



College Psychological Mobile Education System Based on GPRS/CDMA and Internet

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Abstract. In order to solve the problem of poor targeted teaching ability of college psychological mobile education and improve the mental health level of college students, a college psychological mobile education system based on GPRS/CDMA and the Internet was designed. On the basis of the distributed service framework, the IIS mechanism of the education system is set up, and then the mobile psychological learning module is combined to complete the hardware operation scheme design of the college psychological mobile education system. Perfect the VPN workflow in the GPRS/CDMA network, determine the layout form of the database organization with the help of the PPP Internet connection protocol, realize various technical functions in the mobile education system, and complete the design of the college psychological mobile education system based on GPRS/CDMA and the Internet in combination with the relevant hardware application structure. The experimental results show that the application of GPRS/CDMA and the Internet system can achieve accurate matching of college psychological mobile education in student terminals, effectively solve the problem of poor targeted teaching ability of psychological education, and can better improve the mental health level of college students, in line with the actual application needs.

Keywords: GPRS/CDMA Network · Internet · Psychological Mobility Education · Distributed Framework · VPN Process · PPP Connection Protocol · Database

1 Introduction

In today's society, with the rapid development of economy, the rapid change of science and technology, the complex and changeable interpersonal relationships, the pace of life in the whole society is getting faster and faster, and people are under increasing pressure in life. However, college students are generally between the ages of 18 and 25. The development of self-consciousness is not yet fully mature, and there are psychological contradictions between ideal and reality. They are a relatively special social group, and there are many problems unique to them, such as difficulties in adapting to the new environment, more interpersonal conflicts, greater emotional fluctuations, relatively immature personality and other psychological problems. How can we make the young students avoid or eliminate the psychological crisis caused by the pressure

of learning, making friends, and working, prevent the occurrence of psychosomatic diseases, face various psychological problems in a good psychological state, and then adapt to the complex social environment. How to better manage students' mental health has become a common concern and urgent problem for university administrators [1]. The online life has become an indispensable part of the life of young people at present. The characteristics of the network mean that they can express their opinions and feelings more boldly and truly on the network. Using the network platform to carry out mental health education for students can find out students' psychological problems in a timely manner and guide them. For the relevant administrators of colleges and universities, they can use information means to master students' mental health, more convenient and efficiently.

The application of time-series based education system and web-based model based education system is to install relevant software on the special client, and then publish the test on the web page. Students need to log in to the system to test, so as to replace the traditional paper and pencil tests, issue mapping machine card readers, retrieve questionnaires, and then analyze the statistical data. This process, to a large extent, liberates the staff of mental health education in colleges and universities from the complicated and transactional work when doing the psychological census of students. It saves resources and manpower, improves the coverage of students' psychological survey, and improves the timeliness of mental health education in colleges and universities. However, this system still has great defects. Only on the computer equipped with the relevant software system client, students can log in to the software system for testing and operation. Generally, it takes a lot of resources from the school to equip the corresponding hardware and software systems, and it requires special personnel to maintain and manage the equipment, which does not bring basic convenience to students.

The full name of Internet GPRS is General Packet Radio Service, which is the abbreviation of general packet radio service technology. It is a mobile data service available to GSM mobile users, and belongs to the data transmission technology in the second generation mobile communication. The full name of Internet CDMA is Code Division Multiple Access, which is the abbreviation of Code Division Multiple Access. It is a new and mature wireless communication technology developed from the spread spectrum communication technology, a branch of digital technology. GPRS/CDMA is different from traditional GSM circuit type data service in that GSM mobile users monopolize certain wireless resources for a long time. Under packet data service, all mobile users share wireless resources, and each user dynamically applies for and occupies wireless resources only when there is service data transmission. Therefore, packet data mode can achieve "always on" [2]. For example, the peak rate of GPRS is 115.2 kbit/s, and that of CDMA 1X system is 153.6 kbit/s. Aiming at the problem of limited application of conventional education system, based on GPRS/CDMA and the Internet, this paper designs a new college psychological mobile education system, and highlights the practical value of this system through comparative experiments.

2 Design Scheme of College Psychological Mobile Education System

For the improvement of the hardware design scheme of the college psychological mobile education system, it is carried out simultaneously from three aspects: the construction of the distributed service framework, the IIS setting of the education system, and the connection of the mobile psychological learning module. The overall framework of the psychological mobile education system in universities is shown in Fig. 1.

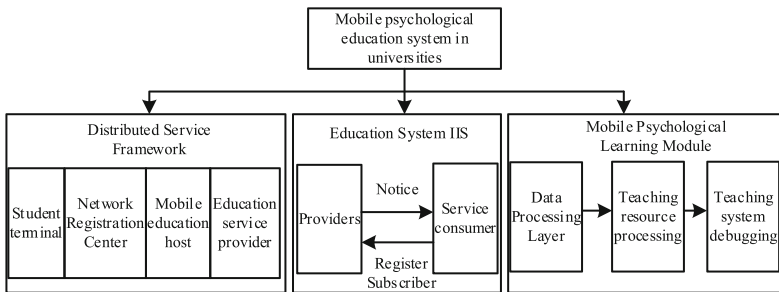


Fig. 1. Overall framework of mobile psychological education system in universities

This chapter will study its specific design methods.

2.1 Distributed Service Framework

The background server of college psychological mobile education system can be divided into an application server for processing logic and a database server for storing data. The application server here uses tomcat, while the database uses the commonly used MYSQL database.

The traditional background application architecture of the psychological mobile education system maintains a vertical layout. With the gradual expansion of the Internet platform business, the vertical architecture will make each education service quite bloated, and the coupling between modules is too high, making it difficult to modify and expand. In the long run, it will cause a lot of subsequent redundancy and insecurity [3]. Therefore, it is necessary to consider adopting a distributed service architecture. The Dubbo model came into being as the times require. As a distributed service framework, it can extract independent core businesses, which not only simplifies the background engineering structure, but also improves the performance, and greatly improves the response speed and stability of front-end applications.

The complete distributed service framework of college psychological mobile education system is shown in Fig. 2.

The Dubbo model is structured in a hierarchical manner to maximize the psychological education resources for disaster relief [4]. From the perspective of design pattern, Dubbo adopts the subscriber pattern and defines two main roles, one is the service provider and the other is the service consumer. Their interaction is conducted through

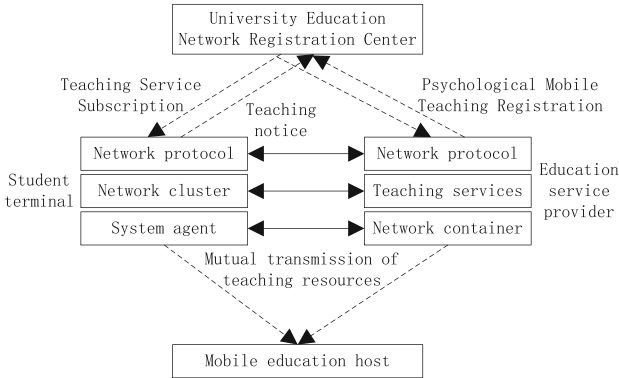


Fig. 2. Distributed service framework of psychological mobile education system

the mechanism of registration, subscription and notification. From the perspective of process operation, the overall operation is an asynchronous process, which is safer and more efficient.

In the Dubbo model of the mobile education system distributed service framework, the specific application capabilities of each structural component are as follows:

Student terminal: Dubbo defines the user who calls the service remotely as the service consumer, which is also different from most RPC (remote procedure call) frameworks.

Education service provider: provide specific services and realize the business logic of services. When using a registry, you need to expose your own services to the registry. When not using a registry, you can directly expose your own education services to consumers.

Mobile education host: monitor the call times and specific call duration of college psychological mobile education services.

College education network registration center: registration, subscription and search of college psychological mobile education services, not responsible for forwarding requests.

2.2 IIS Settings of Education System

Setting up IIS, a college psychological mobile education system, should start with the lower teaching characteristics of psychological education. Since IIS component is a mobile application component with autonomous operation capability, in order to ensure that the component configuration results can meet the scheduling requirements of college psychological mobile education resources in the Internet environment, the following expression conditions should be followed when selecting teaching information P_α :

$$P_\alpha = \frac{\alpha [o_{\max}(j_{\max}) - o_{\min}(j_{\min})]^2}{\sum_{\chi=1}^{+\infty} \beta \times |\Delta T|} \tag{1}$$

where, α represents the real-time transmission parameters of college psychological mobile education resources in IIS components, o_{\max} represents the maximum value

of teaching resource sharing vector, \hat{I}_{\max} represents the maximum value of the sharing characteristics of college psychological mobile education resources, \hat{I}_{\min} represents the minimum value of the sharing characteristics of college psychological mobile education resources, ΔT indicates the mobility transmission cycle of psychological education resources, β represents the scheduling coefficient of psychological education resources in IIS components, χ indicates the educational resource tag parameter.

The general understanding of psychology is that the relatively stable psychological characteristics of “traits” and a person’s behavior, such as intelligence, interest, attitude and personality, can be regarded as characteristics. In the process of measurement, it is a very complex work to take them as operational measurement objects. Psychological measurement is an indirect measurement. Psychological characteristics are implicit. We can not directly measure the quantity of psychological characteristics as the weight or length of measurement, but infer a person’s psychological characteristics by measuring his specific behavior in a specific situation [5]. Psychological measurement is a standardized test developed and gradually tested, revised and perfected by experts in this field. The preparation of the scale is a highly specialized systematic work.

The specific IIS component setting process of the education system is shown in Fig. 3.

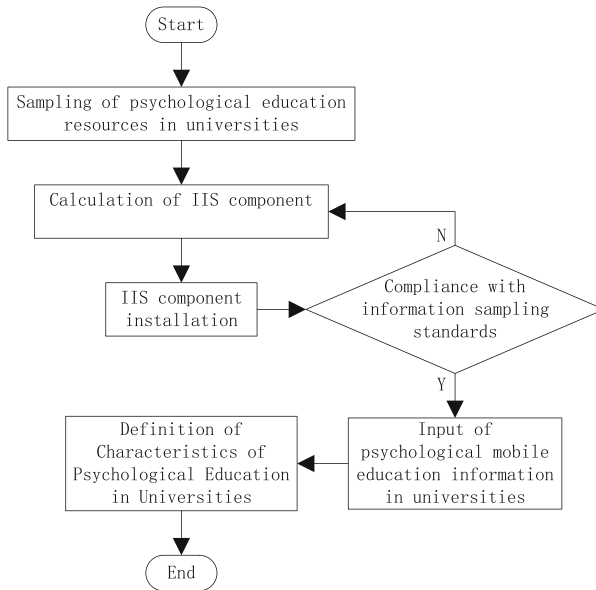


Fig. 3. Flow chart of IIS component setting of psychological mobile education system

The application ability of IIS components in setting psychological mobile education information in colleges and universities is mainly reflected in the following aspects. (1) The identification of the mentally handicapped and the college students with mental disorders is an important driving force to promote the development of psychological

tests. Psychological test is still an important method to diagnose mental retardation, mental disease and brain dysfunction. (2) In psychological mobility education, measurement can be used to find the reasons for students' poor academic performance or social adaptation;It can be used to describe and evaluate people's strengths and weaknesses in intellectual, academic and personality characteristics, so that individuals can know their strengths and weaknesses; The data obtained from psychological measurement can be used as the basis of psychological consultation, such as comprehensive achievement test, intelligence test, ability test, vocational interest test and personality test. It can provide suggestions on a person's future career direction and help visitors make correct career choices. (3) The data of personality test and clinical psychological obstacle test help clients to improve their psychological adaptability, regulate their emotions and self-consciousness.

2.3 Mobile Psychological Learning Module

Mobile psychological learning function is a platform to release mental health knowledge. In this module, professional mental health knowledge can be published, which can be articles, music, pictures or videos. Let students learn to correctly deal with psychological problems and establish good learning habits and mentality through browsing these knowledge. Provide the database query function of psychological related information for students. The administrator can complete operations such as publishing, modifying and deleting data.

At the same time, in the function of online mobile psychological learning, according to the keyword association of the question, it is designed to be the form of automatic response, and the answer is automatically given according to the keyword of the student's question. Students can choose whether to view it, save consulting time, and can browse, view or download the psychological knowledge they are interested in.

The structural model of mobile psychological learning module is shown in Fig. 4.

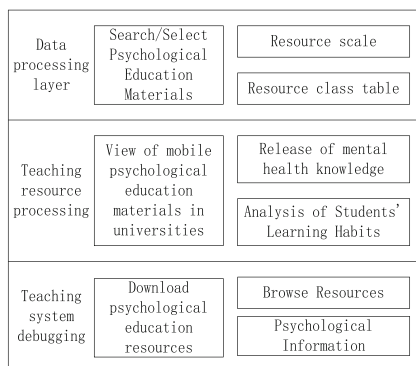


Fig. 4. Structure model of mobile psychological learning module

The mobile psychological learning module includes online consultation, consultation appointment and message consultation. For students who are clearly aware of their

own psychological problems and want to seek psychological help, this module can directly make an appointment with a psychological consultant for consultation. Online consultation is the most important function of this module. Students voluntarily choose their own consultants to carry out online consultation [6]. At the same time, you can make an appointment or leave a message if the counselor you want is not online. You can communicate with the psychological counselor at the appointed time in a timely manner to improve the students' use experience. At the same time, you can improve the college psychological counseling manual reception of visiting students, arrange the counselor, time and venue, and avoid the cumbersome process of making an appointment. It is more efficient, fast, privacy and security.

For students who have special circumstances and need to be paid more attention by the department, on the premise of protecting students' privacy, they will summarize data according to different situations, such as academic problems, family problems, emotional problems, etc., and feed back to the department to remind student counselors and relevant staff to care for students. Psychological tutors regularly pay attention to students' learning and living conditions, and give real-time feedback on students' psychological conditions with special attention.

The specific learning mode is shown in Fig. 5.

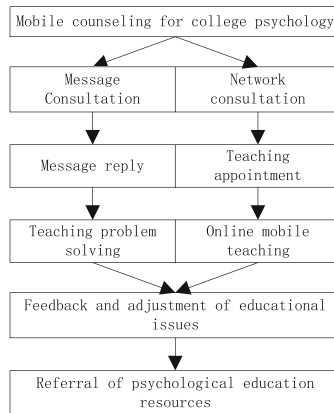


Fig. 5. Learning mode of mobile psychological learning module

The management of mobile psychological education is the main function of the learning module. It can carry out comprehensive management of relevant educational institutions, including adding the name of the institution, editing the category of the institution and setting the attributes of the institution. Permission management is a comprehensive management of the permissions of all users in the system, including the operation permissions of adding and deleting users. The system log records the operations of all users in the system, as well as the operation of the system. The mobile psychological learning module is the main functional module of the college psychological mobile education and comprehensive counseling management information system, that is, the operation authority and role management, system configuration, and database management of all

users in the system. System users include adding, editing, modifying, and deleting users' personal basic information. Different roles and users have corresponding permissions. The permissions of each role can also be set according to the needs of the position.

3 Implementation of Functions Based on GPRS/CDMA and Internet

On the basis of application components at all levels, in order to realize various executive functions of the college psychological mobile education system, we should improve the VPN workflow in the GPRS/CDMA network, and then complete the design of the database system through the forwarding function of the PPP Internet connection protocol.

3.1 VPN Workflow in GPRS/CDMA Network

In the college psychological mobile education system, the VPN workflow of GPRS/CDMA network consists of the following steps.

Step 1: The student terminal sends an APN dedicated to the Internet through the TE, uses the APN to find the IP address of the GGSN at the access end of the education system, and the TE sends an AT command message to the MS, and transmits the APN information to the MS.

The calculation of APN lookup requirements U meets the following expression:

$$U = \dot{R} \cdot \left(1 + \frac{P_\alpha}{\delta \cdot \hat{y}} \right) \quad (2)$$

Among them, \dot{R} represents the TE sending characteristics of psychological education information, \hat{y} represents the forwarding vector of psychological education information in the APN cycle, δ indicates the forwarding parameters of psychological education information in GPRS/CDMA network.

Step 2: After receiving the AT command from the TE, the MS sends the SGSN the context request message of "Activate the Packet Data Protocol PDP", which contains the APN.

Step 3: SGSN searches the IP address of the access end of the education system through the DNS of the GPRS/CDMA network according to the APN.

The definition formula of IP address E in GPRS/CDMA network is:

$$E = \left[\frac{1}{(1 + \gamma)} \right]^2 \cdot P_\alpha \quad (3)$$

where, γ indicates the access coefficient of psychological education information in GPRS/CDMA network.

Step 4: GGSN sends the RADIUS authentication request message containing the student terminal information to the corresponding GPRS/CDMA server.

The service request W formula is:

$$W = \sum_{\varepsilon=1}^{+\infty} \phi^{-\varepsilon} \cdot P_\alpha \quad (4)$$

where, ε represents the real-time transmission parameters of psychological education information, ϕ indicates the authentication permission of GPRS/CDMA server for psychological education information, e indicates the grid connection parameters of GPRS/CDMA network.

Step 5: After passing the authentication, assign the private IP address of the GPRS/CDMA intranet to the student terminal, and the RADIUS server sends back a RADIUS authentication permission message.

Step 6: Improve the VPN workflow.

The definition formula of VPN workflow Q in GPRS/CDMA network is:

$$Q = \frac{\bar{s}}{\bar{A}} \sum_{-\infty}^{+\infty} \left| \frac{1}{\varphi} \right| (U \cdot E \cdot W)^2 \quad (5)$$

where, \bar{A} represents the transmission vector of psychological education information in GPRS/CDMA network, \bar{s} represents the cumulative mean value of psychological education information, φ indicates the operation coefficient of psychological education information in VPN mode.

In the college psychological mobile education system, the packet data core network based on GPRS/CDMA network should include HA[7] in addition to PDSN and RADIUS servers. HA is responsible for assigning IP addresses to student terminals, sending packet data to underlying student users through tunnel technology, and realizing macro mobility management between PDSNs. At the same time, PDSN should also add the function of VPN operation, be responsible for providing tunnel exits, and send psychological education information to mobile terminals after unpacking.

3.2 PPP Internet Connection Protocol

PPP Internet Connection Protocol is the most important protocol file in GPRS/CDMA network, with the following characteristics.

- (1) Be able to control the establishment of psychological education information link.
- (2) It can allocate and use the IP address of the education system, and allows multiple network layer protocols to be used at the same time.
- (3) It can configure and test the psychological education information link, conduct error detection, have negotiation options, and negotiate the address of the network layer and the mobile transmission behavior of psychological education information.

The complete PPP Internet connection protocol structure is shown in Fig. 6.

The college psychological mobile education system accepts the simultaneous adjustment of GPRS/CDMA network and Internet organization, so the PPP connection protocol must include the following three components. (1) The method of compressing multi protocol self addressing psychological education information packet; (2) LCP used to establish, set and test the data link connection of psychological education information; (3) A family of NCP nodes used to establish and set different network layer protocols.

In order to be convenient enough to use in a wide environment, PPP provides LCP. LCP is used to automatically reach an agreement on encapsulation format options, handle

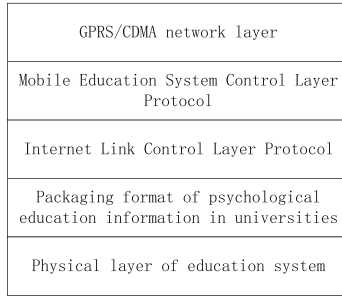


Fig. 6. PPP Internet Protocol Structure

changes in packet size, detect looped back links and other common configuration errors, and terminate links. Other optional equipment provided are: authentication of the same unit ID in the link, and decision when the link function is normal or the link fails [8].

The rating D of PPP Internet protocol connectivity follows the following expression:

$$D = \frac{Q \cdot \sqrt{\left| \frac{g_1}{d_1} \right|^2 + \left| \frac{g_2}{d_2} \right|^2 + \dots + \left| \frac{g_n}{d_n} \right|^2}}{(\lambda - 1)^2} \tag{6}$$

where, $d_1 \setminus d_2 \setminus \dots \setminus d_n$ indicates GPRS/CDMA network n Psychological education information objects responding to PPP Internet Connection Protocol, and the inequality value condition of $d_1 \neq d_2 \neq \dots \neq d_n$ is always true, $g_1 \setminus g_2 \setminus \dots \setminus g_n$ respectively represents the internet protocol link coefficients that match $d_1 \setminus d_2 \setminus \dots \setminus d_n$, λ represents the real-time rating coefficient of PPP Internet protocol in GPRS/CDMA networks.

Point to point connection may cause many problems with current network protocols. These problems are handled by a family of network control protocols (PPP), each of which manages the special requirements of its own network layer protocol [9]. To make the PPP link easy to configure, the standard default value can handle all configurations. The student terminal can improve the default configuration, which is automatically notified to its equivalent unit without the intervention of the teaching terminal. Finally, the teaching terminal can clearly set options for the link so that it can work normally.

3.3 Database Design

In the design of college psychological mobile education system, psychological education information is the core, and information is transferred and processed between layers in the form of data inside the system, and these data will eventually become the table structure and content of the database. Therefore, the mobile education system based on GPRS/CDMA and Internet architecture style takes the division of psychological education information and business logic as an important reference basis in database design [10]. The database of the system is designed according to the information division and business functional requirements of the system. The following will take part of the database table design of the system as an example to show the method of database design.

Regulations j it is the storage feature of psychological education information, and its solution j expression is:

$$j = \sum_{-\infty}^{+\infty} |\kappa \times D|^{-\frac{1}{\iota}} \cdot \sqrt{\left(\frac{\eta \times \tilde{k}}{|\Delta h|} \right)} \quad (7)$$

where, κ indicates the classification parameters of psychological education information storage in the Internet environment, ι indicates the service logic connection parameters of GPRS/CDMA network, η indicates the transmission efficiency of psychological education information in GPRS/CDMA network [11], \tilde{k} represents mobile transmission vector of psychological education information, Δh represents the unit cumulative amount of psychological education information in the Internet system.

Using formula (7), deduce the storage characteristics L based on j the coding conditions for the mobility of psychological education information of:

$$L = \left| \frac{\sum_{-\infty}^{+\infty} |f \cdot j|^{-1}}{\mu \times \tilde{Z}} \right|^2 \quad (8)$$

where, f represents the guidance amount of psychological education information transmission based on GPRS/CDMA and Internet architecture, \tilde{Z} represents the transmission characteristics of psychological education information between database hierarchical organizations, μ represents the real-time recognition parameters of the mobile education host for the psychological education information.

On the basis of formula (8), the behavior X of psychological education information transmission between database hierarchical organizations can be expressed as:

$$X = \varsigma \times \int_{\varpi=1}^{+\infty} \vartheta^2 \left(\frac{L}{\tilde{C}} \right)^2 \quad (9)$$

where, ς represents the real-time display parameters of psychological education information in GPRS/CDMA network, ϖ refers to mobile education behavior rating parameters based on GPRS/CDMA and the Internet, ϑ represents the Internet connection coefficient, \tilde{C} represents the business logic connection characteristics of the database mechanism.

For the efficiency of database operation [12], each GPRS/CDMA network node maintains a mapping table of IP addresses and MAC addresses of nodes in the Internet. When a node has an address resolution requirement, it first looks up its own mapping table. If there is a corresponding item in the mapping table, it can directly look up the table to get the corresponding MAC address. Only when there is no corresponding item in the mapping table, the inquiry message of psychological mobile education will be displayed, and its own IP address and MAC address will be attached to it, so as to improve the address resolution efficiency of the entire network, and when the response message is received, the corresponding item will be filled in the mapping table.

The solution expression for the database connection response condition M of mobile education system is:

$$M = \left(X\sqrt{\psi} + 1 \right) \times \frac{V'}{b} \quad (10)$$

where, ψ indicates the message inquiry coefficient of psychological mobile education information in the database mechanism, V' indicates the MAC address [13, 14] coding parameters based on GPRS/CDMA and the Internet, b represents the mapping vector of psychological mobile education information in the database system.

The database of the university psychological mobile education system takes the resource layer as the entrance of the client request, and passes through the business logic layer and the data access layer in turn. The main functions of the resource layer are to publish resource identification URIs externally [15], receive client requests, parse request data formats, call the business logic layer, encapsulate data and respond to clients, etc. It is the main feature of GPRS/CDMA and the Internet. The business logic layer is mainly responsible for encapsulating business function operations and providing support for the resource layer. The data access layer is mainly used for database access.

4 Example Analysis

In order to highlight the practical differences among the college psychological mobile education system based on GPRS/CDMA and the Internet, the time series based education system, and the WEB model based education system, the following comparative experiments are designed.

4.1 Principle and Steps

The targeted teaching ability of college psychological mobility education can be used to describe the mental health level of college students. Without considering other interference conditions, the stronger the targeted teaching ability of college psychological mobility education, the higher the mental health level of college students.

The specific implementation process of this experiment is as follows:

- Six different student groups were selected as the experimental research objects;
- The total amount of psychological resource information allocated by the education host for different students is counted, and the result is the standard value;
- Record the total amount of psychological resource information allocated by the education host to different students under the action of the college psychological mobile education system based on GPRS/CDMA and the Internet, and the results are experimental group variables;
- Record the total amount of psychological resource information allocated by the education host to different students under the action of the education system based on time series, and the results are the variables of control group A;
- Record the total amount of psychological resource information allocated by the education host to different students under the action of the education system based on the WEB model, and the results are the variables of control group B;
- Compare the experimental results of the experimental group, control group A and control group B with the standard values, and summarize the experimental rules.

4.2 Results and Discussion

The following table records the standard value of information allocation of psychological resources.

Table 1. Standard value of mental resource information allocation

Group	Student Category	Allocation of psychological resource information/ $\times 107\text{Mb}$
1	First kind	7.4
2	Second kind	3.6
3	Third kind	5.1
4	Fourth kind	4.8
5	Fifth kind	6.2
6	Sixth kind	6.7

The following figure reflects the specific experimental values of information allocation of psychological resources under the action of different education systems (Fig. 7)

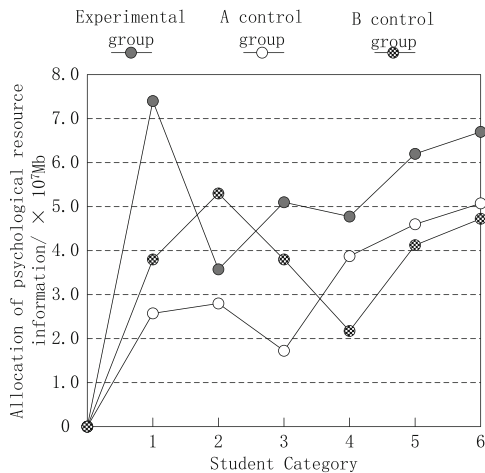


Fig. 7. Experimental value of mental resource information allocation

Combined with Table 1 and Fig. 6, the difference level between the experimental value of mental resource information allocation and its standard value is calculated. See Table 2 for details.

Analysis of Table 2 shows that the difference of information allocation of psychological resources in the experimental group is always zero throughout the experiment; Under the effect of the education system of control group A, for the first kind of students,

Table 2. Difference of mental resource information allocation

Student Category	Experimental group / $\times 107\text{Mb}$	A control group / $\times 107\text{Mb}$	B control group / $\times 107\text{Mb}$
First kind	0	4.8	3.6
Second kind	0	0.9	1.6
Third kind	0	3.4	1.3
Fourth kind	0	0.9	2.7
Fifth kind	0	1.6	2.1
Sixth kind	0	1.7	2.0

the difference in the distribution of psychological resources information is the largest, reaching $4.8 / \times 107 \text{ Mb}$, and its average level was far higher than that of the experimental group during the whole experiment; Under the effect of the education system of control group B, for the first kind of students, the difference in the distribution of psychological resources information is the largest, reaching $3.6 / \times 107 \text{ Mb}$, although less than the maximum value of control group A, its average level is still far higher than the experimental group.

To sum up, the conclusion of this experiment is:

- (1) The application of time series based education system is not enough to achieve accurate matching of college psychological mobile education, so it cannot achieve the purpose of improving college students' mental health.
- (2) Although the application ability of the web-based model based education system is slightly stronger than that of the time-series based education system, it is still unable to effectively control the difference between the experimental value and the standard value of the psychological resource information allocation, so it cannot solve the problem of poor targeted teaching ability of college psychological mobile education.
- (3) The application of college psychological mobile education system based on GPRS/CDMA and the Internet can solve the problem of poor targeted teaching ability of college psychological mobile education and improve the mental health level of college students. Compared with the time series based education system and the WEB model based education system, it is more consistent with the actual application needs.

In order to better validate the application effect of the mobile psychological education system in universities based on GPRS/CDMA and the Internet, 2000 students were selected to visit three systems and compare the response times of different systems, as shown in Fig. 8.

From Fig. 8, it can be seen that as the number of online users increases, the system response time also increases. When the number of online users reaches 2000, the response time of A control group is 550ms, and the response time of B control group is 480ms. The

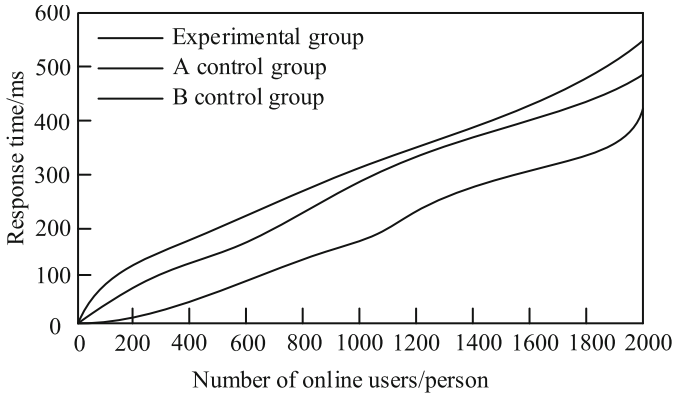


Fig. 8. Response time of different systems

response time of the experimental group is only 420ms, indicating that the experimental group can quickly respond to student requests and the system has high efficiency.

5 Conclusion

The above research analyzes college psychological mobile education in detail from two perspectives of teaching environment and teaching philosophy. It attaches to mobile devices, gets rid of the constraints of time and space, makes full use of scattered time pieces, and improves learners' learning efficiency. Make use of rich online education resources to develop "suitable for people" teaching services for learners. "Personalized, timely and efficient" mobile teaching environment makes "mobile education" attract much attention. The teaching concept of "flipped classroom" is constantly integrated into the application of mobile teaching, which is used to reshape the teaching structure and provide new vitality for "mobile education".

The complexity of mobile applications is mainly due to the construction of heterogeneous platform systems and the limitations of resources. GPRS/CDMA and the Internet not only support the construction of heterogeneous platform network systems, but also have lightweight, especially resource oriented features compared with traditional Web Service, making GPRS/CDMA networks very suitable for the design and implementation of mobile application systems. In the detailed design of the system, the client uses the concept of prototype design to build a rapid prototype model. The server side takes resources as the center, and elaborates resource design and database design in detail. The system needs to build a distributed service framework, set up an education system, and connect mobile psychological learning modules to ensure that students can use the system efficiently and safely. On the basis of hardware, improve the VPN workflow in GPRS/CDMA networks, complete database design through the forwarding function of PPP internet connection protocol, improve system efficiency, and thus achieve various execution functions of the college psychological mobile education system. Through experiments, it has been proven that the college psychological mobile education system

based on GPRS/CDMA and the Internet has solved the problem of poor targeted teaching ability in college psychological mobile education, improved the mental health level of college students, and shortened response time to process student requests faster.

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