Application of Big Data in the Management System of "Second Classroom Education" Platform in Universities

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Abstract. Second classroom education, as an important part of expanding education, is an important part of the talent training program and an important way to reform the talent training model. With the advent of the era of big data, the second classroom education in colleges and universities uses the corresponding artificial intelligence model and information technology system, thereby greatly improving the management function of the second classroom education. This essay explains the importance of a "second classroom education" platform management system in the era of big data, and analyzes the current situation and problems of system management. It has been proved that the use of big data is helpful to guide and help college students to participate in the second classroom activities efficiently, so that the ability of college students is fully developed.

Keywords: Second Classroom, Big Data, Application, Talent Training

1. Significance of launching a "second classroom education" platform management system in the era of big data

Today's society is a fast-developing society with advanced technology and information circulation. People are getting closer and closer, and life is becoming more and more convenient. Big data is the product of today's high-tech era. "Big data" can be defined as the extraction and collection of a wide range of complex data sources with the assistance of appropriate tools, the results are unified and stored in accordance with certain standards, the analysis is performed using reasonable data, and the stored data is summarized. Extract the most useful and effective data from it, and present its results to the end user in the most appropriate way. Specifically, it can be divided into three parts: data extraction and collection, data analysis, and data results display.

The importance of the "second classroom education" platform management system in the era of big data. The second classroom refers to the teaching activities related to the first classroom outside the first classroom. It is a supplement and extension of the traditional first classroom, and is an indispensable part of quality education. It includes discipline competitions, academic papers, scientific
research topics, social practice, sports competitions, social activities, campus cultural activities and other activities that are conducive to improving students' comprehensive quality and physical and mental health. As the enrollment scale of Chinese college students continues to expand, the number of students has increased rapidly, and data related to student participation in courses and activities have also increased, including all data on students' participation in second classroom education. It can be counted by artificially taking a lot of time. It can be seen that universities have a very important role in developing a "second classroom education" platform management system in the era of big data \(^{[1-3]}\).

The necessity of universities to develop a "second classroom education" platform management system in the era of big data. Colleges and universities develop a refined management system for the second classroom based on data mining, combining the results obtained by students in the second classroom education with credits, and using the system as an evaluation carrier for students' participation in the second classroom, which not only achieves the effect of quantitative management, And can also dig out better second classroom education strategies, fully mobilize the subjective initiative and enthusiasm of college students to learn; further enable college students to exercise, cultivate sentiment, and enrich their extracurricular life, thereby comprehensively improving their ability in all aspects; able to train students The ability to communicate with others, learn to get along and understand, and cooperate with others is particularly important for guiding students to adapt to society, improve their overall quality, and promote their employment. Through the innovation and development of information technology, as well as the comprehensive perception, collection, analysis, and sharing of data, colleges and universities can make more decisions based on the facts and data of the second classroom, providing college students with a new way of looking at the world. Therefore, how universities should do a good job in data analysis is an inevitable requirement for current development \(^{[4]}\).

2. Analysis of the current situation and existing problems of the system management of "Second Classroom Education" platform in the era of big data

2.1 current situation of System Management of "Second Classroom Education" Platform in Universities in the Era of Big Data

With the advent of the era of big data, information technology has been increasingly applied to daily teaching. Through the "Internet +" model to build a second classroom education platform and apply Internet technology to the second classroom education, it can better and more conveniently provide a communication platform for teachers and students, and at the same time broaden the students' participation in the second classroom activities. Scope has increased student interest, autonomy and participation.

At present, the school's second classroom education is very impressive. According to the school's talent training program, the second classroom education of ordinary undergraduates is determined to be 6 credits, and a total of 6 credits can be completed before graduation. The second classroom education has 8 modules including ideological growth, voluntary public welfare, innovation and entrepreneurship, cultural and sports activities, skills, social work, practical practice, and other modules. Each module is divided into a number of specific sub-activity projects. At least one credit in each of the first five modules of growth, etc., and the last three modules of social work, etc. are not required; other credits required for completing six credits are guided by each department (department) according to its own talent training model The corresponding modules and projects are completed and credits are obtained. And in order to make it easier for students to participate in activities, the school upgraded the system in the second classroom network management platform and changed to the "Big Data Cloud" platform to log in.

In 2014, the school used a relatively tedious manual paper version of the second classroom statistics, with inaccurate data and untimely reporting. Its implementation method is also different from the current credit system. At that time, ordinary undergraduates in the second classroom education needed to complete 96 hours during their studies in order to graduate. They only had
ideological cultivation, technological innovation, stylistic arts, and social activities. 4 modules, students have completed at least 16 hours of each module, compared with the current 8 modules, the classification is more general, and the boundaries are blurred [5-9].

In 2015, the school’s students used the second classroom network management platform system to fully implement, and the student activation rate reached 93%. Up to now, the number of activated students in the second classroom network management platform has reached 3782, and a total of 1078 events have been published. The total number of participants in the event has reached 121,124, and the average number of participants in the event has reached 147.16 (Figure 1). Among them, a total of 70 cultural and sports activities were held, accounting for 6.49%; 477 were launched for innovation and entrepreneurship, accounting for 44.25%; 20 were for voluntary public welfare, accounting for 1.86%; 141 were for ideological growth, accounting for 13.08%; and skills were developed. 200 sessions, accounting for 18.55%; 69 internships, accounting for 9.37% (Figure 2, Figure 3). Significant progress has been made in the construction of the “second class report card” system. In the future, the school will continue to optimize the second classroom activities, strengthen curriculum construction, gradually improve the second classroom network management platform, and combine big data systems to build a second classroom big data comprehensive application platform.

![Figure 1. Number of activations of the second classroom network management platform, the cumulative number of participants, the average number of participants](image1)

![Figure 2. Proportion of activities performed in each module](image2)
2.2 Analysis of problems in the management system of the "second classroom education" platform of universities in the era of big data

At this stage, various colleges and universities in China have developed different forms and types of second classroom education, and strive to integrate the second classroom education activities into students' daily learning activities. As a new classroom that has just been established recently, there are also many shortcomings and deficiencies in the process of continuously advancing the implementation of the second classroom education, and timely measures are taken\cite{10,11}.

2.2.1 Deficiencies: First, the sign-in and sign-out of the event. At the beginning of the event, sign-in and check-out failures often occur due to mobile phone positioning problems, and the record of the duration of the event is usually recorded in the time between sign-in and check-out.

Second, the frequent change of student contact information caused the problem that multiple accounts of one person appeared on the system platform. Many students will change the mobile phone number, but they need to bind the mobile phone number when logging in with the second classroom account. Once the password is changed, the account cannot be logged in.

Third, there are gaps in the APP system, resulting in inconsistent credits. Due to system changes, the data migration of various modules of the school was not in place in time, resulting in problems such as missing credits and inconsistent credits.

2.2.2 Countermeasures and countermeasures: First, the unsuccessful sign-in and check-out of the event. Three channels can be implemented through actual conditions: first, participants can turn off and restart the mobile phone, or re-enter the background through the WeChat terminal or PU pocket campus APP to sign in; the second is the background administrator to help sign in. For the special circumstances of individual students, Provide relevant supporting materials; Third, scan the QR code to check in in the "Activity Details" of the background activity, but checkout cannot be achieved by scanning the QR code. It is also possible to combine paper, punch, and system records to facilitate students to find signs of participation in activities.

Second, for account replacement issues. Corresponding solutions can be adopted. Changing the mobile phone number is not a replacement of the student number. As long as the student number is not changed, the credits will always remain in the account. Students do not need to worry about changing the mobile phone number and the credits will be cleared. It can also use the grassroots organization as a carrier, with each department (department) as the unit, and the branch and party branch secretary will report the detailed information to the department (department), and the departments (department) will solve it and make changes.

Third, there is a problem with the APP system. Do a good job of explaining each pair of students in time. Due to the module adjustment of the second classroom system, the credits are wrong. After the
second classroom system is adjusted and integrated, the module score will be improved.

Of course, when there is a problem with the use of the second classroom platform system, the school-level management staff should communicate with each department (department) and class in a timely manner, do a good job of connecting the corresponding information technology work, and handle the students in the second classroom. The problems in the use of the platform allow the work to be carried out smoothly and timely and accurately solve the actual problems of students.

3. Application of Big Data in the Management System of "Second Classroom Education" Platform in Universities

According to the management status of the "Second Classroom Education" platform system of each university, this school has implemented a data mining-based "Second Classroom Education" platform management system through implementation of the program. This system has complete data query, data entry, data analysis, and reporting. Functions, and established a flexible artificial intelligence management background and a personalized personal center, and realized the application of the data set of the system to determine the number of decisions affecting the second classroom performance factors. Therefore, the application of the big data platform has comprehensively improved the work efficiency of university administrators in operating the second classroom education system, and has provided colleges with highly operable second classroom education and teaching program decisions, and has also supervised, guided, and tracked students. Function, to achieve the purpose of comprehensively improving the comprehensive quality of students.

The school has upgraded from the "paper manuscript" second classroom management to the "electronic manuscript" second classroom platform management system, from 96 hours of "4" modules to 6 credits of "8" modules. It has been upgraded from the original system to the present APP campus system. It can be seen that the gradual improvement and improvement of the second classroom system can better serve the majority of young students in our school, allow students to have a better user experience when using the second classroom app, and give full play to the role of education management in the second classroom. The introduction of the education concept of the second classroom credit system and the systematic operation mechanism of big data have effectively reformed the tedious shortcomings of the original second classroom activities. The convenience of the system data can pass important information to students in time, so that students can Be the first to learn about the rich and diverse second classroom activities organized by the school.

4. Conclusion

The second classroom is the second largest carrier of education outside the first classroom, and it is an important and effective way to implement quality education. It is not only the focus and starting point of ideological and political education in colleges, but also a new requirement for "ethical people" in colleges and universities. Colleges and universities can set up a second-class education management center for college students and be linked to the school youth league committee to be responsible for the development of second-class education-related work. Colleges and universities can plan and scientifically guide students to carry out the study content of eight modules and projects, and provide students with relevant information about participating in the second classroom education in a timely manner, continuously expand the influence of work, promote the development of work, and comprehensively grow students. Success provides a guarantee platform.

References

[1]. Opinions of the Central Committee of the Communist Youth League on the implementation of the "Second Class Report Cards" system of the Communist Youth League in colleges and universities [J]. Research of Communist Youth League in Colleges and Universities. 2018 (03) (In Chinese)

[2]. The Current Situation and Problems of the Second Class of College Students [J]. Chenggong Guan. Journal of Sichuan Institute of Correspondence Cadres. 2017 (04) (In Chinese)
[3]. Xiaoxue Liu. Research on the Development Trend of the Second Class Construction of Ideological and Political Education in Higher Vocational Colleges under the Background of "Internet +" [J]. Contemporary Educational Practice and Teaching Research (In Chinese)

[4]. Haipeng Huang. Existing Problems and Countermeasures in the Construction of "Second Classroom" in Colleges and Universities [J]. Journal of Huainan Vocational and Technical College, 2020, 20 (01) (In Chinese)

[5]. Shuhui Huang, Congying Lu. Exploration of a new model of innovation and entrepreneurship education in the second classroom under artificial intelligence [J]. Contemporary Educational Practice and Teaching Research, 2020 (01) (In Chinese)

[6]. Lihang Zhang. Application-based Undergraduate College PU Platform Based on "Second Classroom" to Promote the Employment and Entrepreneurial Ability of College Students [J]. Education Modernization, 2019, 6 (95) (In Chinese)

[7]. The Central Committee of the Communist Youth League and the Ministry of Education jointly issued the "Implementation Plan for the Reform of Communist Youth League in Colleges and Universities" [N]. Li Hong. China Youth Daily. 2016 (001) (In Chinese)

[8]. An Analysis of the Innovation Path of the Second Classroom Teaching System of Ideological and Political Theory Courses in Colleges and Universities——Taking the Second Classroom Teaching of Tianfu College of Southwestern University of Finance and Economics as an Example [J]. Haixia Deng, Lingzhi Ding. Think Tank Times. 2019 (30) (In Chinese)

[9]. Talking about the Importance of Ideological and Political Education Work in Colleges and Universities to the Work of the Academy [J] . Zilan Zhang. Farmhouse Staff. 2019 (15) (In Chinese)

[10]. Construction of the second classroom based on the training of students' core professional literacy [J]. Xin Xie. Hebei Vocational Education. 2019 (03) (In Chinese)

[11]. College Management [M]. Huazhong Institute of Technology Press, Jiusi Zhu, etc., 1983 (In Chinese)