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Evaluation Platform for Innovation and Entrepreneurship Education Quality of Local Undergraduate Colleges and Universities under the Background of "1 + X" Policy Based on Big Data

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Abstract: Education quality monitoring and evaluation is an important part of education reform. The development of education quality will promote the development of education, the education of all countries and regions, and the progress of human society+ As a new education strategy, X platform not only conforms to the actual situation of enterprises and the needs of the times, but also helps to stimulate the entrepreneurship and innovation education of college students, which can further improve the theoretical basis and knowledge skills. Under the background of "1 + X" policy of big data, this paper improves the BP neural network evaluation model, designs the local undergraduate innovation and entrepreneurship education quality evaluation platform, and selects four undergraduate universities as samples for data collection and analysis. According to this principle, the evaluation range of the standard platform designed in this paper is Y1 = (0.845, 0.158, 0.032, 0.007), the maximum element is 0.845, and the corresponding rating level is "very good". Therefore, it can be seen that the quality evaluation platform designed in this paper is similar to the standard platform the real results are similar.

1. Introduction

The history of human social development is the history of creation, invention and innovation[1]. "Innovation is the soul of national progress and the inexhaustible power of national prosperity" [2]. Innovation plays an irreplaceable role in directly promoting economic and social development [3]. Entrepreneurship is one of the channels for contemporary college students to obtain employment, and it is also the positive choice of many college students who have experienced certain social

practice [4]. Entrepreneurship Education in joint colleges and universities is a strategic resource to serve the country to accelerate the transformation of economic development mode and build an innovative country and talent power [5]. This is also an important way to deepen the reform of higher education, improve the quality of personnel training and promote the development of Higher Education [6-7].

To cultivate students' innovation and entrepreneurship ability, teachers must have good innovation and entrepreneurship skills and good innovation and entrepreneurship education skills, and constantly judge and control the quality of Education [8-9]. Local college students are encouraged to actively obtain multi-level vocational skill certificates, expand their employment and entrepreneurial skills, alleviate the structural employment contradiction, and improve their comprehensive ability for career development while obtaining academic qualifications [10].

Under the background of "1 + X" policy of big data, this paper improves BP neural network evaluation model, designs local undergraduate innovation and entrepreneurship education quality evaluation platform, and selects four undergraduate universities as samples for data collection and analysis. It focuses on user perceived value, from content, design, technical support and user participation, and from 11 indicators, including content, scope, accuracy, quality evaluation, etc In terms of strength and topic, the Internet rating system is established, and the training platform website is established. Using qualitative and quantitative methods, through the analytic hierarchy process and fuzzy comprehensive evaluation method to determine the weight of all levels of index evaluation method and evaluate the quality and effect of the website, to provide reference for the design standard of the platform.

2. Education Quality Evaluation Platform and Neural Network Model

2.1. Construction of the Quality Evaluation Index System of Innovation and Entrepreneurship Education in Local Universities

The innovation and entrepreneurship education of local undergraduate colleges is a complex education system project with many influencing factors. It is difficult to make a comprehensive and objective summary and measurement with a dimensional evaluation system. Many evaluation contents should be regarded as the form of value realization of system elements. They are connected with each other in the form of "elements + relationship". At the same time, we should follow the guidance of strategic objectives and design a comprehensive evaluation index system in combination with the level, characteristics, objectives, content and structure of innovation and entrepreneurship education in local colleges and universities. It mainly involves the following factors.

(1) Government level

The government plays an important role in guiding and supporting innovation and entrepreneurship education. The government level mainly includes increasing capital investment, introducing relevant preferential policies, actively guiding local colleges and universities to carry out innovation and entrepreneurship education and create management institutions, formulating relevant management systems and measures, and actively guiding and managing students' innovation and entrepreneurship activities.

(2) University level

Local universities are the main body, unit, place and main force of innovation and entrepreneurship education. It mainly includes the school to develop positive innovation and entrepreneurship education ideas and education plans, the establishment of specialized innovation

and entrepreneurship education management institutions, good education atmosphere includes the following three aspects.

One is the university environment. The environment reflects the organizational support and financial investment of local universities for innovation and education. It mainly has two aspects: one is the hard environment and the soft environment: the first is the various material guarantee measures for innovation and operating funds; the second is the measures to encourage innovation to stimulate the spirit and enthusiasm of innovation and entrepreneurship.

The second is the strength of teachers. The innovation and entrepreneurship education in local undergraduate universities is ultimately implemented by all teachers. The school and staff are important factors to evaluate the quality of education, especially the background of teachers, that is, the academic qualifications, quality skills and work experience that university professors should have in the knowledge of innovation and entrepreneurship education.

The third is teaching. Teaching is the link of implementing innovation and entrepreneurship education. Through the innovation of curriculum content and form, students' innovation and entrepreneurship ability can be improved.

2.2. Design and Implementation Path of Education Quality Evaluation Platform

(1) Improve the design of education framework and establish the goal of innovation and Entrepreneurship

The first step of introducing 1 + X platform into innovation and entrepreneurship education practice is to improve the design of education framework and determine the goals of innovation and entrepreneurship. According to the actual situation of the development of education, the government should establish a special functional department to be responsible for innovation and entrepreneurship, give full play to the guiding role of the government, and give full play to the enthusiasm of higher education. At the same time, the education evaluation feedback system is also the key to make the platform more scientific and reasonable. It can continuously monitor the teaching process in the process of innovation and entrepreneurship practice, and carry out real-time feedback and evaluation, so that teaching managers can correctly understand the problems existing in the education system and links, so as to solve the problems.

(2) Set up the supporting supervision scheme and implement the practice platform architecture

In the practice of innovation and entrepreneurship education, 1 + X platform is introduced, and the practice platform framework of supporting supervision scheme for the implementation of innovation and entrepreneurship education is formulated. Innovation and entrepreneurship education should be carried out scientifically and systematically, providing professional advice and support, so that students can exercise their skills in practice and achieve the effect of self-education. Innovation and Entrepreneurship Research Association should discuss appropriate innovation education programs according to regional characteristics and advantages, improve the quality of innovative talents training and effectively carry out innovation and entrepreneurship training.

(3) Interest driven, student-centered, process oriented

On the basis of "1+X" system, we should pay attention to the development of students' personality, give full play to their interests and specialties, strengthen the integration and sharing of curriculum resources, encourage students to learn the second major, and provide students with enough space for independent learning and development.

(4) Reform and innovation of curriculum system

According to "1"+ In the "X" system, students can realize their own advantages and interests

through self-study and teaching, and acquire knowledge of innovation and entrepreneurship at the same time; associate various activities with professional characteristics, such as assisting teachers in research projects, professional practice and professional expansion practice, with obtaining skill level certificate, so as to expand the space for students to obtain skill certificate; establish a common platform between different majors The same evaluation platform, with the concept of big design to complete the education and evaluation of students' skills certificate.

2.3. Construction of BP Neural Network Evaluation Model

(1) BP neural network is a multilayer feedback neural network based on error back propagation algorithm (BP algorithm). It is the most widely used model among dozens of neural network models. In the process of modeling, the most important thing is to determine the structure of the network. The key of the network structure is the hidden layer and the number of nodes. The problem of e-learning evaluation can be regarded as a nonlinear mapping from input (learning evaluation index) to output (the final result of students' E-learning Evaluation). Because any mapping relationship of three-layer network (only including one hidden layer) can be approximated with any precision, a three-layer BP network structure is adopted, which only includes the input layer, hidden layer and exit layer of the model.

(2) In this paper, the improved BP neural network is used for optimization. By simulating the neural system, the strong memory, learning ability, adaptability, position and nonlinearity of information processing are brought into full play, so as to obtain the ideal actual output and the evaluation results.

$$f(x)=\left(1+e^{-x}\right)^{-1} \tag{1}$$

$$f(x)=\begin{cases}1 & x>0\\ 0 & x\le 0\end{cases} \tag{2}$$

$$f(x)=-1\begin{cases}1 & x>0\\ -1 & x\le 0\end{cases} \tag{3}$$

3. Ideas and Methods

3.1. Research Ideas

Under the background of "1 + X" policy of big data, this paper improves BP neural network evaluation model, designs local undergraduate innovation and entrepreneurship education quality evaluation platform, and selects four undergraduate universities as samples for data collection and analysis. It focuses on user perceived value, from content, design, technical support and user participation, and from 11 indicators, including content, scope, accuracy, quality evaluation, etc In terms of strength and topic, the Internet rating system is established, and the training platform website is established. Using qualitative and quantitative methods, through the analytic hierarchy process and fuzzy comprehensive evaluation method to determine the weight of all levels of indicators evaluation method and evaluate the quality and effect of the website, to provide reference for the design standard of the platform.

3.2. Selection of Evaluation Method and Determination of Index Weight

(1) Selection of evaluation methods

After determining the evaluation index, choose the appropriate evaluation method to evaluate the network platform. On the Internet, there are many methods to evaluate the platform. At present, there are five methods: analytic hierarchy process, network link analysis, financial management, mathematical analysis and auxiliary tool method. Among them, analytic hierarchy process and fuzzy evaluation method are the most mature and widely used evaluation methods. Analytic hierarchy process (AHP) determines the relative importance of the indicators by comparing the two indicators, so as to classify the advantages and disadvantages of the indicators. Fuzzy comprehensive evaluation (FCE) is widely used in qualitative and quantitative comprehensive evaluation. It uses fuzzy transformation and the principle of maximum participation to investigate all its factors in detail and evaluate them. It is often combined with the process. This paper uses AHP to determine the weight of each index, and then uses fuzzy comprehensive evaluation method to evaluate and analyze the final results.

(2) Determination of index weight

In this paper, expert choice 11.5 software is used for data preprocessing and weight calculation.

4. Analysis and Discussion of Results

4.1. Model Training and Detection

(1) This paper selects four universities as the samples of data collection and analysis, and the output point is the comprehensive evaluation value of innovation and entrepreneurship education in local universities.

(2) (1) The data C1, C2, C3 and C4 of four universities are used as training samples to build the model. The results are shown in Table 1 and Figure 1.

Table 1. Expected output values of training samples

Training sample	C1	C2	C3	C4
Expected output value	0.61	0.48	0.16	0.88
Error value	0.002	0.001	0.001	0.002

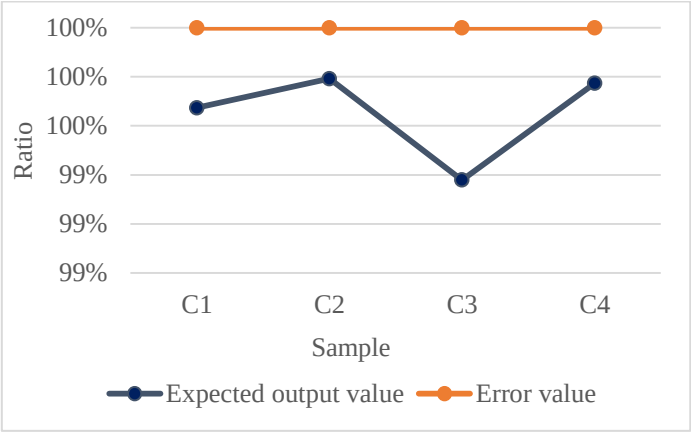

Figure 1. Expected output value of training sample

It can be seen from Table 1 and Figure 1 that the expected output value of training sample C1 is 0.61, the expected output value of training sample C2 is 0.48, the expected output value of training sample C3 is 0.16, and the expected output value of training sample C4 is 0.88. Therefore, we should actively promote the development of theoretical research on innovation and entrepreneurship education, strengthen the connection between innovation research center, innovation service center and entrepreneurship teaching, so that theoretical knowledge teaching has an impact on practice; at the same time, it is necessary to formulate a comprehensive, hierarchical and classified innovation and entrepreneurship teaching practice plan, and supervise the implementation, so as to transform theoretical research into innovation The application of entrepreneurial practice in industrial research practice.

4.2. Analysis of Education Quality Evaluation Platform

Education quality evaluation platform is an education centered website, so the judges of the platform are determined as the users of the platform. According to the evaluation index system, the questionnaire is designed, and each secondary index corresponds to 1-2 small questions. According to the risk assessment set, the second assessment is adopted and options are given. The statistical data and calculation results are shown in Table 2 and Figure 2.

Table 2. Comprehensive analysis of education quality evaluation platform

Indicators / risks	U1 Content				U2 Design		Comprehensive evaluation value	Normalization
	Content breadth	Content depth	Accuracy	Authority	Friendly interface	Layout		
Very good	850	845	878	859	825	869	843.57%	0.845
Good	150	97	98	89	99	87	125.214	0.158
Average	20	16	25	30	26	22	25.684	0.032
Bad	0	2	0	4	3	2	7.819	0.007

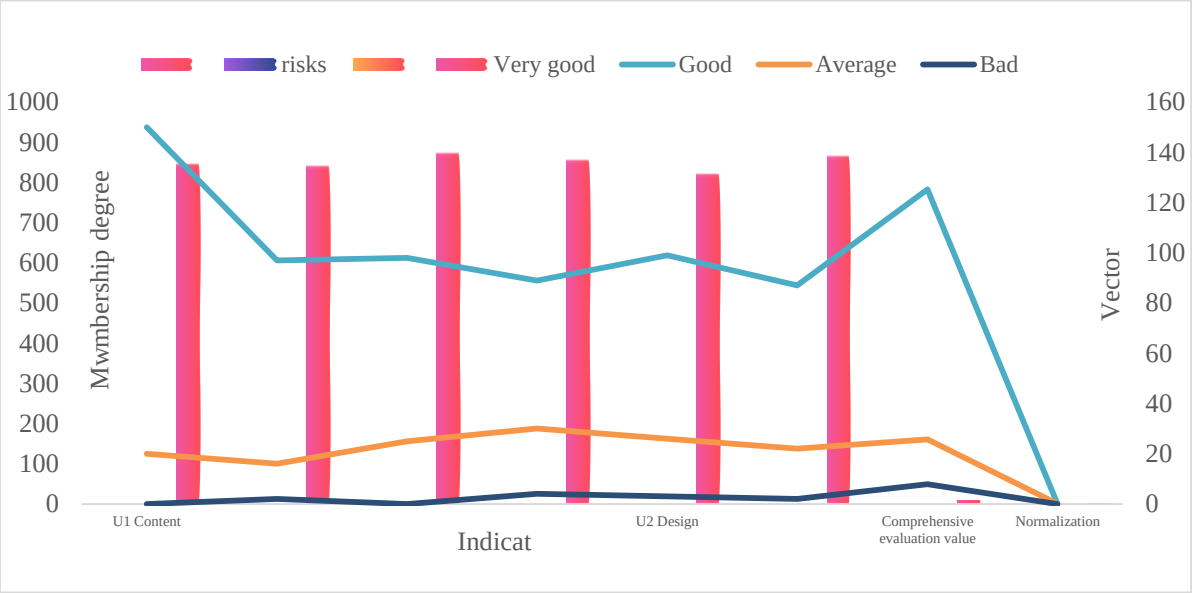

Figure 2. Comprehensive analysis of education quality evaluation platform

It can be seen from Table 2 and Figure 2 that according to the principle of maximum

membership degree, the evaluation result of the evaluated object depends on the maximum component of the normalized vector. After normalization, the evaluation vector is Y1 = (0.845, 0.158, 0.032, 0.007), and the maximum component is 0.845. The corresponding evaluation level is "very good". Therefore, the result of fuzzy comprehensive evaluation is "very good". On the other hand, according to the statistical data, the statistical data of platform users' evaluation of "sensitive user perception" project is (836142, 28, 1), and after normalization, y2 = (0830, 0141, 0028, 0001). Similarly, according to the principle of maximum participation, the corresponding evaluation level is "very good", so it can be proved that the design of the evaluation system is close to the actual results.

5. Conclusion

The introduction of 1 + X platform into the practice of innovation education and entrepreneurship education in local universities is a new requirement of talent cultivation in the current era, which requires scientific planning and systematic cooperation. At the same time, according to the actual development of colleges and universities, local colleges and universities should summarize the shortcomings of innovation and entrepreneurship education in the past, further improve the relevant policies and systems from the reality of personnel training, and actively promote the development of theoretical research. In the aspect of innovation and entrepreneurship training, we should strengthen the structural and scientific construction of innovation and entrepreneurship teaching process, provide more comprehensive information services, create a good environment, and increase the investment of human resources, technology and capital. Only through multilateral cooperation, the innovation and entrepreneurship education system can operate and improve normally, keep pace with the times and promote the development of higher education.

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Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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