Construction of Online Teaching Quality Evaluation System for Application-Oriented Undergraduate Colleges in Epidemic Period

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Abstract: Due to the novel coronavirus pneumonia epidemic, universities around the world postponed the school term. Some colleges and universities in the world require the implementation and guarantee of online teaching during the period of epidemic prevention and control, so as to realize "no suspension of classes". In this context, the development of large-scale online teaching network, facing many challenges, but also ushered in a rare opportunity. In addition, in the era of Internet plus, internet teaching has been integrated into the teaching of colleges and universities, and even into primary school and secondary school. In the face of the rapid replacement of education methods in the Internet era, the research on academic evaluation is far from satisfactory. In this paper, through the method of literature analysis, the journal papers and master's theses about academic evaluation from 1999 to now are sorted out, and the research trend and content are analyzed. In view of the shortcomings of domestic academic evaluation and the future development trend of academic evaluation in the Internet era, this paper puts forward that hybrid academic evaluation is a new way to solve the problem and a new trend of academic evaluation reform in the internet era. The novel coronavirus pneumonia epidemic line teaching mode is discussed in principle, which provides reference for the implementation of stable, orderly and efficient online teaching mode.

1. Introduction

With the emergence of education, the research of academic evaluation by scholars all over the world has never stopped [1]. For education, if we want to develop, we must constantly improve the shortcomings of traditional education. At present, all trades and professions are in the "Internet plus" and "big data", and are faced with the urgent crisis of traditional rules and regulations, which is also necessary for education [2]. The traditional class teaching system is impacted by online MOOC and SPOC platforms, and new models such as flipped classroom are gradually entering the classroom. Primary and secondary schools across the country have set off an upsurge of education reform, striving to be the trendsetter of education model reform in the internet era [3]. In the face of the impact of internet education, as an important means of education evaluation, academic evaluation has to change and break through [4].

In 2010, the United States developed two evaluation systems, parcc and SBAC, according to the common core state standards [5], and began to test them in 2014, aiming to improve the international competitiveness of American education. The "every student successes act" signed by Obama in 2015 puts forward the curriculum and evaluation of the 21st century, which should focus on high-level thinking skills. In 2013, the Ministry of education of England passed the new national curricu lum assessment and academic evaluation reform plan for primary schools in England, which was implemented in 2016 [6]. The evaluation criteria include national curriculum assessment, GCSEs. The aim is to solve the problems in English teaching and to expand the influence of national education. The reform of academic evaluation has been carried out in full swing in the world. In view of the national conditions of China's education, the reform policies of academic evaluation are also emerging in an endless stream. In 2010, the Ministry of education of China proposed to build "National Excellent Courses" to actively carry out undergraduate teaching

evaluation; in 2013, the Ministry of education required the national primary and secondary schools to carry out comprehensive evaluation reform of education quality [7]. At the National Undergraduate Education Conference held by the Ministry of education in 2018, it was clearly stated that the academic evaluation of colleges and universities should be reformed so as to attach equal importance to quality and talent training [8]. In 2019, the Ministry of education strictly ordered the national education to eliminate "water courses" and create "gold Courses", and increase the proportion of process assessment results in the total curriculum results.

In the era of big data, how to find the most suitable academic evaluation method in the era of education big data is an urgent problem for policy makers and researchers, and as shown in Figure 1, the data analysis could be the key for online-teaching. In view of the shortcomings of domestic academic evaluation and the future development trend of academic evaluation in the Internet era, this paper puts forward that hybrid academic evaluation is a new way to solve the problem and a new trend of academic evaluation reform in the internet era. The novel coronavirus pneumonia epidemic line teaching mode is discussed in principle, which provides reference for the implementation of stable, orderly and efficient online teaching mode.
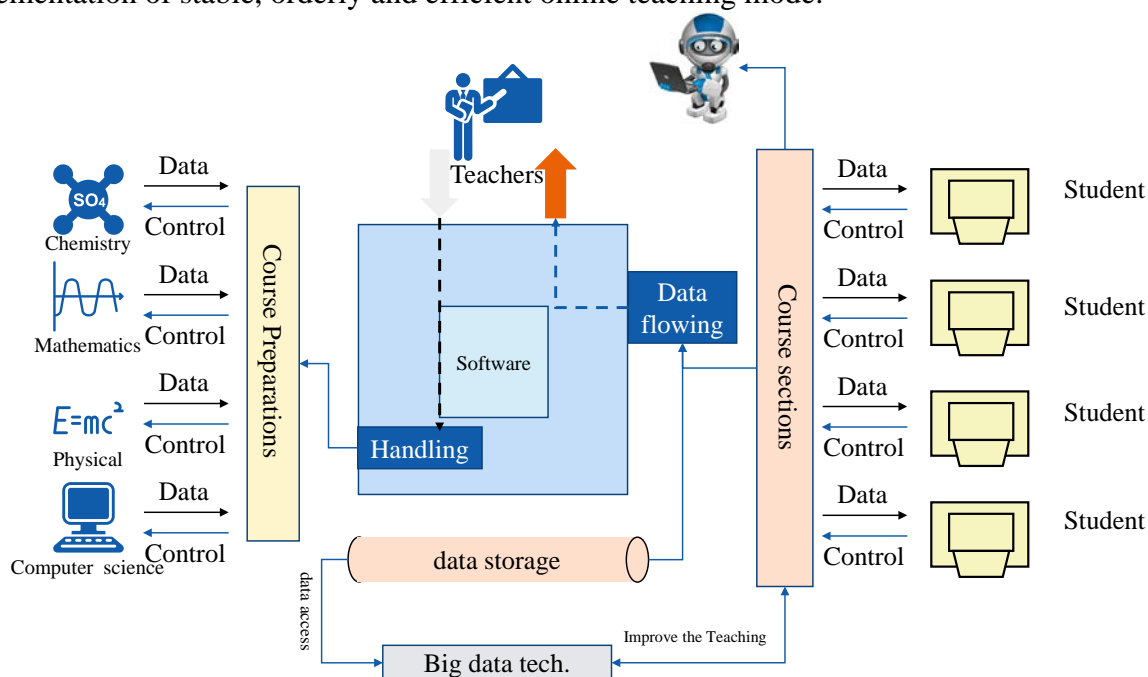

Fig.1 The Online-Teaching Modes in the Era of Big Data

2. Literature Review on Online Academic Evaluation

2.1 Trend Analysis of Online Academic Evaluation Research

The search time of academic papers published in Google database is limited to 1999 to now, and 1002 documents are retrieved under the title of "academic evaluation". Among them, there are 845 Chinese literature articles published in journals, 178 articles published in core journals, and 133 research papers with the title of "academic evaluation". Figure 2 is a statistical chart of academic evaluation published in the past 20 years.
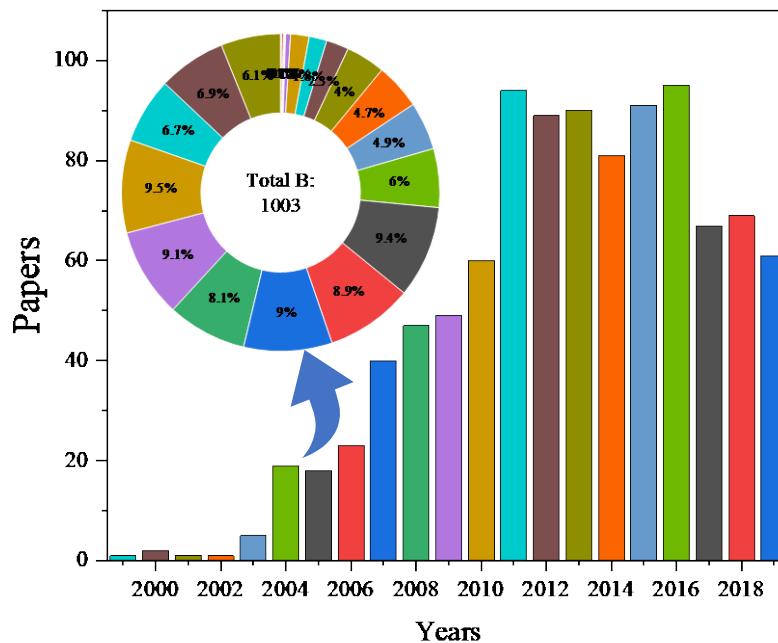
Fig.2 Statistics of Related Papers in Different Years

It can be seen from Figure 1 that academic evaluation in China can be divided into two stages. During the period of 1999-2010, the research literature of academic evaluation in China has been on the rise in a straight line, and it is an outbreak period in 2011. In 2011, the State Council issued the outline, pointing out that to make a breakthrough in the way of teaching evaluation, we need to improve the teaching quality assurance system and improve the evaluation of education and teaching. After 2011, the research on academic evaluation is still hot. In 2013-2014, MOOC rose in the world, China developed the first MOOC platform, and MOOC began to enter school education. In 2015, Premier Li Keqiang adopted the concept of "Internet +" proposed by Mr. Ma Huateng, and incorporated this action into the new national plan. Since then, "Internet + education" has officially entered the eyes of researchers. "Internet + education" brings not only big data of education, but also a significant breakthrough that researchers can observe students' behaviors behind big data. The study of academic evaluation in this period can be called the academic evaluation in the era of big data of education.

2.2 Research Content Analysis of Online Academic Evaluation

Google academic has summed up a number of keywords, removed the word "academic evaluation" used in the search, and selected the top 10 most frequently for sorting and analysis, as shown in Table 1.

Table 1 Keywords for Online Academic Evaluation (Top 10)

No.	Keywords	Frequency	No.	Keywords	Frequency
1	Student academic evaluation	45	6	Academic Evaluation System	26
2	Course Standard	36	7	Consistency	21
3	Reform	31	8	New course	19
4	Evaluation System	28	9	College Students	18
5	Mathematics	28	10	Evaluation standard	17

It can be seen from the top 10 key words that the content of academic evaluation research usually includes: academic evaluation reform, academic evaluation system, higher education students' academic evaluation, primary school academic evaluation under the background of new curriculum and how to formulate the evaluation standards of students' academic evaluation. In more than one thousand documents, the top five themes are respectively "student academic evaluation", "academic evaluation system", "academic evaluation mode", "curriculum standard" and "mathematical

academic evaluation". The top three research levels are respectively "basic research (SOCIAL SCIENCES)" "basic and secondary vocational education" and "higher education", accounting for 43.54%, 29.23% and 9.01% respectively. By combining the key words with the theme distribution, we can conclude that the research on academic evaluation in China has carried out the exploration of the problems, systems, models and standards of academic evaluation in primary and secondary schools and universities.

3. Problems and Future Development of Online Academic Evaluation

3.1 Problems in Online Evaluation System

Almost all of the collected documents mentioned the problems in China or in their own schools to varying degrees. There are some disadvantages in traditional academic evaluation before online education development and dissemination. For example, in the stage of basic education, teachers only pay attention to the final exam scores, take the paper and pencil test as the only assessment, and excessive use of horizontal comparison becomes inertia. For example, academic evaluation in Colleges and Universities still adopts the "old-fashioned" way, the subject of evaluation is single, the process evaluation will not be designed and applied, and the evaluation results lack of diagnosis feedback function, unscientific evaluation method, mismatch between talent training and social demand, etc.

3.2 Change of Online Evaluation System

Through the analysis of Google academic literature, we can see that the research on academic evaluation of primary and secondary schools in China is far more than the research on academic evaluation of colleges and universities. Under the background of the new curriculum standard, primary and secondary schools all over the world have also changed the content of academic evaluation, not only taking the test results as the only standard to judge the quality of students' academic work, but also the students' practical ability, high-level thinking and innovation ability have gradually entered the teachers' vision. It has been more than 10 years since quality education was put forward and implemented. The research field of academic evaluation reform has been greatly improved both in thought and in practice. In the process of implementation, it has also experienced a small-scale to large-scale project research. After extensive communication and discussion, researchers have formed a consensus on academic evaluation. For example, timss2015 scientific academic evaluation framework is an evaluation study on scientific literacy and scientific inquiry in primary and secondary schools. Academic evaluation has certain development and expressiveness, which can fully reflect the overall development of students' morality, intelligence, body, beauty and labor. For example, a middle school in Shandong province puts forward the characteristics of "conceptual" academic evaluation, namely "time concept" + "learning attitude and validity" + "degree" (in line with students' Cognition), so as to achieve the effect of optimizing traditional evaluation.

3.3 Exploration and Reflection on Undergraduate Academic Evaluation

Exploration and thinking of undergraduate academic evaluation search from Google academic, search subject is academic evaluation and includes universities, journal source is core journal, CSSCI, a total of 59 records. There are 1 literature before 2000, 11 in 2001-2010, 47 in 2011-2019. The retrieval theme is academic evaluation and includes universities. The source of literature is master's dissertation, and 21 records of useful information are screened. Most of the master's dissertation after 2010 shows that universities pay more and more attention to the research of academic evaluation. Through literature review, the existing research contents of College Students' academic evaluation mainly include: the research on the current situation and Countermeasures of College Students' academic evaluation; the research on College Students' academic evaluation program, standards and index system; the practical research on College Students' academic evaluation. At present, the research on academic evaluation of college students in China mainly has

the following characteristics. First of all, there is not a systematic study on the academic evaluation of college students in the existing research results. Moreover, most of the existing research results are focused on the academic evaluation of students in the basic education stage, while the results of academic evaluation for college students are less. Secondly, there are relatively few researches on students' academic evaluation. There are not many academic evaluations that can be retrieved, and there are many discussions on the comprehensive quality evaluation and academic evaluation, but there are few studies on the basic theoretical issues of college student evaluation. Finally, the research on students' academic evaluation is mostly carried out from the perspective of revision and improvement, which is not divorced from the basic framework of the existing evaluation scheme, lacks the fundamental change in guiding ideology, lacks the mastery of the application of information technology in evaluation means, and lacks the understanding and grasp of the ability that students should have in the Internet era.

3.4 New Requirements of Academic Evaluation in the Internet Age

With the online education entering the school and classroom, Zhu Hongjie and others proposed that new evaluation standards and methods should be designed to evaluate the new model. Liu Xianjun mentioned in his article that the education reform must reform the teaching evaluation, take the growth and development of students as the main content of the evaluation, reform the examination system, combine the school evaluation with the social evaluation, and Sun Xiang aimed at the use of MOOC Yu Jiao, Feng Qiankun and so on put forward a hybrid academic evaluation system from four aspects: evaluation object, evaluation process, evaluation index, evaluation feedback, innovative design of College Students' academic evaluation program [8]. With the rapid development of online education, the traditional academic evaluation can not meet the new evaluation requirements brought by the changing data age. Most of the classrooms adopt the mixed teaching mode. Hybrid teaching is an online platform + entity classroom learning mode, which is commonly used in teaching in the digital era. In the era of Internet plus big data, the promotion of cloud technology brings rapid development of big data technology. MOOC and micro lessons are entering the classroom. The theoretical foundation, evaluation method, application technology and evaluation contents of academic evaluation should be given new demands. We need to innovate from the aspects of evaluation content, mode, time, place and subject, so as to achieve a new change in academic evaluation.

4. Conclusion

In the era of big data, the combination of advanced technology and teaching is a trend and an inevitable trend of education. MOOC and flipped classroom have become familiar to teaching workers. There are many forms of using education platform to carry out teaching activities in teaching activities, and the corresponding traditional evaluation methods are no longer suitable. The hybrid academic evaluation proposed in this paper is based on the combination of class and off class teaching, and the behavioral data of students' learning collected by superstar platform is visible Put forward. The value of the mixed evaluation index system can be adjusted flexibly according to the actual teaching content. Therefore, the mixed classroom teaching evaluation system constructed in this paper still needs to be updated and improved in the future teaching practice, so as to promote teaching and learning through evaluation.

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