Research on the Computer Laboratory in Practical Teaching in the University
- Take an Example of Pearl River College

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Abstract: The laboratory in higher education is the carrier and organization form of practical teaching, and it is an important way to cultivate the practical ability of college students. Combined with the characteristics of the computer laboratory itself, proposed by optimizing the laboratory hardware and software support to enhance the daily management of the laboratory model, innovative laboratory personnel training, give full play to the role of computer laboratories in practice teaching.

Keywords: Computer lab; Practice teaching; Laboratory management

1. INTRODUCTION

Practical teaching is an effective way to consolidate and deepen the study of theoretical knowledge, is an important link to cultivate innovative high-quality engineering and technical personnel, is an important platform for the theory with practice, training students to master scientific methods and improve practical ability. According to the Ministry of Education promulgated the "Regulations of the University Laboratory"，in ensuring the completion of experimental teaching tasks under the premise, to continuously improve the level of experimental teaching, actively carry out scientific research, production experiments and technology development work, for economic construction and social development services.The laboratory of Higher education as experimental teaching, scientific research, production experiments, technical assessment and other teaching or research entities, is the practice of teaching the carrier and organizational form, practical teaching has become an important way to cultivate college students' practical ability in colleges and universities.

The computer course itself coexists theory and practice, the two promote each other, strengthen the computer laboratory construction, the establishment of a powerful laboratory is not only to carry out the basis of practical teaching, but also to strengthen the theoretical study of the guarantee[1]. However, the current university computer lab or room generally low utilization, equipment damage and equipment safety and other issues[2]. As the Department of the

Department of the practice of teaching work does not attach importance to the practice of teaching and theoretical teaching did not put the same position, students in the laboratory very casual, reducing the quality of practical teaching[3]. How to play the role of computer lab in practice teaching through the collaborative design of hardware and software, the establishment and improvement of management mode, the cultivation of laboratory personnel team, and so on.

2. THE STATUS QUO OF OUR COMPUTER LAB

Tianjin University of Finance and Economics Pearl River College at the beginning of the college to establish the training to adapt to the requirements of the times, with sustainable development potential and international perspective of the application of training objectives. College in the school closely around the "student-oriented, quality legislation school" concept, attaches great importance to open experimental teaching, adhere to the road of cooperation between production and research, pay attention to the practical ability of students, innovation and entrepreneurial spirit of training, established a laboratory practice teaching system that conforms to the orientation of school training.

(1) Optimize laboratory hardware and software support

①Perfect infrastructure

After more than 10 years of development, college laboratory construction has been considerable size. At present, the college has 8 computer public laboratories, covers an area of 1688m ² can accommodate nearly 800 people at the same time class. Among them,computer labs in addition to take on the practice of public basic and specialized courses in the hospital, there are experimental teaching, curriculum design, graduation, academic competitions and so on. Teaching computer, projector, electric curtain of the "one button" switch machine function to save the machine boot time, optimize the teaching process.

②Advanced real-time monitoring system

According to the requirements of modern campus construction, computer laboratory established a network video surveillance system, including the

remote control and management of equipment, teaching monitoring, live courses, etc., to achieve a real centralized management, providing a good teaching infrastructure environment.

③Virus protection

Students in the class period, the existence of unauthorized use of U disk, mobile phones and other equipment, because they can not get timely clean-up, resulting in the computer to retain a lot of personal files, making the computer running speed gradually decreased, so that the possibility of computer infection with the virus increased. In order to better prevent the laboratory infection of the virus and protect the hard disk data, our laboratory has adopted the protection card technology. The technology has a strong data protection and restore function, even if the hard disk parameters, types can be modified to restore, greatly protecting the computer's operating environment, to achieve the equipment of the virus killing and malicious attack and other systems security protection work.

④Electronic classroom

Electronic classroom represents a new way of teaching, the integration of digital, network of advanced ideas, breaking the traditional classroom on time and space constraints, both to achieve the traditional classroom teaching teachers and students, students and students exchanges, but also in line with computer teaching Relaxed, interactive their own characteristics, which is a leap in teaching. At present, the college laboratory using the network teaching electronic classroom software is the polar domain and Gaga card, the software has a screen radio, file transceiver, log attendance, remote switch machine, classroom evaluation, audition and other functions, to achieve The teacher computer and student computer interaction, greatly improving the quality of teaching. For the use of electronic classrooms, laboratory management staff in the semester at the beginning of the training of teachers to use, and through the production of PPT or video recording, etc., to facilitate the teaching of teachers under the discussion several times.

(2) Improve the daily management of the laboratory model

①Daily maintenance

Every Wednesday afternoon, the computer laboratory to conduct a comprehensive overhaul, including equipment maintenance and system maintenance, environmental sanitation, dust, etc., to solve the outstanding problems of equipment, troubleshooting, and fill out the "equipment maintenance records." Usually, the laboratory equipment on a regular basis to conduct a comprehensive inspection and occasional inspection, the timely use of equipment to solve the daily use of various abnormalities and unexpected problems, the equipment for timely maintenance and update work. Ready to spare machines to deal with the sudden occurrence of equipment during the teaching, saving maintenance time, to ensure the successful completion of teaching tasks.

②Install the teaching software

Because the semester is different, so at the end of each semester, the instructor is required to fill out the "Teaching Software Installation Application Form", including the teacher's name, telephone, class, software name, software version and software installation package and installation instructions The Laboratory management personnel to install the debugging software, and select the time for instructors to use the test, which not only solved the teacher and laboratory management staff poor communication problems, but also to ensure the smooth progress of experimental teaching.

③Laboratory environment and safety

In order to create a relaxed and secure environment for teachers and students to provide as much as possible, as far as possible the experimental conditions, laboratory management staff regularly arranged, maintenance and update the laboratory culture environment. Do the equipment and equipment operating procedures, experimental wall charts, promotional pictures, professional terms, security warning signs, the list of experimental items such as the layout, on the wall, display cabinets, workplaces, station cards and other settings and postings. Usually do a good job of equipment, moisture, rust, water, anti-dirty, anti-waste, anti-natural disasters and other work, good equipment and sanitation. (Fire prevention, anti-theft, anti-shock), anti-shock (lightning), anti-sabotage) and "five off" (closed, off the window, off Electricity, off water (gas), shutdown (fan)) work. Laboratory management personnel regularly carry out security checks, properly handle emergencies and security incidents, pay attention to the protection of the scene of the accident, the implementation of the accident reporting system. The use of laboratory equipment personnel must strictly implement the "laboratory safety practices", do security precautions.

④Usage Management System

Computer lab is a special classroom for computer experiment teaching, and also a public resource for teaching resources sharing. In order to ensure that the teaching work is carried out regularly, the regular operation of the various teaching equipment of the laboratory is used to train, train and guide the correct operation and use of the laboratory equipment by the personnel. In addition, according to the laboratory-related management system and work processes, developed a rigorous scientific rules and regulations. Such as: "laboratory management regulations", "laboratory safety guidelines", "professional laboratory management system", "laboratory daily use registration", "laboratory opening to the outside world", and compiled into a book. Where to enter the laboratory staff, must strictly abide by the rules and

regulations, equipment operating procedures and safety rules.

⑤Asset management refinement

Asset management is an important part of laboratory construction and management. It is the basis and guarantee for the smooth implementation of experimental teaching and scientific research. The college regularly counts the use of laboratory equipment and carries out inventory and disposal. Continue to establish and improve the laboratory new purchase materials acceptance, maintenance, scrapped files, timely material archiving work; preparation of "laboratory equipment assets list"; do a good job of laboratory inventory of assets and the use of public laboratory equipment registration work; In the consumables management, the end of each month, the departmental assets inventory, summary daily outbound records, complete the "month inventory list" and "items out of storage registration form"; do account clear, sorting, for the experiment Teaching and scientific research tasks to provide a guarantee of the successful completion. In addition, the laboratory through the demolition of the way to choose the full use of existing scrap equipment for residual value recovery, so that the old equipment to make the best use of the role; by parts of the scrapped equipment testing, testing qualified components for computer failure components The replacement. To maximize the use of equipment, saving equipment purchase costs.

(3) Innovative laboratory personnel training

①Laboratory manager

Laboratory managers are the immediate performers of laboratory day-to-day management, equipment maintenance and laboratory building planning, and are key to laboratory building and development. In addition to the implementation of the school laboratory work plan, the Institute of laboratory construction planning and implementation of the program, collaborative experimental instructors in time to do the equipment, work equipment, supplies and facilities required for teaching preparation, timely Purchase equipment, equipment and materials to ensure that the normal work of the routine work, but also continue to learn and master the current educational technology trends, cutting-edge technology. Through the participation of professional and technical training and exchange of learning methods, and constantly improve the center of the technical team of professional standards and their own quality, improve service quality.

The college continues to strengthen the continuing education of existing laboratory personnel, focusing on improving their scientific awareness and scientific research. Encourage them to participate in the Institute of scientific research projects, in scientific research and practice continue to inspire their research interests, tap their potential for scientific research, improve their research capacity. In order to

ensure the stability of the laboratory team, so that the laboratory staff peace of mind, the college in the title assessment of the work performance assessment, from the policy to give appropriate support.

②Student maintenance team

Student maintenance team is through the student voluntary registration, laboratory interview assessment method to determine down. This will not only enable students to better develop professional expertise, increase the practical ability of students to practice, but also can apply for the majority of teachers and students to solve a variety of computer problems, such as: software maintenance (operating system installation / reload, operating system Backup), network debugging (LAN connection, shared Internet, network failure, network configuration), computer and printer hardware detection and maintenance.

In order to improve the technical capacity of the maintenance team, the laboratory specially formulated the technical training content of the students, regularly organize the students to carry out the maintenance of common equipment maintenance and maintenance skills, examine the student maintenance team technology, and re-plan the student team according to the results of the division of responsibilities and daily work Process. Through the combination of theory and practice, students master a solid computer hardware and software knowledge, can independently deal with a variety of common computer failures[4]. So the laboratory also encourages the organization of student maintenance teams to participate in various computer games, increase their learning interest and innovation. In the student graduation, the laboratory for students to prove that the practice, give priority to the school units recommended work.

3. CONCLUSION

The laboratory is the cradle of science, is the base of scientific research, is the source of scientific and technological development. The level of construction of the laboratory reflects the school's teaching level, scientific level and management level. In the days to come, all the staff of the laboratory will continue to work hard to build the goal of creating a first-class new undergraduate university as a guide to create a first-class new undergraduate university.

REFERENCES

[1] Liang Jingjing, "Strengthen the construction of computer lab and improve the quality of practical teaching," Modern Economic Information, Vol.10, pp.431,2017.

[2] He Wenli, "Computer practice teaching and laboratory management," Journal of Experimental Science and Technology, Vol.13, No.5, pp.239-241. 2015.

[3]Gao Weimin,He Weihong, "Based on the demonstration laboratory construction platform to

build a computer basic course practice teaching new system ," China Education Information Technology, Vol.19, pp.82-84. 2008.

[4] Li Zhengmei, WEI Peiyu, Li Haitao, Bai Ming, "Practice Teaching Reform in Cultivating Students' Innovative Ability under the Background of Information," Experimental Technology and Management, Vol.34, No.6, pp.14-21. 2017.