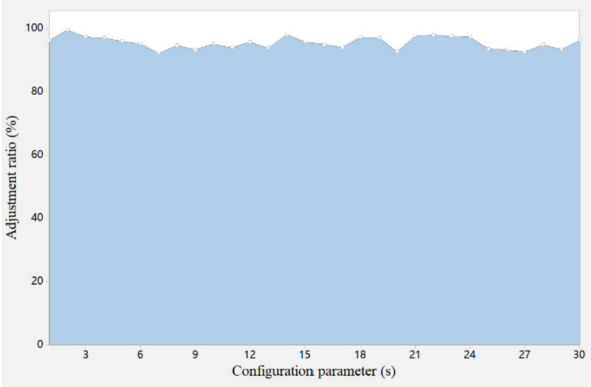

Fig. 2. Adjustment process of configuration parameters

3.2 Plant Configuration Outlier Identification Rate

After the threshold standard screening of the online teaching method [21], the preliminary plant configuration results were obtained, and the plant configuration was analyzed. To verify the effect more accurately, select different plant configuration schemes, as shown in Table 2.

Table 2. Overview of configuration parameters

parameter	Plant allocation rate	Outlier recognition rate
Tree	21.05	16.84
vegetation	13.68	13.68
Rocks	21.05	9.47
Mean	15.79	7.37
X^2	8.42	20.00
$P = 0.036$		

3.3 Stability and Accuracy of Plant Configuration

The online teaching method, the configuration traditional teaching method, as Fig. 3.

It seen from Fig. 3 that the rationality of plant configuration of online teaching methods is higher than that of traditional teaching methods, but the error rate is lower, indicating that the plant configuration of online teaching methods is compared Reasonable, while the rationality of the configuration of traditional pedagogy is uneven. The accuracy of the above algorithm is shown in Table 3.

Table 3 shows that the traditional teaching method has deficiencies in plant allocation time, accuracy, and plant allocation accuracy There are large changes and a high error

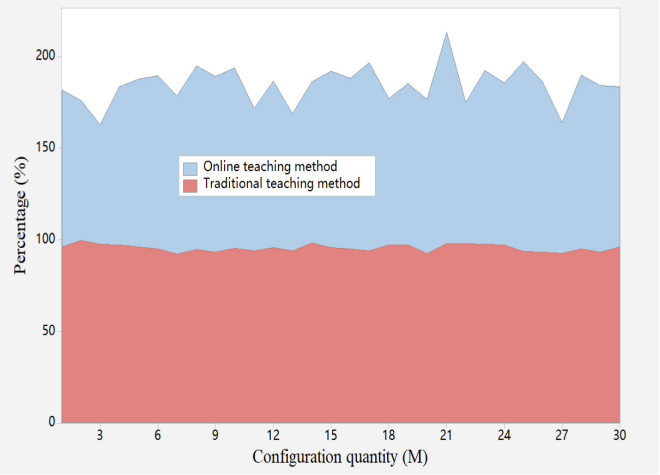

Fig. 3. Rationality of online teaching methods

Table 3. Comparison of configuration analysis accuracy of different methods

algorithm	Plant configuration time	Precision	Error
Online teaching methods	13.68	95.79	1. 09
Traditional pedagogy	43.68	94.74	7.89
P	14.74	5.26	11.58

rate. The online teaching method has a higher plant configuration time than the method. At the accuracy of plant configuration of the online teaching method is greater than 90%, and the accuracy has not changed significantly. To further verify the superiority of online teaching methods. A comprehensive analysis of the vegetation configuration was performed using different methods, as shown in Result 4.

Figure 4 that the configuration parameters of the online teaching are significantly better the teaching, and the online teaching method increases the plant configuration adjustment coefficient and sets it The corresponding thresholds are configured with configuration parameters.

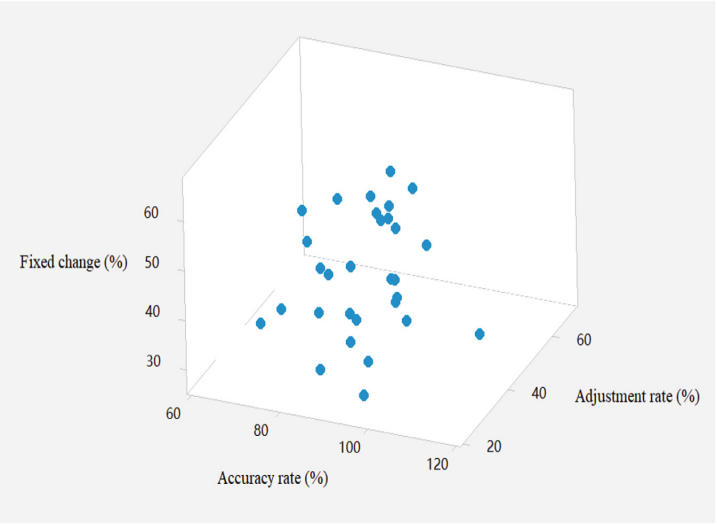

Fig. 4. Comprehensive evaluation results of online teaching methods

4 Conclusion

In the case of the rapid development of computers, this paper proposes an online teaching method based on computer technology and improves plant configuration based on garden knowledge. At the same time, the plant configuration standards are analyzed in depth to construct the plant configuration collection. Studies have shown that online teaching methods can improve the accuracy of plant configuration and optimize plant configuration. However, in the process of online teaching methods, too much attention is paid to plant analysis and the proportion of plant configuration is ignored.

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