



Application of Computer Technology in College Students' Mental Health Education

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Abstract. Mental health education is an important part of college education. With the rapid development of computer technology today, many colleges and universities introduce computer technology to solve the mental health problems of college students. This paper introduces two systems in detail: the mental file management system and the mental health auxiliary teaching platform. Among them, the mental health assessment and file management system development technology in the psychological file management system applies JAVA development language and mysql database, and independently updates the norm through big data analysis to complete the detection and evaluation of mobile terminals, that is, file generation and export. The mental assistant teaching platform applies SQL Server2008 database and ASP.NET MVC system structure to improve the feasibility of the system. The application of the above-mentioned computer technology in college students' mental health education will provide more convenience for the development of mental health education, improve the related work efficiency, and at the same time provide reference for the development and innovation of mental health education technology in China, which will make the education more intelligent and more targeted, and promote the mental health development of college students.

Keywords: computer; mental health education; use method

1 Foreword

With the rapid development of network technology and computer technology, China has officially entered the information network era. Based on this, computer technology can be widely used in various industries under the background of its continuous updating. Especially in the field of education, the application of computer technology can significantly improve the level of education and teaching efficiency. Nowadays, many colleges and universities are actively carrying out psychological curriculum education and introducing Internet technology into mental health education. In fact, the application of Internet technology in mental health education can significantly improve the methods and environment of college students' mental health education,

and based on this to help college students establish a good psychological. In fact, the application of Internet technology in mental health education can significantly improve the methods and environment of college students' mental health education, and based on this to help college students establish a good psychological. Therefore, how to use computer technology in mental health education has become the focus of many scholars.

2 Introduction

After entering the new century, computer technology has developed rapidly. Compared with traditional mass media, computer technology shows stronger technical characteristics in the analysis of mental health activities. Computer can be used as a platform to carry knowledge and information, which can not only be a key supplement to the traditional test carrier of mental health activities, but also improve the efficiency and quality of mental health education. Therefore, the application of computing technology in college students' mental health education has become the focus of many scholars. Nowadays, many scholars in China have carried out research on the application effect of computer technology in mental health education. The results show that the advantages of computer technology in mental health education are mainly concentrated in the following two aspects:

First, it's helpful to improve the mode and environment of health education. The reasonable application of computer technology in college students' mental health education has obvious effect on improving the methods and environment of college students' mental health education. The widespread use of computer technology in psychological teaching of many college students can highlight the main role of college students in psychological education and the auxiliary role of teachers in classroom teaching. Teachers pull diversified psychological teaching resources to stimulate college students' enthusiasm for learning knowledge related to mental health education. In addition, relying on computer multimedia and other methods, teachers can complete online education for students through the network, so that students can browse online courses through computer web pages, but also through QQ, blog and other communication with teachers, for the existence of psychological problems to ask questions. It can be seen that relying on computer technology can create a more excellent mental health education environment for students [1].

Second, it breaks the constraints of time and space. Nowadays, computer technology is widely used in mental health education. One of its advantages is to break the constraints and restrictions of time and space. In the traditional mental health education work, colleges and universities generally complete the education work through the mental health education courses and psychological counseling courses, so as to ensure the mental health of college students. There are limitations in space and time. Under the information background, students can independently search for relevant knowledge through computer software, and can also directly communicate with teachers, so that students can complete psychological education at any time and place. Through this more flexible teaching method, the quality and efficiency of students' mental health

education are more ideal, which lays a better foundation for college students' mental health education [2].

To sum up, computer technology is really beneficial to improve the overall quality of college students' mental health education and help teachers to carry out mental health education. Therefore, this paper discusses the application of the psychological file management system based on computer technology and the assistant teaching platform of mental health in college students' mental health education, and provides more ways for the development of mental health education in colleges and universities.

3 The application of psychological management system in mental health education

Nowadays, mental health education in colleges and universities in China is deepening, and many colleges and universities have begun to actively carry out psychological testing and file work. But because the number of students who need to file is too much, and more information data. In this context, colleges and universities can introduce computer technology, based on computer technology to try to build psychological archives management system, so as to improve the efficiency of psychological archives management [3].

Psychological archives management system mainly combines two basic principles: information management and feedback system design, with the help of computing network and database technology, complete the establishment of college students' psychological archives and archives management work. The building and management module of college students' psychological files can use network programming technology to gather the necessary scale of students' psychological tests in the database, and form a static page for users to call in time. After the test, the test information data will be stored in the database to form the test results. At the same time, the psychological archives management system of college students is based on the psychological file building module to construct psychological archives, and has the function of organizing, classifying and screening the psychological files of college students.

The idea of establishing the psychological archives management system is as follows: the application can further expand the markup language XML, combine ASP programming language and MS SQL database technology to establish a trinity system structure. The system is developed according to Windows DNA and reasonably applies the three-tier B/S architecture based on XML. Windows DNA provides a general way to develop computer application programs with three-tier structure, which provides a good environment for the development of the system. It's three-tier structure refers to the client, application logic layer and data storage layer. Because of the expansibility of XML, users can customize special vocabulary and XML tags, which is conducive to the structured organization of psychological archives information data, and can realize formatting and data transmission through a unified method. If it is applied to the three-tier B/S model, it will form an obvious network application advantage. The psychological archives management system regards XML as a tool for structured information interaction, undertakes the communication between all data information, organ-

izes to obtain relevant psychological archives information data in the database server in combination with the actual needs of users, and uses XML to interactively transmit the information fed back by the information data source to the client to realize dynamic display. Finally, the psychological archives of college students are established and managed.

The psychological test scale used in the psychological test module of the system includes the following types: self-rating anxiety scale, self-rating depression scale and self-rating mental health scale. Among them, the mental health self-assessment scale is a kind of mental health test scale which is used very frequently in China. The scale is also widely used in mental health education in colleges and universities. It confirmed the individual mental health status through ten different dimensions such as somatization, compulsion, interpersonal sensitivity and depression. The self-rating depression scale contains 20 items and is divided into 4 levels. It is characterized by convenient use and can more intuitively show the subjective feelings of depressed people. The self-rating anxiety scale is similar to the self-rating depression scale in its structure, form and specific evaluation methods, which is used to evaluate the subjective feelings of subjects. The system evaluates the current students' mental health status through the above scale. SCL-90 norm is used in SCL-90, and the scores are shown in the table 1 below:

Table 1. SCL-90 norm of College Students' mental health Self-rating Scale

Item	X±SD
Somatization	1.44±0.49
Compulsion	1.93±0.59
Interpersonal sensitivity	1.80±0.59
Depression	1.73±0.59
Anxiety	1.59±0.53
Hostility	1.65±0.59
Horror	1.47±0.51
Paranoia	1.67±0.55
Mental symptoms	1.57±0.51
Addition item	1.62±0.56
Total average	148.5±42.03

The national norm was used in the self-rating depression scale. The cut-off value of SDS standard score was 53, ranging from 53 to 62, which was rated as mild depression; Moderate depression was assessed from 63 to 72; More than 72 points were rated as severe depression.

The national norm was also applied to the self-rating anxiety scale. The cut-off value of SAS standard score was 50, ranging from 50 to 59, which was rated as mild anxiety; Moderate anxiety was assessed from 60 to 69; If the score is more than 69, it is rated as severe anxiety [4].

In addition, the system quality contains the following basic information data table: First, user basic information data table. It includes the basic information of students:

name, password, student number, gender, age of birth, length of admission, etc., as shown in the table 2 below:

Table 2. Contents of user information table

Field	Description	Type and length	Major key	Can be blank
Examinee_id	User name	Char (8)	yes	Not allow
Name	Name	Varchar (20)	No	allow
Password	Password	Varchar (10)	No	allow
Native_place	Native place	Varchar (20)	No	allow
Sex	Gender	Varchar (3)	No	allow
Age	Date of birth	Datetime	No	allow
En_school_time	Admission time	Datetime	No	allow
Student number	Student number	Varchar (10)	No	allow
Class	Class	Varchar (10)	No	allow
Profession	Profession	Varchar (20)	No	allow
Remark	Remark	Varchar (20)	No	allow

Second, measure information table. It specially includes various measures, such as measure_number is the measure number, e_id is the test paper number, e_score stands for score segment, etc. The specific design is as follows in the table 3 below:

Table 3. Information of measures.

Field	Description	Type and length	Major key	Can be blank
measure_numbe	Measure number	Integer	Yes	Not allow
e_id	Test paper number	Integer	No	Not allow
e_score	Score segment	Integer	No	Allow

Third, the test paper information table, which specifically contains the relevant information about the psychological test paper, and the table contains e_id, e_name, etc., The specific design is as follows in the table 4 below:

Table 4. Test paper information

Field	Description	Type and length	Major key	Can be blank
e_id	Test paper number	Integer	Yes	Not allow
e_name	Test paper name	Varchar (100)	No	Not allow
e_type	Test paper type	Varchar (3)	No	allow
e_time	Answer time	Integer	No	allow
e_total	Total score	Float	No	allow

e state	State	Varchar (3)	No	allow
q standard	Standard answer	Text	No	allow

The system can automatically generate the corresponding report and record it in the student file. At the same time, the system has the function of data filtering, that is, teachers can filter the data to find qualified records within a limited range. The screening conditions include all departments, colleges, departments, classes, student numbers, names, scales and factor scores. The factor scores are further divided into the following six relationships: greater than, less than, equal to, greater than or equal to, less than or equal to and not equal to. Teachers only need to set up screening conditions, and the system will display the corresponding screening results. Teachers can browse the corresponding mental health report through condition screening. Through the generated report, they can have a more comprehensive and in-depth understanding of the psychological status of a college, class and even individual, and then design a targeted mental health education program in combination with the actual situation of the college, class and individual to ensure the effectiveness of the program. Moreover, as students receiving testing and file management, they also have the right to browse the corresponding test report, confirm the test results through the report, and have a more comprehensive understanding of personal mental health status. At the same time, the system sets corresponding permissions, that is, some evaluation reports must be under the guidance of psychological counseling teachers before students can read, so the system sets corresponding open permissions.

The establishment and management of College Students' Psychological Archives belong to the key components of mental health education. Through the construction of psychological archives management system, the school can understand the current students' psychological state through computer testing, and record the evaluation results in the computer, so that mental health teachers can understand the psychological state of educational objectives through the computer. And regularly confirm the results of psychological education, which is of positive significance to the establishment and scientific and rational application of college students' psychological archives.

4 The application of mental health assistant teaching platform in mental health education

In the traditional mental health education, schools need to invest a lot of human and material resources. With the introduction of computer technology, more and more colleges and universities begin to introduce computer technology to build an auxiliary teaching platform for mental health. AS a new way of mental health education, mental health assistant teaching platform has been gradually recognized and valued by people with the rapid development of computer technology and network technology [5]. The purpose of the establishment of mental health auxiliary teaching platform is to design a network platform to meet the needs of mental health education according to the actual needs and the actual situation of College Students' mental health with the help of computer network technology. The system can establish students' mental health files, dynamically track students' current learning behavior, improve the intervention

system of psychological crisis, and find out as soon as possible Interfere with and effectively control the behavior of students with serious mental disorders, which make mental health education and management more standardized and systematic, and improve the overall efficiency of mental health education.

The mental health education platform adopts SQL Server2008 database, which is an all-round database platform, integrating business functions and providing tools for enterprise data management. At the same time, this technology has safe and reliable storage function. Microsoft SQL Server2008 database engine belongs to relational data and structured data, which can build and manage enterprise-level databases with high availability and performance. The platform adopts ASP.NET MVC system structure, and ASP.NET MVC provides the basic framework for creating Web applications. ASP.NET MVC framework summarizes the existing functions of ASP.NET, such as master page and membership-based authentication. The MVC framework is defined in the system.web.mvc assembly. ASP.NET MVC framework has the functions of application task separation, testability and test-driven development. It is an extensible and pluggable framework at the same time. The goal of designing ASP.NET MVC is to be easily replaced or customized. It can be mixed with components such as view engine, operation parameters and URL routing strategy to lay a good foundation for enriching platform functions.

In the auxiliary teaching platform of mental health, the user enters the user name and password through the identity of the system administrator. After verification, he can log in to the system and carry out user management, announcement management and other behaviors. The specific operation process is shown in the figure 1 below:

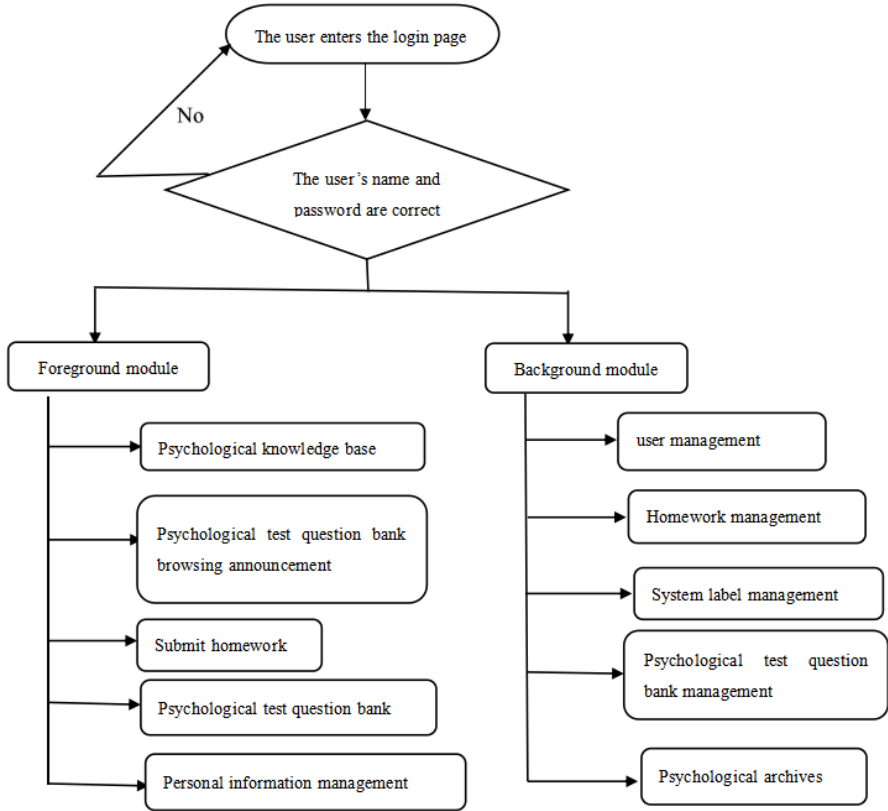


Fig. 1. Operation process of mental health auxiliary teaching platform.

If the user enters the user name and password as an ordinary identity, after verification, he can log in to the system and carry out learning exchange, reading system announcement and resource sharing. The mental health auxiliary platform can provide the following functions:

First, learning and communication of psychological knowledge base. Both ordinary users and managers have the right to issue and answer questions. The basic process of publishing questions is that when users enter a student topic in a psychological knowledge base, click publish questions, and the system can load the question publishing interface. Users need to fill in the title and specific content of the question and upload relevant resources. The basic process of answering questions is as follows: users enter a question detail page, click to answer, and provide personal solutions to the questions [6]. The system can continuously refresh the answer list of current questions. Managers have the right to manage questions or answers, and can check and delete inappropriate questions. This module provides a good environment for communication between teachers and students. Both teachers and students have the right to release psychological problems for others to communicate and give corresponding solutions. This can help students answer their doubts and keep the questions for a long

time, so that teachers and other students can help students at any time and place, and improve the overall efficiency of mental health education.

Second, curriculum resources. Process resources include the upload and download of resources. Course upload, that is, the user clicks to upload resources, and the system will display the interface for uploading resources. The user enters the resource name, tag name and basic introduction of resources, then selects the specific path for uploading resources, and click submit. In the resource download process, the user checks the file to be downloaded and clicks download. The system prompts the user to select the file saving path. After the user selects the save address, the download can be completed. If you are a system administrator, you can also manage existing resources. The system can display the current resource list content for users. The administrator screens the information content and deletes some inappropriate resources, and the system can delete relevant information resources. This function can continuously enrich the curriculum resources of the mental health auxiliary teaching platform, and can have more resources after connecting with the network. Teachers can also select some videos conducive to students' mental health education and upload them to the platform. Students can download the corresponding course resources at any time and place for distance online learning, so that mental health education is no longer constrained and limited by time and space. Not only that, students can also upload resources that they think are conducive to mental health. After reviewing the resources, the managers will display them on the platform to carry out communication and exchange among students, so as to enrich the curriculum resources.

Third, psychological test question bank. The system provides users with a list of different types of psychological test questions. After clicking, users can participate in the answer, including answers, test result analysis, etc. Through the test questions, the system can retain the final test answers. Teachers can have a deeper understanding and understanding of their mental health through the results of students' questions, and make the health education program more targeted. Students can also have a clearer understanding of their personal psychological state through the evaluation questions, and seek targeted help. In addition, the mental health assisted teaching platform can also summarize the current students' common psychological problems through the collection, sorting and mining of all subjects' data, and record the information data, so as to provide corresponding data support for the development of school mental health education [7].

Fourth, operation management. Users can enter the management background and publish jobs to all users, including entering job content, publishing personnel, etc. Teachers can release their homework through the computer platform, and students can upload their homework through the computer platform, which makes the assignment, submission and feedback easier, and improves the efficiency of mental health education.

5 Conclusion

In order to ensure the mental health development of college students, many colleges and universities began to actively introduce advanced technology to improve the quality of mental health education. It is necessary for colleges and universities to clarify the application value of computer technology in mental health education, and try to actively develop mental health auxiliary teaching platform and psychological archives management system based on computer technology, so as to promote the development speed of mental health education in enterprises and colleges.

References

1. Jie Jiang. Improving college students' mental health with the help of computer network technology—— Comments on Computer Fundamentals and Applications (2nd Edition). Chinese Scientific Papers., 2020, 015 (001): p.i0013-i0013.
2. Mengchao Li. Application of WeChat public platform in college students' Online Ideological and Political Education -- Taking "MC workshop" as an example. Times Report., 2020, No. 364 (10): 124-125.
3. Bo Pang. The role of information technology in the realization of moral education function of College Students' mental health education. IT Manager World., 2019, 022 (005): 5-8,25.
4. Yangxi Xie. Exploration on the path of College Students' mental health education in the network era. Food Research and Development., 2020, v.41; No.395(22):255-255.
5. Meijuan Xu, Xiong Xiao, Ye Xiong, Liangliang Dong. On the "heart" outlet of data mining technology in mental health education in colleges and universities. Science and Technology and Innovation., 2020, No. 166 (22): 49-50 + 53.
6. Yanni Chen. Construction of network mental health education system in Colleges and Universities -- Taking Hunan Vocational College of Arts and crafts as an example. Science and Technology Information., 2019, 017 (024): 240-241.
7. Guang Yang, Haoming Li, Jin Yu. Construction of teaching mode of College Students' Mental Health Course under the background of "Internet +". Fujian Tea., 2019, 041 (005): 33-33.

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