

Development and Design of Outward Training Management Platform for College Students Based on Cloud Computing

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ABSTRACT

It has positive practical significance to complete the design of the Outward Training management platform for college students based on cloud computing technology, so as to deal with the trend of college students' depression and suicide. Based on the system goal, this paper completes the exposition of the platform from the aspects of data analysis and function design. The design platform organization can be divided into data analysis phase, activity design phase and activity implementation phase. In the data analysis stage, the platform based on B/S architecture can collect students' psychological data information. Then, the analysis and identification of the mental health status of college students is completed by designing a data analysis model. In the activity design stage, the platform will further complete the targeted Outward Training plan for college students by reading the analysis results of cloud logic and data. In the activity design stage, the platform will further complete the targeted Outward Training plan for college students by reading the analysis results of cloud logic and data. In the implementation stage of the activity, the management platform will complete the functions of instant communication, evaluation of teaching and establishment of students' mental health data files based on the B/S structure.

Keywords: Cloud computing; Management platform; Design and Implementation; Mental health.

1. INTRODUCTION

A few days ago, the Ministry of Education explicitly included depression screening in student physical examinations and established student mental health files. This move indicates that the depression of young people in China may be facing a more serious situation. In a survey of depression among 100,000 people conducted by China Youth Daily in July 2019, 27.6% of young people are likely to be depressed. Empirical studies have found that the detection rate of depression in college students is as high as 49%[1], the prevalence of depression in college students from 2009 to 2019 is 8% to 74%[2].

In 2020, the COVID-19 outbreak will further negatively affect the mental health of college students[3]. At the same time, many scholars have shown through empirical research that Outward Training has significant effects on mental health[4], mental toughness[5], self-

confidence[6], and emotional control[7]. Zhang Xiaole pointed out that the university stage is a critical period for the formation of youth outlook on life and world. At this stage, targeted design and development of Outward Training are of great significance[8]. Wu Bo pointed out that the existing Outward Training organization and management efficiency is low, the training content and procedures are not scientific, and the course guarantee system is not perfect[9]. The research of Hickman[10], Peng[11], Chen et al[12]. shows that the current colleges and universities don't pay enough attention to Outward Training, lack of innovation, and the degree of integration with modern technology is not high.

On the basis of the above research, in order to effectively deal with the problem of college students' frequent suicide and depression, this paper puts forward the countermeasures to construct the Outward Training management platform for college students. The platform's management and control of Outward Training

is divided into two parts: activity design and implementation. In the design phase, the data of the two parts will be collected as the design basis for the Outward Training activities. Questionnaire survey of students will be the main reference factor for Outward Training design, and secondly, the expansion of the design basis will take into account the opinions of enterprises. The platform will analyze the two parts of the questionnaire data combined with the cloud data to form two reports as the basis for the design of the expansion activities. In the implementation stage, the platform will record and form students' psychological data files and provide technical support for Outward Training.

2. PLATFORM TO IDENTIFY PSYCHOLOGICAL PROBLEMS

In order to design Outward Training activities for the psychological problems and quality needs of college students, this article considers the psychological problems of the students at school and also considers the needs of employers.

2.1. Student Mental problem identification by the Platform

In order to understand and analyze the Mental state of college students, this article first proposes a periodic survey of psychological questionnaires with class as the smallest unit. The data generated in this section is the most important part of Outward Training activity design and will be the main basis for subsequent Outward Training design and planning. The functions of this part will depend on the information interaction with users realized by the B/S architecture of the platform.

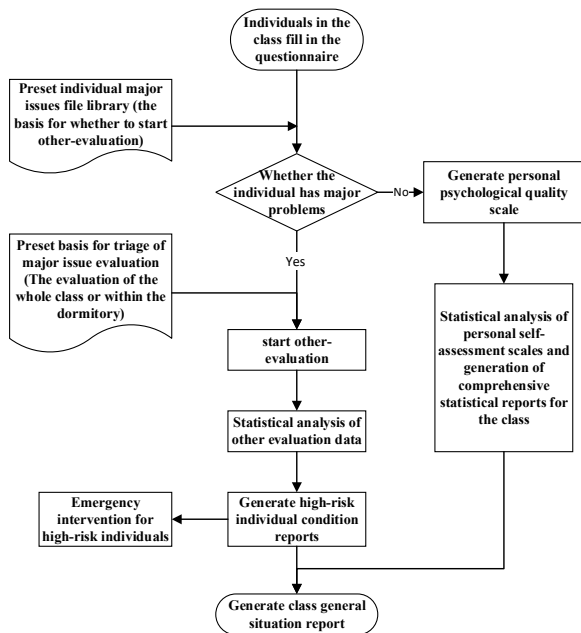


Figure 1 Analysis and Discrimination of Students' Psychological Problems

This part of the document will be divided into self-evaluation questionnaire and other-evaluation questionnaire. Individuals with serious psychological problems are identified by comparing the self-assessment questionnaire with cloud data, and other-evaluation will be initiated later. Other evaluation is divided into roommates and classmates' mutual evaluation, the main purpose is to further understand and diagnose the problem individual. The data collection and arrangement process of this part is shown in Figure 1.

2.2. Design of the platform enterprise data collection part

Enterprises are the end point of the flow of talents. Under the background of rapid economic development, the pressure on employees in enterprises is gradually increasing. It is of great significance to include corporate opinions in the mental health training of college students, especially graduates. In the face of college students, this article considers from the perspective of the future and proposes to incorporate corporate opinions to complete the improvement and training of college students' psychological quality.

As an important supplementary data, the questionnaire data collected in this article is divided into two parts for enterprises and graduates. For the enterprise questionnaire, it mainly examines the graduate performance feedback and the ability and quality demand scale. The feedback form for graduates mainly reflects the graduates' job performance and growth trajectory. The main purpose is to attribute a large amount of data to provide a basis for more personalized training programs for universities. The ability and quality requirement scale is mainly to feed back that a certain position in colleges and universities requires graduates to have a certain mental and ability quality. The graduate questionnaire contains a list of job stressors and related practical ability requirements. After acquiring the expanded data, a report on the ability of graduates will be generated. The structure of this part of the questionnaire is shown in Figure 2.

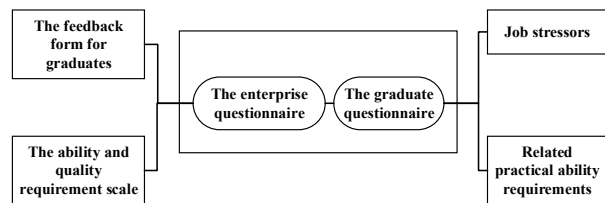


Figure 2 Enterprise survey questionnaire

2.3. Design the data analysis part of the platform

In the data acquisition stage, timely and accurate feedback processing of the questionnaire data will be carried out based on the relevant cloud data set in

advance. The summary of the questionnaire data will analyze their common problems within the scope of different groups, such as analyzing whether there is a common problem among students in the same dormitory. Of course, this group can also be a class, grade, college, and the entire university. After completing periodic student data acquisition and enterprise data acquisition, various types of data will be comprehensively considered and then summarized to form a report on the mental quality report of college students and a report on the mental quality of enterprises. The above two documents provide the basis for the subsequent Outward Training design.

3. OUTWARD TRAINING DESIGN AND IMPLEMENTATION

Based on the original Outward Training activities, this part will adjust the existing activities or design new activities to solve the problems found based on the psychological group problems of college students discovered in the two documents generated in the previous part.

3.1. Activities adaptation and design by the platform

3.1.1 Activity Design Logic

When designing Outward Training activities, it will mainly be based on the mental quality report of college students, the mental quality demand report of enterprises and the existing Outward Training activities. The main content of the mental quality report of college students is to summarize the common problems after clustering the psychological problems of students of different grades. The mental quality demand report of enterprises mainly refers to the mental quality requirements of the enterprise for graduates and the mental quality that graduates think they should have at work. Since the existing Outward Training activities have different functions, improvements can be made on the original basis when considering solving the psychological problems of students.

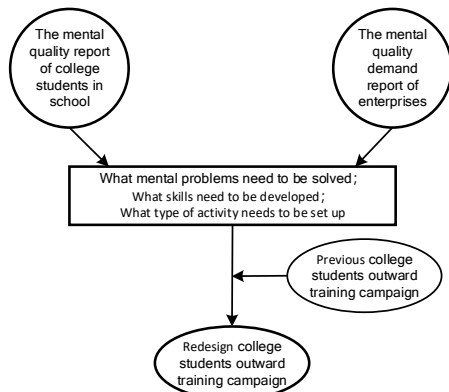


Figure 3 Outward Training activity design

3.1.2 Platform support for event design

The main work idea of this part is to focus on various types of professionals to complete targeted solutions to students' psychological problems by using Outward Training activities. After several cycles, this part of the work in the mature stage can be simplified as matching activities from the database based on the problem. The specific design process is shown in Figure 3.

3.2. The design of the plan by the platform

Planning logic. The preparation of the plan will be guided by the psychological problems found, which can break the original colleges, grades, and classes and set up different activity groups based on the principle of the same type of problems. For example, if Xiao Wang, a student of Class A, and Xiao Zheng, a student of Class B in freshman year, have similar problems to be solved, they will be assigned to the same Outward Training activity class. According to the data analysis results, this part of the platform will divide each student into Outward Training activity classes according to the principle of solving problems. The main function of the class in the plan refers to which psychological problems of the students can be solved by the Outward Training activities carried out by the changed class. Students and coaches are matched based on historical analysis data and survey data.

3.3. Technical support for activities by the platform

This part of the function implementation will be mainly based on B/S architecture. This part will rely on the platform to digitize the plan and provide various detailed forms for download. The event organizer will control the progress of the event at any time, and mainly focus on the safety of student activities and whether the coach's behavior is appropriate. There should be instant communication between students and coaches, and each student needs to know where and what props they will need for their next session.

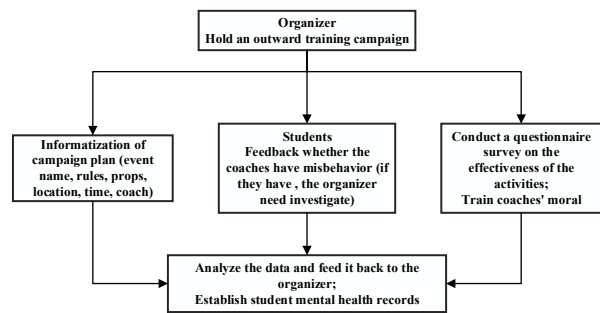


Figure 4 Outward Training activity process

After the activity, students and coaches will conduct a questionnaire survey at the same time, so as to have a certain understanding of the coaching level and the

improvement of students' problems. The analyzed data will be used as an important basis for the design and planning of the next expansion activity. The main functions and logic of the platform during the implementation of the activity are shown in Figure 4.

4. CONCLUSION

Timely alleviating the depression of college students, breaking through the inherent barriers between enterprises and schools, and cultivating college students with good psychological quality, sound ability and strong adaptability are of great significance to the country's social stability and sustainable economic development. From the perspective of relieving the depression of college students and cultivating college students with sound ability and strong adaptability, this paper completes the setting of targeted Outward Training activities by taking into account the psychological status of students and the quality needs of employers at the same time. Specifically, this paper designs and implements Outward Training by designing a management platform based on cloud data analysis technology, which can greatly improve the scientificity and pertinence of activities.

Endowing Outward Training with a certain psychological counseling function, combined with big data analysis and AI recognition technology to conduct a comprehensive psychological census and judgment on students will help to cultivate mentally healthy college students. In the future, at the same time, using deep learning algorithms and other technologies to carry out accurate psychological portraits of college students across the country, it may be possible to consider building an Outward Training planning and development APP suitable for college students.

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