The Ways of College Mental Health Education Based on Big Data

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Abstract. The advent of the era of big data (BD) has imperceptibly changed our life, work and study. For CS, the era of BD has created a new social environment. Under the current situation, there are new opportunities and challenges for the development of college students (CS)’ mental health education (MHE). In the process of MHE, we should establish and apply BD guarantee mechanism for quantitative research. We should use BD to carry out MHE for CS, and explore new ways of CS’ Psychological Education under the background of BD era. As an important part of Ideological and political education, MHE in Colleges and Universities (CAU) has been widely concerned, especially the mental health problems of CS. The results show that 66.2% of the students and teachers are not satisfied with the MHE. It is necessary to reform and innovate the methods of health education. Based on the characteristics of BD era, we analyze the impact of BD era on CS’ MHE. This paper puts forward the strategy of CS’ MHE, in order to improve the effectiveness of psychological education, and then through the innovation and reform of school MHE methods, better adapt to the development of education informatization.

Keywords: Big Data, CAU, Mental Health, Education Approaches

1. Introduction

With the advent of the era of BD, human society has experienced a great innovation. BD is an important product in the information age, which has brought about the revolution of information technology. At the same time, the application of BD makes the world transparent and brings new thinking mode and innovative management to people's production and life. University is the training base of social talents. Through the application of BD, it can bring different innovation for CS' education. As a very important part of CS' education, how to innovate CS' MHE under the background of BD is the research focus of this paper. CS generally have learning pressure, interpersonal problems, emotional distress and employment pressure. Through the application of BD, CS can have a healthy psychological state[1-3].

BD is a broad concept. BD refers to information containing a large amount of data. These data are too large to be obtained and managed. Therefore, we should use the current core program tools to process and solve it in a reasonable time to help enterprises make more decisions. With the advent of
the new era, the application scope of BD is more and more extensive. The mental health of CS is an important part of the work of CS. This is why in the daily work of MHE in CAU, we need to actively use BD technology to improve work efficiency and do a good job in the management of students' mental health. At the same time, promote the development of MHE in CAU [4-6].

MHE is an important part of CS' daily education and management. Under the influence of social environment and competitive pressure at home and abroad, CS are facing unprecedented psychological pressure. Their psychological characteristics are diversification, contradiction and individuality. In the new situation, how to meet the challenge of MHE and explore a new way of MHE has become a problem worthy of thinking. Now, BD technology has become a new tool for social change and development. On this basis, this paper puts forward the strategies of CS' MHE, in order to improve the effectiveness of psychological education, and then through the innovation and reform of school MHE methods, better adapt to the development of education informatization [7-10].

2. BD Technology and Mental Health Education in CAU

2.1. Overview of Big Data Era
With the continuous attention of the society to the MHE of CS, most CAU in our country also include the MHE of CS. However, the current learning effect is not optimistic. First, in recent years, the development of China's socialist modernization is getting better and better, and great achievements have been made in economic construction and China's development. The continuous progress of science and technology makes the computer Internet technology begins to improve and change rapidly, touching all areas of our national life. Now the concept of BD is more and more recognized and accepted by people. Literally speaking, BD refers to the data involved in daily life and human work. Human brain cannot be classified. With the help of existing network program tools, scientific rules and classification can be carried out quickly in a reasonable time, which is convenient for people's work and life. In recent years, the trend of economic globalization is becoming more and more serious. All areas of life involve BD, not only the exchange between local industries, but also the process of international trade depends on BD technology. The Internet has become a very important part of China's economic construction, people's life and work cannot do without BD technology, which is also the trend of future development.

2.2. Current Situation of MHE in CAU
With the continuous attention of the society to the MHE of CS, the vast majority of CAU in China have also included the MHE of CS into the teaching curriculum. However, the actual effect of teaching is not optimistic. First of all, the main responsibility of the current CS' MHE is still the school. The government and the society do not give full play to their role in the middle, so it is inevitable that they can't fulfill such an important task only relying on the school. Secondly, the school should pay more attention to this work. The quality of classroom education in most schools is not high, especially when it comes to the MHE of CS, which is regarded as a "marginal course" in the common sense. Neither the college nor the University regards this course as an important course. Some schools even regard it as an elective course, and some young teachers or Senior Ideological and political teachers are responsible for setting up the course teachers. As a result, the quality of the course is not high and the effect needs to be improved.

In psychology, a person's behavior is a function of his personality or personality and his current situation or environment. In other words, people's performance depends on their quality and the situation at that time. The calculation formula is as follows:

\[ B = f(P \times E) \]
\[ \bar{X} = \frac{\sum X_i}{N} \]
$$S^2 = \frac{\sum (X_i - \bar{X})^2}{N}$$ (3)

3. Experimental Ideas and Design
The prevention of CS’ psychological crisis is an important part of CS’ mental health work. After long-term exploration, practice and experience accumulation, most CAU have established and improved the prevention and intervention system. In the psychological crisis of CS, the prevention and intervention of psychological system plays a very important role in ensuring students’ life safety, maintaining social problems and ensuring the development of harmonious society. However, the traditional psychological crisis prevention and intervention system needs to be tracked in a specific environment, cannot form a dynamic management, cannot adapt to different locations and environments, the level of data mining is low and cannot be shared. In the design, this paper adopts two forms: questionnaire survey and field interview. 968 CS and 98 university teachers were selected as the survey samples. There are CS and professional teachers among the interviewees. This study aims to explore the current situation of MHE in Chinese universities. Through the analysis of questionnaire survey and interview results, 128 students and professional teachers were analyzed and divided into two groups. One is a student group; the other is a teacher group.

4. Discussion
4.1. Analysis on the Ways of College MHE Based on Big Data
After one semester of teaching, we investigated and analyzed the opinions and opinions of the two groups, and the results are shown in Table 1. Based on the survey results of the two groups, we can conclude that there are still big problems in the MHE in CAU. One of the main characteristics of the BD era at this stage is the information explosion, because the information is updated and changed every moment, which brings great challenges to the information processing work of CAU. In the era of BD, with the increasing number of data, data information began to become mixed, some unhealthy data mixed in. In the group of CS, began to pour in some negative, negative information, the negative impact on students is immeasurable, which will induce psychological problems of CS. In terms of the effective use of BD, some college psychological teachers do not pay enough attention to the daily MHE, and still use the traditional learning methods. Therefore, it is necessary to use BD technology to reform college MHE.

| Investigation factors                        | Students group (%) | Teachers group (%) |
|---------------------------------------------|--------------------|--------------------|
| Data processing                             | 57.2               | 76.2               |
| Negative influence of bad information on CS | 85.3               | 78.1               |
| Relatively backward teaching methods         | 68.9               | 55.3               |

With the advent of the era of BD, the way of thinking will be changed first. The corresponding judgment and development trend can be obtained through BD analysis, so as to make more correct choices for things themselves. In the process of CS’ MHE activities, the application of BD is both an opportunity and a challenge. We need to improve our own understanding in an all-round way, so as to correctly use the advantages of BD. It can be seen from Figure 1 that nowadays, students and teachers are not satisfied with the MHE in CAU. In the process of CS’ MHE, BD ideology has not been established, and MHE has not received enough attention and attention. In addition, University data information presents fragmentation phenomenon, it is very difficult to effectively organize and collect. In addition, with the rapid increase of information and data, it is difficult for how to store, classify, sort out, value mining, data analysis and so on, which has become a severe challenge for CS’ MHE in the era of BD.
Figure 1. Survey on the satisfaction of students and teachers on MHE in CAU

In addition, this paper makes a further research on the students’ psychological course academic performance after using BD technology teaching, and the results are shown in Figure 2. In order to change the problems existing in the current MHE of CS, the most important thing is to pay full attention to the MHE of CS. At the government level, it should increase the policy and financial support for the university to carry out this work, and at the same time provide some guidance and help, including contacting social mental health forces to train school teachers. We should make the MHE plan for CS, and do a good job in the planning guidance of this work. At the level of CAU, it is necessary to change the wrong ideas and understanding of CS’ MHE, persist in taking this work as the basic project of school education, take this course as a basic course and compulsory course, select professional teachers and talents to carry out teaching research and teaching, so as to improve students’ interest in class and classroom quality. To strengthen the school mental health counseling institutions, and really play its role.

Figure 2. A survey of students’ learning achievements in psychological courses after teaching with BD technology

4.2. Innovation Path of College MHE Based on Big Data
(1) Improve the psychological file database of CS supported by BD
The potential value of BD is not only the need of enterprise competitiveness, but also the need of educational innovation. Data is increasing every day in the University. Fully mining the potential value of these data will greatly promote the good development of students’ MHE. CAU need to establish and improve the data information collection and processing mechanism. Use BD technology to timely understand the education, emotional changes and living conditions of each college student, and formulate education programs according to students' personality characteristics. Only in this way can we realize the educational goal of "teaching students in accordance with their aptitude" supported by the state.

(2) Innovative teaching mode

We should abandon the traditional concept of health education and reform the psychological health of teachers. College psychological teachers can use BD to build a MHE platform and load classroom content and teaching materials onto the front platform. In this way, students can discover and preview the learning content, cultivate the ability of autonomous learning and learning awareness. Teachers should also make rational use of data sources and choose teaching materials and cases close to students' life so as to improve students' learning enthusiasm.

(3) Build a mental health service platform to meet the needs of CS' mental health

With the rapid development of network media, more and more young people know the world at home. Entering the "network world", their access to and understanding of information is more convenient. At the same time, they often use the Internet to express their opinions and answer questions. According to the survey, CS also began to seek psychological help from cyberspace to understand some basic mental health knowledge. Nowadays, people who have psychological problems or need mental health consultation are more likely to seek help online. According to an important survey, more than 95% of CS' mental health consultation information comes from online booking. Mental health in CAU has changed from the original education mode to the service mode to provide effective and accurate mental health services for students. In the future, the practical direction of MHE in CAU is to make effective use of BD and network resources, combine CS' network preferences, develop intelligent mental health network services, and give full play to the service and counseling function of MHE.

(4) Pay attention to data privacy protection

Data information has individual autonomy, that is, individuals have the right to determine the object and scope of information disclosure. From this point of view, this paper does not discuss whether the BD platform has the right to access student information, which involves privacy ethics. This paper discusses how to protect personal privacy and prevent data misuse and abuse from the perspective of large-scale application of BD technology. The management of MHE includes a lot of sensitive information, such as students' family status and other emotions, which can best reflect the ideology of CS. How to reasonably obtain the information in the field of MHE and protect it from being affected is a problem that cannot be ignored. The privacy leakage of CS not only constitutes the hidden danger of personal property and student property security, but also brings greater psychological burden to students and produces huge psychological problems. The guarantee of data and information should run through the whole process of health education. The school must strengthen the risk prevention, pay attention to the protection of personal privacy, and make clear the standard process of data storage, data management and data use.

5. Conclusions

Under the background of BD, all things are constantly changing. Only by understanding this change, can we analyze the causes of this change in depth and further solve the problem. As a new data analysis technology, we have achieved extraordinary success in searching big network data. This paper has a preliminary understanding of the application of BD in the psychological health consultation of network CS. However, there are still some problems worthy of further study, such as: for users, the existing results are not suitable for analysis, and the amount of data needs to be further expanded. This is why, with the further development of CS’ mental health consultation practice and research under the
framework of BD network, we need to rebuild the BD network. Further strengthen the theoretical research of CS' mental health consultation, in order to provide scientific guidance for CS' mental health counseling.

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