Retraction

Retraction: Innovation of Cross-border E-commerce Practice Teaching Based on Big Data (J. Phys.: Conf. Ser. 1852 022010)

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The authors of the article have been given opportunity to present evidence that they were the original and genuine creators of the work, however at the time of publication of this notice, IOP Publishing has not received any response. IOP Publishing has analysed the article and agrees there are enough indicators to cause serious doubts over the legitimacy of the work and agree this article should be retracted. The authors are encouraged to contact IOP Publishing Limited if they have any comments on this retraction.

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Innovation of Cross-border E-commerce Practice Teaching Based on Big Data

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Abstract. With the development of the times, cross-border e-commerce has gradually become an important course, but the current teaching methods are difficult to provide students with good teaching. Based on the background of big data, this article hopes to practice cross-border e-commerce in schools. The teaching finds a practical form with good feasibility, and summarizes from it that can reflect the universally applicable internal laws, so that the school's e-commerce teaching can make more students realize the role of big data. Studies have shown that cross-border e-commerce practice teaching under the background of big data is more popular among students than the current traditional teaching model, with a favorable rate of over 90%. And in terms of teaching efficiency, the efficiency of teaching based on big data reaches 0.835, which is much higher than traditional teaching methods. This shows that practical teaching of cross-border e-commerce based on big data can play an important role.

Keywords: Big Data, Cross-Border E-commerce, Practical Teaching, Innovative Approach

1. Introduction
E-commerce has been developed rapidly this year under the vigorous promotion of the country, but due to factors such as strong professionalism in this discipline, there is a certain gap between the output of talents and the requirements [1]. E-commerce is an interdisciplinary major. From its literal meaning, e-commerce is composed of two major aspects: electronic computer technology and business management, but the current teaching method is a hodgepodge of teaching, and there is no distinction between them [2]. In recent years, with the popularization of the Internet and the use of online payment, people have changed the traditional transaction methods. E-commerce has become a brand-new business operation model that is different from the previous transaction methods. It has become the contemporary international business exchanges and economic activities of various countries. Mainstream transaction method [3].

E-commerce is a highly applied profession, and the practical link is a very important part of the teaching link. At present, the main form of the school is school-enterprise cooperation, organizing
students to visit the operation process of the enterprise, and participating in enterprise seminars to improve the understanding of e-commerce majors [4]. However, these practical activities often only allow students to gain professional perceptual knowledge through experience, and students do not participate in the actual operation of the enterprise unit much. This kind of enterprise practice does not improve students' practical hands-on ability and earnestly master professional skills. Therefore, it is urgent to innovate the practical teaching methods of cross-border e-commerce [6]. For e-commerce practical teaching, experts at home and abroad also have many studies:

Zhang Bianya believes that under the background of the country's vigorous development of e-commerce, I have heard about the Internet + foreign trade model. What society needs is brand new cross-border e-commerce talents. To this end, it proposes to introduce an e-commerce sandbox training model in e-commerce teaching, through which students can be trained in advance, so that students can master relevant e-commerce knowledge [7]. Su Hang believes that in order to solve the difference between e-commerce talents and needs, it is necessary to start with the innovation ability of students, and cultivate students' innovation ability during the school period. It believes that when schools are conducting e-commerce teaching, they should connect with cross-border e-commerce companies to cultivate students' abilities in practice [8]. Guo Aimei believes that the current school e-commerce practice teaching has the characteristics of closedness and fragmentation, which is not conducive to students' learning. He believes that the practical teaching model of entrepreneurship workshops can well solve the current problems in school teaching. By introducing e-commerce teaching into the entrepreneurial workshop model and comparing it with traditional teaching models, it finally concludes that the practical teaching of entrepreneurship workshops can be solved Problems with the current teaching model [9]. These studies provide some reference opinions for the research of this article, but due to the lack of samples and practical problems in these studies, it is difficult to really apply them in practice [10-11].

Based on the background of big data, this paper establishes a calculation model for cross-border e-commerce practice teaching. It compares e-commerce teaching based on big data with traditional e-commerce teaching in all aspects, and tests its teaching effect. Collected, conducted a more detailed multi-level analysis on the comparison results of the experimental data, and finally reached a conclusion. Based on the survey results of school teachers and students, we have concluded that e-commerce teaching based on the background of big data can play an important role.

2. E-commerce Practical Teaching Methods Under the Background of Big Data

E-commerce is an electronic information exchange between users, production units, financial institutions, and government departments based on network information. The content includes product information and its purchase information, price information and settlement information, authentication information and security information, etc. Build an intelligent relationship between the participating entities to achieve the allocation of capital flow, product flow, and data flow.

In physical operations, the types and quantities of goods are often limited by the business area, and a large amount of capital investment is required to expand the scale. However, e-commerce is different. The types and quantities of goods operated have no corresponding relationship with the store area, as long as the operator If you like, you can display thousands of products. The potential consumers of e-commerce are extremely large. Those who surf the Internet are likely to become buyers of goods. Compared with the characteristics of nearby services of traditional stores, as long as the goods are high in quality and cheap, properly advertised, and managed well, e-commerce There is good traffic. Good wine is not afraid of deep alleys, this sentence has also been proved to be correct in today's Internet age. For the teaching methods of e-commerce practice, we use the following calculation methods to calculate the weights of related attributes to ensure the objectivity of the evaluation results.

\[
p = \frac{1}{\sin x} \sum_{n=1}^{l} f_{nm} \ln f_{nm}
\]
\[ j = \frac{1 - i}{y - \sum_{m=1}^{m} t} + \frac{1}{1 + d(r, uq)} \tag{2} \]

\[ f_{mn} = \frac{z_{nm}}{\sum_{n=1}^{n} z_{nm}} \tag{3} \]

\[ \sum_{m=1}^{m} w_{m} = 1 \tag{4} \]

Set objective weight:

\[ d = \sqrt[\sqrt{\sum_{m=1}^{m} w_{m} \cdot (r_{nm} - uq)^{2}}} \tag{5} \]

3. Cross-border E-commerce Practical Teaching Innovation Experiment

3.1 Experimental Purpose
This article is based on the theoretical results of cross-border e-commerce teaching practice, drawing on the domestic and foreign theoretical research results, using literature, comparative research, mathematical statistics, logical analysis and other methods, from the cross-border e-commerce practice teaching based on the background of big data. Carry out in-depth analysis, study its application methods and characteristics.

3.2 Experimental Judgment
Questionnaire survey: A questionnaire survey was conducted among the students and teachers of secondary vocational schools in four schools in this city that offer e-commerce courses. Collect and analyze school students' views and opinions on cross-border e-commerce teaching, and design targeted questionnaires.

Comprehensive quantitative and qualitative analysis methods. Quantitative analysis is to analyze the data of the problem, using the intuition and clear essence of mathematics to reflect the existence of the problem; qualitative is to collect, read, organize, and systematically analyze the relevant theoretical results. induction. Some standards cannot be directly analyzed in a quantitative way, but can only be evaluated using a qualitative analysis method. The assessment standard system is constructed using a combination of quantitative and qualitative analysis methods, and formulas related to standard calculations are also given. And evaluation criteria.

3.3 Data Sources
This article uses big data, e-commerce, time teaching, etc. as keywords. The start and end years are set to 2015-2019. The network platforms such as CNKI and Baidu are used to find relevant documents, and the collected materials are classified and sorted to obtain relevant documents. Research and research related to 167 Chinese and foreign academic papers, 29 academic works, 34 newspapers and online materials, and 15 doctoral and master's theses. At the same time, through questionnaire surveys, field interviews and other methods, teachers and students’ opinions on cross-border issues based on big data are collected.
4. Analysis of Cross-border E-commerce Practice Teaching

4.1 Differences in E-commerce Practice Teaching in Different Regions
We collected information on e-commerce students in 4 schools in our city, and conducted statistics on their current teaching methods. Each school counted 100 people. The specific statistics are shown in Table 1:

| School | Teachers and students teach | Activity teaching | New media teaching | Big data teaching |
|--------|-----------------------------|-------------------|--------------------|------------------|
| 1      | 47                          | 21                | 15                 | 17               |
| 2      | 53                          | 16                | 19                 | 12               |
| 3      | 62                          | 11                | 9                  | 18               |
| 4      | 44                          | 27                | 21                 | 8                |

Table 1. Classification of teaching modes

![Figure 1. Number of people in different teaching methods](image)

From Figure 1, we can see that in the current teaching system, the traditional way of imparting knowledge from teachers and students still dominates. This teaching mode generally accounts for more than 50% of schools. Schools accounted for 62%. It is difficult for students taught in this way to adapt to the needs of the modern e-commerce industry. The overall proportion of e-commerce teaching based on big data is around 10%, which shows that big data e-commerce teaching has a long way to go.

4.2 Comparison of Teaching Effect
We have calculated relevant scores for different teaching methods through calculation models, and evaluated them from five aspects: directivity, operability, completeness, stability and flexibility. A score above 0.8 is considered excellent. The specific situation of the score is as Table 2 shows:
Table 2. Comparison of teaching effects

| Teaching Method                  | Directivity | Operability | Completeness | Stability | Flexibility |
|----------------------------------|-------------|-------------|--------------|-----------|-------------|
| Teachers and students teach      | 0.686       | 0.821       | 0.552        | 0.729     | 0.531       |
| Activity teaching                | 0.533       | 0.751       | 0.612        | 0.692     | 0.517       |
| New media teaching               | 0.712       | 0.668       | 0.775        | 0.715     | 0.787       |
| Big data teaching                | 0.796       | 0.812       | 0.839        | 0.827     | 0.835       |

5. Conclusions
The Internet has changed people's lives and brought about a brand-new teaching model. E-commerce entrepreneurship is mostly the individual behavior of students, and only a few are united. Undergraduates focus on the cultivation of comprehensive ability, and e-commerce practice should strengthen comprehensive ability, and should focus on vocational skills training. In the division of majors and curriculum settings, attention should be paid to the needs of occupations. Reform teaching methods and teaching methods, strengthen practical teaching links, focus on practical skills training, focus on practical teaching, establish a practical teaching evaluation system, correctly analyze,
evaluate and perfect practical teaching. Set up entrepreneurship courses according to students' hobbies. For example, e-commerce majors must learn the introduction of e-commerce, and the introduction itself must include the basic concepts of e-commerce, network security, network marketing, legal regulations and other aspects. Therefore, based on the practical teaching of e-commerce in the context of big data, students can experience the whole process of e-commerce construction and operation firsthand, so that students will know what e-commerce is after studying courses like Introduction.

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