Evaluation Method of Campus Football Implementation Effectiveness Based on Computer Simulation Model

Jia Xu*
Northwest Normal University, Lanzhou, Gansu, China, 730070

*E-mail: 3133118315@qq.com

Abstract. Campus football is an important part of football reform in China, which undertakes the arduous task of promoting the all-round development of students and training football reserve talents. However, at present, there are few studies on the evaluation methods of the implementation effect of campus football in China, and the construction of a complete and scientific evaluation system of the implementation effect of campus football is not perfect, which seriously restricts the sustainable and healthy development of campus football. Therefore, this paper analyses the problems existing in the development of campus football, and discusses the possibility of applying the computer simulation model to the evaluation method of the implementation effect of campus football. On this basis, this paper puts forward the basic principles and key evaluation indexes of the implementation effect evaluation method of campus football, and constructs the structural equation model of the evaluation method, which provides a solid theoretical support for the evaluation of the implementation effect of campus football and the high-quality development of campus football.

Keywords: Computer Simulation Model, Campus Football, Evaluation Method

1. Introduction

Since the launch of campus football in 2009, the campus football activities of each pilot school are in an orderly way, at the same time, the number of young people participating in football activities is also increasing year by year. In the development process of campus football, the evaluation of the implementation effect of campus football is not only an important link to judge the development status of campus football, but also an important basis for the football management department to specify the football policy. Scientific and effective evaluation of the implementation of campus football is not only conducive to the smooth development of campus football, but also enables schools and management departments to find their own shortcomings in the implementation process. At present,
although the development of campus football in our country has made some achievements, the evaluation system for the implementation effect of campus football is not perfect. Therefore, it is particularly important to use the structural equation model and other scientific theories to develop the evaluation method for the implementation effect of campus football.

2. Overview of campus football

2.1. The significance of developing campus football

The development of campus football activities can stimulate teenagers' interest in football and effectively improve their physique. Campus football activities are carried out in the form of competitions, but in the process of competitions, schools should play down the importance of the results of competitions and emphasize the importance of participation. Campus football is a school sports activity rather than competitive sports [1]. Diversified teaching methods can let more teenagers participate in football, which can not only cultivate their unremitting spiritual quality, but also make them enjoy playing football. At the same time, the development of campus football activities not only makes more teenagers like football, but also strengthens the reserve force of football in China. For example, the football youth training camp in China provides a good platform for the youth who love football and establishes a sustainable and healthy football training system in the whole society.

2.2. Problems in the development of the campus football

First of all, the main problems involved in the evaluation of the current situation of the development of campus football in China are: the situation of the venue, the situation of the teaching staff, the attitude of teachers and parents, the number of participants and the use of funds, etc. It can be seen that the current evaluation methods of campus football are not comprehensive enough, and lack of specific evaluation indicators [2]. At the same time, most of the researches on campus football only focus on superficial factors, but not on the internal factors of its effect. Secondly, looking at the research on the evaluation system of campus football in our country, we can find that, due to the limited time for the development of campus football in our country, these researches are only limited to the evaluation of football classes, and the research on the evaluation of the implementation effect of Campus football from the perspective of whole campus football is still blank. This phenomenon leads to the fact that campus football of our country cannot get the true and effective evaluation, so it is difficult to achieve the substantial development effect.

3. Overview of the structural equation model

The structural equation model is an important statistical method for quantitative research in the field of contemporary behaviour and society, and it is the product of the combination of traditional mathematical statistical methods and certain computer technology [3]. The Structural equation model is generally used to verify the hypothesis relationship between potential variables. The Structural equation model (SEM) has been widely used in management science because of its unique architectural advantages. Generally speaking, as long as the practical problems can be transformed into equations, SEM is suitable for solving [4]. Therefore, SEM can be applied in many management fields such as physics, chemistry, equation, electronics, architecture and economy. With the application of the structural equation model in management practice, it has been continuously improved and
expanded, and various specific models have been emerging. It is worth noting that the specific patterns of these structural equation models must be adapted to their specific situations.

4. The evaluation method of the implementation effect of campus football based on the structural equation model

4.1. The basic principles of the evaluation method of the implementation effect of campus football

In the process of campus football development, the evaluation quality of its implementation effect mainly depends on the rationality and effectiveness of the evaluation index. Therefore, the following basic principles should be followed in the evaluation of the implementation effect of campus football.

(1) Guiding principle

Evaluation is not an end in itself. The essence of evaluation is to provide objectives and requirements for the development of activities [5]. The function of evaluation is to make activities develop and progress continuously. Traditional sports teaching concepts can no longer meet the increasingly diverse learning needs of students. To evaluate the effectiveness of campus football is to break the old sports concepts. Therefore, in this process, schools and administrative departments should be practical-oriented, with the purpose of enhancing students' physique, only in this way can the campus football be popularized and promoted.

(2) The Combination of qualitative evaluation and quantitative evaluation

Quantitative evaluation has its inherent advantages. It can simplify the complex and tedious evaluation process and make the evaluation result objective and accurate [6]. Through quantitative methods and forms, we can get clear results. But in social activities, scientific research should not only analyse the cognitive level, but also pay attention to the performance level. In other words, the simple quantitative research cannot completely evaluate and analyse the research object. After the scientific quantitative evaluation, the objective qualitative analysis should be carried out, because the evaluation itself is a process of value judgment. Only the combination of qualitative analysis and quantitative evaluation can make the evaluation result more convincing.

4.2. The selection of specific evaluation indexes in evaluation methods

(1) First-level indicators

The first-level indicators specifically include five indicators: work security, school activities, off campus competitions, teaching staff and cultural football. Among them, job security is considered to be the basis for the smooth development of campus football activities, which should be subdivided into rules and regulations, the importance of leaders, the degree of capital investment and the organization of activities.

(2) Second-level index

The second-level index is the index reflecting the focus of the first-level index. As the foundation of the campus football activities, the campus football curriculum can help to improve the youth's football knowledge level and sports skill level. At the same time, it can also mobilize the students'
initiative and enthusiasm to participate in football activities. In addition, for second-level indicators, teachers in the first-level indicators should increase the football training, because as the leader of the campus football activities and the implementer of the school football plan, it is necessary for teachers to participate in the training regularly. Finally, the second-level index should focus on evaluating the number of excellent players trained by the school, so as to reflect the results and level of football training on campus.

4.3. The structural equation model of the implementation effect evaluation method of campus football

The structural equation model can be used to verify whether a factor model is consistent with the data, which is called confirmatory factor analysis. On the basis of research on the theoretical model of the implementation effect of campus football, the relationship between latent variables can be explored by using confirmatory factor analysis. In the constructed path graph, the rectangle and ellipse shape represent the measurement variable and potential variable respectively, and the arrow represents the causal relationship between them. Based on the above methods, a structural equation model for the evaluation of the implementation effect of campus football can be established, and its detailed structure is shown in Figure 1.

![Figure 1. The structural equation model for the evaluation of the implementation effect](image)

Chi-square is an index to measure the quality of the model, its minimum value is zero, and the maximum value has no upper limit. For a good model, the chi-square value should be small, if the chi-square value is not significant, the model is considered acceptable. Therefore, the ratio of the chi-square value to degree of freedom is usually used to judge the fitting degree of the model. As long as the ratio is between 2-5, the model can be considered acceptable. The reliability of the Root Mean Square Error of Approximation in the evaluation system is relatively high, so it is a better absolute fit index. Generally speaking, the Root Mean Square Error of Approximation is inversely proportional to the performance of the model. When the Root Mean Square Error of Approximation is lower than 0.1, it means that the model fits well, and when it is lower than 0.05, it means very good. The overall fit degree of the structural equation model in the evaluation system is shown in Table 1.
Table 1. The overall fit degree of the structural equation model

|   | X²   | DF | X²/DF | P  | GFI | CFI | AGFI | NFI |
|---|------|----|-------|----|-----|-----|------|-----|
|   | 227.68 | 52 | 4.39  | 0.00 | 0.79 | 0.88 | 0.75 | 0.85 |

5. Conclusion

At present, the development of campus football in our country has achieved some results, but the related evaluation methods of the implementation of campus football are still imperfect, which seriously affects the healthy development of campus football. In this context, this paper puts forward the evaluation method of the implementation effect of campus football based on the structural equation model, which realizes the comprehensive evaluation of the implementation effect of campus football. Its scientific evaluation results can not only clearly show the development level of campus football, but also provide a reliable basis for the football management department to formulate the campus football policy.

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