

Research and implementation of the multi-dimensional classroom teaching quality evaluation system in colleges and universities based on big data is not reviewed

Yujun Cao¹, Xiaoming Ma¹, Ruijuan Lin²

1.Guangzhou Institute of Navigation, Guangzhou 510725, China

2.Guangzhou Huaxia Vocational College, Guangzhou 510900, China

Abstract: The application of big data in the teaching quality evaluation system of colleges and universities is to effectively enhance the level of teaching quality and show the high efficiency, real-time and intelligent teaching quality evaluation. This paper mainly analyzes the application characteristics of big data in the multidimensional teaching quality evaluation of colleges and universities, carefully explores the problems existing in the application of big data in the multidimensional teaching quality evaluation system of colleges and universities, and finally puts forward the application strategy of enhancing big data in the multidimensional classroom teaching evaluation system of colleges and universities.

Key words: Big data; Classroom teaching quality evaluation;

Whether the teaching objectives and semester tasks set by different disciplines in colleges and universities have been successfully completed, whether students can learn relevant professional knowledge by combining teaching activities, and how teachers' teaching achievements are demonstrated concretely by the teaching quality evaluation system in colleges and universities. The introduction of big data into the teaching quality evaluation system in colleges and universities can make the teaching quality evaluation more objective. To demonstrate the effectiveness of its application, and promote the benign development of classroom teaching in colleges and universities through teaching evaluation, teacher feedback and teaching supervision.

1. The application characteristics of big data technology in college teaching quality evaluation system

The essence of the college teaching quality evaluation system based on big data technology can be summarized as “data governance in the field of college education and teaching”, which mainly relies on information technology to complete professional talent cultivation, realize the innovation and reform of talent cultivation path, and effectively improve the quality of talent cultivation. The document “China Education Modernization 2035” clearly points out that it is necessary to accelerate the pace of information technology, realize education reform, build an intelligent campus environment, and plan an integrated intelligent teaching, management and service platform. Colleges and universities need to use modern technology to continuously promote the talent cultivation model and achieve the perfect integration of large-scale and personalized talent cultivation.

First, we need to jointly build and share resources. The biggest feature of the college teaching quality evaluation system based on big data technology is that it has a large amount of data about the basic state of teaching, such as the number of teachers and students, students' personal information, classroom teaching, teaching resources of various disciplines; Data on teaching evaluation: such as multi-subject evaluation, special teaching inspection; There are teaching opinions and suggestions, such as school teaching basic situation report, teacher teaching situation rectification report, teacher-student symposium opinions and suggestions.

Second, the management should be precise and scientific. The obvious improvement of education quality is the direct dividend of the construction of college teaching quality evaluation system based on big data technology. With the help of this intelligent teaching service platform, it can help colleges and universities to build a whole-process and comprehensive education inspection system, pay attention to the analysis of data problems, actively explore potential capabilities, make up for teaching shortcomings and weaknesses, and provide decision-making basis and development direction for the construction and optimization of student learning, teacher team building, excellent curriculum cultivation, teaching service management and other mechanisms.

2. The application of big data in the teaching quality evaluation system of colleges and universities

2.1 The evaluation content under the application of big data is not comprehensive

The practical application of big data, the implementation of teaching quality evaluation for colleges and universities, the construction of college teaching quality evaluation system, including schools, teachers, students and other different subjects of the data collection and feedback platform, and different users can use different functions of the data platform, easily complete the evaluation of teaching quality. This measure can promote teachers to optimize the teaching mode, teaching concept and teaching content, so as to effectively enhance students' interest in classroom learning. At present, when many universities use big data to analyze the teaching quality evaluation system, there are still problems of incomplete evaluation to varying degrees. The content of teaching evaluation in many colleges and universities focuses on teachers' own teaching behavior, such as the teaching skills, current teaching level and teaching mode used by teachers in classroom teaching. In addition, the interaction between classroom teachers and students and the learning situation of students in the class have not been integrated into the teaching quality evaluation system of big data. As a result, the school's teaching quality evaluation system

is one-sided.

2.2 The display mode of evaluation results under the application of big data is single

In the process of introducing big data into teaching quality evaluation system, many universities in our country did not make full use of the intelligence advantage of big data statistics, thus forming a more diversified display form of teaching evaluation results, resulting in a single form of teaching evaluation results under the application of big data. At present, many colleges and universities for the teaching quality evaluation system results display Settings are very simple, most of them are basic data, such as students' satisfaction with teaching, teachers' teaching level score, feedback on the quality of classroom teaching, but lack of deeper results display. For example, the in-depth comparison of teachers' monthly teaching quality and the horizontal comparative analysis of teaching quality of different teachers in the same discipline result in the teaching quality evaluation results formed by the application of big data in colleges and universities cannot meet the actual needs of teachers and schools, especially the teaching management part of the school, which cannot be combined with the existing teaching quality evaluation results. To carry out diversified and all-round supervision and management of teaching among different disciplines in colleges and universities.

2.3 The application of big data makes students' participation low

In the practical application process of big data, the participation of students is very important in the evaluation of teaching quality, and it is also the key to constitute the first-hand data of teaching quality evaluation. However, many college students do not have too much enthusiasm for the participation of big data information platform in teaching quality evaluation. On the one hand, for colleges and universities that adopt process-based evaluation, students will evaluate multiple disciplines and teachers in a short period of time, requiring a large number of questions to be answered, which is not conducive to improving students' enthusiasm in participating in evaluation.

3. The design of college teaching evaluation system based on big data analysis

3.1 Overall design

The detailed analysis of the teaching quality can be carried out from the following aspects: the review of the teaching quality evaluation system, the actual situation of teachers and students' attendance, the maintenance of the teacher's listening information data and other relevant information. The design and application of this system can enhance the maintenance and activities of the data section, which mainly includes teacher post management, relevant department management, user management and system parameter setting. This system can be used to process and evaluate the data, mainly course teaching data, class management data, attendance data and course arrangement data.

3.2 Detailed functional section design

1. Design of system management section

System management mainly includes user management, department management, post management, system parameters four parts, of which user management is based on the use of users in the system to manage, the function mainly includes user deletion and increase, or pressure data import; Department management is the management of the user's department in the system, mainly including data deletion and import functions; Post management is for the use of the user's identity management, including post deletion and increase, as well as different identities between the authority Settings. This evaluation system mainly provides parameter Settings, which are mainly divided into "interface table display data size" and "After setting the class activity, inform the teacher in advance of the number of days to participate in the class".

2. The system core menu Settings

The core of teaching quality evaluation activities lies in strengthening inspection management, attendance management, listening management, data analysis. Data maintenance refers to the maintenance of various basic data to ensure the safety of various information, including teacher teaching data, class internal data, attendance data.

Inspection management refers to the management of abnormal data information existing in the inspection process, which includes abnormal data viewing, abnormal data management, abnormal data statistics and abnormal data query and other functions. Inspection management is set according to the content of the course schedule, before the inspection management, it is necessary to import the relevant information of the course schedule under the premise of data maintenance.

Attendance management is the management of attendance data, which includes attendance data statistics, attendance data query, test group data analysis and other functions. Attendance management is based on the completion of attendance data, before the pre-test management, it is necessary to complete the import of attendance data under the premise of data maintenance.

Attendance management is the centralized management of each attendance data, including the functions of attendance arrangement, feedback and record. Lecture management is based on the basic data of "course schedule", so before the inspection management, it is necessary to enter or import the relevant course schedule data in "Course Schedule data" under "Data maintenance".

In addition, in the process of obtaining all kinds of information, the system can analyze the data in detail, complete the processing of the analysis results, and present them in front of users in a more subjective form, so as to facilitate users to find and solve problems in time, so as to achieve better teaching management means and continuously improve the quality of teaching.

4. Concluding remarks

In a word, under the background of education informatization 2.0, big data technology is applied to the specific data processing in colleges and universities

The process is reflected in data management, data quality, data decision-making and so on. On the basis of educational data governance

theory, it can be found that there is consistency between teaching quality evaluation and higher education goals, which is conducive to the sustainable development of education. Therefore, the rapid development of big data technology and the practical application of big data technology based on education data analysis in the quality evaluation system of colleges and universities can not only provide a new path for higher education management, but also build a comprehensive teaching evaluation model and evaluation management system, which is convenient for all kinds of information management in colleges and universities.

References:

- [1] Xiuzhong Tang,Xiaoli Lan,Honglei Chen. Research on Design of University Teaching Quality Evaluation System based on Big Data [J]. Journal of Kaifeng Culture and Art Vocational College,20,40(2):3.
- [2] Ning Meng,Lin Feng. Research on evaluation index system of online teaching quality in colleges and universities based on Education Big Data [J]. University Education,2021(8):5.
- [3] Zihao Zhao,Haopeng Chen,Qiangqiang Wu, etal. Multi-dimensional Learning quality and Teaching quality Comprehensive Evaluation based on MOOC: A case study of the historical data of “Good University Online” [J]. Industrial and Information Education,2017(11):6.
- [4] Jinghui Luo,Mincheng Du. Research on SPOC learning evaluation System based on Big Data [J]. Electronic Technology and Software Engineering,2021, 000(016):P.226-228. (in Chinese)
- [5] Xiaoe Zou,Xinqin Wei,Fen Yu. Research on Teaching Evaluation Model of colleges and universities based on Big Data [J]. Front Drawing, 2019(6):1.
- [6] Yu Yang. Research on Evaluation system of Teaching Quality in colleges and Universities based on Big Data [J]. Computer Products & Distribution, 2018(4):1.
- [7] Xing Ma,Nan Wang. Construction of university teaching quality evaluation system based on big data. Tsinghua University Educational Research, 2018, 039(002):38-43.
- [8] Lingjie Zhang,Shengle Shi. Research and practice of Curriculum Teaching quality monitoring and Evaluation based on Big Data [J]. Digital World, 2020, 000(008):87-88.
- [9] Xiangcheng Yu,Sha Wang. Correlation analysis of college students’ thought and Behavior Big Data -- Based on a survey of 1076 college students in Hunan Province [J]. Science of University Education, 2018(3):8.
- [10] Qi Liu. Research on Blended Teaching quality Monitoring and evaluation System based on Big Data [J]. Henan Education: Higher Education Edition (Middle), 2022(5):4.
- [11] Jing Yang,Lin Zhu. Research on new teaching quality evaluation system based on Big data technology [J]. Journal of Hanjiang Normal University, 2020, 40(3):4.
- [12] Shengle Shi,Lingjie Zhang. Research on supervision and evaluation of teaching quality in universities under the background of Big Data. Digital World,2020,No.176(06):159.
- [13] Han Liu. Research on Key issues of data quality management, evaluation and detection in Big Data environment [D]. Jilin University, 2019.
- [14] Xiaodan Li. Computer Knowledge and Technology,2022,18(16):136-137+149.
- [15] Lei Zhao,Jin Liu,Binru Chen. Research on Personalized Teaching System based on Big Data and Cloud Computing -- A case study of “Wisdom Learning Partner” adaptive learning platform [J]. Electronic Testing, 2021(14):3.

Fund Project: Research and implementation of Multi-dimensional classroom teaching quality evaluation system in universities based on big data in Guangzhou Education Science Plan 2022 (202214072)

First author: Cao Yujun (1967.06-), male, Han, born in Chenzhou, Hunan Province, Bachelor’s degree, Associate Professor of Guangzhou Navigation University. His research interests mainly include machine vision and intelligent technology and big data.

Second author: Ma Xiaoming (1983.05-), male, Han, born in Wuhan, Hubei Province, Master’s degree, lecturer, main research interest is information security.

The third author: Lin Ruijuan (1979.08-), female, Han, born in Chaozhou, Guangdong Province, master, lecturer. Her research interest is website construction.