Research on the Reform of Teaching Management Emergency Mechanism in University Based on Big Data

Na Luo[1*]   Zhuzhu Wang[1]   Xing Yin[1]   Ang Li[2]

1. Nanjing Media Institute, Nanjing, Jiangsu, 211172, China
2. Zijin College, Nanjing University of Technology, Nanjing, Jiangsu, 210023, China

ABSTRACT

Sudden major public health events once again test the ability of the whole society to deal with emergencies. Universities are no exception. There are many kinds of management work in Colleges and universities, among which teaching management is the most important one, which is also one of the most affected in this epidemic situation. Therefore, in view of the problems of teaching management in Colleges and universities exposed in the epidemic, combined with the characteristics of independent colleges, starting from the aspects of teaching guarantee mechanism, teaching supervision mechanism, teaching process construction, teaching resources construction and so on, the advantages of big data technology, such as large amount of information, easy to communicate and easy to integrate, are fully used to put forward a set of open-minded, perfect mechanism and advanced technology teaching management emergency response mechanism.

1. Introduction

The epidemic of novel coronavirus pneumonia is spreading across the globe. Although the epidemic situation has been well controlled in China, it is still facing the pressure of external import and internal non-proliferation. Looking back on the past few months, sudden major public health events have once again tested the ability of the whole society to deal with emergencies. Universities, as one of them, can not stay out of it. There are many kinds of management work in Colleges and universities, among which teaching management is the most important one, which is also one of the most affected in this epidemic situation. At present, most colleges and universities have adopted various forms of online teaching, and teaching management departments have also adopted online arrangement, remote supervision, questionnaire survey and other methods to ensure the orderly and effective development of online teaching. However, restricted by various conditions, difficulties and problems that have never been encountered before will inevitably appear in the work.

With the wide application of the Internet, big data has

a profound impact on the teaching management of colleges and universities, realizing reform and innovation. Public health emergencies in Colleges and universities are uncertain and complex, and the traditional information management technology is difficult to cope with. The big data technology can effectively improve the timeliness of early warning and control, and better cope with unknown challenges.

This paper proposes to apply big data technology to change the situation of imperfect and unreasonable emergency management mechanism in the past teaching management, change the situation of insufficient thinking in the teaching of Internet plus, and build a better teaching management system based on information, and establish a special information teaching management team.

2. The Current Situation of Teaching Emergency Management at China and Abroad

In China, according to the emergency response law of the people's Republic of China, which was implemented on November 1, 2007, emergency response is an important part of teaching management in Colleges and universities. At present, most colleges and universities have not set up a special public health management organization, or have no detailed and clear division of responsibilities, and lack of a more detailed and clear teaching management system of public health emergencies in Colleges and universities. At the same time, there is no more explanation and guidance for the application of modern technology to carry out teaching management.

In the United States, after the "911" incident in 2001, the emergency response center established by merging all disaster related agencies has spread to every city in the country. After years of operation, many colleges and universities in the United States have also established a relatively perfect crisis management system. By means of legalization, the system includes a complete crisis response plan, an efficient core coordination organization, a comprehensive crisis response network and a mature social response ability.

In Japan, which is prone to natural disasters, it has not only established a sound emergency information infrastructure, but also accumulated a wealth of experience in the long-term emergency practice by using modern information technology to achieve efficient emergency management. The construction of emergency informatization in Japanese Colleges and universities starts with the improvement of infrastructure construction and makes full use of modern information and communication technologies such as big data to build an efficient, rigorous and

practical emergency information system.

To sum up, big data technology should be involved in teaching management, with teachers and students as the center, grid as the way, and app client as the carrier. According to the steps of risk assessment, information sharing, management measures and concept transformation, we can improve the level of teaching management in Colleges and universities, and achieve the two-way flow and flat management of information from teachers and students to managers.

3. Teaching Management Ideas and Methods Based on Big Data Technology

The management methods proposed in this paper are mainly from teaching guarantee mechanism, teaching supervision mechanism, teaching process construction and teaching resources construction. Then, we make full use of the advantages of big data technology, such as large amount of information, easy communication and easy integration, to put forward a set of open-minded, perfect mechanism and advanced technology teaching management emergency mechanism. Its composition is shown in Figure 1.
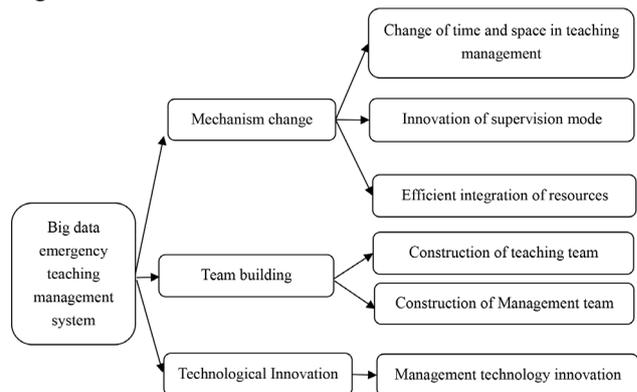

Figure 1. The framework of this project

3.1 The Change of Time and Space in Teaching Management

Compared with the traditional teaching management activities, the application of big data technology will highlight the flexibility of teaching management activities, mainly reflecting the time and space of management. Taking this epidemic as an example, teaching activities were forced to shift from offline to online. Using big data technology for "cross time and space" management is an effective method, which can not only arrange teaching in real time, but also provide teaching information and obtain feedback information for teachers and students. It makes the teaching management and information channels

blocked by emergencies recover in the new

3.2 Innovation of Teaching Process Supervision

The traditional teaching process supervision not only affects the teaching process, but also lacks objectivity, accuracy and real-time of evaluation. Therefore, the combination of big data technology and other information technology will effectively change this situation. It can make teaching management department exclude the influence of the participants in teaching activities, and also get the first-hand evaluation and management information at the first time, and make the teaching evaluation more objective and fair, more timely and comprehensive. In order to realize this new teaching process supervision, the technical means of teaching need to be innovated, and the specific supervision details and evaluation system need to be clear, which are closely related to the following points.

3.3 Efficient Integration of Teaching Resources

Traditional teaching resources, such as books, PPT and video, can achieve good results in field teaching. But when the epidemic comes, online teaching resources will be challenged. Most colleges and universities generally use the resources on a certain teaching platform to let students learn by themselves, or use social platform and other Internet tools to explain to students. But in these ways, teachers can't get feedback from students directly. Moreover, because the teacher can not demonstrate on site, students have difficulty in understanding more complex or abstract knowledge. At the same time, due to the suddenness, teaching material resources can not be fully established in the early stage, so the teaching resources that can be provided to students are also very limited.

Therefore, we should use big data technology to integrate all kinds of teaching resources and build a special curriculum resource library in advance. In this way, even in the normal offline teaching, it can also be used as an auxiliary way for students. The database includes not only the interpretation of various theoretical knowledge, but also practical application cases. From shallow to deep, from point to surface, it not only makes up for the defects of online teaching, but also realizes the diversification of teaching management.

3.4 New Ideas on the Construction of Teachers' Team

In the normal teaching process, teachers are usually less involved in teaching management. Therefore, in the construction of teachers' team, the requirements of teaching management ability and consciousness are often ignored. But in case of emergency, teachers, students and manage-

ment are separated. Teachers must participate in teaching management, not just rely on teaching management departments. In order to deal with emergencies, we should innovate the ideas of the construction of teachers. It is necessary to cultivate the awareness, ideas, methods and skills of teachers' participation in teaching management. This not only reduces the burden of full-time teaching managers, but also further urges teachers to examine the teaching process from a new perspective, so as to pay more attention to teaching quality, improve teaching methods and improve teaching level.

3.5 "Big Data" of Teaching Management Team

The teaching management team in Colleges and universities is the main force of teaching management, which undertakes the important daily teaching management work. At present, teaching management in Colleges and universities mainly depends on people and technology as auxiliary. And it is mainly for offline management, online as an auxiliary. Therefore, when an emergency occurs, it is usually difficult to deal with it. We should build a big data management team. It is necessary to innovate the thinking mode of management, clarify the "priority", and gradually upgrade the online management to the same level as the offline management. In addition, the management personnel should be trained so as to form a new management normalization and a forward-looking emergency treatment.

3.6 Further Improvement of Teaching Management Technology

After the new teaching management mode with big data technology as the core, how to realize the effective application of big data, Internet of things and other new technologies in teaching management still needs to be seriously studied. We should carefully analyze and increase research investment, such as equipment upgrading and professional software and hardware development, so that the technology can be applied in practice. In this way, a complete emergency management system with advanced management ideas and advanced technology platform can be formed.

4. Conclusion

The sudden epidemic has had a huge impact on the whole world. Colleges and universities must combine their own characteristics, boldly innovate in the teaching management work, start from many aspects, use the latest information technology such as big data, formulate emergency mechanism, make up for their own shortcomings, and

improve the management ability and level. The teaching management emergency mechanism of "people management and technology management are equally important, online and offline are parallel, new ideas are dominant and new technology is supported" has to be built. In this way, we can better guarantee the normal development of teaching work and achieve the goal of talent training.

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