

Exploring the Construction of Quality Assessment System of Graduate Education Based on Computerized Big Data Platform

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Abstract: With the development of economy and society, new requirements and challenges are put forward to graduate education, and universities must keep abreast of the dynamics of graduate education quality to improve graduate education, while the construction of an efficient quality assessment system of graduate education is an important prerequisite. How to create an efficient assessment system? The research in this paper indicated that universities should construct a computerized big data platform by integrating data related to graduate education, and deeply analyze the status of graduate education, create a quality assessment system of graduate education, evaluate and analyze the quality of graduate education on the big data platform of graduate education by using computer technology, and implement dynamic supervision of the evaluation results by using the supervision and feedback system, and continuously improve the quality assessment system driven by computerized big data platform. The system would be intelligently improved, so as to create a mature intelligent evaluation system of graduate education quality, which would provide an objective basis for better grasping the current situation of graduate education and policy optimization, and finally improve the quality of graduate education in universities.

1. Introduction

In the Internet era, various fields of society have introduced the Internet, integrated the Internet, and deepened the Internet boom. This is the trend of the times and a necessity for the development of the society [1]. Graduate education is at the forefront of scientific and technological development [2]. It should be supported by a multi-dimensional, large-scale, and strong-representative big data platform, with a quality evaluation system as the core, with a supervision and feedback system as the guarantee, and with the help of modern computer technology to achieve the new situation of graduate education in which the quality of education is the first criterion [3]. Through the establishment of the quality evaluation system of graduate education, the present situation of graduate education could be more objectively and truly reflected, and the objective basis for better grasping the present situation of graduate education and policy adjustment could be provided, and the graduate education system and

policies could be adapted to new demands, new situations and new national conditions, to achieve the purpose of running graduate education.

For the graduate education quality evaluation system, we should first conduct research on the selection of education quality evaluation indicators and evaluation models, create a scientific and reasonable quality evaluation system, and then form supervision over the entire educational process through quality evaluation [4]. Accurate quality assessment was an important part of the quality assessment system. The big data platform of each dimension, form, and state of data was also a direct part of the quality assessment system. The effective supervision mode also effectively guaranteed the quality assessment. Both of them were important components of the graduate quality assessment system. Therefore, the research on the comprehensive evaluation system of graduate education quality was essentially an in-depth excavation and exploration of the big data platform composed of various data of graduate students [5], which had good educational theoretical research value and practical significance.

2. The Necessity of Creating an Intelligent Assessment System for Graduate Education Quality

2.1. An Evaluation Index System that was too General and Lacked the Necessary Pertinence

The evaluation objectives of graduate education quality evaluation currently carried out focused more on the common problems of graduate training. There was no classification assessment based on different disciplines and different universities, and less emphasis was placed on the inherent needs of graduate education. As a result, the current quality evaluation indicators of graduate education were highly common, and individual indicators were basically lost. This evaluation system seriously ignored the distinction between different universities and different disciplines, and it was difficult to objectively reflect the current true level of graduate education quality. Seriously, this might mislead the future development of graduate education, resulting in serious convergence of graduate education. In the long run, it would be detrimental to the development of characteristic disciplines and to the overall improvement of the quality of graduate education.

2.2. Cumbersome and Unclear Evaluation System Indicators

At present, there were dozens of evaluation indicators in quality evaluation system of graduate education, and the evaluation indicators were too cumbersome. Although there were so many evaluation indicators, there were not many indicators that really played an important evaluation role. Some evaluation indicators could not well reflect the problems faced, some indicators were not so important at all, and even some indicators might be dispensable, thus forming the objective of graduate education quality evaluation indicators was unclear. As a result, the judges were too subjective in the evaluation process, and they made inaccurate evaluations without a good grasp of the nature of graduate training, resulting in less objective evaluation results. If this old evaluation system was not reformed, it would inevitably have a serious impact on the quality of graduate education.

3. The Basic Framework for Constructing a Graduate Education Quality Assessment System Based on a Computerized Big Data Platform

The development of society and the economic boom have imposed higher requirements on graduate education in universities. Graduate education must conform to the call of the times and promote the quality of graduate education through further reform and innovation. The key to reform and improve the quality of graduate education was to build an efficient graduate education quality evaluation system, grasp the current situation of graduate education quality in a timely manner, and optimize and adjust

graduate education-related policies, regulations, and methods on this basis. Today, with the rapid development of high technology, we could effectively integrate modern scientific and technological methods such as big data analysis methods and intelligent strategies to construct a graduate education quality evaluation system, as follows:

3.1. Constructing a Computerized Big Data Platform for Graduate Education

In order to construct an intelligent evaluation system for the quality of graduate education, it was first necessary to collect all kinds of raw data related to graduate education, and to obtain as much as possible a large data set to be studied that was authentic, reliable, representative and large [6]. The data mainly come from various information systems that had been construct in the university, such as the enrollment and employment management system, the teaching management system, the campus card management system, the graduate student management system, the tutor comprehensive management system, etc. In addition to the existing information systems, some data, such as graduate elective courses, graduate scholarships, etc., might not necessarily create an information system, but these data had good data mining potential, requiring manual input to create an information system, and finally form a data set. This was the working basis of the entire research, which was finally collected into a large data set (Figure. 1), and data integration and data mining were carried out on this basis.

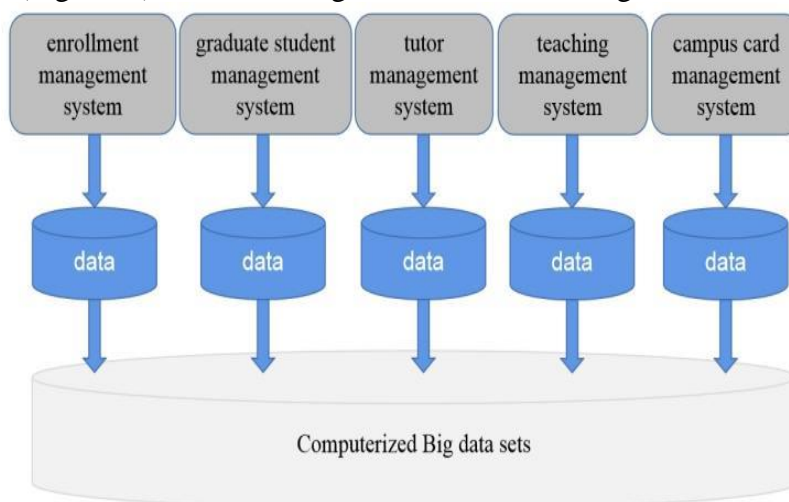


Figure 1: Construction of a Computerized big Data Platform

3.2. Optimizing the Computerized Big Data Platform for Graduate Education

After the establishment of the primary model of graduate education-related big data sets, due to the huge volume and many forms of data from various sources, the data were related, complex, and redundant. If these data were directly used for graduate education evaluation, among them some of the data would affect the evaluation results, become noise data in the evaluation process, and drown out the effect of reducing the effective data [7]. Therefore, certain data optimization processing methods and technical means needed to be used to filter out the noise data and obtain an optimized large data set, laying a solid foundation for the follow-up work.

3.3. Structuring Big Data Set of Graduate Education

The optimized big data set of graduate education was still in a state of a bunch of data, and there was no classification, which was not conducive to intelligent and rapid retrieval and analysis. The

collected data was integrated and summarized, and the data was classified according to different standards, integrated into different data tables, and stored in the data set [8]. The classification standards included roles, data attributes, and talent training content, thus creating a structured graduate education big data was conducive to subsequent analysis and mining (Figure 2).

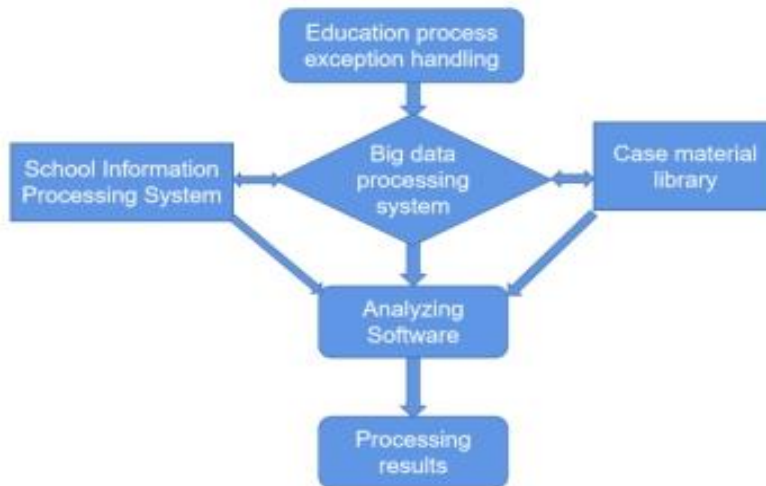


Figure 2: Process and analysis diagram based on big data

3.4. Selection of Indicators for Evaluating the Quality of Graduate Education

In order to construct a graduate evaluation system, it was also necessary to select a good quality evaluation index for graduate education. The selection of quality evaluation indicators of graduate education should follow the principles of objectivity, comprehensiveness and representative. Objectivity required that the analysis should be carried out based on actual indicators first, which was the guarantee of the validity of the evaluation results, otherwise the final evaluation would be difficult to have value. Comprehensiveness meant that the evaluation indicators were required to cover every link in the graduate education process, which was the fundamental guarantee for the scientific construction of the entire evaluation system [9]. Representative meant that although it was required to comprehensively cover the entire education process of graduates, it could not simply intercept all aspects of graduate education.

3.5. Configuring the Composition of the Quality Assessment System of Graduate Education

After selecting the evaluation indicators of graduate education, it was also necessary to configure the composition of the quality evaluation system of graduate education. Since the evaluation of graduate education ultimately reflected the status of on-campus education and training, although the situation of leaving school could reflect the situation of on-campus education to a certain extent (Figure. 3), it was also determined by indirectly related to school education [10]. Therefore, in the weight setting of the quality evaluation system, it was necessary to deal with the situation of school attendance and school leaving (Figure. 4). On the one hand, it highlighted the importance of the school stage in graduate education, and introduced side evaluation factors to make the comprehensive evaluation more accurate.

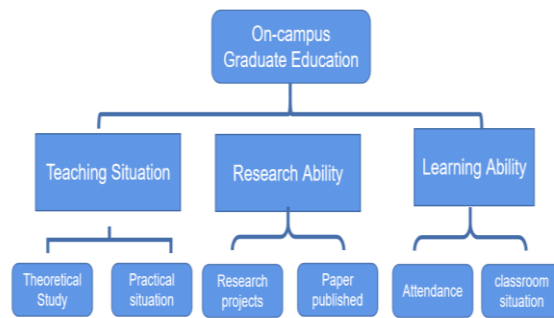


Figure 3: On-campus graduate student evaluation index system

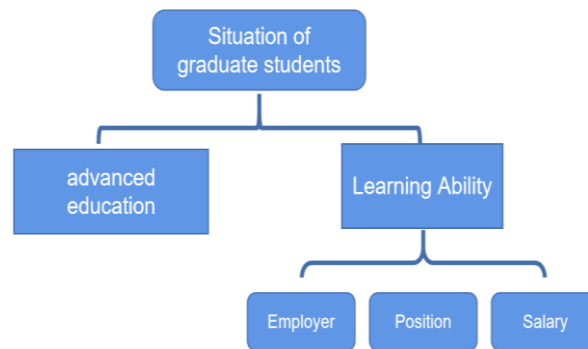


Figure 4: Graduate Student Quality Evaluation System

3.6. Constructing the Quality Supervision and Feedback System of Graduate Education

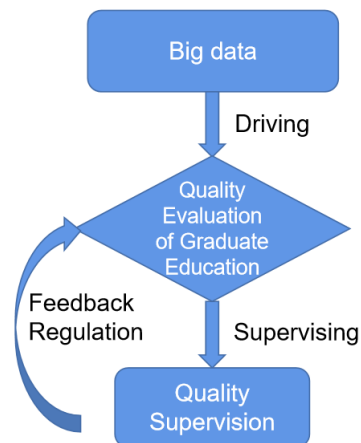


Figure 5: The mode of action of the quality supervision system

Whether the graduate education quality evaluation system met the requirements, and whether the quality of graduate education was carried out high-quality evaluation, also needed the assistance of the graduate education quality supervision and feedback system. The quality supervision system of graduate education was a linking structure. It supervised the results of quality assessment and continued to act on various quality assessment indicators, constantly improving and correcting each

indicator and its weight parameters, without human control and participation, making the assessment system intelligent. It played an important role in supervising the results of graduate quality assessment, which could timely and efficiently grasp the specific status, real level and development trend of graduate education, support the quality assessment system of graduate education through big data, use the supervision system to supervise the quality, and coordinate and interact with each other, and ultimately promote the construction of a good quality assessment system for graduate education (Figure. 5).

3.7. Creating an Intelligent Quality Evaluation System of Graduate Education

To achieve accurate evaluation of graduate education quality, a huge amount of data, an effective quality evaluation system, and a reasonable evaluation and supervision system were indispensable. After the establishment of the big data platform of graduate education, and an in-depth analysis of the current situation of graduate education, combined with the purpose of graduate education, social needs and other factors, had obtained a quality evaluation system of graduate education. On this basis, the big data of graduate education was used to drive the quality evaluation and analysis of graduate education, and the effective supervision and feedback mechanism was used to dynamically supervise the evaluation results. At the same time, modern artificial intelligence technology was introduced to continuously optimize the quality evaluation system based on big data analysis. Finally, an efficient, reasonable and complete intelligent evaluation system for graduate education quality would be formed (Figure. 6). The establishment of the big data platform was the premise and key to realize the intelligent evaluation system of graduate education quality, and the intelligence of the evaluation system was mainly reflected in the automatic operation and continuous optimization of the system. Under the strong support of the big data platform, the quality supervision system continuously revised the quality evaluation system until there was no feedback from the quality supervision system. The whole process did not involve human participation, which eliminated the subjective risk introduced by human operation and made the final evaluation result more objective.

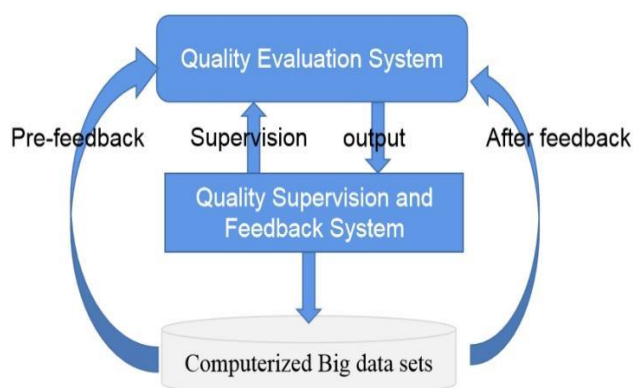


Figure 6: Postgraduate Education Quality Evaluation System

4. Effectiveness of Graduate Education Quality Evaluation System Based on Computer Big Data Platform

4.1. Constructing the Intelligent Evaluation System of University graduate Education Quality from Technology

After the data related to graduate education was aggregated, the data was optimized and processed to build a big data platform, which provided support for further evaluation system of graduate

education. Reasonable analysis of the current situation of graduate education, combined with factors such as the purpose of graduate education, obtain a quality evaluation system of graduate education, use the big data platform to evaluate the graduate education quality, and adopt a reasonable supervision and feedback mechanism to dynamically supervise the evaluation results, while using artificial intelligence. Intelligent technology, based on the big data platform, continuously intelligently optimized the quality evaluation system, and finally created an efficient and complete intelligent evaluation system.

4.2. Testing the Intelligent Evaluation System of University Graduate Education Quality from the actual Effect

After the establishment of an intelligent evaluation system for graduate education quality, it could not be said that this evaluation system was very good. Practice was the only criterion for testing the truth. Whether this evaluation system was really feasible still needed to be proved by practice. In order to test the intelligent evaluation system of graduate education quality from the actual effect, it was necessary to select all representative universities to test the intelligent evaluation system of graduate education quality, analyze the effectiveness of the intelligent evaluation system, and optimize and deal with possible problems in a timely manner. Continuously improve the scientificity and authenticity of the evaluation system.

4.3. Improving the Intelligent Evaluation System of Graduate Education Quality from Actions

Based on the above work, it was necessary to carry out an empirical investigation on graduate managers, graduate tutors and graduate students in the future. Appropriate adjustments and corrections were made to the system according to specific problems, so as to continuously optimize the intelligent evaluation system of graduate education quality, make it more in line with graduate quality evaluation, better serve the practice of graduate education, and ultimately promote the improvement of graduate education quality [4].

5. Conclusion

It was imminent to construct a quality assessment system of graduate education to accurately and timely grasp the quality of graduate education. The rapid development of computer technology today provides a new idea for the establishment of a graduate education quality assessment system. Universities could use all kinds of graduate education data to create a computerized big data platform, analyze the graduate education situation in depth, create a graduate education quality evaluation system, introduce computer intelligence technology, and continuously intelligently optimize the quality evaluation system driven by computerized big data, and finally build the intelligent evaluation system of graduate education quality. The system would efficiently evaluate the quality of graduate education, visually present the state of graduate education, provide an objective basis for the value judgment and scientific decision-making of multiple subjects in universities, and ultimately promote the improvement of graduate education quality.

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