

Research on the Perfection and Sustainability of the Opening Mechanism of Laboratories in Private University

Qun Liu

Sichuan Technology and Business University,611745

Abstract: Laboratory opening is an effective way to improve the quality of experimental teaching and train high-quality innovative talents, and is an important part of the reform of experimental teaching in private universities. At present, there are many problems in the laboratory opening mechanism of private universities, such as imperfect management system, unstable experimental team, insufficient capital investment, and non-implementation of safety responsibilities. To this end, we should improve the laboratory opening mechanism on the system, increase the laboratory opening in the funding investment, improve the quality of management personnel on the team construction, strengthen the implementation of the system on the safety responsibility, etc., to provide a strong guarantee for the sustainable development of the laboratory.

Keywords: Private universities; Laboratory opening; Mechanism improvement; Sustainability research

1. Build a Laboratory Opening Model with Innovation Ability Training as the Core

Laboratory opening means that laboratory resources are open to students. Students can choose experimental projects, time and content independently. And teachers can provide guidance. Teachers and students interact and exchange with each other to jointly complete experimental tasks. Its basic feature is that students complete experimental tasks independently under the guidance of teachers, and its core is an opening teaching mode aiming at cultivating innovative ability.

It is necessary to change the traditional closed management mode. Private universities should change the traditional closed management mode, and establish an opening laboratory that combines teaching and research with students as the main body, teachers as the leading, and experimental platform as the support. The specific methods are as follows: firstly, it is to change the traditional closed management mode, establish a set of opening laboratory management system, and clarify the timing, content, and methods of opening up; Secondly, it is to implement hierarchical management of laboratories. Different levels of laboratories can achieve different levels of openness; Thirdly, it is to implement a combination of paid and unpaid use of experimental instruments and equipment.

It is necessary to strengthen the construction of opening laboratories. Private universities should actively explore the opening laboratory construction mode suitable for their own reality. Firstly, it is to increase investment to improve the experimental teaching environment; Secondly, it is to strengthen the construction of experimental teachers and improve their comprehensive quality; Thirdly, it is to strengthen the cultivation of students' experimental skills; Fourthly, it is to strengthen the cultivation of students' innovative ability and practical ability.

It is necessary to establish an independent opening experiment teaching platform for students. Private universities should establish an opening experimental teaching platform, through which students can independently choose experimental projects, time and content. Firstly, students should be encouraged to consult relevant literature or find relevant knowledge and experience through the Internet before the experiment; Secondly, it is necessary to establish the independent opening experiment teaching platform for students, and maintain and update the platform. Thirdly, the management system of open laboratory should be established to carry out network management for opening laboratory. Finally, extracurricular scientific and technological innovation activities should be carried out in the opening laboratory. In this way, students can independently choose projects that are interesting, meaningful, and valuable for experimentation on a larger scale.

2. Establish a Sound Laboratory Opening System

The establishment and improvement of laboratory opening system is the guarantee for the smooth progress of laboratory opening, which can not only standardize the whole process of experimental teaching, but also make the management of experimental teaching scientific and standardized. To this end, the corresponding laboratory opening system should be established. By formulating relevant laboratory management regulations, such as the "Laboratory Management Regulations", "Management Measures for the Use of Laboratory Instruments and Equipment", "Compensation Measures for Damage to Laboratory Instruments and Equipment", and "Laboratory Safety Operating Regulations", it standardizes the entire process of experimental teaching, clarifies the responsibilities and rights of experimental teaching personnel and students, and makes them clear about their own responsibilities and obligations. At the same time, the relevant reward and punishment system should be established, such as the corresponding punishment for teachers and students who violate the laboratory opening system and experiment safety operating procedures. Only by developing a sound management system can we fundamentally ensure the normal and orderly development of opening up work.

3. Increase Funding Investment and Carry Out Multi-Level Opening Experiments

The funding investment is generally insufficient for experimental teaching in private colleges and universities, and the funds are also small for updating and maintaining experimental equipment. When the laboratory is open, it is often impossible to carry out opening experiments because of insufficient experimental equipment. Therefore, we should increase the investment in laboratory opening to provide a strong guarantee for laboratory opening. In terms of capital investment, private universities should formulate corresponding incentive policies according to their own conditions and encourage teachers to actively participate in laboratory construction. Firstly, we should increase the investment in laboratory construction and establish a stable channel for raising funds for experimental teaching. Secondly, schools should give more financial support to experimental teaching, including equipment purchase, experimental curriculum arrangement, equipment maintenance and update. In addition, schools can support students' participation in laboratory opening through student application and project grants. Teachers can also be encouraged to apply for more research projects to increase their income. In short, if private universities want to carry out the work of laboratory opening well, they must increase the investment of funds.

At the same time, private universities can carry out multi-level opening experiments by cooperating with enterprises, establishing off-campus practice bases, and jointly training graduate students with relevant institutions at home and abroad. For example, setting up an internship base outside the school can provide a platform for students to learn and practice. Joint training with foreign institutions can improve students' international vision and innovation ability; Joint training with relevant institutions at home and abroad can enable students to master certain international frontier technology.

4. Build a high-quality experimental teaching management team

Laboratory opening is not only an effective supplement to the laboratory experiment teaching, but more importantly, it is necessary to build a high-quality experimental teaching management team and give full play to the enthusiasm and creativity of the experimental teachers.

It is necessary to strengthen the training of experimental teachers. Teachers are the guide of students' study. And it is the key to do a good job in laboratory opening to build an experimental teaching team with reasonable structure, good quality, sufficient quantity and combination of full-time and part-time teachers. Private universities should formulate and implement the training plan for laboratory managers, train them in professional skills and education and teaching methods, improve their professional level, and make them competent for the laboratory opening work under the new situation.

Teachers are encouraged to participate in laboratory opening. In order to improve the quality and level of laboratory opening, teachers should be actively encouraged to participate in the work of laboratory opening, and be supported through various ways. For example, regular seminars, symposium and special lectures are held to provide a platform for experimental teachers to show their own ability and improve their professional ability; They should be encouraged to actively apply for research projects and publish high-level papers; At the same time, the experimental teachers who have made outstanding achievements will be commended and rewarded.

It should be done to increase efforts to attract talented people. With the establishment and improvement of the market economic system, private universities must carry out open education, reform and innovation to enhance their core competitiveness, which requires more high-level talents to participate in the laboratory opening. To this end, it is necessary to create conditions for the introduction of outstanding talents in terms of policies and funds. For examples: Priority should be given to experimental teaching management

personnel in terms of professional title evaluation,welfare benefits,etc.;Policies should be formulated to attract talents to engage in experimental teaching in private universities;Priority should be given to them in terms of job title evaluation and project application;the reward should be increased for laboratory opening work.Only in this way can we continuously improve the quality and level of laboratory opening.

5. Strengthen the Safety Responsibility to Do a Good Job in Guaranteeing the Laboratory Opening

Laboratory opening should establish a safety responsibility system,carry out safety checks before the opening of the laboratory,and timely repair and replacement of unqualified instruments and equipment.In the process of opening up,it is necessary to strengthen safety management.Laboratory opening personnel should have good ideological and political quality,excellent professional quality,strong disciplinary concepts and a high sense of responsibility,and can actively eliminate safety hazards and timely eliminate experimental equipment failures.Doing a good job in the safety management of the laboratory opening process,such as strengthening the safety measures of fire prevention and theft facilities,emergency rescue measures,poisoning prevention,electric shock prevention and other aspects,needs to formulate relevant emergency plans to ensure the personal and property safety of students in the laboratory opening process.Doing a good job of environmental protection in the process of laboratory opening ensures that the laboratory environment is Clean and hygienic,without noise and pollution.

6. Conclusion

The work of this study mainly includes building a laboratory opening mode with innovation ability training as the core,establishing a sound laboratory opening system,increasing funding,carrying out multi-level opening experiments,building high-quality experimental teaching and management teams,strengthening safety responsibilities,and doing a good job in ensuring laboratory opening.Through the implementation of these works,we have successfully established a set of perfect laboratory opening mechanism in private universities,which provides strong support for the development of private universities.

In the future,the research can further explore more laboratory opening models to meet the needs of students in different disciplines and at different levels,and improve the coverage and influence of laboratory opening.Improving the laboratory opening system,including opening time,opening content,opening methods,etc.,is to better support the opening of the laboratory.We can further discuss how to improve the professional quality of the experimental teaching management team in order to improve the quality and effect of experimental teaching,and discuss how to strengthen the management of laboratory safety to ensure the safety of laboratory opening.

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