Application of Big Data Technology in Teaching Reform of Applied Economics in Colleges and Universities

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Abstract. With the development of the times and the progress of society, the scientific and cultural achievements of human beings are constantly accumulated, and a large number of science and technology are widely used in people's daily production and life. Under the background of the current big data era, China's economic system reform of all walks of life is in full swing, and the economic system and structure of all walks of life are gradually improving. The teaching reform of Applied Economics in Colleges and universities in China also needs to follow the trend of the times. Nowadays, the knowledge structure required by students majoring in Applied Economics in Colleges and universities has also changed greatly compared with the past. In order to cope with this change, this paper puts forward the method of integrating big data technology with the teaching reform of Applied Economics in Colleges and universities, and carries out the current situation of the teaching of Applied Economics in Colleges and universities In order to meet the new needs of applied economics students in the new era, this paper analyzes and combines the new requirements of the era of big data for students majoring in Applied Economics. Through long-term research, we can find that some analysis methods proposed in this paper have important practical significance for the application of big data technology in the teaching reform of Applied Economics in Colleges and universities.

Keywords: Science and Technology, Big Data Technology, Economic System, Economics Teaching

1. Introduction
Big data[1-3] is born on the basis of people's development and leap forward in data acquisition, transmission, and storage and processing and analysis capabilities. It has set off a huge wave of change in various industries and has great development potential. McKinsey, a famous management strategy consulting company, believes that big data itself is a huge and complex data set, and its quantity and scale have far exceeded the ability of data acquisition, storage, management and data analysis of all traditional database management software and tools. Amazon believes that big data is any huge amount of data that can exceed the processing capacity of all computers. From a macro perspective, big data education is an important link that integrates the material world, information space and human economic society. At present, Google is using cloud computing and search engine technology to
promote the wide application and industrial development of education big data. In the field of higher education, in the process of teaching and learning integration, there are many important and valuable massive big data. How to effectively mine, analyze and reasonably utilize these important massive big data resources to effectively promote classroom teaching is a major hot issue in the field of big data education.

In the past teaching mode [4-5], many colleges and universities use teachers' teaching methods to teach students to learn while learning economics. Some schools even develop to the point that teachers read according to textbooks, and students have no interest in learning at all. Students are in a passive state in the process of learning knowledge. Some excellent students learn by combining cases. However, there are also many shortcomings. Teachers have more opportunities to explain, while students are less active in class. This teaching mode is too simple to adapt to the current situation of social economic development and social change. In the current teaching mode of economics in Colleges and universities, the application of case teaching mode is a commonly used method in the current teaching mode. Compared with the traditional teaching mode, case teaching can improve students' enthusiasm in learning economics. It can also adapt to the society and keep pace with the times. However, from the current economic teaching mode [6-8] in Colleges and universities, many teaching models have been unable to keep up with the pace of the times.

This paper studies the application of big data technology in the teaching reform of Applied Economics [9-10] in Colleges and universities. In order to cope with the impact of the development of the times on the teaching of Applied Economics in Colleges and universities, this paper puts forward the method of integrating the big data technology with the teaching reform of Applied Economics in Colleges and universities, analyzes the current situation of the teaching of Applied Economics in Colleges and universities, and combines the era of big data with the specialty of Applied Economics In order to meet the new needs of the students majoring in Applied Economics in the new era, a new teaching scheme of applied economics has been worked out. Through long-term research, we can find that some analysis methods proposed in this paper have important practical significance for the application of big data technology in the teaching reform of Applied Economics in Colleges and universities.

2. Application Method of Big Data Technology in Teaching Reform of Applied Economics in Colleges and Universities

2.1. Big Data Technology
"Big data means that the amount of data involved is too large to be retrieved, managed, processed and organized into information in a reasonable time by current mainstream software tools, so as to help enterprises make business decisions." Big data is a unique phenomenon of the times, with the characteristics of fast speed, large capacity and high value. In today's era, it can make people get relevant information and resources faster, analyze and process complex data quickly, and obtain valuable Laws for people's production and life. In today's era, with the rapid development of big data phenomenon, people inevitably think that we have been seriously affected by this social phenomenon. Only if we can keep up with the background and development trend of economic development in this era, can we never fall behind in our own industry and field, or even be abandoned by the times and lose competitiveness.

2.2. Reform methods of Economics Teaching
The traditional classroom teaching method of applied economics is that teachers first explain the theoretical part, and then actively analyze the corresponding problems and cases. At this time, students often only passively accept the teaching related information on the network, and actively realize most of the classroom discussion and interaction in the classroom. In the era of Internet and big data, students can almost directly collect and obtain a large number of teaching consultation and information through mobile Internet, Internet of things and other teaching related media, which has a
strong teaching pertinence. Therefore, in the era of big data, students' ability to acquire knowledge and information is more diversified and convenient, and the teaching methods of applied economics need to be reformed.

3. Experimental Correlation Analysis

3.1. Experimental Background
Students generally believe that applied economics is a subject with theoretical and practical significance, but profound and difficult to understand. In daily life, the professional knowledge learned in this course is more useful than in real economic life. After classroom exploration, most students think that applied economics is a subject closely related to real economic life, but economic theory and professional knowledge are relatively abstract, so it is always difficult to learn. Sometimes they learn, but after a long time they forget. We can analyze that in the eyes of students, applied economics is a more useful discipline, which can play a certain role in economic life, but it is difficult to learn.

3.2. Experimental Design
This paper uses the method of questionnaire survey to investigate the students who study according to the teaching plan. The purpose of the survey is to understand the current situation, satisfaction and expectation of students on the current teaching methods of Applied Economics. The survey results are shown in Table 1.

| What kind of discipline do you think of Applied Economics? | Options | A boring subject | Disciplines with theoretical and practical significance | A profound and incomprehensible subject | Subjects that can fully arouse the active interest in learning |
|----------------------------------------------------------|---------|-----------------|-------------------------------------------------------|-----------------------------------------|---------------------------------------------------|
| proportion                                               | 5%      | 41%             | 49%                                                   | 5%                                      |                                                   |
| What do you think of the role of Applied Economics in real life? | Options | It works | It's useful | It doesn't work without effect |
| proportion                                               | 15%      | 65%             | 20%                                                   | 0%                                      |

4. Discussion

4.1. Analysis on the Application of Big Data Technology in the Teaching Reform of Applied Economics in Colleges and Universities
Quality education is the basic direction of education reform in contemporary China. According to the needs of social development and the law of modern education, quality education is an educational idea that combines various factors of human ability to develop the physical and mental potential of the educated and promote their all-round development. As the operation mode of quality education in Colleges and universities, teaching mode must adapt to the requirements and characteristics of quality education. This paper investigates and discusses the teaching methods of Applied Economics in Colleges and universities in China, the survey results are shown in Figure 1:
Figure 1. Survey on teaching methods of Applied Economics Course in Colleges and Universities

As shown in Figure 1, after a survey of teachers' teaching methods of Applied Economics in Colleges and universities in China, it can be seen that 59% of teachers' teaching methods are theoretical teaching, 26% of teachers' teaching methods are case teaching, 5% of teachers' teaching methods are group discussion, 7% of teachers' teaching methods are of extracurricular investigation, and 3% of teachers' teaching methods are of situation teaching. We can find that teachers often use theory teaching and case teaching in classroom teaching. Through these two teaching methods, students generally believe that they can better study the course of Applied Economics and the quality of classroom teaching is better, but most students also think that the teaching method cannot fully mobilize students' interest in learning, and it is a little lack of contact with real life. The degree of liking is between liking and general liking. From the above data, we can draw a conclusion that the teaching methods used in the classroom can usually be used by students and can be used to complete teaching tasks with high quality, but it is a more abstract theory, which cannot fully mobilize the enthusiasm of students, and there is still room for improvement in students' satisfaction and hobbies.

In order to understand the students' views on the application of seminar teaching method in Applied Economics course and the students' Thoughts on some details in the process of carrying out the seminar teaching, this paper investigates the students majoring in Applied Economics in a university. Most of the students are enthusiastic and willing to participate in the course discussion teaching, but some students are not willing to participate in the classroom discussion teaching. In order to deepen the reform of teaching reform of Applied Economics, the students who are not willing to participate in classroom discussion teaching are investigated. Among them, I means that the class discussion is meaningless, II means that they are not interested in the topic discussed in the class, III means that they are afraid of wrong answers and do not want to appear in the public, and IV means others. The survey results are shown in Figure 2:

Figure 2. The results of questionnaire survey on "reasons for not participating in classroom discussion
As shown in Figure 2, the reason why most students do not want to participate in classroom discussion teaching is that they are not interested in the topic to be discussed, or they are afraid of wrong answers and do not want to appear in public. This shows that teachers have been carrying out the traditional "teaching acceptance" teaching mode in the classroom for a long time, which makes students carry out mechanical movement in the classroom for a long time, and form a learning habit of passive acceptance of knowledge. Their thinking and ideas are hindered by the authority of teachers, and they are unwilling to appear in public for a long time, which limits their innovation ability to a certain extent. We should innovate and reform the traditional teaching mode of Applied Economics in Colleges and universities, and carry out different teaching methods for students with different needs.

4.2 The Application of Big Data in Teaching Reform in Colleges and Universities

In the era of big data, large-scale online education platform provides an important way for students to obtain knowledge and information, which will completely change the traditional teaching mode of Applied Economics in which teachers explain and students listen. Teachers are no longer the main source of knowledge and information, and can even reduce some classroom teaching links to facilitate personalized training and education mode, which will lead to the change of roles of teachers and students. In this process, teachers need to further improve and deepen their theoretical basis, at the same time, grasp more problems and phenomena that may appear in economic reality, especially hot and frontier issues, deal with students' consultation, and give students better explanation and guidance. This challenges the absolute authority of teachers in the past, and also puts forward higher requirements for teachers' comprehensive quality. For students, it is also necessary to change the orientation of passive listening and answering teachers' questions in class. In the era of big data, with the availability of a large number of teaching resources, students should actively search, think, identify and summarize, so as to cultivate students' thinking ability, questioning ability and in-depth understanding of the current economic phenomenon, from passive listeners to active thinkers and explorers.

In the teaching of economic law major in University, to further cultivate and improve students' ability of practical application and self-learning, we should guide students to pay equal attention to "teaching" and "learning", change the one-way classroom teaching mode of "teachers say, students listen", adopt appropriate classroom teaching methods, and let all students actively participate in the whole process of classroom teaching. Secondly, the cultivation of practice and application self-learning ability is an important goal and foothold of the education and cultivation of independent knowledge learning and practical application ability of university economics major. The application of case teaching method in course teaching is the most effective way to cultivate students' ability of independent analysis, thinking, exploration and practice. Teachers should choose appropriate cases and teaching materials according to the specific case teaching content, and fully consider the poor level of legal theory knowledge and legal theoretical thinking of teachers and students of law and economics related majors. We should correctly handle the basic content and teaching difficulties of teaching cases, guide teachers and students to analyze and discuss cases step by step, integrate the key and difficult points of legal theory into teaching cases, and let teachers and students actively participate in case discussion, and change from passive participation in learning cases to active participation in learning.

Education means the future. If we do well in education, it means that we will master the future. Therefore, education is always the foundation of people's livelihood, and it is an area that the country and the country attach great importance to. Education reform has always been a subject of constant exploration. In the era of big data, it is of long-term significance to explore the education system, mode and method under the new situation to promote the development of education in China.

5. Conclusion

This paper introduces the application method of big data technology in the teaching reform of Applied Economics in Colleges and universities. With the development of the times and the progress of society,
all walks of life need to grasp the trend of the development of the times and adapt to the needs of the times. In order to meet the new requirements of the new era for the students majoring in Applied Economics in Colleges and universities, this paper puts forward the method of integrating big data technology with the teaching reform of Applied Economics in Colleges and universities, analyzes the current situation of the teaching of Applied Economics in Colleges and universities, and formulates a set of new teaching scheme of Applied Economics in Colleges and universities in combination with the new requirements for students majoring in Applied Economics in the era of big data. It will meet the new needs of students majoring in Applied Economics in the new era. Through long-term research, we can find that some analysis methods proposed in this paper have important practical significance for the application of big data technology in the teaching reform of Applied Economics in Colleges and universities.

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