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Research on Big Data Analysis and Teaching Evaluation of Big Data Accounting Major in Higher Vocational Colleges

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Abstract: With the rapid development of big data technology, its application in the field of accounting is becoming more extensive, which poses new challenges to the teaching evaluation of big data and accounting majors in higher vocational colleges. Using big data analysis as a tool, this paper discusses the research framework and methods of teaching evaluation of big data and accounting majors in higher vocational colleges. First of all, the basic concept of big data and its application are briefly expounded. Secondly, the study uses big data analysis technology to mine and analyze the teaching evaluation data of the big data accounting major of the university. Finally, try to put forward the innovation and suggestion of big data analysis in the teaching evaluation of big data accounting major.

Keywords: Big data analysis; Higher vocational colleges; Big data accounting major; Teaching evaluation

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1. Introduction

With the advent of the era of big data, the application of big data technology in various industries is more extensive, the accounting industry is no exception. Two years ago, in the newly issued "Vocational Education Professional Directory" issued by the Ministry of Education, the vocational accounting major was renamed "Big Data and Accounting major" [1]. Accounting, as an important functional department of enterprises, plays a vital role in the operation and development of enterprises. With the development of big data technology, accounting work has also undergone great changes, which puts forward new requirements for the training of accounting professionals [2]. As an important position to train accounting professionals, higher vocational colleges have also set up big data and accounting majors to meet society's demand for big data accounting talents [3]. For higher vocational colleges, it is their fundamental educational responsibility to transport high-quality professionals to society [4]. In recent years, the rapid development of new technologies such as big data, artificial intelligence, mobile Internet and cloud computing has put forward higher requirements for the professional quality that financial and accounting personnel should have [2]. The core quality has been widely a concern by the educational

circles at home and abroad, and the quality of education in the country has been continuously deepened, and higher vocational colleges pay more and more attention to the cultivation of students' core quality [5]. However, ways to evaluate the teaching quality of big data accounting in higher vocational colleges have become an urgent problem to be solved.

2. Research background

2.1. Social development trend

With the rapid development of information technology, big data has become an important feature of the new era, which has a profound impact on various industries, including the accounting industry. In this context, higher vocational colleges need to conduct in-depth research and reform the teaching of accounting majors in the era of big data to meet the needs of social development.

2.2. Education reform needs

To meet the requirements of economic globalization and the new technological revolution, China's education departments have put forward the requirements to deepen the reform of education and teaching. As the cradle of training applied and skilled talents, higher vocational colleges urgently need to evaluate and reform the traditional teaching mode of accounting majors.

2.3. Changes in talent market demand

With the wide application of big data technology, the demand for talent in the accounting industry has changed. Traditional accounting functions are being expanded, which puts forward new requirements for the comprehensive quality and data analysis ability of accounting talents. Higher vocational colleges need to evaluate whether the existing teaching system can meet this change.

2.4. Integration of technology and majors

Big data technology provides new tools and methods for accounting majors. Ways to integrate big data analysis into accounting teaching and improve students' data analysis ability have become the focus of attention in the educational circle.

2.5. Improvement of the teaching evaluation system

The traditional teaching evaluation system may not be able to fully reflect the quality and effect of accounting teaching in the era of big data, so it is necessary to build a new and scientific teaching evaluation system to ensure that the teaching objectives match the market demand.

2.6. Policy guidance and support

The national and local governments exert great importance on the development of vocational education and have issued a series of policy support and guidance, which provides a good policy environment for the reform of accounting teaching in higher vocational colleges. The research background of "Big Data Analysis and Teaching Evaluation of Big Data and Accounting Major in Higher Vocational Colleges" is to respond to social development trends, educational reform needs, changes in talent market needs, and the need for technological development and professional integration, aiming at evaluating and optimizing the teaching quality and effect of

accounting major in higher vocational colleges in the era of big data to train accounting talents to meet the needs of the new era.

3. The concept of big data analysis and its application in the teaching evaluation of big data accounting major

3.1. The concept of big data analysis

Big data refers to the information assets that need to update the processing mechanism to have greater insight, decision-making and process optimization capabilities to achieve quality, diversification and high growth rate. The focus of the era of big data is to conduct multi-dimensional scientific analysis and in-depth mining of massive data. Big data analysis refers to the process of using data mining, machine learning, artificial intelligence and other technologies to process and analyze a large amount of data to find the rules and values in the data. The core of big data analysis lies in "Big Data," which usually has four V characteristics:

(1) Data volume: The amount of data involved is usually massive, ranging from gigabytes (gigabytes) to terabytes (terabytes), and even petabytes (petabytes).

(2) Velocity: Data is generated at a very high speed and needs to be processed in real-time or near real-time.

(3) Variety of data types: Data types include structured data (such as database tables), semi-structured data (such as XML and JSON files), and unstructured data (such as social media posts, pictures, and videos).

(4) Value of data: The value of big data lies in its ability to provide insight, help solve complex problems, and create new business models and value.

3.2. Application of Big Data Analysis in teaching evaluation of Big Data Accounting major in higher vocational colleges

In the era of big data, the educational reform of big data accounting in higher vocational colleges analyzes the problems that traditional accounting education needs to focus on [7]. However, while big data brings opportunities to human beings, it also prompts the education industry to change to keep up with the development of big data and usher in more challenges at the same time [8]. Education and teaching management activities in higher vocational schools are important links in schools, and teaching evaluation is an important means to improve teaching quality. The evaluation of education and teaching in higher vocational schools is very difficult, and the teaching links are complex, so a single evaluation system cannot be adopted.

The application of big data analysis in the teaching evaluation of Big Data and Accounting major in higher vocational colleges is mainly reflected in the following aspects:

(1) Teaching resource analysis

Through big data analysis technology, the use of teaching resources can be monitored and analyzed, including teaching materials, teaching plans, courseware, laboratory equipment, and other resources to understand the utilization efficiency of teaching resources and provide better learning conditions for students.

(2) Analysis of students' academic performance

Through big data analysis of students' academic performance, students' learning characteristics and rules can be found to provide basis for teaching. For example, the weaknesses of students can be analyzed, and the teaching plan can be adjusted accordingly to improve the teaching quality.

(3) Evaluation of teaching quality

Big data analysis can objectively and comprehensively evaluate the teaching level of teachers. Through the analysis of teachers' teaching data, it can provide the basis for teachers to improve their teaching.

(4) Analysis of students' learning behaviors

Big data analysis can dig deeply into students' learning behaviors and understand students' learning interests, habits and paths.

(5) Curriculum setting and optimization

By referring to the results of big data analysis, higher vocational colleges can adjust and optimize the curriculum setting according to the market demand and students' learning situation to ensure the practicability and pertinency of the course content.

(6) Construction of training base

Big data analysis can help vocational colleges better plan the construction of the training base including the investment of laboratory equipment, the setting of training projects, etc., to improve students' practical operation ability.

(7) Teaching management and decision-making

Big data analysis can provide data support for teaching management, help school leaders make more scientific decisions, and improve the efficiency and quality of teaching management.

4. Application of big data analysis in education and teaching in the major of Big Data Accounting

4.1. Application status

In recent years, technologies such as big data, artificial intelligence, mobile Internet, cloud computing, Internet of Things and blockchain have developed rapidly, and the training of big data accounting professionals in higher vocational colleges, which mainly focuses on cultivating accounting talents, has encountered unprecedented challenges [10]. The teaching of big data accounting courses in higher vocational colleges should also be adjusted accordingly.

In the present era, the state vigorously advocates personalized learning, infinite mining of students' potential and intelligence and the advantages of cultivating personality and personality. Many higher vocational colleges have put forward classroom teaching strategies, that is, changing ideas, adjusting models, respecting teaching principles and expanding teaching openness to realize personalized learning based on big data.

The era of big data is both an opportunity and a challenge for the development of higher education. For the evaluation of teaching quality in colleges and universities, more data materials can be collected based on big data as the basis of evaluation [6]. The construction of the teaching evaluation system of college teachers is directly related to the improvement of teaching quality and talent training quality and is an important part of the teaching management of colleges and universities. The establishment of a professional, scientific and practical evaluation index system in line with the principles of teaching evaluation practice is an effective means to stimulate the vitality of teaching and promote the teaching quality.

Therefore, the school has done this research activity in combination with the work of the construction of the digital campus demonstration school, aiming to have a deep understanding of the current situation of digital education in the school, the problems existing in the construction process, the corresponding solutions proposed, and the effectiveness of these solutions to further promote the digital education in school and provide references for the education digitization in other colleges and universities.

4.2. Research methods

4.2.1. Questionnaire survey method

Collect teachers, students and administrators of higher vocational colleges' opinions and suggestions on digital education.

4.2.2. Field interview method

Face-to-face communication with leaders, teachers and some students of higher vocational colleges to get an in-depth understanding of the actual situation of digital education.

(1) Main problems of teachers' follow-up visits:

(a) What is your experience with the latest digital teaching tools and resources?

(b) Which digital tools do you think have contributed most to your teaching effectiveness?

(c) Do you need more training or support to make better use of digital educational tools?

(d) Do you incorporate digital elements into your course design? If so, how has it affected student learning?

(e) Have you encountered technical problems or obstacles with any digital educational tools? Please describe in detail.

(f) How do you rate students' acceptance of digital educational tools? Do you have feedback from students?

(2) Main problems of student follow-up:

(a) What do you think of your recent online learning experience? How does it compare to a traditional classroom?

(b) What digital educational tools or resources have been most helpful to your learning? Why?

(c) Do you feel that it is easier for you to participate in class activities and discussions in a digital environment?

(d) Are you experiencing any technical issues or obstacles that are affecting your learning experience? Please describe them in detail.

(e) Do you think teachers are making full use of digital tools to improve teaching quality?

(f) Do you have any suggestions to improve the digital educational experience?

(3) Literature survey method: Collect related to digital education policy documents, such as study materials, in-depth research and analysis.

4.3. Data analysis

At present, most universities in China are gradually developing in the direction of digitalization and wisdom, which is also a key factor in ensuring the sustainable development of universities. Based on the original ideas of smart campus construction, colleges and universities have introduced the concepts of big data, Internet of things, cloud computing and Internet cloud to comprehensively upgrade the construction of digital campuses to increase the intelligence of digital campuses.

The way of thinking and technology methods in the era of big data provide new teaching evaluation ideas, broaden the scope of evaluation, and explore the construction of developmental evaluation, comprehensive evaluation and diversified evaluation to realize the data, modernization, specialization and intelligence of teaching evaluation.

Figure 1. Digital questionnaire and data analysis of campus education.

This survey conducted online questionnaires and offline interviews with teachers and administrative management of big data accounting majors. Professor and students conducted a survey, and 388 valid questionnaire survey data were statistically analyzed, the basic situation is as follows:

(1) Application of digital education

According to the questionnaire, 80.68% of students believe that they can arrange learning time and content independently in terms of improving teaching quality and effect using information technology; 65.91% think that it can enrich the learning content and resources; 62.5% think that it is better to interact with teachers and answer questions through information means. In the process of digital development and construction, 67.05% of them thought that they had changed their teaching methods and made full use of cloud classrooms and online resource libraries; 52.27% believed that information management and administrative management of students and teachers were more convenient. From the above data, it can be seen that digitalization further boosts the reform of education and teaching, and daily management, and promotes the transformation and development of big data accounting major in the university.

(2) Existing problems and challenges

The digital application of big data accounting in education is still in the stage of exploration and construction. There are also problems in the process of digital application of big data accounting education. For example, 37.5% of teachers and students did not correctly understand the definition of digital education; 14.77% of teachers and students believe that traditional teaching is more convenient. Based on the above data analysis, the university should strengthen the promotion of campus digital construction and the cultivation of teachers' and students' digital abilities in the future.

(3) Development direction of digital education

Based on the analysis of research data, the university should enhance the construction of the digital

education platform for big data accounting. At the same time, it should be rooted in the characteristics of big data accounting, insight into the needs of the industry, strengthen the construction of digital resource packages of core courses, and not forget the original intention, so that digitalization can empower the education and teaching of big data accounting.

4.4. Analysis of research results

The questionnaire survey and field interview results in the following conclusions:

(1) The utilization rate of some digital equipment needs to be improved;

(2) Digital teaching resources for big data accounting majors will be further shared;

(3) The exploration and innovation of digital teaching mode of big data accounting major need to be strengthened;

(4) Some teachers' understanding of digital education needs further training and guidance;

(5) There is still room to improve students' acceptance and participation in digital education.

4.5. Innovation and suggestions of big data analysis in the teaching evaluation of big data accounting major

(1) Optimize the infrastructure;

(2) Strengthen resource construction;

(3) Innovate teaching mode;

(4) Improve teachers' ability;

(5) Increase student engagement;

(6) Establish digital education evaluation system;

(7) Strengthen inter-school cooperation and sharing.

5. Conclusion

This paper studies the application of big data analysis in the teaching evaluation of Big Data Accounting majors in higher vocational colleges and finds that big data analysis can provide new methods and ideas for teaching evaluation of Big Data Accounting majors in higher vocational colleges. However, the application of big data analysis in teaching evaluation still faces some challenges, which need further research and exploration. In the future, the application effect of big data analysis in teaching evaluation can be further studied, as well as how to improve the accuracy of big data analysis in teaching evaluation.

Disclosure statement

The author declares no conflict of interest.

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