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The Optimal Management Strategy of Computer Room in Application-oriented Universities

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Abstract: Computer room is an important place for teaching, scientific research and management in colleges and universities (CAU), as well as an important part of the talent training base in modern society. From the perspective of application-oriented universities, this paper studies what problems should be paid attention to when building information management and control specialty in China. Through the analysis of the current actual environment, the software system maintenance scheme under the information background is obtained, and the suggestions and measures to solve the student identity and personal file system are put forward to improve the management level of the student computer room, so as to improve the teaching quality and training ability of CAU and provide better service for the society for application-oriented talents. The results of the questionnaire survey show that there are four main approaches to the management of computer rooms in application-oriented undergraduate colleges at present: the first is to use existing resources for information construction. Second, information sharing is realized through new software system; Third, optimize and upgrade all parts of equipment and facilities in the computer room based on existing technologies. The fourth is to improve the computer literacy of students and the level of computer room management personnel.

1. Introduction

The optimization management of computer room is an important work content of application-oriented undergraduate colleges [1-2]. At present, China's universities have not formed a complete systematic and standardized system for the construction of computer rooms. Although most schools have established computer hardware equipment maintenance system, daily management mechanism and other relevant documents, rules and regulations, some unnecessary problems still exist in universities [3-4].

The computer room management in foreign countries started early. Since the 1970s, a relatively complete and mature technical system has been formed. At present, many literatures have studied the computer information processing system [5-6]. There is no unified standard and specification

requirements for computer room management in China. At the same time, the operation maintenance and security assurance also need to be further strengthened. Domestic scholars have made a lot of theoretical analysis on computer room, and some scholars started from the perspective of design and transformation process. Some scholars proposed targeted and effective system optimization schemes and design process improvement measures [7-8]. Other scholars believe that it is very necessary, urgent and necessary to establish a human-oriented, user-friendly computer room management system. Therefore, this paper optimizes the management of computer rooms in application-oriented universities.

Computer room is the core course of application-oriented undergraduate CAU, which is also to cultivate students' practical operation ability and innovation spirit, and improve their teaching system. This paper analyzes the information construction, equipment maintenance and repair from the current management mode, puts forward the information system construction mechanism established by combining the information engineering specialty with computer network technology, and conducts corresponding research and discussion on the design, operation and maintenance of information systems. Taking the information engineering specialty as an example, this paper introduces the optimization management of the computer room in the oriented undergraduate colleges, It is expected to provide valuable and useful reference and reference basis for such CAU.

2. Discussion on the Optimal Management Strategy of Computer Room in Application-oriented Universities

2.1 Computer Room

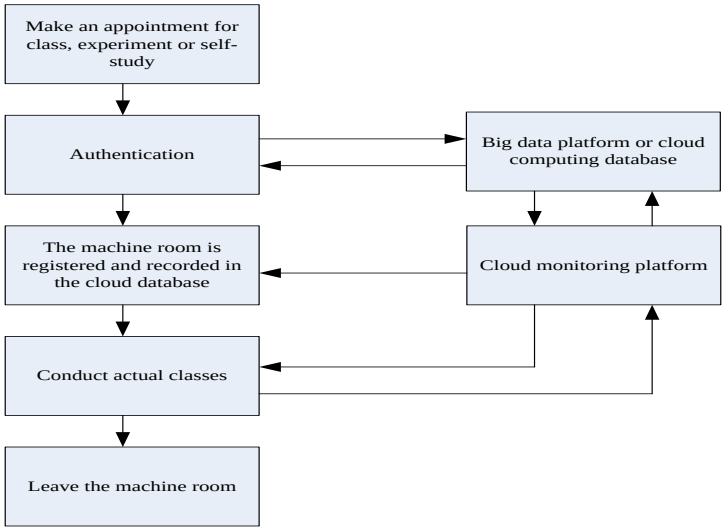

Figure 1: Computer computer room management process

The computer room is an important place for application-oriented undergraduate colleges to cultivate talents, and also provides a large number of high-quality, practical and highly technical composite professional and technical personnel for the society. Computer room is one of the important infrastructures of CAU, and also an indispensable place for teaching, scientific research and logistics services [9-10]. Strengthening the maintenance and management of computers in application-oriented universities can reduce the failure rate of equipment to a certain extent. At the same time, it is of great significance to establish and improve the maintenance system to regulate the behavior of operators to better improve the safety awareness and quality level of staff, effectively prevent accidents or reduce the loss rate, and finally ensure the normal operation of

university information infrastructure and provide high-quality technical support. Information construction and related infrastructure maintenance, software growth, etc. At the same time, a certain number of personnel meeting the national standards and their own characteristics and requirements are required to complete the corresponding functions, and have good comprehensive quality and operational skills, so as to ensure the quality of talent training in application-oriented undergraduate colleges. At present, each university has a set of special cabinet, but its function is relatively simple and can not meet most of the needs, so it needs to further improve the configuration of computer software and related technical issues. Figure 1 shows the computer room management process.

2.2 Optimized Management of Computer Room

In the process of optimizing the management of the computer room, some new technologies, methods and means need to be adopted to improve the working efficiency. For example, using network virtualization modeling technology. After the virtual construction and data generation of the system, the training room and the laboratory can be formed as a whole, and advanced and reliable encryption models are used to reduce security risks and other measures to achieve automatic supervision and control of server operation status information. A series of computer room optimization management automation processes need to use some new technologies and scientific means to improve work efficiency [11-12]. The optimization management of computer room is mainly divided into two parts: first, when designing computer hardware equipment, the workload and requirements under existing conditions should be considered. For CAU, it is necessary to increase investment in equipment, improve software facilities and resource allocation, carry out comprehensive planning, strengthen professional training for computer room engineers, regularly assess maintenance, establish and improve management systems and rules and regulations to ensure that everyone in the computerized campus can understand new knowledge and technology application. The second is to put forward scientific suggestions on the related technical problems, logical relations and data processing involved in the built or completed software systems. For the computer room project, the most basic and key factor is the connection and information transmission between various disciplines in the computer room. Therefore, computer network optimization management is needed to solve these problems. The existing equipment and facilities should be optimized, and hardware maintenance and updating should be strengthened. Before the information construction, a comprehensive and systematic investigation should be conducted on the relevant computer equipment and network facilities, Understand and master what problems exist in these devices and networks. For some important data that is difficult to be obtained by traditional methods, it is necessary to make a good record. For those that cannot be obtained by conventional methods, digital electronic technology can be used to realize information processing processes such as storage and transmission.

2.3 Existing problems in Computer Rooms of Application-oriented Undergraduate Colleges

(1) Equipment quality problems. The hardware facilities in the computer room, including computers, LAN, etc., are an indispensable part of the campus information construction. However, at present, some CAU may have unreasonable and nonstandard internal configuration of the computer room in the application process, and no professional is responsible for maintenance and repair work, resulting in damage to some equipment, which seriously affects students' learning effect and even causes students to have a resistance to the school.

(2) The management mechanism is not sound. Due to the lack of unified standards and institutional constraints, as well as the lack of coordination and mutual independence between

various departments, the use of computer technology will not be fully utilized. Due to the long construction period of the computer room, regular maintenance is required to meet the needs of students, teachers and equipment maintenance personnel in the implementation process.

(3) The maintenance and repair management of the computer room is not timely. In the use of computers, there are many problems, such as the fixed location of failure points, unreasonable settings of machine room equipment and network connection points, heavy workload of maintenance personnel and infrequent maintenance, etc. All these situations will result in data not being processed and transmitted in a timely manner.

(4) The running efficiency of the server is low. At present, most CAU use desktop office system mode to carry out information resource sharing management applications to carry out daily inspections of computer internal hardware equipment and related facilities, and regularly carry out network knowledge lectures and other activities.

3. Experimental process of Optimal Management Strategy of Computer Room in Application-oriented Universities

3.1 Investigation Purpose

According to the survey results and actual needs, we can establish the teaching requirements and understand the current situation of computer growth in application-oriented undergraduate colleges. Before fully mastering the existing equipment and personnel, we should first understand the needs of students and teachers of all majors in our school for computer operation. Only in this way can we better meet the requirements of users, improve the rules and regulations system, improve the professional level and operating skills of computer system maintenance personnel, analyze the loopholes and shortcomings in the existing system and propose corresponding solutions, so as to achieve the purpose of improving the management and operation mode of application-oriented undergraduate colleges.

3.2 Respondents

The respondents are teachers, students and teachers and students in the school. Teachers are the main subjects of the survey. All computer rooms in the university were sampled and inspected by questionnaire, and the following conclusions were drawn based on the analysis of data from the survey results. Most computer rooms in CAU adopt a unified management mode and design principles, while some units do not allow some application software or servers to be placed outside the computer room due to limited economic conditions. Therefore, systems with varying degrees of access for different majors are set to meet the needs. The other part is that there is no separate and centralized office space or equipment on campus.

3.3 Investigation Methods

The purpose of the concept of survey credibility is to understand the research object in depth and provide reliable data support. Questionnaire interview is mainly used in this survey. Through face-to-face conversation with the interviewees, they can obtain relevant information and materials, and then put forward questions according to their knowledge and experience, and collect various useful materials into tables or answers for the reference of the interviewees. Investigators can directly obtain from professional technicians what they want to know about the shortcomings of computer room optimization management and what needs to be improved. The credibility calculation method is as follows:

$$r_{kb20} = \frac{K}{K-1}[1-\frac{\sum_i^k = pq}{S}] \quad (1)$$

$$r_{kb21} = \frac{K}{K-1}[1-\frac{\overline{X}(K-\overline{X})}{KS}] \quad (2)$$

Where, K is the number of questionnaire items, S is the variance of the score of question i, p is the percentage of the number of correct answers to question i, q is the percentage of the number of wrong answers to question i, and X is the average of the total scores of all questionnaires.

4. Experimental Analysis on the Optimal Management Strategy of Computer Room in Application-oriented Universities

4.1 Investigation on the Management Approach of Computer Room in Application-oriented Undergraduate Colleges

Table 1 is the survey data on the management approach of computer room.

Table 1: Research on Computer Room Management Methods

Management approach	Agree with it (%)	Neutrality (%)	Disfavour (%)
Optimize the big data computer room management platform	67	21	12
Improve the quality of students on the machine and machine room management personnel	73	12	15
Optimize the machine room management system	62	32	6
Realize the collaborative work of teaching arrangement and machine room management	43	26	31

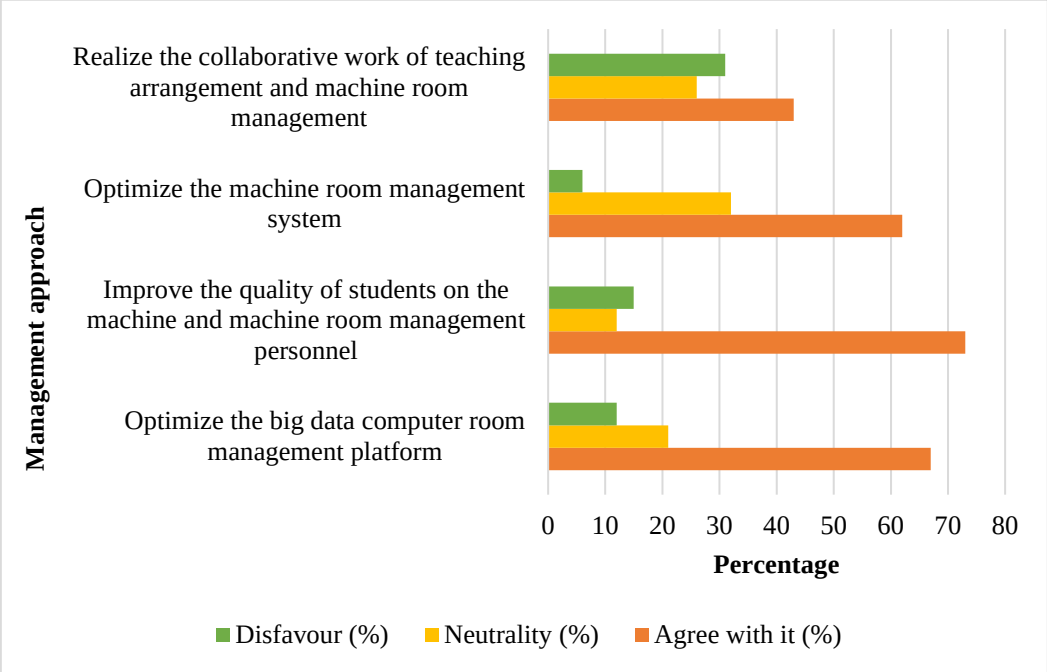

Figure 2: Research on the optimization of computer room management pathways

According to the survey (as shown in Figure 2), there are four main approaches to the management of computer rooms in application-oriented undergraduate colleges: first, use existing

resources for information construction. Second, information sharing is realized through new software system. Third, optimize and upgrade all parts of equipment and facilities in the computer room based on existing technologies. The fourth is to improve the computer literacy of students and the level of computer room management personnel. For the first three methods, the most important thing is to establish a complete, scientific, reasonable and effective operating mechanism. It does not mean that people should complete the work process by themselves, but it is a model that computer technicians can start to operate after comprehensive consideration of relevant management systems and regulations as well as their own experience and other factors in the actual operation process.

5. Conclusions

Computer room is one of the important infrastructures in application-oriented universities, and its management quality has a direct impact on the teaching work and students' learning. Based on the research background, this paper expounds the current use situation and existing problems of computer equipment in our school, focuses on analysis, and combs the advanced experience in software system optimization, network design, data mining, etc. under the growth of Internet technology and communication technology at home and abroad. On this basis, propose targeted solutions, establish and improve the internal information management system construction scheme of application-oriented undergraduate colleges, and improve the control ability of hardware facilities.

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