

Strengthening of Student Management System on School Spirit Building Based on the Construction of Digital Education Resources

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Abstract: In the era of digitalization, educational resources are also developing in the direction of digitalization, so digital educational resources are born. Digital education resources play an important role in education and teaching, so it is very important to strengthen the construction of this resource. The student Management System (MS) is an important component of the university MS, which can play a certain role in guiding and standardizing students' learning and life. However, there are many problems in the existing student MS, which has been difficult to adapt to the management concept of the new era. In order to solve this problem, this paper integrated big data technology to optimize the construction of digital education resources, and analyzed the existing problems of student MS, which also gave corresponding solutions. At the same time, the student MS was also constructed, and the cluster analysis algorithm was used to test the system. The experimental results showed that in terms of average response time, the maximum of this algorithm was 1.83s, and the maximum of traditional algorithm was 3.31s; in terms of memory utilization, the maximum of this algorithm was 50.21%, and the maximum of traditional algorithm was 66.29%; in terms of Central Processing Unit (CPU) utilization, the maximum of this algorithm was 43.21%, and the maximum of traditional algorithm was 53.24%. In conclusion, clustering analysis algorithm could effectively optimize the performance of student MS.

Keywords: Digital Education Resources Construction, Student Management System, Integrated Construction of School Spirit, Clustering Analysis Algorithm

1. Introduction

With the birth of digital education resources, relevant government departments and schools have also begun to vigorously build digital education resources, which aims to provide diversified education resources for education and teaching, thus promoting colleges and universities to cultivate more outstanding talents. In order to cultivate high-quality professionals, the construction of digital education resources should be strengthened, and the student MS should be started. As an important part of the university MS, the student MS plays an effective role in regulating students' learning life and ideological behavior, which is also an effective means to safeguard students' legitimate rights and interests. However, according to the current situation, there are many deficiencies in the student MS. For example, the management concept is backward and cannot keep up with the requirements of the times. The management mode is not perfect, and the MS has defects and lacks democracy and scientificity. These problems restrict the all-round development of students and are not conducive to the construction of a good school spirit. In order to promote the integration of good school spirit and build a democratic, scientific and harmonious campus, it is also necessary to integrate some advanced management concepts and emerging technologies to effectively optimize the student MS.

In recent years, the content of students and management has attracted extensive attention from the academic community, and scholars have launched research on it. Wang Chao pointed out that the application of big data technology in college students' employment and entrepreneurship management could effectively improve their work efficiency, and applied support vector machine algorithm to college students' employment and entrepreneurship management. He built a deep neural network model for research, including theoretical derivation of model structure, and the design and selection of model training algorithm [1]. In order to explore the relationship between the use of teacher behavior in classroom management practice and the time and interruption rate of students' participation in teaching, Gage Nicholas A selected four groups of teachers from 1242 teachers and students in 65 primary

schools for experimental research, and simulated the predictive relationship in the classroom with low classroom management practice rate, low student participation and destructive behavior. The results showed that in the classroom with low practice rate of classroom management, students' participation in teaching was significantly reduced in statistics, but there was no difference in interruption [2]. Ritter Barbara A pointed out that today's work environment was increasingly complex, and the demand for cultivating students' soft skills was also increasingly urgent. In view of the needs of how to prepare the workplace for students in the management course, it was proposed to redesign the management course. This course adopted the reverse design process and focused on cultivating students' soft skills, especially those related to development team cooperation [3]. Yasmin Hena found that there were various kinds of pressures among students, which caused great trouble to students. In order to solve the problem of stress, most educational institutions arranged optional stress management courses, but students often had no time to participate [4]. Nadeak Bernadetha discussed information about coronavirus and student anxiety management, which aimed to provide clear information about COVID-19 and understand how society manages anxiety management problems caused by the COVID-19. According to the research, the way to manage students' anxiety was to find and understand the correct information and follow the safety instructions on COVID-19 [5]. Bridgman Todd pointed out that one of the most unforgettable models encountered by management students was the demand hierarchy theory, and investigated how the theory was formed. He also used this analysis to call for a rethink of Maslow's performance in management research [6]. However, these scholars' research on students and management was not comprehensive enough. Based on educational resources, research on students could play a better role.

The research on educational resources is very popular in all walks of life, and there are also corresponding research reports on the aspects related to students. Ocean Mia pointed out that the price of textbooks increased exponentially. This would urge educators to investigate the usefulness of other sources of course reading, which was particularly important for community college students. Due to the lack of relevant literature on investigating the use of open education resources by community college students, he conducted an open survey of community college students who used treatment improvement programs as alternative teaching materials to collect their views on this specific type of open education resources [7]. Colvard Nicholas B reported the results of a large-scale study on the impact of the use of open education resources by curriculum teachers on students. The results showed that the use of open education resources could not only save students money and solve the problem of students' debt, but also improve students' final grades and reduce the dropout rate [8]. In general, there were not many researches on educational resources and students. In order to improve the research on student MS and school spirit construction, and integrate digital education resources, it was necessary to strengthen the research on school spirit construction with the help of student MS.

This paper analyzed the problems existing in the construction of digital education resources, and proposed to apply big data technology to the construction of digital education resources. It also analyzed the current situation of the student MS in detail, and put forward corresponding countermeasures to improve these problems. In the student MS, the concept of flexible management was integrated and the management mode was optimized, which aimed to strengthen the construction of school spirit with the help of the student MS, thus promoting the construction of school spirit integration. Its innovation lied in applying the clustering analysis algorithm to the student MS and optimizing the performance of the student MS with the help of the algorithm. From the experimental results, the application of clustering analysis algorithm in the system was feasible.

2. Digital Education Resource Construction, Student MS and School Spirit Building

2.1 Construction of Digital Education Resources

Digital education resources are a kind of digital curriculum materials developed to achieve certain teaching objectives, which are used to carry out various educational and teaching activities [9]. It is an important part of the education system and one of the key elements to improve the level of education and teaching.

2.1.1 Problems in the Construction of Digital Education Resources

- (1) Insufficient research on high-quality digital education resources

At this stage, the construction of digital education resources can be completed through three ways: education departments, school teachers and educational institutions [10]. The education department is

mainly the joint publishing house, which converts paper education resources to generate digital education resources. In addition, the education department would also collect resources from school teachers by encouraging policies and award-winning competitions. Although school teachers have relatively rich teaching experience, they lack new ideas and creativity. When designing digital education resources, they often apply traditional education concepts and methods to resource design, so they cannot design high-quality education resources that meet the current needs. When designing digital education resources, educational institutions are mainly from the perspective of profit. The resources designed and developed are also related to the training of enterprise employees, and there are not many resource designs related to basic education. Moreover, the teaching experience of the staff of educational institutions is not rich enough. They don't know enough about the cognitive level of students, and can't design high-quality education resources suitable for most students.

(2) Lack of attention to the effect of teachers and students' use of digital education resources

The effect of teachers and students as users of digital education resources on the application of digital education resources not only directly explains the quality of resource construction, but also points out the direction for the development of digital education resources in China [11]. However, in the current research on digital education resources, this is mainly a macro research, such as the construction system, application mode, use system, intellectual property protection, etc. There is not too much research on its micro level, such as the effect of teachers and students using this resource. Although some studies have discussed the current situation of the application of this resource, they only stay on the types, preferences and access methods of teachers' use of this resource. They did not thoroughly analyze the impact of the resource on teaching results and learning outcomes.

(3) Insufficient supply of digital education resources construction and development

From the perspective of overall construction, in China, the supply of digital education resources includes government supply, market supply, public welfare supply and individual supply. Although different supply methods would make the construction of digital education resources more diversified, the lack of effective planning and focus among suppliers makes the resources more scattered and prone to duplicate construction of the same theme. In addition, there is no effective communication between the provider and application of digital education resources, which leads to the low applicability of the constructed digital education resources in the actual teaching situation.

From the perspective of regional construction, in China, the more developed regions have digital education resources. Areas with lagging economic development have fewer digital education resources. Due to the lack of effective policy and institutional support, digital education resources among regions cannot be effectively circulated, and it is naturally difficult for economically underdeveloped regions to obtain high-quality digital education resources, which would cause the imbalance of digital education resources.

From the perspective of school construction, the school concentrated human, material and financial resources to build hardware facilities, but they did not pay enough attention to the construction of digital education resources. The planning and specific division of labor for resource construction are unclear, so there is a phenomenon of repeated resource construction among universities.

2.1.2 Construction of Digital Education Resources Based on Big Data Technology

Big data is the technical support to promote the reform and innovation of the education industry. This technology not only plays an important role in scientific education decision-making, intelligent education management, personalized development, etc., but also plays an important role in the construction, application and circulation of digital education resources [12]. The construction of digital education resources based on big data is shown in Figure 1.

In terms of resource construction, with the help of big data technology, users' needs can be deeply explored and relevant departments can be assisted to carry out accurate construction of educational resources; it can also realize the specific customization of educational resources; it can also obtain feedback information of resources, thus promoting the optimization and upgrading of digital education resources.

In terms of resource circulation, big data can complete the automatic marking and classification, dynamic analysis and effective screening of resources with the help of semantic analysis, data mining and other technologies. The copyright of digital education resources can be protected by tracking the movement track of resources circulation.

In terms of resource application, big data can intelligently push resources, which is applicable to different students' online learning. It can also efficiently intelligently classify and dynamically aggregate learning resources, and achieve accurate push of high-quality education resources.

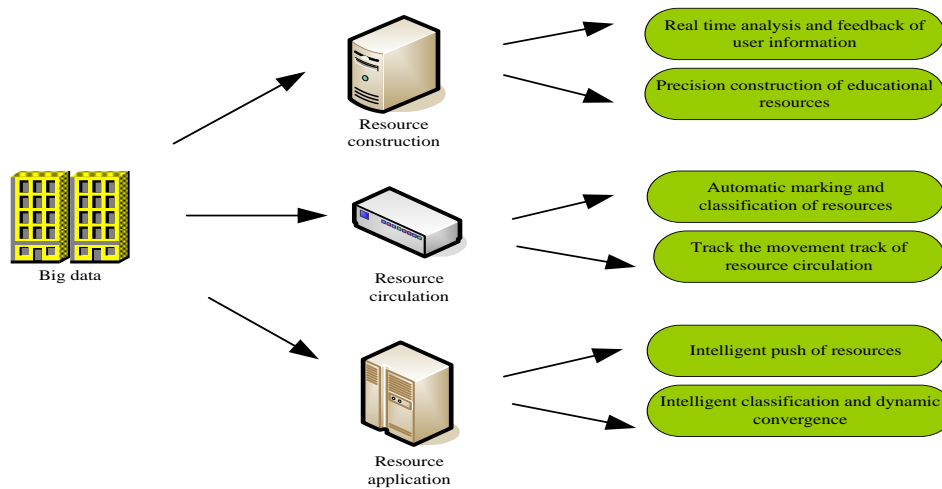


Figure 1: Construction of digital education resources based on big data

2.2 College Student MS

2.2.1 Concept of College Student MS

The university student MS refers to a formal rule presented in the form of system text, which is an indispensable part of the university MS. The system covers all kinds of formal rules such as statutes and regulations formulated by education departments and universities, as well as corresponding work programs and informal rules. Generally speaking, formal rules are mainly presented in the form of institutional texts, while informal rules are presented in the form of school culture.

2.2.2 Functions of University Student MS

(1) Service function

The basic function of student management is service, and the establishment of student MS is to provide corresponding services for students' study and life at school [13]. The system tends to provide a beneficial environment for students' growth and success, so as to promote students' development at multiple levels and achieve the goal of cultivating talents in colleges and universities. The student MS can play a certain role in guiding and standardizing students' learning and life, such as the development of a tutor system. The task of establishing teachers is to guide students' learning concepts and methods, and provide efficient services for students' learning needs, so as to cooperate with class teachers to carry out student work; the class rules and regulations should be formulated, and the new grades should be organized to formulate the class convention, class cadre responsibility requirements, student dormitory convention and other MS, so as to ensure the formation of a good class atmosphere from the system aspect.

(2) Coordination and regulation function

The establishment of a democratic and scientific student MS can play an effective role in regulating student management. Students are in the social system, and need to deal with the relationship from society, family, school, class, social organizations and other aspects. In order to handle these relationships well, it is not enough to rely solely on students' individual abilities, but also to give full play to the coordination function of the student MS to create a good learning atmosphere. By formulating the MS, the division of responsibilities between university administrators and educators can be clearer. Student management is an important component of university management. The student MS is the administrative regulation of the university, the code of conduct for students, and the key to maintaining the order of the university.

(3) Ideological education function

In student management and ideological education, student MS is applied. On the one hand, educators use systems to restrain students' behavior. On the other hand, they influence students through

ideological education, and guide and standardize students' behavior through student management, which fully demonstrates the importance of student MS. Under the restriction of the system, ideological education can show its effectiveness. At the same time, under the role of ideological education, the student MS can fully play its role and make the student management work achieve immediate results. It can be seen that only when the two are interdependent and harmonious can the completion of the university training plan be guaranteed.

2.2.3 Problems in Student MS

(1) Backward management concept

The traditional management concept is biased towards the management process and lacks democratic and scientific management content, which would only make students feel oppressive and thus lose their enthusiasm. At the present stage, the education management is more subordinate to the superiors, and there is a lack of effective communication between leaders and competent department personnel, teachers and students, which leads to the inability of administrative personnel to understand the specific situation of students in depth. Some administrative personnel lack awareness and service concept, which leads to the lack of timeliness of the overall education management.

(2) Incomplete management mode

In colleges and universities, the implementation of humanized management mode can optimize and adjust the MS, but there are great difficulties, which require more time to deal with these problems. Under the long-term strict management mode, the thinking mode of teachers and students in the school has also become unchangeable, and students have become accustomed to the current management mode. Even with the introduction of humanized management methods, it is impossible to achieve results in a short time. Therefore, it is necessary to reform and innovate the management mode, and optimize the MS, so as to implement semi-open education. Only in this way can the implementation of the new management model be promoted.

(3) Defects in the MS of college students

According to the statistical research, many college student MS have obvious deficiencies, and have not been targeted according to the students' own situation [14]. Some schools only refer to the relevant student management regulations when formulating the system. They did not think from the perspective of students, nor did they solicit students' suggestions. Such a MS has many defects. Some schools have selected some student representatives to participate in the formulation of management plans. However, students have insufficient voice and few suggestions have been adopted. Some schools simply deprived the student representatives of their right to propose and vote, and the student representatives were directly ignored and did not play a role in it.

2.2.4 Countermeasures for Improving Student MS

(1) Integrating the concept of flexible management

Flexible management refers to the in-depth analysis of people's psychology and behavior, and the use of non-mandatory methods to make the managed people have internal persuasion, so as to transform a certain idea into an active consciousness and show it through behavior. It can be seen that flexible management and the overall goal of student management are highly compatible. The application of flexible management in student MS would help to further improve the efficiency of college management.

(2) Improving management mode

In order to effectively integrate institutionalization and humanization and apply them to the student management model, it is necessary to formulate plans in advance. Different aspects of university management should be fully understood. The prestige of the school and the needs of the students should be presented, and the management innovation of the university should be done well, so that the students can give full play to their creativity and show their talents within the scope of the school management. Colleges and universities should also increase practical activity courses, so that students can apply the knowledge learned in the classroom to practical activities. This can also cultivate students' practical ability, and achieve innovative training of talents.

(3) Standardizing disciplinary procedures

In order to effectively protect the legitimate rights and interests of students, when formulating the student MS, it is necessary to ensure the scientificity and rationality of the implementation procedure,

especially the rationality of the student punishment procedure. Otherwise, if students want to defend, they would not be able to appeal in an effective way. The disciplinary procedure of college students is shown in Figure 2. The first is to discover the students' disciplinary violations, and keep the evidence of students' disciplinary violations, so as to provide it to relevant departments; according to the school management rules and regulations, the type and level of student punishment are determined, and students have the right to state and appeal. If students have no objection to the punishment result, they would sign to accept the punishment. If there is any objection, the student can make a statement and appeal. The punishment department would discuss the student's appeal and give the final punishment result.

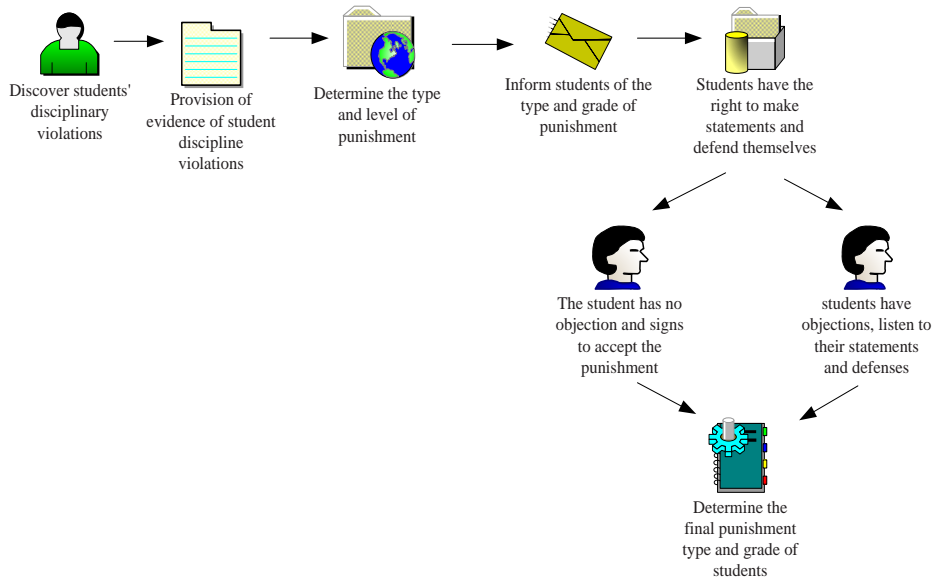


Figure 2: Disciplinary procedures for college students

2.3 Integrated Construction of School Spirit

2.3.1 Composition of School Spirit

The school spirit is a group psychological stereotype produced by the interaction of college subjects in their long study and work life. School spirit is an indispensable part of campus culture, which reflects the spiritual environment of university campus. The cultivation of talents in colleges and universities is also inseparable from the construction of good school spirit.

The composition of school spirit is shown in Figure 3. Among them, teaching style is a common concept, attitude and behavior formed by teachers in the long process of education and teaching. Wind management is a concept and behavior with group characteristics formed by different managers under the interaction of work. The style of study is an attitude and behavior that students show in their study. This is an external manifestation of students' learning attitude, ability and behavior, which has a significant impact on the construction of school spirit and the cultivation of talents.

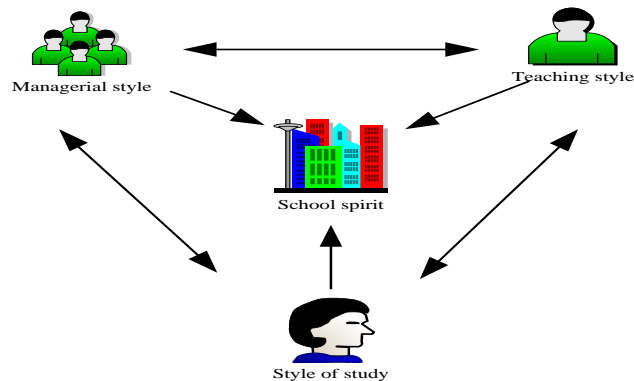


Figure 3: Composition of school spirit

2.3.2 Specific Methods of School Spirit Integration Construction

(1) Strengthening concept guidance

First of all, managers should always adhere to the people-oriented concept and fully reflect democracy and science in the management concept. In the management work, the superior managers should pay attention to the work of the subordinate managers while paying attention to their lives, and increase the humanistic care management. At the same time, it is necessary to give certain affirmation to their work and improve their work identity, so as to stimulate their enthusiasm for work and enhance work efficiency. Secondly, teachers should always adhere to the principle of taking students as the main body, and closely focus on students in teaching, so as to truly implement teaching and educating people into teaching.

(2) Establishing a matrix organizational structure

Combined with the characteristics of the current organizational structure of colleges and universities and the relevant requirements of the integrated construction of school ethos, the structure of the integrated construction of school ethos can be constructed in the way of project matrix, as shown in Figure 4. In this structure, each department is a connection point in the matrix network. The person-in-charge of each department and department personnel can communicate point-to-point, and the information exchange is not easy to create obstacles, thus effectively improving the work efficiency of each department.

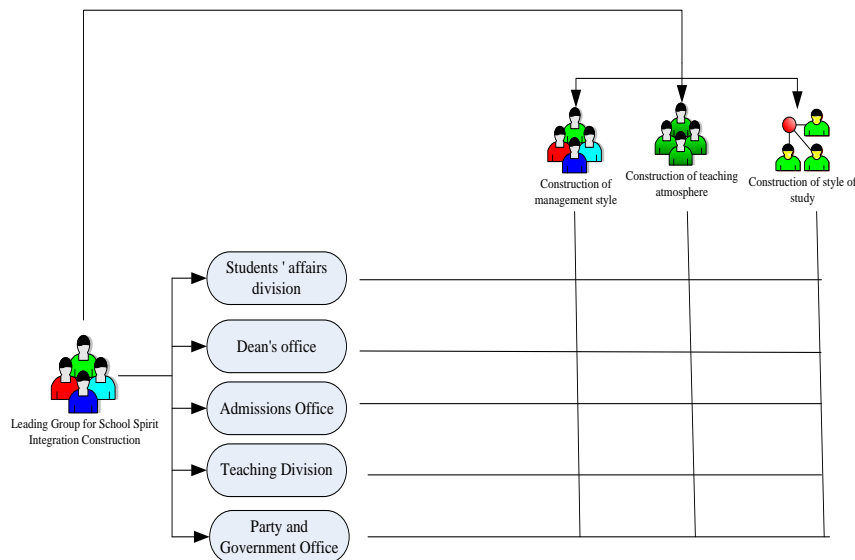


Figure 4: Matrix school spirit integration construction structure

(3) Building the main body coordination mechanism

In the construction of school spirit integration, teachers and students have the highest frequency of communication, and the mutual benefit of teaching and learning is a manifestation of good teacher-student relationship. Therefore, the construction of the teacher-student collaboration platform is the top priority of the school spirit integration construction.

A system of coordination among management style, teaching style and learning style should be established. Managers should be good at using the way of simplifying administration and delegating power in social management. By dividing the responsibilities of different departments and promoting the cooperation between departments, the management mode of each department should be changed from closed management to open management, which can make it more convenient for teachers and students to handle relevant affairs.

3. Student MS Based on Clustering Evaluation Algorithm

3.1 Design of Student MS

The software design of student MS mainly includes two aspects: student management platform and student one-card data mining module [15]. The system software design structure is shown in Figure 5.

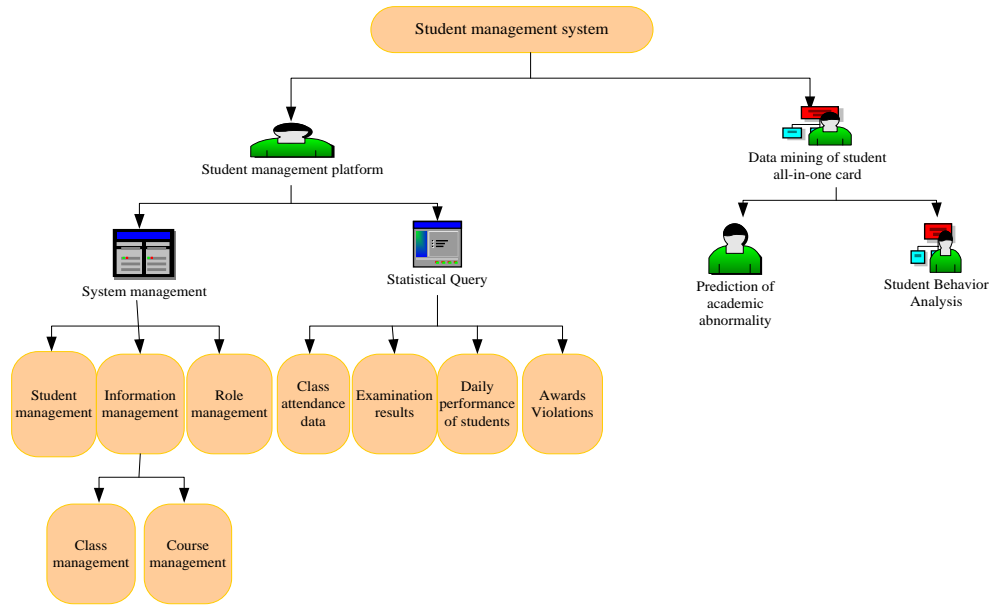


Figure 5: Structure of student MS

The student management platform is mainly responsible for the management of students' information, as well as the recording and query of students' relevant information. Data mining of student's one-card is mainly responsible for detailed analysis of the data in the one-card and obtaining relevant laws and conclusions from it, so as to provide specific guidance for the good development of students.

3.2 Student Score Preprocessing Based on Clustering Evaluation Algorithm

Cluster analysis refers to the analysis process of several classes composed of similar objects generated by the combination and classification of physical or abstract objects. In this process, the data is classified according to its distance.

Clustering analysis algorithm is one of the important algorithms of data mining. It integrates the principle of multivariate statistical analysis, and uses clustering analysis algorithm to evaluate students' performance as a whole, so as to provide reliable technical support for students' evaluation. The ranking of the comprehensive situation of students can objectively analyze the performance of students in different disciplines, and excavate the potential abilities shown by students behind the achievements of different disciplines, thus providing effective reference for the optimization of teaching methods.

It is assumed that there are n students' data of multiple courses. If these students are divided into several groups, the score of the ϵ th student's i th course is Y_{ϵ} , and the average score is as follows:

$$\bar{Y}_i = \frac{1}{n} \sum_{\epsilon=1}^n Y_{\epsilon} \quad (1)$$

The sample range is as follows:

$$Q_w = \max_{1 \leq j \leq n} |y_{\epsilon}| - \min_{1 \leq j \leq n} |y_{\epsilon}| \quad (2)$$

The result of standardization is as follows:

$$y'_{\epsilon} = (y_{\epsilon} - \bar{Y}_i) / Q_w \quad (3)$$

Among them, the range is Q_w .

When a student's score is too high or too low, the extreme difference would become larger, and the proportion of the class's score would also decrease, which would increase the impact on the extreme difference. Therefore, the sample standard deviation is needed to replace the range. The formula is as follows:

$$E_i = \left[\frac{1}{n-1} \sum_{i=1}^n (y_{\epsilon} - \bar{Y}_i)^2 \right]^{\frac{1}{2}} \quad (4)$$

Among them, the sample standard deviation is expressed as E_i .

The result after standardization is as follows:

$$y'_\varepsilon = (y_\varepsilon - \bar{y}_i) / E_i \quad (5)$$

Generally, the grades of each subject can be weighted according to the types and credits of elective and compulsory courses, and the weighted standardized grades of the W th course of the ε th student are as follows:

$$y''_\varepsilon = R_W \cdot y'_\varepsilon \quad (6)$$

Among them, R_W represents the weight of the W th course.

For any m courses, the sum of squares of deviations can be used to calculate the distance. According to the sum of squares of deviations, the distance between class a and class b is defined, and the formula is as follows:

$$T^2(a, b) = \frac{m_a m_b}{m_a + m_b} (\bar{y}_a - \bar{y}_b) \quad (7)$$

Among them, m_a and m_b represent the number of students in category a and b , respectively.

\bar{y}_a and \bar{y}_b have the following meanings:

$$\bar{y}_a = \frac{1}{m_a} \sum_{\varepsilon \in a} y''_\varepsilon \quad (8)$$

$$\bar{y}_b = \frac{1}{m_b} \sum_{\varepsilon \in b} y''_\varepsilon \quad (9)$$

3.3 Performance Test Evaluation of Student MS

In order to verify the effectiveness of the clustering analysis algorithm, the relevant performance of the student MS was tested. The load Runner software was used to simulate multiple users logging in to the system at the same time, and the system performance was tested from multiple aspects. In order to increase the comparability of the experiment, a comparative experiment was also conducted with the traditional algorithm.

3.3.1 Average Response Time Test

This experiment used two algorithms to test the system in terms of average response time, and the test results were shown in Figure 6.

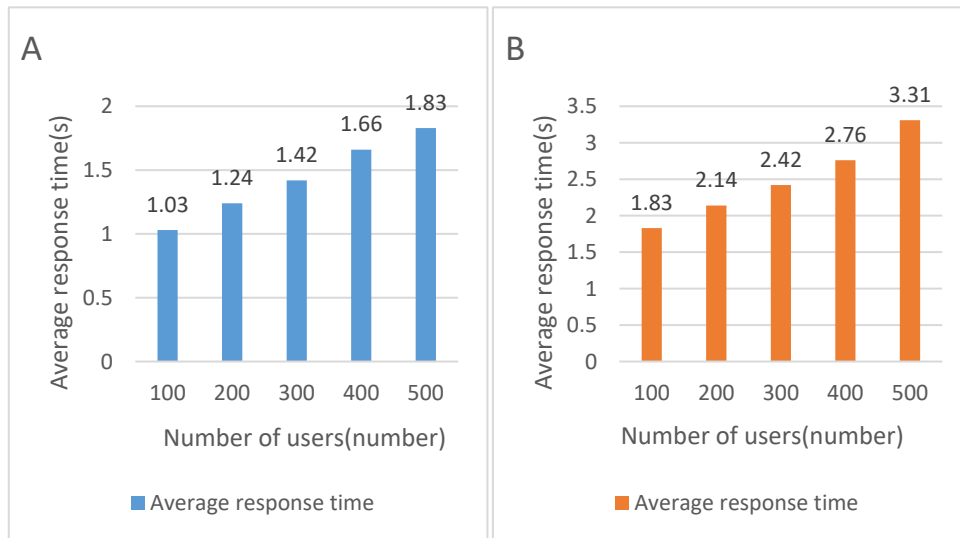


Figure 6A

Figure 6B

Figure 6A showed the average response time of the system under the algorithm in this paper

Figure 6B showed the average response time of the system under the traditional algorithm

Figure 6: Average response time of the system under different algorithms

It could be seen from Figure 6 that there were certain differences between the two algorithms in the average response time test of the system. In Figure 6A, when the number of users reached 100, the average response time of the system was 1.03s. When the number of users reached 500, the average

response time was 1.83s. It could be seen that the overall growth rate was relatively slow. The response time was also relatively short, which did not exceed 2s. In Figure 6B, when the number of users was 100, the average response time was 1.83s. When the number of users was 500, the average response time was 3.31s. It could be seen that the average response time increased relatively large and the response time became longer. From the above data, it could be seen that under this algorithm, the average response time of the system was shorter and the growth rate was smaller, which indicated that the stability of this algorithm was better.

3.3.2 Memory Usage Test

In order to further compare the differences between the two algorithms, the student MS was also tested in terms of memory utilization. The test results were shown in Figure 7.

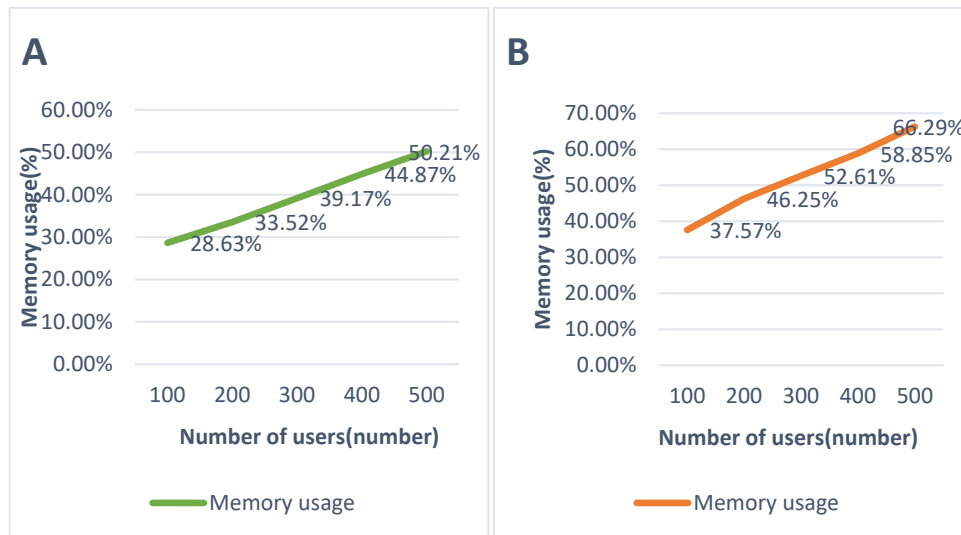


Figure 7A

Figure 7B

Figure 7A showed the memory usage of the system under this algorithm

Figure 7B showed the memory usage of the system under the traditional algorithm

Figure 7: Memory usage of the system under different algorithms

It could be seen from the data in Figure 7 that the memory usage test results of different algorithms were different. In Figure 7A, when the number of users was 100, the memory utilization rate of the system reached 28.63%. With the increasing number of users, the memory utilization rate was also rising. When the number of users was 500, the memory utilization rate of the system reached 50.21%, which used almost half of the system's memory. In Figure 7B, the memory usage of the system also increased with the number of users. When the number of users was 100, the memory utilization rate was 37.57%. When the number of users was 500, the memory utilization rate reached 66.29%. The utilization rate exceeded half of the total memory. With the same number of users, the memory utilization rate of the algorithm in this paper was relatively lower. The lower the memory utilization rate, the better the system's bearing capacity and the more stable the system's operation. Therefore, this algorithm could effectively improve the bearing capacity and stability of the system.

3.3.3 CPU Utilization Test

In order to compare the advantages and disadvantages of the two algorithms more comprehensively, the system was also tested in terms of CPU utilization. The test results were shown in Figure 8.

It could be seen from Figure 8 that the two algorithms had obvious differences in the CPU utilization test of the system. In Figure 8A, CPU utilization was increasing with the number of users. When the number of users was 100, the CPU utilization was 19.63%. When the number of users was 500, the CPU utilization also increased to 43.21%. CPU utilization did not exceed half of the total utilization. In Figure 8B, CPU utilization also showed a gradual upward trend. When the number of users was 100, the CPU utilization was 24.36%, which was higher than that in Figure 8A. When the number of users was 500, the CPU utilization reached 53.24%. The CPU utilization was also higher than that in Figure 8A, which was more than half of the total utilization. To sum up, the CPU utilization of the system would be lower under the algorithm in this paper. The lower the CPU utilization rate, the better the system's running ability and the faster the running speed. Therefore, the algorithm in this paper could play a good optimization effect on the operation ability of the system.

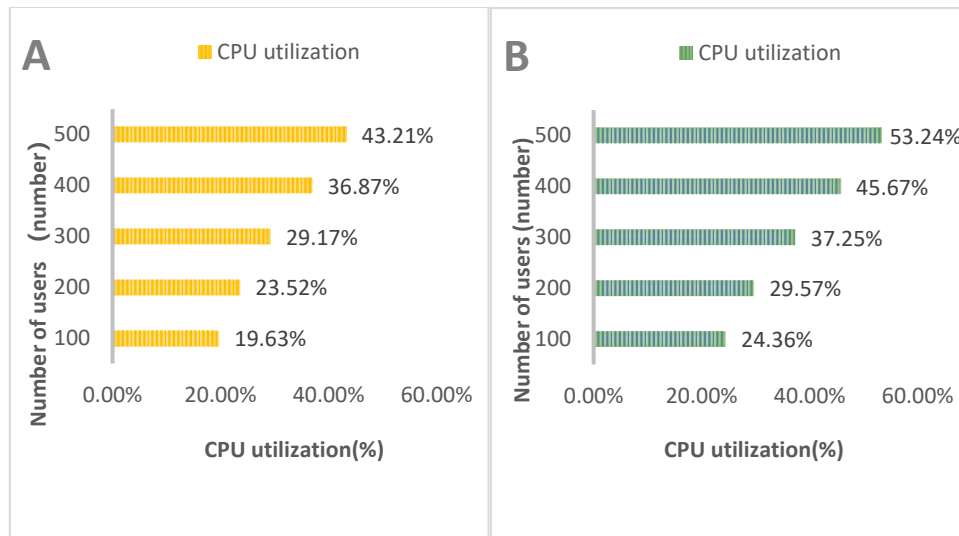


Figure 8A

Figure 8B

Figure 8A showed the CPU utilization of the system under the algorithm in this paper

Figure 8B showed the CPU utilization of the system under the traditional algorithm

Figure 8: CPU utilization of the system under different algorithms

4. Conclusions

In the management of colleges and universities, the student MS is an important basis for colleges and universities to manage students, which is also the basic guarantee for protecting the legitimate rights and interests of students. In the new era, the concept of student management has also undergone new changes. The existing student MS has gradually exposed many drawbacks, which has been difficult to adapt to the development needs of the new era. In order to change this situation, this paper proposed to strengthen the construction of digital education resources in colleges and universities. In view of the shortcomings of the student MS, it gave specific optimization measures to strengthen the construction of school spirit by optimizing the student MS. At the same time, the student MS was also constructed, and the system was tested and analyzed with clustering analysis algorithm. Experiments showed that the algorithm could effectively improve the memory utilization and CPU utilization of the system, and shorten the average response time, so as to enhance the overall performance of the system. Due to the limitations of the experimental conditions, this experiment only analyzed the student MS from the above aspects, and other aspects were not studied. In the future research work, the clustering analysis algorithm still needs to constantly adapt to the relevant needs of the student MS, and improve the performance of the algorithm, so as to provide more effective help for the integrated construction of the school spirit in colleges and universities.

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