

Research on Optimizing the Management of College Student Education in the Big Data Era

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Abstract: With the rapid development of internet technology, big data thinking has gradually integrated into various fields of society and provided more support for the transformation and development of various industries, including university student management. The current mode of student education management in universities still adheres to traditional concepts, and the information infrastructure is relatively lagging. In order to better adapt to the current social needs and ensure the comprehensive development of students, it is necessary to promote the modernization reform of student education management in universities. The paper analyzes the current problems in the management of student education in universities, emphasizes the importance of changing management models, and finally proposes optimization strategies for educational management that can be referenced.

1. Introduction

Student education management has always been a top priority in university work. However, in recent years, traditional education management models have exposed more and more problems and have gradually become disconnected from the times. Therefore, major universities urgently need to carry out educational management reform and innovation, and optimize and improve corresponding rules and regulations according to the requirements of the times. However, in the actual process, some universities may not have a clear understanding of this new field, resulting in the inability of big data technology to play its due role. In order to promote the further development of China's student education management model, universities must deeply understand the importance of big data technology and explore optimization paths for education management work.[1]

2. The Current Situation and Problems of Student Education Management in Universities

2.1. The Management Concept is Relatively Outdated.

With the increasing enrollment scale of universities, the quality level of college students is becoming increasingly uneven. Therefore, it is necessary to increase the intensity of student education management in universities. However, currently, most universities still adhere to the thinking inertia formed under traditional ideological concepts in student management work, and have not innovated closely with the times, making the actual effect of student education

management work in universities very unsatisfactory. Teaching and management personnel often only focus on whether students' external behavior is compliant, such as whether they attend and leave classes on time, or turn off the lights and rest on time, while neglecting the importance of students' internal ideological and moral education. Teachers only keep up with the teaching progress, resulting in deteriorating teaching quality. In terms of students' daily life management, the universities are too strict and rigid, which is easy to cause students' reverse psychology, and also makes them lack of self-discipline and management ability, leading to some students' psychological and moral problems.

2.2. The Construction of Information Infrastructure is Relatively Lagging Behind

Information technology is an indispensable and important tool in the education management of universities in the new era, and it is an important means to improve the level of university management and promote the quality of student education management. However, there is currently a certain lag in the construction of information infrastructure in some universities, leading to unsatisfactory results in student education management work. At present, the management of student education in Chinese universities mainly relies on professional teachers' teaching and counselor management. Professional course teachers are responsible for students' knowledge acquisition, employment guidance, and other learning issues, while counselors mainly focus on students' daily life issues. However, due to the lack of a comprehensive information management network, there is insufficient interaction and communication between professional course teachers and counselors. It leads to a clear disconnect between students' learning and life. In addition, the outdated information infrastructure makes it difficult for teachers to rely solely on textbooks and simple PPTs for teaching, lacking richer and more interesting teaching methods to stimulate students' interest in learning. And it is also difficult for counselors to analyze students' behavioral trajectory, psychological changes, etc. when carrying out work, and they are unable to provide targeted education, guidance, and assistance to students.

2.3. The Data Literacy Ability of Management Personnel Needs to be Improved

As the specific implementers of university student education management work, the literacy and ability of management personnel are the key factors that affect the effectiveness of education management work. However, some university education management personnel are informal employees with relatively loose employment standards, and the management assessment mechanism is not perfect enough, resulting in uneven levels of management personnel. Many management personnel lack education management experience, which greatly affects the maturity of student education management issues and is not conducive to the smooth implementation of university education management work. At the same time, university education management personnel should also have strong data collection and analysis abilities. However, many people have low data literacy, resulting in incomplete information collection and inability to accurately understand and analyze students' learning, life, and ideological trends, making it difficult to carry out education management work. In addition, for a large amount of data information, management personnel do not have corresponding encryption technology, and there may be security risks such as information leakage or being stolen or tampered with by hackers during the education and management process.[2]

3. The Significance of Optimizing the Management Mode of College Student Education in the Era of Big Data

3.1. Promoting the Modernization of Higher Education Management

In today's highly developed information technology, universities can leverage the advantages of big data to further promote the modernization of education management. Management personnel can timely collect and analyze student information through big data networks, and comprehensively and effectively process and utilize the information. On this basis, a smart campus platform is built to effectively integrate teaching, scientific research, and administrative departments in universities, enabling timely communication and exchange among students, teachers, and managers through the network, making information transmission more convenient and efficient. Teachers can also use software such as MOOC, Xuexitong (Chaoxing/Superstar), and Tencent Meeting in the classroom to carry out online teaching activities, providing students with richer educational resources and more diverse teaching forms, and helping universities' education models further develop towards informatization.

3.2 Increasing Interactive Communication between Teachers and Students

The traditional educational management model limits classroom interactivity. Teachers teach in a step-by-step manner according to the teaching plan, with students listening and taking notes below the podium. Although there may be questioning sessions for time constraints, teachers may not be able to answer everyone's questions.[3] There is a lack of substantive communication between teachers and students, and students have no way to ask teachers about related learning issues outside of class, which greatly hinders the improvement of their learning efficiency. In the big data era, more and more advanced technologies are entering the campus. The comprehensive coverage of information networks allows students to consult teachers anytime and anywhere when encountering difficulties, achieving accessible communication and interaction between teachers and students. Teachers can also more conveniently record students' questions, and then use big data technology to process, analyze, and summarize problems, keeping track of students' learning status and adjusting teaching plans accordingly. This educational management model can to some extent narrow the distance between teachers and students, and encourage students to actively participate in classroom communication.

3.3 Promoting the Development of Personalized Education

With the rapid development of society and the continuous reform of education, society is increasingly emphasizing personalized education for students, and information technology also plays a significant role in this regard. Big data networks can effectively help teachers understand students' learning situations. For example, by recording and analyzing a student's usual exam results, homework situation, attendance situation, etc., teachers can quickly grasp the student's learning characteristics, and develop more personalized teaching strategies according to their learning aptitude.

Nowadays, most college students are born in the post-2000s, and this young group has a high dependence on online social media platforms. They usually invest a lot of time and energy in it and enjoy recording their personal affairs and expressing emotions on social media. University education management personnel can add students as friends on social media, understand and grasp students' ideological and emotional changes in real time, and carry out targeted education management on this basis to guide students' positive ideological development.[4]

4. Optimization Strategies for the Education Management Model of College Students in the Era of Big Data

4.1. To Promote a New Concept of Education Management on Campus

Under the people-oriented education philosophy, university student education managers need to promptly create diverse and humanized education models. At present, most universities in China adopt a rigid management concept, which involves regulating students' behavior habits through a large number of regulations, which largely solidifies students' thinking patterns. However, in some developed countries, the educational management philosophy is relatively free. It can ensure students' basic requirements through personalized thinking, encourage instead of force students to learn independently, and teachers only provide appropriate guidance. This can better promote students to form their own thinking patterns and exercise their ability to independently solve problems.

Colleges and universities in China should take its essence, and constantly improve the education management mode with the help of big data technology. Through the exploration and analysis of students' behavior, they should grasp their learning and life dynamics, and gradually transform the situation of traditional education management centered on education staff into student oriented. By combining theory with practice, as well as the internet and classroom, universities encourage students to actively participate in educational management activities. Through scientific education models, they guide students to continuously explore and fundamentally improve their ability to analyze and handle problems, thereby improving the overall quality of student educational management.[5]

4.2 To Establish a Unified and Comprehensive Campus Information Management Platform

In the era of big data, information circulation is more convenient and fast, and college student education management means are also highly information-based. In order to further optimize the teaching management system, universities should establish a unified and comprehensive campus information management platform, appoint high-level designers to develop relevant platforms, establish a good communication and exchange mechanism, ensure that education management personnel can timely share information in daily work, and strengthen unity and cooperation among various departments of universities. In addition, a comprehensive student file information system should be established to collect and analyze data related to students' lives and studies, in order to better understand their current situation. Feedback channels are also essential. When students need to solve a problem or propose a suggestion, they only need to find the specific responsible organization on the relevant platform.

4.3. To Strengthen the Cultivation of Comprehensive Qualities of Educational Management Personnel

To effectively promote the optimization and transformation of university education management models in the context of big data, it is necessary to establish a high-quality education management team. [6]Universities should control recruitment standards, screen suitable talents, and provide specialized information technology training to relevant personnel to enable them to proficiently apply big data technology, mine valuable data information, and conduct in-depth analysis in their work. Universities should also strengthen the information sensitivity of education management personnel to enable them to handle student education management issues more maturely, and promote the efficient and orderly development of university education management work. In

addition, it is necessary to increase the welfare allowances of the education management team, establish a reasonable evaluation mechanism and reward and punishment system, stimulate the work enthusiasm of teaching management personnel, and ensure that they invest in the education management industry with a more full mental state.

5. Conclusion

In summary, in the era of big data, there is an urgent need to optimize and reform the management of college student education. This requires colleges and universities to start from all aspects, hire professional teams to build information management platforms, improve the information literacy of teaching and management personnel, and vigorously promote the concept of modern education management into the campus. Universities should also integrate big data technology into their daily work, continuously improve and adjust management methods, promote the improvement of teaching quality and the comprehensive development of students, and cultivate professional and versatile talents that meet the needs of the new era for society.

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