Research Article

An Improved BP Neural Network Algorithm for the Evaluation System of Innovation and Entrepreneurship Education in Colleges and Universities

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The ability of college students has important index to evaluate the training quality of universities. Domestic scholars begin to cultivate spirit and ability of students. With the rapid development of tourism industry and the continuous emergence of “tourism +” new business forms, there is an urgent demand for professionals with outstanding innovation and entrepreneurship ability. China’s education field urgently needs a system that can scientifically evaluate the teaching quality. The purpose of this topic is to enrich the theoretical methods of universities. Taking S University as the research sample, the relevant evaluation index system is set up, and, on this basis, the evaluation model of network is established, providing relevant basis for evaluation and cultivation of universities. According to certain evaluation indicators, this paper constructs the main framework of teaching quality evaluation in colleges and universities. 7 representative universities in China are randomly selected, 6 of which are samples and 1 university is the research target, and the corresponding improvements opinion is proposed. Based on the analysis of the current education in a university, it is found that, in the current education, innovation and entrepreneurship knowledge and professional knowledge are taken into account, and the academic achievements are remarkable, forming a preliminary education system, but it is also found that there are some problems of low educational practicality, and corresponding suggestions for this problem are put forward. If the evaluation system is put into practical application, it will improve the education level of cultivating innovative entrepreneurial talents in tourism major in universities.

1. Introduction

College students’ education is the need to realize the value of life. College students should not only have theoretical knowledge but also have talents in entrepreneurship. It is helpful to help college students master entrepreneurial methods and develop the psychology and will to overcome difficulties and take risks.

Innovation and entrepreneurship in universities industries provide a huge entrepreneurial space for students. Universities can effectively support the development of entrepreneurial economy [1]. But, at present, entrepreneurship development at home and abroad has not been able to meet its expectations. Not only is the entrepreneurship rate in the tourism industry not good, but also the development of education in the tourism management major of universities is not conducive to entrepreneurship and tourism development. This requires colleges and universities to reform the major of tourism management, pay more attention to the education of cultivating students' entrepreneurial awareness, and teach students entrepreneurial skills and knowledge related to tourism. Improve the innovation and entrepreneurship ability of students majoring in tourism management, stimulate their willingness to start their own businesses after graduation, and encourage them to build a platform for their own businesses. By improving the quality of education in universities, it can reduce the employment pressure of college students and expand the development space of college students and tourism industry [2].
The talents are increasing day by day, which is also the urgent need of China’s economic development. A scientific and systematic evaluation method for tourism education has not yet been formed. In order to solve this problem, this study starts from the nature of education, analyzes the impact of indicators, and adopts BP neural network calculation method to try to establish a perfect evaluation system of education for tourism majors in universities [3].

2. State of the Art

American Professor Tismon is known as a leader in education. His research fields cover innovative curriculum development, venture capital, venture financing, entrepreneurial management, and other aspects, and he takes Parkson Business School as the promotion place. The results have obvious characteristics: it is forward-looking in the period of the transition between traditional industry and new industry. The systematic arrangement of the curriculum system, entrepreneurs, business plans and resource supply, venture financing and development speed reasonable arrangement, the entrepreneurial ability of students; Use case method to thinking enthusiasm to solve the problems; Provide students with entrepreneurial practice opportunities [4].

During the 90s, UNESCO held many meetings to discuss higher education in the world and how to deal with a development in the 21st century’s needs, and it was made clear that the concept of “degree is not equal to work” and emphasized that graduates should no longer be purely job seekers and become job creators, and it was put forward that “entrepreneurship” as content of the university graduates should be given. It is suggested that students’ entrepreneurial skills are as important as initiative creativity [5].

After the 1990s, the perspective of entrepreneurship education in the United States and Canada has changed from the improvement of individual ability to the emphasis on team, company, and industry, taking entrepreneurship as a management style. Its role is no longer to establish new enterprises, but large-scale enterprises also need this quality. To cultivate students’ “attitude, knowledge and skills necessary for self-employment” are clearly stated in the National Education Policy published by India [6].

In this study, the retrieval function of CNKI was used to select “journal” as literature source, set “innovation and entrepreneurship” and “education” as key words, and select only “core journal” and “CSSCI” as literature source, and 200 relevant literature works were retrieved. With “innovation and entrepreneurship” and “education” as keywords and “master and doctor” as literature sources, 13 related articles were retrieved. This can be illustrated in Figure 1 [7].

From the research level, the education of vocational college students and undergraduates is the main research object of scholars. Scholars mainly focus on exploring training mode and constructing system; for example, Giancristofaro et al. established the undergraduate education model by using the model of project exploration. Giancristofaro et al. proposed and constructed an education system of “one core, three platforms, and nine modules” [8].

The evaluation of the study of curriculum system is very limited. Samuel et al. proposed the “four-in-one” evaluation system of education, which is the theoretical guidance. The education model of “mentor + project + team” was proposed by Samuel et al. and its effect remains to be discussed [9].

The current development status of education in China reflects that although it started late, it has not hindered the rapid education in China. In the process of research, exploration fields have been expanded and exploration levels deepened. In general, the research in China still needs to be further integrated and be systematic, and the research in this field needs to be constantly the actual situation in China.

In Warner et al.’s work, innovation education refers to the positive influence of genetic and environmental, using leading role of education; they exert the students’ cognition and practice of the subjective initiative and pay attention to student’s main body to create consciousness, as well as the cultivation of innovation spirit and innovation ability, and form the innovation personality to adapt to the education of students’ individual development [10]. Geisner et al. believe that the emergence of innovative education is an education concept with the rise of knowledge economy, which is based on creation and aims to cultivate innovative spirit in students' consciousness, ability, and personality [11]. Bejerholm et al. believe that innovative education is an education concept that emerges knowledge economy. It is an education model to shape innovative consciousness and innovative ability through the means of modern university [12]. Dillahunt-Aspillaga et al. from Zhenjiang Institute of Education and Science understood entrepreneurship education from its functional perspective and believed that it could transform the new labor force form from single to composite and from operation to intelligence, which was an important measure for the new generation of students to meet future challenges and adapt to market demand [13]. Zivin et al. believe that the cultivation of innovative talents should first start the training objectives, so that the attention to education can be reflected, and ensure that the personal and social value of education can be brought into full play [14]. Wu et al. focused on the main line and how to cultivate and who to cultivate and opened up a maker education and teaching mode of “integration of doing, learning, and teaching”
Based on “Internet +” and secondary vocational students’ policies, this paper puts forward a set of targeted talent training strategies.

3. Methodology

3.1. Introduction to Innovation Education and Entrepreneurship Education. Both the educator and the educated need to have basic innovation spirit, innovation ability, and innovation personality. Through the exploration of traditional education and the construction of applicable theories and models, education should aim to tap people’s creative potential, carry forward people’s subject spirit, and promote the harmonious development of personality. Innovative education that appears with the rise of knowledge economy is based on creation and aims to cultivate innovative spirit in students’ consciousness, ability, and personality [16]. Innovative education is a kind of educational idea that comes into being with information age and knowledge economy. It is a kind of educational mode that realizes the shaping of students’ innovative spirit, through the means of modern university. Opposite to traditional acceptance education, it insists on “creation orientation” and focuses on cultivating students’ ability of secondary discovery and practice. It is a unified form of idea and practice, which is the core of modern education as well as the reflection and sublimation of traditional educational idea model. At the same time, one of the educational activities is education, which is educational practice innovation ability [17].

Entrepreneurship education refers to starting a career and corresponding educational activities, emphasizing teaching reform, and cultivating innovative ability and entrepreneurial consciousness which aims at comprehensive qualities such as spirit and knowledge. Entrepreneurship education can promote the development of students’ career ambition, enterprising spirit, pioneering spirit, innovative spirit, and so on [18]. It is a new educational concept and mode compared with employment education, which focuses on cultivating students’ entrepreneurship and ability. To put it simply, it is to let students have all kinds of qualities and abilities needed in the process of entrepreneurship. In a broad sense, the purpose of entrepreneurship education is to stimulate students’ entrepreneurial consciousness. The biggest goal is to shape potential successful entrepreneurs. In a narrow sense, it is entrepreneurship training behavior to cultivate the knowledge, quality, and skills needed for the purpose of independent entrepreneurship [19]. It is to cultivate people with entrepreneurial qualities. In the narrow sense, it is behavior to transform students from job seekers to entrepreneurs and provide students with comprehensive abilities needed in the process of transformation. In the broad sense, it is to improve the overall quality required by students in the process of entrepreneurship through relevant curriculum system. To become a pioneering person with innovative spirit, entrepreneurial consciousness, risk-taking spirit, stable mentality, and correct decision making; entrepreneurship education in the narrow sense is a kind of vocational education, and the purpose is to establish enterprises. To sum up, more attention is paid to the process of education. Entrepreneurship education in a narrow sense is a kind of vocational education, whose purpose is to let learners successfully establish enterprises [20].

3.2. Introduction to Artificial Neural Network. ANN is a model system composed of a large number of processing units (neurons). This system has strong independent and nonlinear, nonlocal characteristics. It tries to design a new machine with the information processing ability of the human brain by simulating the processing and memory of information by the neural network of the brain.

Artificial neural network takes neuron as the basic processing unit. It is a nonlinear device, and its structure is shown in Figure 2.

In the figure, the input signal is, \( x_i \). Is the external input signal as the set \( S \), and is. The transformation of the \( j \)th neuron can be described as follows:

\[
y_j = f\left( \sum w_{ij} x_i - \theta_j + s_j \right).
\]

The running process of the network is calculated as follows:

\[
\text{net}^{(1)}_{ij} = \sum_{n=1}^{n-1} W^{(1)}_{ij} g O^{(l-1)}_{ip} ,
\]

\[
O^{(1)}_{ip} = f^{(1)}(\text{net}^{(1)}_{ip}).
\]

The error energy function of BP network is

\[
E_p = \sum_{i=1}^{n} \phi(e_{i,p}) = \frac{1}{2} \sum_{i=1}^{n} (y_{i,p} - \tilde{y}_{i,p})^2.
\]

The data is normalized so that it is between 0 and 1 and the expected output value is determined.

\[
\tilde{y}_j = f\left[ \sum_{i=1}^{n} w_{ij} x_i - \theta_j \right],
\]

\[
\tilde{z}_k = f\left[ \sum_{i=1}^{n} w_{ik} y_j - \theta_k \right],
\]

and the adjustment consensus is as follows:

\[
W_{jk+1} = W_{jk} + \eta \delta_k V_j,
\]

\[
W_{ij+1} = w_{ij} + \eta \delta_j X_i.
\]

We have that

\[
\delta_k = (Z_k - \tilde{Z}_k) \tilde{Z}_k (1 - \tilde{Z}_k),
\]

\[
\delta_j = y_j (1 - y_j) \sum_{k=0}^{L-1} \delta_k W_{jk}.
\]

The learning and training of BP network is a process of error back-propagation and correction. The total error \( E \) is calculated. If, the learning stops; otherwise, go to equation (3) recalculation. \( E \leq \varepsilon \) In practical network design, it will be...
slow, but if it is too large, the network will wobble. \( \eta \) a momentum \((0 < \eta < 1)\) can be added into equation (4), i.e. \[ w_{jk+1} = w_{jk} + \eta \delta_k y_j + \alpha \cdot \Delta W_{jk}, \] \( (11) \)

\[ W_{ij+1} = W_{ij} + \eta \delta_j y_i + \alpha \cdot \Delta W_{ij}, \] \( (12) \)

The BP algorithm process is an iterative algorithm process; each round will adjust \( w \) again, so the iteration goes on until the error meets the requirements.

It is a kind of multilayer feedforward type network, which has very strong capability in nonlinear mapping. In this model, each layer is with adjacent neurons, and the neurons are at each layer. These neurons are shown in Figure 3.

In essence, the standard network learning algorithm takes the sum of squares of network errors as the objective function, and the gradient method uses the objective function to realize the minimum algorithm. The most basic principle is to propagate through the network, adjust the minimum error, calculate the learning process, and transmit the error back (as shown in Figure 3).

The research framework of this article is shown in Figure 4.

4. Result Analysis and Discussion


Referring to the teaching work evaluation index system of ordinary universities, the general content of the open questionnaire is extracted, and the result indexes are selected to reflect the scientific, comprehensive, accurate, and operational principles of this research. Then, 5 education evaluation experts and school supervision experts are interviewed. After listening to their preliminary opinions on the tourism specialty in universities, their opinions are adopted, and a quality evaluation system for education of tourism specialty in universities is preliminarily formulated. Different subsystems should be set up for teaching quality evaluation of tourism education in universities as shown in Figure 5.

This study conducted a survey: Open questionnaires were issued, indicators were initially screened, and questionnaires were generated under the guidance of experts. Rigorous statistical methods were used to analyze questionnaire of tourism major in S University. In the next step, 100 copies of the questionnaire were randomly distributed in the university town where S University is located, and 96 copies were effectively recovered with rate of 96%. The valid questionnaire data were input into SPSS to analyze them.

4.1.1. Reliability Analysis. From Table 1, according to the reliability analysis, Cronbach’s alpha coefficient value can be calculated from some tables to be higher than 0.8, indicating that the developed questionnaire’s reliability index is ideal, all indicators are consistent, and the questionnaire is reliable.

4.1.2. Validity Analysis. Generally speaking, the value of sampling adequacy can reflect the adequacy of the questionnaire sample. Bartlett and KMD of this survey are shown in Table 2. Therefore, KMD coefficient value of the questionnaire is 0.915 and the probability is 0.00 < 0.01, indicating that the questionnaire variables have many factors in Table 2.

The characteristics of education in tourism majors of different levels are comprehensively analyzed by following

![Diagram](attachment:image.png)
the principles of strategic goal-oriented, comprehensive and complete, objective and scientific, dynamic and flexible, and systematic and operational principles. According to the students’ personality, their own characteristics, and other factors, the index design and evaluation method are determined. The method is shown in Table 3.
4.2. Construction of BP Neural Network in the Quality Evaluation Model of Education. There are 45 evaluation indicators about the quality of tourism education in S University, so the number of nodes of input layer is 45.

Hidden Layer Node. The constructed BP is the basis of hidden layer nodes. The time difference between input and output layers will have a certain impact, and the characteristics of sample data will also have a certain impact on the absolute fault tolerance and generalization of the optimal network (which will improve the test accuracy). The following formula is generally used to determine its impact:

\[ q = \sqrt{n + m + a}. \] (13)

Output Layer Node. The result of evaluation is the nodes. In this case, the number of nodes is 1, which is the comprehensive score value of tourism major in S University.

It is relatively hidden neurons, and there is no relevant theoretical basis at present as shown in Table 4.

Neural network is adapted to new data, the number of hidden layer nodes is reduced, and the training speed is improved. Therefore, on the premise of meeting the learning accuracy, the “trial-and-error method” is adopted: if there are too many training times within the specified training times or convergence conditions are not met, the training should be stopped. According to the evaluation system mentioned above, the number of hidden layers is determined to be 8 as shown in Table 5.

Therefore, the selection can only be based on past experience, and the learning rate in this model is between 0.005 and 0.9. Finally, according to the learning results, the learning rate is determined to be 0.04.

Based on the intelligence of each system, the output is the tourism business innovation teaching quality evaluation result, divided into outstanding, good, medium, pass, and fail. Therefore, this is a three-layer BP layer. However, there is only one output node in the output layer. The value range is [0, 1].

4.3. Application of BP Neural Network in Quality Evaluation of Education. The neural network toolbox (NNT) of Matlab 7.0 software is used for modeling in this paper. MatrixLaboratory, short for MATLAB, is a set of scientific and engineering computing software based on matrix calculation developed by MathWorks in the 1980s. It has numerical calculation, visualization, and programming functions. In addition, it can also draw a variety of toolboxes to solve special scientific and engineering calculation problems. The calculation function is strong and the programming efficiency is high. MATLAB can be used with neural network toolbox for neural network system to provide analysis and design functions, can be directly called functions, images, and simulation tools and simplify the weight training process, and is excellent software for neural network training.

<table>
<thead>
<tr>
<th>Evaluation system</th>
<th>First level index</th>
<th>Secondary index</th>
<th>Three-level index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Entrepreneurial community X1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The degree of implementation of national policy X2</td>
</tr>
<tr>
<td>University</td>
<td></td>
<td></td>
<td>Number of entrepreneurship competitions held X3</td>
</tr>
<tr>
<td></td>
<td>Soft environment</td>
<td>Hardware support</td>
<td>Number of school-enterprise cooperations X4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Number of school-enterprise cooperation projects X5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Percentage of students starting a business after participating in entrepreneurship education courses X7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Student coverage of entrepreneurship funds X8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The service rate of infrastructure such as entrepreneurship park to students is X9</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Number of students received by entrepreneurship practice base X10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The conversion rate of innovation achievements X11</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ratio of practical courses to theoretical courses X12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Participation rate of practical courses X13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Core curriculum ratio X14</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Entrepreneurs X15</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Degree of penetration of business management in the curriculum X16</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cross-disciplinary curriculum opening rate X17</td>
</tr>
</tbody>
</table>

Table 2: Validity analysis.

| Kaiser-Meyer-Olkin measure of sampling adequacy | 0.915 |
| Bartlett’s test of sphericity | 11015.038 |
| Bartlett’s test of sphericity | 378 |
| Sig | 0.000 |

Table 3: Teaching quality evaluation system of university tourism education.
Table 4: Evaluation and grading standards.

<table>
<thead>
<tr>
<th>Comprehensive evaluation</th>
<th>85–100</th>
<th>75–85</th>
<th>65–75</th>
<th>55–65</th>
<th>Less than 55</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>Superior</td>
<td>Good</td>
<td>Middle</td>
<td>Qualified</td>
<td>Unqualified</td>
</tr>
</tbody>
</table>

Table 5: Convergence comparison.

<table>
<thead>
<tr>
<th>Hidden layer element</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of training times</td>
<td>31</td>
<td>10</td>
<td>15</td>
<td>6</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Error</td>
<td>9.73051</td>
<td>4.00131</td>
<td>3.98314</td>
<td>2.35444</td>
<td>7.31142</td>
<td>2.0122</td>
</tr>
</tbody>
</table>

Figure 6: Changes in accuracy of the algorithm under different iterations.

Figure 7: Neural network training.
According to the above business travel innovation education teaching system, through data processing, a neural network model is established for the evaluation index of the scale.

According to the requirements of the standardization of the index system, the collected sample data are standardized, and the scoring data [0, 100] is converted into data between [0, 1], which is convenient for neural network operation. The neural network toolbox in MATLAB takes three steps to calculate:

1. Initialization: set weights and initial values through init function, using init() command format, and Net is the return function, representing the initialized neural network. The ini() function represents weights and thresholds according to its arguments, net.initfcn and net.initparam. For BP networks, the value of net.initfcn is initwb as shown in Figure 6.

2. Network training: since the function training is realized, the network is trained as shown in Figure 7.

3. Network simulation: the function Sim is implemented according to the trained network for the book data simulation training.

The tested data is input into the trained BP model to obtain it with the expected value. The error table is obtained as shown in Table 6.

The university data collected from performance of education was evaluated by using the BP trained and improved above, and the output value of the comprehensive network was 0.7261. This proves that education in universities is at a medium level as shown in Table 7.

### Table 6: Error detection table.

<table>
<thead>
<tr>
<th>Test the sample</th>
<th>C5</th>
<th>C6</th>
<th>C7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected output</td>
<td>0.68</td>
<td>0.75</td>
<td>0.72</td>
</tr>
<tr>
<td>Network output</td>
<td>0.6801</td>
<td>0.7123</td>
<td>0.7221</td>
</tr>
<tr>
<td>Error value</td>
<td>0.0001</td>
<td>0.0377</td>
<td>0.0021</td>
</tr>
</tbody>
</table>

### Table 7: Output results of each indicator.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Results</th>
<th>Indicators</th>
<th>Results</th>
<th>Indicators</th>
<th>Results</th>
<th>Indicators</th>
<th>Results</th>
<th>Indicators</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1</td>
<td>0.8</td>
<td>X11</td>
<td>0.72</td>
<td>X21</td>
<td>0.40</td>
<td>X31</td>
<td>0.20</td>
<td>X41</td>
<td>0.65</td>
</tr>
<tr>
<td>X2</td>
<td>0.61</td>
<td>X12</td>
<td>0.49</td>
<td>X22</td>
<td>0.60</td>
<td>X32</td>
<td>0.42</td>
<td>X42</td>
<td>0.87</td>
</tr>
<tr>
<td>X3</td>
<td>0.71</td>
<td>X13</td>
<td>0.96</td>
<td>X23</td>
<td>0.72</td>
<td>X33</td>
<td>0.91</td>
<td>X43</td>
<td>0.92</td>
</tr>
<tr>
<td>X4</td>
<td>0.84</td>
<td>X14</td>
<td>0.51</td>
<td>X24</td>
<td>0.81</td>
<td>X34</td>
<td>0.87</td>
<td>X44</td>
<td>0.67</td>
</tr>
<tr>
<td>X5</td>
<td>0.96</td>
<td>X15</td>
<td>0.81</td>
<td>X25</td>
<td>0.45</td>
<td>X35</td>
<td>0.62</td>
<td>X45</td>
<td>0.97</td>
</tr>
<tr>
<td>X6</td>
<td>0.81</td>
<td>X16</td>
<td>0.67</td>
<td>X26</td>
<td>0.62</td>
<td>X36</td>
<td>0.90</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 5.1.1. Both Innovation and Entrepreneurship Knowledge and Professional Knowledge

By analyzing the evaluation results of indicators $X4 = 0.84$, $X5 = 0.96$, $X14 = 0.96$, $X34 = 0.92$, and $X36 = 0.90$, it can be seen that teachers in S University have paid attention to encouraging students to start businesses in the field of tourism while teaching the courses of tourism specialty, and students have gradually begun to master relevant knowledge and use other disciplines and the Internet research new tourism professional business model. Besides teaching professional theoretical knowledge, it also pays attention to practical teaching. Combining with the characteristics of tourism specialty, it makes continuous improvement from the aspects of discipline design, internship, and after-school experiments. Through continuous efforts, the number of students attending special courses on innovation and entrepreneurship is increasing and they are satisfied with the teaching effect, which provides corresponding guarantee for the continued promotion of education. The school-enterprise cooperation has gradually increased and deepened.

### Table 5.1.2. Outstanding Academic Achievements

According to the evaluation indicators $X24 = 0.81$, $X33 = 0.91$, $X37 = 0.91$, and $X38 = 0.92$, it can be seen that S University has made great progress in academic research on tourism education, and its research results are gradually increasing journals and remarkable achievements in social practice. The proportion of academic competitions in related fields is increasing, and the social influence is increasing. By implementing the corresponding reward mechanism for award-winning teachers and students, we encourage more academic input into the research of relevant fields.

### Table 5.1.3. A Preliminary System of Extracurricular Activities

According to the evaluation indicators $X1 = 0.80$, $X3 = 0.71$, and $X15 = 0.81$, S University can regularly invite successful entrepreneurs and managers in related professional fields to participate in lectures, forums, training, and other activities related to innovation and entrepreneurship held by the university, which expands students' horizons and provides a primary channel for students to acquire knowledge in...
related fields. Since the “entrepreneurial design competition” held by S University in 2004, the university has regularly provided corresponding information supply and teacher guidance for the competition and set up rich bonuses to encourage students to participate in it. On the other hand, the number of participants in this entrepreneurship competition has increased year by year. Through the simulated entrepreneurship course, students have realized the process of transforming knowledge into practical results and deepened their understanding of entrepreneurship.

5.1.4. Lack of Experience in Innovation and Entrepreneurship Teachers. The innovation and entrepreneurship teachers of S University are in the middle of the school. As teachers, they either have theoretical knowledge and lack management experience or lack teaching experience, so they cannot truly establish students’ entrepreneurial awareness in the teaching process. Although S University has established a corresponding entrepreneurship guidance center and an entrepreneurship research center, the teachers in this position are temporarily held by relevant teachers or leaders of institutions. Teachers who impart relevant entrepreneurship knowledge generally have other teaching and scientific research tasks, which cannot guarantee it. The quality of education classrooms and scientific research results are under the condition that meets the requirements of reality.

5.2. Improvement Opinions on Education

5.2.1. Establish an Excellent Team of Tourism Innovation and Entrepreneurship Teachers. We need to establish an excellent team of teachers. Strong guidance ability is required. We need to be familiar with China’s relevant policies, master the process of it, understand the risks of it, and even have certain experience in it, so as to guide and help students.

5.2.2. Create a Good Education Environment. Practice has proved that many students major in education environment during their school education. For example, some universities use various practical teaching conditions to establish corresponding travel agency college business departments to improve students’ ability by operating practical projects. For another example, actively participating in and holding various innovation and entrepreneurship competitions at all levels is also a good way. “Shandong Huang Yanpei occupation education innovation and entrepreneurship competition.”

Data Availability

The labeled dataset used to support the findings of this study is available from the corresponding author upon request.

Conflicts of Interest

The authors declare that there are no conflicts of interest.

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