The Concept of Higher Education Quality Evaluation based on Big Data Analysis

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Abstract. Higher education, as an important part of China's education system, is the main position of cultivating high-quality talents, which has a profound impact on the social and economic construction and development. Scientific and reasonable evaluation of education quality is crucial to improving teaching efficiency and quality. With the rapid update and development of information technology and the advent of the era of big data, the quality evaluation of higher education is also facing new opportunities and challenges. The application of big data technology to drive decision-making provides more accurate and effective data reference, is beneficial to promote the diversification and development evaluation, mobile terminals, computer equipment and so on can become the carrier of data information, can realize the whole process of real-time collection, to realize the data based on big data analysis of higher education evaluation and decision-making provides the accurate data basis.

Keywords: Big data analysis; Higher education; Quality evaluation.

1. Introduction

The main function of colleges and universities is to teach and educate people and cultivate comprehensive talents, while the quality of education is closely related to the development of colleges and universities, and the teaching quality also has a direct impact on students' learning efficiency. Therefore, improving the teaching quality is the top priority of education. Education quality evaluation is an important means to improve the quality of teaching, so as to meet the comprehensive needs of social development for high-quality talents. Education quality evaluation is a continuous and dynamic process, and it is one of the main means of evaluating teaching activities, which has the characteristics of standardization and development. Using modern technology, the comprehensive judgment of teaching effect, so as to find the shortcomings in the teaching activities, and timely optimization, this is also conducive to improve teachers 'comprehensive quality, stimulate teachers' own potential, improve students' learning enthusiasm, promote common progress between teachers and students. Objective and reasonable educational evaluation is not only an important means to train comprehensive talents, but also the core foundation for the healthy and sustainable development of colleges and universities.

2. Brief description of education quality in the era of big data

Data refers to the information content presented through text, digital, voice, video and other forms, and has the regularity, and is the main carrier of information. Since the 21st century, China's Internet information technology has entered a stage of rapid development, and has been widely popularized. Human society has also entered the era of information and data explosion, mainly manifested in the substantial growth of data volume, and the speed of data growth is still accelerating, and the source channels and types of data are also continuously increasing. Big data mainly refers to the unable to use traditional technology and tools in a short time to obtain, sorting and processing data, big data difference in the data scale has changed, and information technology ushered in a new stage, and explosive data information also has a certain impact and influence on traditional computer technology, big data processing needs new technologies and methods, but also represents the new opportunities and challenges. Big data has the following characteristics, namely, scale, diversity, precision, value and efficiency. Through deep mining and comprehensive analysis of massive data, and exploring the deep meaning and value of data, people's previous perceptual decisions will gradually turn to rational

decisions based on data analysis. At present, big data is also gradually being applied in the field of education, which also provides more possibilities and choices for educational evaluation and learning analysis. Big data era, the Internet and cloud computing technology has gradually penetrated into the society and people's life, and based on big data teaching quality evaluation, evaluation activities is always in the process of dynamic development, data analysis and data mining is as a modern information technology, driven by data growth is constantly update and development, as people's needs constantly changing, through amounts of big data integration processing, so as to further realize the intelligent data analysis, create greater value.

3. Optimization and transformation of teaching quality evaluation system

Teaching quality evaluation mainly refers to the comprehensive collection and sorting education information under the premise of the comprehensive judgment of education results and value, under the background of big data era, accurate big data also make quality evaluation more intuitive and rationalization, through advanced technology, promote higher education quality evaluation great change. From a personal point of view, the ultimate goal of educational evaluation is to further understand the students' learning situation, and to conduct an objective evaluation, and to conduct a comprehensive evaluation of the teaching quality. From a macro perspective, the ultimate goal of evaluation is to promote the reform of the education system and constantly improve the quality of education. Education evaluation improvement to combine the specific training objectives and talent development concept, gradually build scientific and perfect evaluation criteria, at the same time to participate in the education quality evaluation activities, real-time record of the growth of students, gradually improve the comprehensive quality evaluation, explore a new pattern of various evaluation ways of coexistence, promote the comprehensive development of students. Facing the increasingly changing social environment, the quality evaluation method of higher education must be actively transformed, and its judgment based on data analysis is also the core thought of positivism. Teaching evaluation needs to be gradually changed from the aspects of content, concept and way, specifically reflected in the following aspects: First, students' learning status should be recorded and collected in real time, and the evaluation concept has also gradually changed from the previous focus on experience to the current data as the core. Perfect the comprehensive quality evaluation, explore a variety of evaluation methods, and constantly improve the teaching effect, but also make the evaluation content gradually change towards the direction of development. The evaluation mechanism with the participation of the government, schools, society and parents promotes the transformation of the evaluation method from simplicity to diversification.

4. The advantages of teaching quality evaluation based on big data

4.1 Diversified evaluation levels

With the reform of higher education system and employment system, the current education quality evaluation has many deficiencies in the process of practice, the first is the participation is low between teachers and students in the evaluation activities, cannot fully reflect its main role, quality evaluation is only play a role in the process of implementing management by objectives, cannot stimulate the initiative of teachers and students, cannot effectively achieve the ultimate goal of high-quality talent training. Secondly, the quality evaluation mode is relatively simple, which has different degrees of influence on the credibility of the quality evaluation. Once the quality evaluation information is distorted, it is easy to lead to the misleading situation of the macro policies and the implementation of management by objectives. At the same time, the quality evaluation mechanism dominated by the education department cannot take care of the educational concepts of different regions and disciplines, and there are great differences in the educational objectives. The single quality evaluation mode and insufficient reference basis are adopted, which can easily lead to the gradual homogenization of higher education and talent training. The application of big data gradually promotes the development

of the quality evaluation system in a diversified direction, constructs a multi-level joint participation evaluation system, and different subjects conduct different levels of evaluation, making the evaluation process more complete and reasonable. First of all, the quality evaluation link mainly includes the self-evaluation of college students and the teachers' comprehensive evaluation of students. Secondly, schools have a certain macro-control effect on the education quality evaluation and educational activities. Social evaluation of higher education quality is more objective, is also an important part of higher education quality evaluation, under the background of big data, information means can effectively overcome the geographical limitation, change the status of evaluation difficulties, universities can real-time tracking evaluation of students, can get graduates after the actual situation, way is more extensive, can real feedback of information data, and authenticity is high, according to the actual situation, the university education policy adjustment in a timely manner, so as to better adapt to the needs of social development.

4.2 Process evaluation is more scientific

There are usually two forms of quality evaluation in colleges and universities, namely, process evaluation and result evaluation. Process evaluation mainly includes the evaluation of teaching and scientific research behaviors, while the result evaluation mainly evaluates the results and results. Process evaluation is usually difficult to evaluate. In the past, the quality evaluation of higher education only considered grade evaluation, or integrated the two evaluation methods. The multi-dimensional exploration such as higher education, academic research and infrastructure all belong to grade evaluation services. The way and direction of evaluation cause that many institutions of higher education do not take training talents as the ultimate goal, mainly to increase the evaluation ranking, and education and scientific research activities are also gradually running around various evaluation dimensions. The application of big data also implements the separate process evaluation, in class, can through big data technology real-time collect students' homework completion, attendance, classroom speech interaction time and frequency, and the data collection, sorting, analysis, gradually form a more complete process of education quality evaluation way, education, scientific research activities and process can also be specific assessment and evaluation.

4.3 The evaluation results are more objective

The evaluation standard is the yardstick to evaluate the quality of education. At present, the quality evaluation standard of higher education is mainly based on subjects, which comprehensively examines the basic conditions, teaching quality and management of schools. Influenced by external objective conditions, the definition of existing standards is relatively vague, and many factors can not be measured, such as, the talent training ability, the service ability of the economy, the internal quality assurance system construction of the school, etc., it is difficult to form specific quantitative indicators. In the context of big data, the amount of information is increasing year by year, the network information is also increasingly improved, the data monitoring and analysis ability is gradually enhanced, and some factors that cannot be specifically measured are gradually quantified. And a scientific quality control system can be constructed, which can gradually refine the previous macro evaluation indicators, and transform them into micro individuals, which can help to achieve the macro goals. Secondly, it is also difficult to evaluate students' interest and development. In-depth investigation can be adopted and other methods for comprehensive analysis. At the same time, on-site observation and data access can be conducted to process data and information and make scientific and effective evaluation.

4.4 Promoting data-driven decision-making

Data-driven decision-making specifically refers to the process of data collection and analysis, and applied in educational and teaching activities. Teaching evaluation is based on big data algorithm, real-time collection of students' classroom performance, learning characteristics, course content and other related data, and scientific calculation, so as to make real-time prediction of the course. And

present the results in real time in the relevant learning interface, according to the prediction results, teachers can through WeChat or interview appropriate intervention for students, but also through the teaching evaluation system real-time recommended related learning resources and mentors, to provide students with more suitable guidance and help, so as to achieve twice the result with half the effort.

4.5 Provide diversified evaluation channels

In the past, student evaluation focused on the status of academic level of students, and was completed jointly by the relevant departments of the school and teachers. The evaluation system has the characteristics of closure. At present, the evaluation of students 'quality and development has become the main direction, and the evaluation runs through the whole teaching process, including students' learning and behavior performance. The data source is more complex, so the data is sorted out, so as to analyze the comprehensive quality of the students. While accumulating the data, the parameters and models are gradually established to improve the accuracy of the analysis. Education big data source is very wide, mainly includes the management activities, teaching activities and campus activities, education activities related is not only the producer of data, but also consumers, based on big data analysis evaluation activities, also provides a bridge for different subjects involved in the evaluation activities, so, data is an important factor driving the development of education assessment transformation, data collection and analysis can fully reflect the change of big data.

5. The Design of Teaching Quality Evaluation Based on Big Data

Is based on the big data analysis of teaching quality evaluation mainly includes planning, execution, inspection, processing four links, after in-depth market research, collect data information, and its analysis, form a scientific report, evaluation can through the network platform, combined with the data information given decision, so as to improve the teaching level and quality, specific as follows:

5.1 Set up the objectives of the teaching quality evaluation system reasonably

In terms of scientific and reasonable teaching quality evaluation, colleges and universities should formulate reasonable goals and implementation plans. In the era of big data, they can timely and comprehensively understand and master the dynamic changes and development of the industry, strive to cultivate students' basic theoretical knowledge and professional quality, and incorporate them into the teaching objectives. At the same time, the teaching goal usually along with the actual market demand has gradually changed, colleges and universities can sorting and analysis of data information, combined with accurate data information, predict the market demand status and direction, at the same time to meet the needs of market development training plan, gradually cultivate high-quality comprehensive talents.

5.2 Fully implement the teaching quality evaluation system

In the quality evaluation system of higher education, the implementation stage is very important, which is a comprehensive evaluation of the operation process of teaching activities. Under the Internet environment, computer information technology enters the classroom and also injects new vitality into the classroom teaching activities. Students can learn online to acquire the knowledge they want, or interact with teachers, who can record various problems in real time and give feedback on them. At this time, the evaluation process is to analyze real-time data information, and feedback the data and methods to teachers in time, so as to better solve practical problems. Big data can give feedback on the interaction between teachers and students in teaching activities, and synchronize teaching activities and teaching evaluation. Syntaneous evaluation is more constructive and flexible, and can continuously improve students' learning initiative and creativity.

5.3 Timely feedback of teaching quality evaluation system assessment

In the quality evaluation system of higher education, with the implementation of various plans, the teaching evaluation of the results needs to combine the specific implementation of the goal and the plan, evaluate whether the teaching activities meet the goal, timely find problems and summarize experience in the implementation of the plan. It is mainly on the basis of the data collection, the Internet environment, students can use the network platform for comprehensive analysis and evaluation of teaching activities, graduates can also share their employment status, analysis is consistent with the school talent training goals, thus more accurate and comprehensive collection of information data. At the same time, teachers can also know the students' learning situation and feedback, the big data collection analysis, conduct teaching research, improve teaching quality, explore new ideas, the problems existing in the teaching link to give scientific and effective advice, big data collection and analysis also greatly enhance the interaction between teachers and students, to improve the teaching quality.

5.4 Gradually improve the teaching quality evaluation system

Higher education quality evaluation system, continuous summary to further optimize and improve the measures and methods, after comprehensive analysis, if the experience applicability and scientific is strong, can be promoted, and is widely used in the process of higher education evaluation, if there are problems, can learn from experience, avoid similar problems again. In the Internet environment, the comprehensive evaluation of teaching quality through big data is not over at one time, but a process of continuous analysis, and constantly put forward new methods, which is a dynamic data analysis, which has an important impact on improving teaching methods and improving teaching quality.

6. Conclusion

As the main position of teaching and educating people, colleges and universities cultivate comprehensive talents for social and economic construction and development. In order to ensure the quality of talent training and education, it is necessary to adopt the higher education quality evaluation mechanism, constantly optimize and improve the teaching work, so as to meet the comprehensive needs of national and social development for talents. Teaching quality evaluation is a dynamic process. Through the analysis of modern big data technology, it can scientifically and reasonably evaluate the teaching effect, find various problems in time, and solve them, so as to constantly improve ourselves, improve ourselves, promote teaching and learning, and cultivate more excellent high-quality talents.

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