

Construction of Information Platform for Student Education Management in Higher Vocational Colleges

Qiang Liu^{a*}, Yin Chen^b

Sichuan Vocational and Technical College, Suining 629000, Sichuan Province, China

^a 36006603@qq.com, ^b26945279@qq.com

**corresponding author*

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Abstract: There are many factors that lead to the slow development and construction level of student education management informatization in higher vocational colleges. Higher vocational colleges should actively promote the construction of student education management information platform according to the requirements of education information. Therefore, the platform mainly includes orientation management, educational administration management, file management, subsidy management, dormitory management, daily learning and life management, school leaving management and home school communication system.

Since the 1970s, informatization has brought subversive changes to human social life, affecting all aspects of our life, especially the impact on education. In February 2019, the CPC Central Committee and The State Council issued China's Education Modernization 2035, which pointed out that it is necessary to accelerate the educational reform in the information age, promote the reform of educational governance, accelerate the formation of a modern educational management and monitoring system, and promote accurate management and scientific decision-making [1]. Student education management is an important part of school management. In terms of higher vocational colleges, the characteristics of the student education management team are the combination of professional and concurrent, multi-level and multi-pattern, while the students in higher vocational colleges are characterized by contradictions in cognitive concepts, diversity of ideological consciousness, complexity of personality characteristics, utilitarianism of learning emotions, tiredness of living conditions, etc. [2]. According to these characteristics, it is of great significance and effect to establish an information platform suitable for students' education management to further improve the efficiency and quality.

1. Development Status of Student Education Management Informatization

In March, 2012, the *Ten-year Development Plan of Educational Informatization (2010-2020)* issued by the Ministry of Education proposed to further accelerate the implementation of

educational informatization strategy and incorporate educational informatization into the national informatization development strategy [3]. Due to the different levels of economic development in different regions, in informatization construction, higher vocational colleges in different regions pay insufficient attention to and invest in the informatization of student education management because of their lack of understanding of informatization and limited financial resources, which leads to the slow progress of informatization of student education management. In hardware construction, most of them lack overall planning and upgrading, and there are few software applications used to improve management efficiency and quality. The functional departments involved in student management often build their own platforms. The team engaged in student education management lacks overall construction planning and training. Due to the low level of informatization of student education management in some higher vocational colleges, there is no integrated platform and resources, and lack of the use of big data and other technologies to sort out, analyze and utilize student information. Especially, quite several higher vocational colleges have not established effective information exchange among schools, parents and students [4], which lead to the untimely and unsmooth information exchange between home and school, and fail to form the pattern of educating people together.

2. Ways to Promote the Informatization Level of Student Education Management

With the rapid development of information technology, higher vocational colleges should scientifically plan and build smart campuses in accordance with the requirements of national education informatization, actively promote the construction of information platform for student education management, and make overall plans to build an intelligent teaching, management and service platform, so as to unify students' data in study and life and realize all-round data collection and collation. At the same time, it is necessary to strengthen training, improve the information level of the student education team, and establish a student education management team with high management level and strong information technology. We should also make full use of big data to analyze student data comprehensively, to provide reliable basis for realizing the refinement and individualization of student education management. And, the platform is also used to realize effective and timely communication among schools, students and parents. For example, parents can understand the thoughts and studies of students in school through the platform, and put forward feedback suggestions through the platform, so as to realize the joint intervention between home and school on some ideological and behavioral tendentious problems of students at school or at home, and improve the effectiveness of education.

3. Design of Information Platform for Student Education Management

The information platform of student education management is an effective means to realize the collection, analysis and utilization of the data in all aspects of student life, facilitate the work, study and life of teachers and students, and improve the level and efficiency of student education management. To achieve this goal, we must from the whole process of student education management, give full consideration to the actual application scenarios, scientific design of each function module, and realize the organic integration, to achieve the various functional departments, the account of the student management data with large data means inductive analysis, for the different needs of management services to provide reliable data basis.

3.1 Platform Functional Module Design

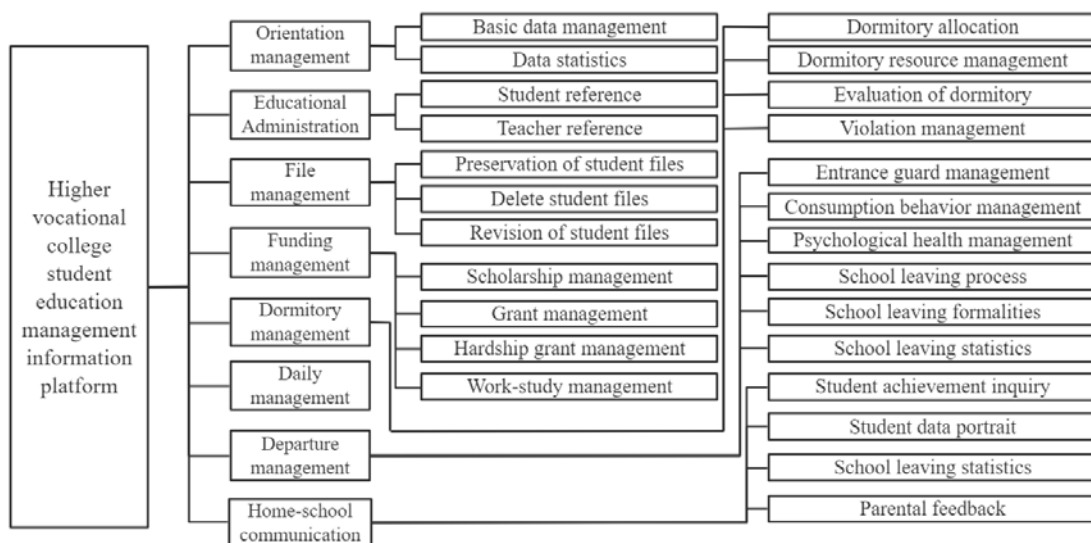


Figure 1: Student education management information platform for higher vocational colleges

The functions of student education management information platform are shown in Figure 1, mainly including orientation management system, educational administration management system, file management system, subsidy management system, dormitory management system, daily learning and life management system, departure management system and home school communication system.

3.1.1 Orientation management system

Orientation is the beginning of student education management in higher vocational colleges. Therefore, we need to establish a special orientation management system, starting to collect student information in an all-round way, realizing the information sharing between various departments, and improving the management and service level. The information platform involves various departments such as admission office, finance Office, dormitory administrator office, library, student affairs Office, youth League Committee and the department where the freshmen register, reducing the dilemma of running around with large and small packages. And is conducive to freshmen to quickly understand the school, major and other information; It is conducive to the release of information such as notice and statistics of relevant data.

The design of the system includes: First, the new student's ID or examinee ID will be pre-recorded in the system. When freshmen register, they can check their basic information, major and instructor information in the system. Access to the contact information of departments and counselors that are highly relevant to students' daily needs; It can improve personal information such as home address, contact information, parents' information, native place, place of origin, political status, interests and specialties, etc., completing the registration process of payment, check-in, insurance purchase or student loan application in the system. Understand the regulations and dynamics of the school through the system. What's more, each department can carry out statistics, export, management, modification, addition and deletion of student information according to the needs of their own work functions; each teaching department can maintain class information, including the allocation of class students, class number, student number, level, grade, etc.

3.1.2 Educational administration management system

The main task of students is to receive systematic professional education. The educational administration management system is one of the important components of the information platform of student education management. The business functions of the educational administration system include student information management, student status management, achievement management, attendance management, teaching plan formulation, curriculum arrangement, course selection management, and many other teaching links. The educational administration system realizes the unified and standardized information management of teaching and learning, which plays an important role in the orderly arrangement and management of students' study and life, and contributes to the strengthening of school organizational discipline [5].

The design of the system includes: Students can login the educational administration system by student id. In the system, we can query your personal student status related information and maintain the information that you are allowed to modify; Course selection, grade examination and certificate registration can be carried out; it can query scores and grade points, and select topics for graduation thesis; it can evaluate the teaching quality. The second is for teachers. In the system can query personal information, student information, class schedule, teaching documents and other information, download teaching tables, student roster, etc.; Upload teaching plans, mediation class application, attendance, etc.; Can be evaluated, evaluation of teaching, teaching and research activities, access to teaching related announcements, cutting-edge policy documents. Third, it is oriented to functional departments. Each functional department can input and output student information according to the needs of its own functional work; Management, modification, addition and deletion, statistics, analysis.

3.1.3 File management system

File management is the main part of school student management. The quality of file management will have an important impact on students. The establishment of archives management system will improve the management efficiency of archives managers and realize the advantages of large storage capacity, fast retrieval, long term and high utilization rate of students' archives management. The design and deployment of student archives management system should consider the principles of authenticity, integrity, security and standardization of student archives management.

The design of the system includes: one is the management of student files. After the new enrollment, the new enrollment physical examination form, enrollment registration form, middle school information, college entrance examination information, etc., the scanning upload, the establishment of student files. Second, the supplementary management of student files. Records of information such as changes in student status, rewards and punishments, and achievements of students from entering school to the end of their studies; Graduate registration form, internship examination form, ideological and moral appraisal, professional skills and other materials should be uploaded. Third, the loan management of student files. Students themselves or other departments can check their own or related student files and print them as required according to the actual work situation. Fourth, the management of student files. According to the situation of students' joining the army, graduation, dropping out or incomplete study, the relevant records shall be recorded according to the relevant requirements of the Measures for archives Management of Institutions of Higher Learning.

3.1.4 Funding Management System

With the prosperity of the country, the state to college student's award, aid and loan funding is also increasing. Awards, aid, loan needs to be fairer, just, more efficient completion, with the help of a strong practical, convenient funding management system will be a good choice.

The design of the system includes: first, scholarship management. This includes the categories of scholarship, review process, eligibility restrictions, application, review, evaluation, distribution, etc. The second is the management of grants, including the types of grants, poor students identification application, qualification identification; Grant application, review, evaluation, distribution, suspension, etc. The third is management of hardship subsidies. It includes categories of hardship grants, application, review, assessment and payment, etc. The fourth is work-study management, including work-study post setting, work-study application; Post allocation, management and assessment; Disbursement of funds. The fifth is tuition fee remission management, including application of tuition fee waiver, submission of relevant certification materials, qualification review, grade recognition, etc.

3.1.5 Dormitory management system

Student dormitory is an important place for students to live. Due to its narrow space and dense personnel, it is a difficult place in school management. The establishment of student dormitory management system will greatly improve the management level of student dormitory in Higher Vocational Colleges and reduce the management cost. It helps to optimize the level of student dormitory management, improve management efficiency and promote management quality. It is a powerful grasp and inevitable trend of school dormitory management [6].

The design of the system includes: first, the distribution management of student dormitory. The distribution of dormitories when freshmen enter, the registration and redistribution of student beds due to changes in student status, and the registration of beds after students leave school, etc. The use of the platform can also optimize the distribution of student dormitories. The second is the resource management of dormitory. Including the management of dormitory object damage repair, water and electricity, winter and summer stay application, dormitory adjustment application, etc. The third is dormitory evaluation management, including records of health conditions, selection of applications for civilized dormitories and excellent dormitories, etc. The fourth is dormitory violation management, including violation management, late return management, non-return to bed management at night, etc.

3.1.6 Daily learning and life management system

In addition to being in the classroom, students also need to participate in rich and colorful extracurricular activities and have a lot of leisure time. The management of these activities will help to improve the quality of students' extracurricular life. The establishment of students' daily learning and life management system will concentrate the information of students entering the library, reading books or surfing the Internet, consuming in canteens, supermarkets, exercising in sports places, psychological counseling, going in and out of the campus, which plays a very important role in analyzing and discovering abnormal situations and intervening in advance.

The design of the system includes: first, the data records of students' access and consumption in and out of campus, dormitory, teaching building, library, stadium, canteen and supermarket. The second is to use the network to carry out psychological questionnaire survey on students and record the situation of psychological counseling [7].

3.1.7 Student departure management system

Graduation and departure are a complicated process involving many departments and departments. The information construction of the school-leaving system connects the steps of the school-leaving procedures in series, which is convenient for students to operate and convenient for the unified management of the school.

The design of the system includes: the management of the school leaving list, the management of the school leaving process, the handling of the school leaving procedures, the statistics of the school leaving situation, the transfer of the school leaving data and so on.

3.1.8 Home-school communication system

According to the characteristics of higher vocational college students, home-school communication is an important means to improve the level and quality of higher vocational college students' education management. In this system, parents can timely check the student's student and life situation, to the instructor, the school to understand the detailed information of students, put forward their own opinions and suggestions. Counselors and schools can timely push the situation of students to parents; both sides cooperate to do a good job in education.

The design of the system includes: the integration of students' performance, life, thoughts and psychology; Parental access to view; Communication platform between parents and counselors; Feedback platform for parents, etc.

In the construction of the information platform for student education management, data sharing and docking should be realized between the various systems, so that the relevant departments and functional departments are no longer tired of dealing with all kinds of data query, and students do not need to deal with things back and forth between the various systems [8].

3.2 Platform Architecture

This platform considers the characteristics of hardware equipment and user convenience, and adopts B/S mode for architecture. Students, department heads and administrators can use mobile phones, computers and other WEB interactive ways to achieve cross-platform system access. Its application concept diagram is shown in Figure 2:

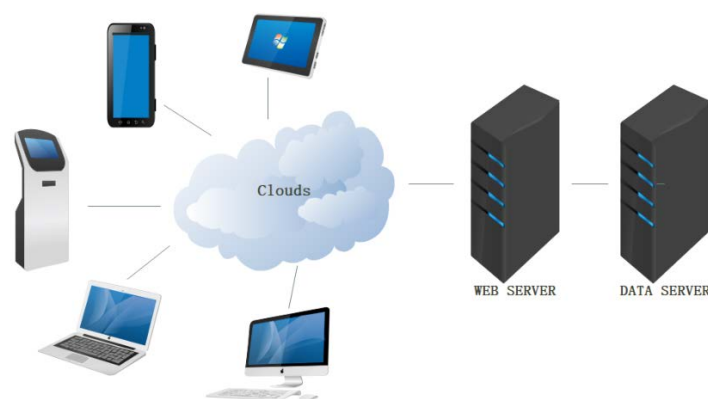


Figure 2: Student information management platform application concept diagram

Technically, the front-end uses HTML5+CSS+JS to achieve user interaction page development, and the back-end uses JAVAEE(SSH)+MySQL to achieve data access between WEB server and database server. The system software architecture design is shown in Figure 3:

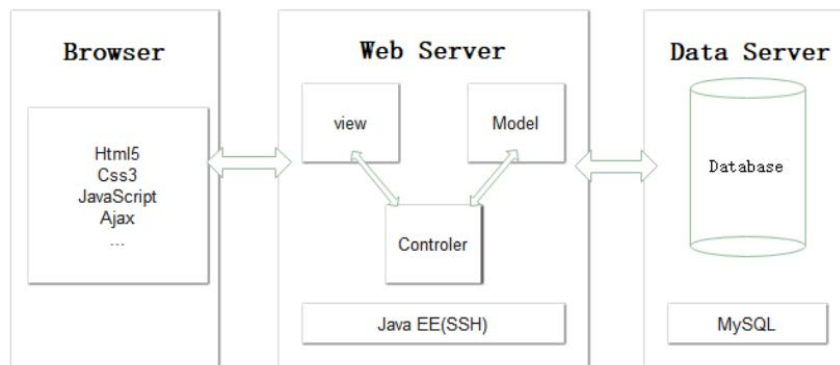


Figure 3: Software architecture diagram of student information management platform

4. Conclusion

The informatization construction of higher vocational college student education management platform is an inevitable trend of informatization development, and an inevitable choice to improve the level of school education management. Information construction should first design the platform function module according to the needs of students' education management, and can easily and quickly realize the data exchange and collation analysis, and provide reliable basis and guarantee for education management work. At the same time, it is necessary to strengthen data security measures, from the technical and management to ensure that it will not be leaked, not to be used illegally, not to bring security risks to the school and students.

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