

The Innovation Path of University Education Administration in the Era of Big Data

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Abstract: As a powerful technical force, big data has a broad application prospect in promoting the modernization and transformation of education administration in China. In the new era, with the vigorous growth of sci & tech in China, big data has been widely and deeply applied in various industries and fields. Its application in education administration can enhance the informationization and modernization of education administration and realize the transformation from macro to micro, from passive to active, from extensive to fine. Integrating innovative instructional concepts and methods into the stage of tertiary education can effectively improve the quality and efficiency of teaching. The popularity of the Internet provides an opportunity for the growth of tertiary education. Optimizing the teaching process from multiple perspectives is of great help to the improvement of the quality of tertiary education and teaching. At present, influenced by the era of big data, tertiary education administration should seize its opportunity and finally achieve the goal of tertiary education administration effectively by constantly improving management strategies. In this article, specific suggestions are put forward from the aspects of establishing the concept of information education administration, building a big data education administration platform, improving the level of information management in universities, encouraging independent practice of management information, and building a campus big data security system.

1. Introduction

Due to the rapid development and upgrading of mobile communication, cloud computing, ubiquitous network and other information technologies, and the continuous advancement of educational informatization, the education field has also entered the era of large-scale production, storage, sharing and application of big data. In the stage of popularization, big data has produced a series of problems, which have more or less affected the growth of educational activities in universities and hindered big data from giving full play to its own advantages [1]. As a knowledge-intensive and active education place, universities are an important base for talent training in China, and the application of information technology in universities is more frequent and in-depth [2].

The traditional education administration mode in universities has become increasingly difficult to meet the needs of education administration driven by big data. Therefore, the education administration mode in universities is gradually developing towards informationization. In recent years, China has held many meetings for the growth of the internet age. The main content of the study is the information management of the campus driven by big data, which mainly studies and discusses the role of big data in improving the management level of universities and reforming the instructional mode, so that the campus information management model based on informationization can be formed. Campus management informationization has made a very important contribution to improving the quality of management and deepening the reform of instructional mode in universities [3]. Using diversified information system software to assist education administration and promote the effective growth of scientific research provides great opportunities for the growth of tertiary education [4].

Driven by big data, in order to have a qualitative improvement, we must integrate modern and scientific technical means in the stage of tertiary education and innovate the traditional instructional mode. Universities themselves are at the forefront of scientific research and development,

knowledge dissemination and brand-new ideas. Only when universities conform to the development trend of the internet age, constantly update the management methods of universities, and stimulate college students' sense of mission and responsibility, can they finally cultivate a large quantity of outstanding talents for the society [5]. This article focuses on the analysis of the problems faced by major universities driven by big data, and provides some references for promoting the better growth of tertiary education administration.

2. The Value of Big Data Era in Higher Education Administration

2.1. Personalized management of students

The emergence of big data provides a strong technical support for the education administration. Under the background of big data, the management methods for students in universities are also more abundant. In recent years, the state has continuously promoted the reform of the education system, especially the reform of universities. The current university education administration also presents diversified management characteristics with the change of data. At present, the construction level of teachers in universities is constantly improving, and the continuous expansion of the quantity of students also requires university education administration to strengthen data analysis and improve management at all times, and finally effectively improve the effect of university education administration [6]. The arrival of the internet age can provide comprehensive and rapid resources for tertiary education, improve teaching efficiency, enhance communication between educators and learners, and reduce the occurrence of conflicts between educators and learners. Differentiated management of students is a new feature of education administration driven by big data, and it is an important manifestation of humanized management of students.

Only when the data is unified and standardized can it promote the establishment of the database. In the traditional design of teaching situation and collection of teaching information, the general decision mainly depends on the experience of running a school [7]. However, based on the construction of big data, teaching experience and management are no longer the dominant factors in teaching, and students' opinion data will also become a major factor. After analysis and integration, the best teaching method can be obtained, so as to use actual data to help the growth of teaching activities and achieve the goal of teaching students in accordance with their aptitude. We build a student behavior analysis model based on campus spatio-temporal big data in multi-dimensional space-time (as shown in Figure 1). The model covers the key information of students' personal behaviors such as eating, living, traveling, learning and entertainment during their school days, thus providing scientific data support for the management of college student affairs such as education, service and management.

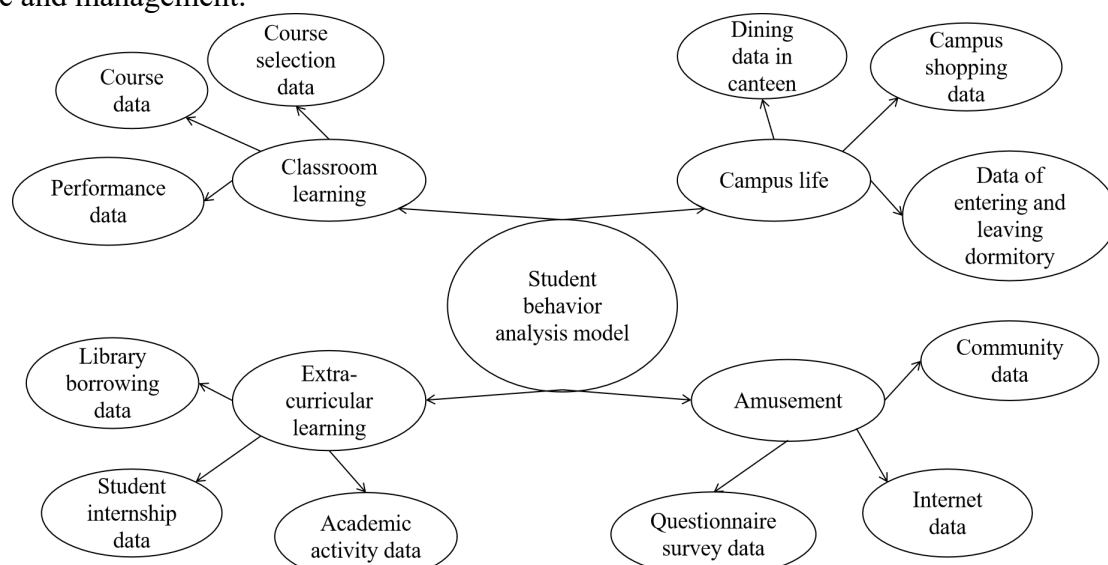


Figure 1 Student Behavior Analysis Model

2.2. Scientific management of teaching

Another new feature of university education administration driven by big data is the scientific management of teaching. Applying big data to university education administration system can not only realize personalized management of students, but also realize scientific management of teaching. To a certain extent, the decision-making of universities is influenced by everyone's own interests and wishes. Therefore, universities can vigorously promote humanized management methods, use scientific pre-judgment decisions, rationally locate the needs of educators and learners, and implement detailed management.

In the era of big data, all education departments in universities are required to share all information, build a platform for learning and learning together, and require big data to be popularized in all universities. Under the new situation of the continuous integration of information technology and education, the task of tertiary education administration is even more arduous because the environment faced by tertiary education is more complicated and changeable. Only by constantly innovating the concept, method, mode and function of tertiary education administration can we adapt to many requirements of modern management and promote the innovative growth of tertiary education. In the new era, through the development and utilization of big data, we can analyze and sort out the laws of education administration, and put forward new student management schemes according to the actual development trends of schools, which can better guide universities to carry out education administration [8].

3. The possible trend of tertiary education administration driven by big data

3.1. Educational decision-making moves towards data

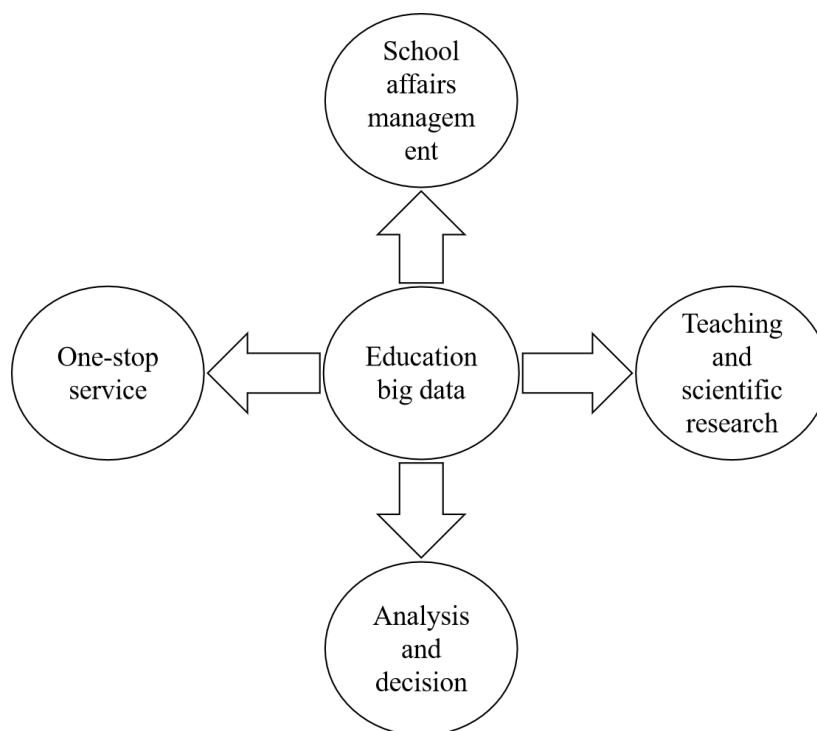


Figure 2 The core role of education big data

The use of big data can make educational decision-making scientific, flexible and democratic, and change the current situation of making decisions based on experience. With the abundant data reserves of big data, after analyzing big data effectively and scientifically, university education administration can make more correct and scientific management decisions, and abandon traditional and risky artificial decisions. Intelligent university education administration can maximize fair and objective management and make the growth of universities more in line with future needs [9]. In addition, we can keep pace with the times, innovate the management scheme according to the

growth of the times, and avoid the inefficiency of university education administration caused by managers' outdated management experience and methods. To carry out in-depth research and thinking on education big data is essentially to achieve comprehensive liberation and promotion, so that intelligent achievements can benefit from the main objects of universities. Its research significance is mainly reflected in the following aspects, as shown in Figure 2.

3.2. Educational management is becoming intelligent.

The Internet of Things and quantitative technology can promote the interaction among things, machines and people in education administration. Under the big data, data can be automatically stored and collected, and then the data can be intelligently and visually analyzed by processing software, thus promoting the refinement, simplification and transparency of education administration [10]. With the advent of the internet age, teachers can monitor students' lectures by using computer network technology and other means to urge students to correct bad habits and gradually improve learning efficiency. In the data age, universities can get the utmost out of massive information data, promote the informatization construction of education administration, innovate educational management means, and improve management efficiency. For example, teaching materials are an important resource of information management in universities, and schools can continuously improve teaching material management methods according to students' needs.

The application of big data in education has become an inevitable trend in the growth of education in China, and it is also an important measure to realize the informationization and dataization of education administration. Universities should not only increase the introduction of high-end technical talents, but also strengthen the research and growth of intelligent information management systems in universities. Only by constantly completing basic information management work can we completely realize the integration of information and the experience of information systems, and finally establish and improve the establishment of humanized management system mode in university education.

4. Conclusions

Under the background of big data, tertiary education administration is also facing upgrading and transformation. Higher education administrators should keep up with the development trend of the times, upgrade information management technology, learn to use the Internet platform, actively use modern and scientific equipment and platforms to collect student data, and then carry out reasonable and effective integration, grasp the development direction of tertiary education administration, and finally actively cultivate more outstanding talents for national construction through universities. In the era of big data, if universities want to innovate and develop the informatization of education administration, they need to promote the reform of informatization based on the network platform and further innovate the informatization of management. Promote the innovation of educational concepts and big data, provide a better educational platform for educators and learners, and realize the goal of mutual exchange and resource sharing among educators. Actively promoting the innovation of educational ideas and the innovation of student education administration mechanism can improve the value of student education administration and promote the production of new achievements in the combination of big data and education development.

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