Application of Big Data Technology in College Students' Mental Health Education Innovation

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Abstract. College Students' mental health education is the abbreviation of psychological quality education and mental health education, and it is an important content of university education. In the context of quality education in the new era, there are some problems in the mental health education in Colleges and universities, such as the quality of teachers to be improved, the degree of attention is not enough and the teaching content is single. Therefore, this paper puts forward the application research of big data technology in college students' mental health education innovation. In this paper, through field observation, we have a close contact with big data technology, and have an understanding of the technology based on practice. In this process, we emphasize the substantial significance of big data to mental health education. The details of work have changed from tedious to simple, and the work form has changed from single to rich. Through comparative analysis, it shows that the use of big data technology in the innovation work of College Students' mental health education can solve more college students' mental health problems with high quality, and provide technical support for the innovation of College Students' mental health education.

Keywords: Mental Health, Educational Innovation, Big Data Technology, Machine Learning

1. Introduction

For colleges and universities, it is necessary to pay attention to and strengthen the mental health education of college students. Good psychological quality is the objective requirement of society for college students[1-3]. At present, mental health problems have become an important factor affecting the healthy growth of college students. To carry out mental health education among college students, paying attention to and paying attention to students' mental health can help students to establish a good mentality, and then properly deal with the psychological confusion in the process of life and learning,
so as to promote the overall improvement of psychological quality. Strengthening college students' mental health education is conducive to the adjustment, consultation and solution of College Students' mental health problems, which is the objective demand of College Students' healthy growth\cite{4-6}.

Today, the Internet age is also the era of big data, which is the objective product of historical development. The rapid development of big data provides new opportunities and challenges for college students' mental health education\cite{7-8}. In the application of big data technology under the Internet, many colleges and universities do not have a deep understanding of the concept of big data technology. College workers should recognize the situation, seize the opportunity, and make use of big data to constantly improve the mental health education mode of college students and improve the level of mental health of contemporary college students. Big data technology can innovate education mode and help to improve the quality of mental health education\cite{9-10}.

In this paper, in view of the current college students' psychological education innovation work, the actual situation of the use of big data technology for forensic analysis, analysis that colleges and universities in the promotion of the use and cost investment is still lacking. This paper establishes the research on the application of big data technology in the innovation of College Students' mental health education. In the research, according to the actual situation of College Students' mental health education, the introduction of big data technology can improve the quality and effect of mental health education. Through the investigation and analysis of various data in Colleges and universities, this paper believes that the use of big data technology reform can better meet the innovative development needs of College Students' mental health education and improve the quality of education.

2. Big Data Technology and Educational Innovation

2.1. Big Data Technology

Big data technology refers to the data set that traditional software tools can't capture, manage and process in a certain period of time. It is a huge, high growth and diversified information asset, which needs new processing mode to have stronger decision-making power, insight discovery ability and process optimization ability. The strategic significance of big data technology is not to master massive data information, but to professionally process these meaningful data. In other words, if big data is compared to an industry, the key to the industry's profitability lies in improving the "processing capacity" of data and realizing the "value-added" of data through "processing". The introduction of information technology into college mental health education can combine the advantages of big data technology, mine more accurate data and information, and promote the innovation of health education. To be exact, the innovative application of big data technology in college students' mental health education can be combined with the data inside and outside the school to establish accurate students' mental health files.

2.2. Significance of Mental Health Education Innovation

In order to further improve the mental health education of college students, the mental health education of college students should constantly change their thinking and seek innovation. First of all, innovative teaching ideas can improve students' mental health. College Students' mental health education needs teachers to change their previous teaching concepts, highlight the students' dominant
position, clarify the purpose of psychological education, and determine the teaching objects and implementation methods on this basis. Secondly, improving teachers' quality and professional ability is an important factor affecting the development effect of mental health education. School administrators should be aware of the impact of teachers' quality on mental health education, so as to improve teachers' quality and classroom teaching quality. Third, create a psychological education environment to improve students' psychological quality. With the development of modern information technology, all kinds of intelligent software and equipment gradually enter the school, occupying most of the spare time of teachers and students. In mental health education, making full use of modern information technology is conducive to optimizing the teaching environment, making students form good psychological quality imperceptibly and adapting to the changes of society.

3. Survey Results and Analysis of the Application of Big Data Technology in the Innovation of College Students' Mental Health Education

Research shows that 91% of colleges and universities in China regard big data technology as the core factor of students' mental health education innovation. The tracking, collection, analysis and other functions of big data technology are widely used in all aspects of students' mental health work. Big data technology can replace the tedious manual operation in education, improve the efficiency and quality of university work, and effectively ensure the effect of students' mental health education, so as to improve the competitiveness of college mental health education.

In the research and analysis, this paper adopts two ways to investigate and study, namely, questionnaire survey and on-the-spot interview. 647 college students and 60 professional teachers were selected as the survey samples. In the process of investigation, this paper found that both college students and professional teachers involved in the application of big data technology in the innovative work of College Students' mental health education. In this survey, we divided all the subjects into two groups by category. One is the experimental group, which is the application of big data technology in the innovation of College Students' mental health education, and the other group is the control group, which is the traditional way of mental health education. After a semester of teaching, we investigated and analyzed the willingness of the two groups of students to participate in the activities. The results are shown in Table 1. Based on the survey results of the two groups, this paper uses big data technology to enhance the core competitiveness of mental health education.

| Investigation items                  | Experience group (%) | Control group (%) |
|-------------------------------------|----------------------|-------------------|
| Actively participate in various activities | 63.1                | 37.3              |
| Appropriate activities will be actively involved | 88.7                | 51.4              |
| No willingness to participate       | 13.2                 | 44.8              |
| Help yourself                       | 90.1                 | 58.3              |
4. Discussion

4.1. Big Data Technology Brings Opportunities to College Students' Mental Health Education

First, it is conducive to the improvement of College Students' mental health education mechanism. Internet big data technology is in line with the characteristics of College Students' pursuit of fashion and active thinking. In the new media environment, college students can quickly understand the society and the future, learn about home and abroad, constantly broaden their cognitive field, constantly broaden their horizons, and obtain more good and positive information. After forming the correct values, they will gradually correct their bad ideas and establish a correct value system. Second, it is conducive to the smooth development of psychological education. Under the influence of social and economic development, college graduates are facing a more severe employment situation, and they need to bear huge pressure of study and life. Learn more mental health knowledge through big data and learn to face difficulties in learning and life with a positive and optimistic attitude. Third, it is conducive to lifting the shackles of traditional ideology. In the virtual space provided by the new media, college students have freedom of speech, freedom of speech, freedom of choice of objects, and free use of words, images, videos and sounds to achieve gender equality and self-esteem. In such a space, college students' thinking becomes more open and freer. Big data technology brings opportunities and challenges to colleges and universities. This survey mainly investigates the satisfaction of university teachers and students on the application of big data technology, and carries out comparative analysis. In the early stage of entrepreneurship, the application of big data technology in Colleges and universities is relatively less, which affects the operation of mental health education innovation. After the problem occurs, the maintenance is not timely and sufficient, which also affects the application of big data technology in the innovation of College Students' mental health education.

It can be seen from the analysis results in Figure 1 that more than 85% of teachers and students are satisfied with the application of big data technology. Big data technology plays a role in the innovation of psychological education, which can not only improve the work efficiency, but also improve the effect of psychological education courses. The use of big data technology in most colleges and universities focuses on teaching and scientific research. However, some leaders of the school have traditional ideas and it is difficult to give up the traditional ideas. In the research of big data technology and system operation, the conference of comprehensive promotion and use has not been paid enough attention, which limits the management role of big data technology.
In order to further study the application of big data technology in college students’ mental health innovation, the results are shown in Figure 2. As can be seen from Figure 2, teachers believe that integrating big data can help them more than students. The traditional model of mental health education has less information technology content, less involved scope and more labor cost, so the obtained mental health education is not ideal. After the introduction of big data technology, colleges and universities have improved their work efficiency, and the work effect is also significantly improved. They feel the convenience and efficiency brought by science and technology. They believe that the advantages of big data technology in the application of mental health education innovation outweigh the disadvantages, and that the promotion of big data technology is very important to achieve good results in the innovation and reform of mental health education.
Figure 2. Survey of teachers and students on the help of big data technology to themselves

4.2. Strategies of Using Big Data Technology to Innovate College Students' Mental Health Education

According to the main characteristics of college students in the new era and the opportunities and challenges brought by big data technology to college students' mental health education, we should promote college students' mental health education from the following aspects.

(1) Building a new media platform for mental health education

Colleges and universities should actively comply with the needs of the development of the times, attach importance to the construction of big data, increase the investment in big data technology, constantly improve the hardware conditions of mental health education, and provide convenient mental health education platform for college students. We should pay attention to highlighting the characteristics of the campus. According to the characteristics of the school, we should add the mental health education module to the official website, wechat public account and microblog account, so as to provide authoritative knowledge of mental health education for college students, and promote students' self-learning, self-education and self-improvement through the Internet.

(2) Optimizing the knowledge structure of mental health education teachers

In the big data environment, the mental health of university teachers should become common scholars and experts, and optimizing knowledge structure should be an important guarantee. First of all, we should rediscover our professional reserves, know what we have, design the "cultural nutrition meal" according to our own characteristics, develop learning new media technology and mental health education theory, and actively adapt to the needs of the development of the times.

(3) Integrating all kinds of educational resources to improve the efficiency of mental health education

When carrying out mental health education, teachers should pay attention to the integration of wechat, microblog, online video and other new media to achieve complementary advantages. According to the characteristics of students' mental health, teachers should choose the most appropriate education strategy to improve the quality and efficiency of mental health education.

(4) Constantly improve the ability of students to resist the bad temptation

In the education work, we should guide the students to improve their ability to distinguish information and enhance their ability to resist all kinds of bad temptations. Actively use wechat, microblog, QQ and other platforms to carry out group counseling and personal counseling for college students. In view of College Students' psychological problems, psychological confusion and common problems, group psychological consultation should be carried out. It is necessary to pay attention to the negative impact of new media on college students, so that college students can not only see the advantages of new media technology, but also realize the negative impact of new media technology.

5. Conclusion
In the research of College Students' mental health education innovation, this paper takes the introduction of big data technology into college mental health education as the main line of research. After research, this paper believes that big data technology is an indispensable important technical foundation in the innovation of College Students' mental health education. Through the investigation and analysis of two groups of people with different questions, the satisfaction of big data technology in the innovation of College Students' mental health education is obtained. According to the data survey and analysis, big data technology can improve the work effect, work efficiency and save manpower and material resources in the innovation work of College Students' mental health education, and can increase the competitiveness of mental health education. Through the analysis of the research results of this paper, we can see that if we want to make full use of artificial intelligence in the work of College Students' mental health education, we must integrate the big data technology with the actual business process effectively, give priority to the actual situation of students' health education, attach importance to scientific introduction, combine with the actual work content, and effectively formulate perfect application measures to ensure the health of mental health education.

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