

The Role of the Scientific Research Platform of Private Undergraduate Universities in Improving the Quality of Talent Cultivation

Zhong Luo

Scientific Research Department, Anhui Sanlian University, Hefei 230601, China

821050018@qq.com

Abstract. At present, private undergraduate universities in provinces are developing rapidly, the connotation is gradually enhanced, and the level is in urgent need of improvement. However, the quality of talent training does not fit the needs of local economic and social development. And via giving full play to the flexibility of the private school-running model, taking the initiative to rely on the advantage of the founders' technology innovation and industrial resources, strengthening the construction of characteristic scientific research platform, forming scientific research teams, teachers' academic quality and skill levels can be enhanced and students' innovation consciousness and practice ability can be strengthened, then the needs of economic and social development of the applied talents training quality of continued ascension can be promoted to meet.

Keywords: Scientific research platform; Application-oriented talents; Private undergraduate colleges and universities; Quality of talent cultivation

Under the new situation, scientific and technological innovation continues to deepen, industrial transformation and upgrading continue to accelerate, and economic and social development has an increasingly strong demand for senior application-oriented professionals with innovative spirit and practical ability. With the popularization of higher education, private undergraduate colleges, and universities, which account for almost half of higher education, are playing an increasingly important role in the service of local economic and social development. As we all know, private undergraduate colleges and universities "mainly organize or control private colleges and universities by means of capital investment, investment and shareholding, acquisition and merger, agreement transfer, bidding and so on, and then uniformly manage and operate their colleges and universities. [1] Due to various reasons, the school is homogenized, the level of teachers is in urgent need of improvement, and the quality of talent training does not fit well with the needs of local economic and social development. Therefore, how to improve the quality of application-oriented talent training to meet the needs of economic and social development has become an unavoidable and urgent problem for all private undergraduate colleges and universities. By giving full play to the flexibility of the running mode of privately-run colleges and universities, actively relying on the abundant running funds, scientific and technological innovation, and industrial resources of the school founder, paying attention to the production, learning, and research, and strengthening the construction of scientific research platform, we can not only condense the research direction, promote the scientific research team, and constantly improve the academic quality and skill level of teachers. Undergraduate students can also be attracted to join the research team to improve their innovative consciousness and practical ability, to truly improve the quality of application-oriented talents training to meet the needs of economic and social development.

1. Types and objectives of personnel training in private undergraduate colleges and universities

As an important engine of national development, higher education is flourishing with the rapid development of economy and society. In 2019, the gross enrollment rate of higher education increased from 17% in 2003 to 51.6%, and China's higher education officially entered the stage of popularization from popularization[2]. China's higher education into the popularization era, as the country's private education promotion law ", "private education promotion law regulations on the

implementation of the private colleges on strengthening management to guide the healthy development of private higher education in the notice, such as releasing, as the beneficial supplement of higher education, private higher education with higher education and public equal legal status. It plays an important role in cultivating application-oriented talents with innovative spirit and practical ability for regional economic and social development. The running of private undergraduate colleges is also progressing steadily, showing a good momentum of development. According to data released by the Ministry of Education, there were 1,270 private colleges and universities in China as of May 31, 2022. Among them, there are 412 private universities, accounting for 32.4%[3]. At present, there are five private universities in China, including Jilin Foreign Studies University, Heilongjiang Oriental University, Xijing University, Beijing City University and Hebei University of Media, which have the qualification to recruit postgraduate students and cultivate application-oriented high-level talents. The types of non-governmental undergraduate universities are all “Local application-oriented ordinary undergraduate universities”. It is mainly for the local economic and social development to cultivate a sense of social responsibility, innovation and entrepreneurship, and practical ability of the application-oriented complex professionals.

2. Analysis of factors affecting the construction of civilian-run undergraduate university scientific research platform

2.1 Connotation of scientific research platform construction

The scientific research platforms of privately-run undergraduate universities are the same as those of other public universities. They are mainly scientific research institutions of different types and types that carry out scientific research or technological development relying on the university or built by the university itself, or co-built with the government, other universities, industries, and enterprises. In the run by the local undergraduate colleges and universities, the scientific research platform is one of the important grippers promoting discipline construction and the scientific research activities, is scientific research instruments and equipment facilities and academic personnel training and team building, an important place for scholarly information gathering and academic exchanges, the subject direction is concise and different disciplines have merged to form a new discipline important depending on the growing point. It is also the best base to cultivate college students' innovative spirit and practical ability. At the same time, it can play an important role in cultivating high-level academic achievements, promoting the quality of talent training, thus enhancing the connotation and core competitiveness of universities, and serving the needs of regional economic and social development.

2.2 Factors affecting the construction of scientific research platforms

2.1.1 Lagging concept of discipline construction and imperfect mechanism of scientific research platform construction

Most civilian-run undergraduate colleges have experienced adult undergraduate education, higher vocational education a variety of skill-based training, and the undergraduate education time is not long. In addition, a considerable part of the school management and teachers are the original members of the higher vocational colleges at that time. They have been focusing on teaching for a long time, not engaged in discipline construction, and weak awareness of scientific research. After being upgraded to an undergraduate university, colleges and universities gradually attach importance to the road of convolution development and put scientific research in an important position. However, the experience of running higher vocational education has a great impact on their adherence to the idea of running undergraduate education: For a long period of time, some administrators of the university have been confined to the stage of higher vocational education, unable to do a good job in the top-level design of discipline construction from the dimension of

application-oriented undergraduate education, and lack of long-term construction and management systems and mechanisms and implementation measures.

2.1.2 Lack of high-level academic talents and weak awareness of scientific research team construction

Due to the nature and experience of running schools, it is difficult to cultivate and introduce high-level academic talents in privately-run universities, and the staff and staff are seldom trained and guided by experts with high academic levels. Therefore, the leaders of multiple research platforms in the same school are either the same person, or senior engineers from other enterprises under the education group hold concurrent posts. These two groups have a higher academic level. However, some are even administrative leaders or teachers whose scientific research level and ability are not high enough. Therefore, if the leaders in the first two categories above can truly lead the members of the platform to do scientific research and R&D, it is not impossible. However, most of the principles of these research platforms are only nominally conducive to the success of the application, the real scientific research platform construction is those staff and related managers who are not rich in scientific research experience, not strong in subject consciousness, not broad in academic vision, and not strong in independent innovation ability. It can be imagined that without the guidance of high-level academic experts, it is difficult for such scientific research platforms to condense the research direction to meet the needs of discipline construction and regional economic and social development, it is also not easy to set up a strong centripetal, executive and research capacity and has the potential for sustainable development of the academic team, more difficult to produce landmark original results. On the contrary, it is difficult to attract high-level academic personnel and train a high-level backbone of scientific research. Therefore, scientific research platform is also difficult to go on the road of benign sustainable development.

2.1.3 Insufficient investment in scientific research and lack of necessary scientific research resources and conditions

Many privately-run undergraduate colleges and universities are oriented to "work first". This kind of school needs to invest a lot of money to purchase scientific instruments and equipment, build scientific research laboratories and carry out discipline construction. However, due to the private nature of private undergraduate universities, the founders have the need to make profits. However, the school funding source is single, only funded by the founder, and the government financial input and social donations are very few. At the same time, compared with public universities, private universities have fewer vertical research projects, and some of them even raise their research funds. In addition, influenced by higher vocational education, the university has a poor grasp of the connotation of subject construction, a weak consciousness of subject construction, insufficient actual investment in scientific research, and a relative shortage of scientific research resources, the resource condition that supports the discipline construction also lacks the proper guarantee.

Like public universities, private universities should promote the organic connection of the education chain, talent chain, industry chain, and innovation chain, and pay attention to the teaching of basic theoretical knowledge of the discipline and specialty, it also pays attention to the training of students' practical ability and innovative consciousness and emphasizes the conformity with the actual needs of production. Therefore, teachers should achieve "high morale, high learning, high art". In other words, scientific research should be done well, the academic level should be constantly improved to improve teaching quality, and "academic research should be transformed into a relatively stable academic system, and then the academic system should be transformed into a knowledge teaching system based on educational objectives, which will be passed on to the next generation and in turn promote academic innovation" [4]. In fact, however, according to official statistics, the ratio of students to teachers in private universities has rebounded in recent years, while tuition fees have increased several times. In this context, the salary of teachers has improved, but the teaching workload has increased. Some teachers even must teach several courses in a

semester. In addition, most of the teachers with the unreasonable structure are young teachers who are not strong in scientific research. To complete the teaching task, they spend almost all their time preparing lessons, teaching, and correcting homework. They have little time for scientific research and have no energy to participate in the construction of a scientific research platform. The other, a relatively small number of old teachers are either from the previous higher vocational education all the way over or are rehired after retirement from public universities; Due to their experience and energy, most of them think that "good teaching is ok, and scientific research can be diluted", so they rarely participate in the construction of scientific research platform.

3. The role of scientific research platform construction in personnel training of private undergraduate colleges and universities

Through the construction of a scientific research platform, private undergraduate universities can not only promote the discipline construction, condense the research direction, gather scientific research talents, and promote scientific research teams, but also improve the academic level of teachers and cultivate the innovative spirit of students, to continuously enhance the connotation of running a school and improve the quality of application-oriented talents training.

3.1 Scientific research platform is the foundation of application-oriented talents cultivation -- an important starting point for discipline construction

A discipline is a certain scientific field or branch of a science. It is a relatively independent knowledge system formed by human beings through long-term knowledge innovation and continuous creation, accumulation, development, and improvement[5]. Discipline construction includes personnel training, scientific research and platform construction, faculty building, international exchanges, and cooperation, etc. The level of discipline construction is an important embodiment of the connotation and core competitiveness of a university. Scientific research platform can provide necessary scientific research experiment and environment, academic team, cutting-edge academic trends, and interdisciplinary information for discipline construction. Chen Biao (2017), based on an analysis of national-level subject evaluation data from a university in China, found that "Subtle differences in research platforms also directly contribute to the increase and decrease in the total scores of subjects and B disciplines", "Building a high-level scientific research platform will greatly promote cross-disciplinary integration, promote the development of emerging disciplines and further raise the level of scientific research[6]. Therefore, discipline construction provides a solid foundation for talent cultivation, and the level of discipline development reflects the ability and level of university talent cultivation[4]. Scientific research platform is not only an important material basis for discipline construction, but also an important starting point for discipline construction. Its construction effect often determines the level of discipline construction, thus playing an important role in improving the quality of talent cultivation. However, the history of private undergraduate universities is not long, due to a variety of reasons, overall, the discipline concept and scientific research consciousness are still very weak. Therefore, to improve the quality of application-oriented talent training, it is more necessary to strengthen the construction of disciplines, and it is also urgent to promote the solid progress of the scientific research platform.

3.2 Scientific research platform is a high-level application-oriented talent training team -- the main support for the formation of scientific research team

Private undergraduate colleges and universities undertake the function of scientific research as well as the function of personnel training. A scientific research team is an outstanding group of scientific research in a university, the main academic leaders as the core, gathered a group of outstanding academic backbone teachers, in a certain academic field around an important research direction to carry out the pioneering, exploratory, and forward-looking research, support the

construction of subjects, promote the talent training quality improvement, service area economic and social development. Scientific research team construction is "a talent management mode implemented by universities in scientific research management team to adapt to the rapid development of science and technology and interdisciplinary integration. It plays an important role in improving the level of scientific research innovation, talent training quality, discipline construction and the output of landmark achievements"[7]. Therefore, to improve the quality of application-oriented talent training, enhance the connotation of running a school, and realize "overtaking in a curve", private undergraduate universities will increase investment in training or introduce high-level academic talents to build scientific research platforms. Because of the scientific research platform, such as the advanced scientific research experiment instruments and equipment, high level of longitudinal research projects, sufficient funds for a transverse project such as excellent scientific research conditions and resources, and gathered the high-level academic talents, research direction have clear features, all kinds of high levels of schools, school enterprises, the opening of the domestic and international academic exchanges and good academic atmosphere and environment, Some teachers who used to "work alone" in scientific research are gradually attracted to participate in scientific research and technology development activities on scientific research platforms, and research teams are born along with the trend. At the same time, under the guidance of academic leaders, the gathered academic backbone teachers can not only keep up with the local economic and social development needs, promote each other, dynamically update the discipline knowledge structure, and gradually form new thinking and new methods of scientific research; Moreover, they will broaden their academic horizons and keep up with the academic frontier. In this process, the research direction is constantly optimized, the research results are continuously produced, and the cohesion and stability of the team are gradually formed. This will promote and drive the improvement of the team's overall scientific research level and collaborative scientific research ability, to ensure the sustainable development of the scientific research team.

3.3 The scientific research platform is the key to the cultivation of application-oriented talents -- an important environment for the improvement of teachers' academic level

Private undergraduate teachers are the key to cultivate application-oriented talents, but due to the nature of running a school, the teaching staff is not stable, and most new teachers are young and generally low in scientific research quality. However, the rapid development of science and technology in the new era, the transformation and upgrading of industrial structure, and the urgent need to upgrade the connotation of running a school require that the teachers of non-governmental colleges and universities must not only have high academic literacy, it is also necessary to update the knowledge structure with the times, to meet the needs of high-quality professional training application-oriented. As we all know, the same university, relatively speaking, the scientific research platform has superior scientific research conditions and resources, good scientific research atmosphere and environment. Run by the local undergraduate colleges and universities by scientific research platform construction, not only can help teachers establish the consciousness of scientific research, form the scientific attitude of rigorous practical, seeking innovative thinking and flexible abundant research method, but also can cultivate the teachers' cooperative research, scientific research spirit of mutual trust and demand for local economic and social development, and school discipline construction need to do scientific research consciousness of service. At the same time, teachers' scientific research activities can promote their own research direction continuously condensed and clear, quickly establish or integrate into the research team, and form an academic team with lasting vitality. At the same time, also helps teachers to seize the teaching academic hotspot and frontier of discipline and industry enterprise's actual production demand, "Fully grasp the role and relationship of the courses in the discipline and curriculum system, and then renew their own knowledge structure, and constantly improve their ability and level of teaching control "[8]to promote the discipline or school applied to promote the quality of teaching staff construction.

3.4 Scientific research platform is the main body of application-oriented talents training -- the cradle of college students' innovative spirit training

The General Office of the State Council issued the Opinions on Deepening the Reform of Innovation and Entrepreneurship Education in Colleges and Universities in 2015, emphasizing that by comprehensively deepening the reform of innovation and entrepreneurship education in colleges and universities, "students' innovative spirit, entrepreneurial consciousness and innovation, and entrepreneurship ability have been significantly enhanced". To this end, various universities of science and technology innovation resources in principle open to all students, open situation into all kinds of the research base, key laboratory, assessment standard "[9]first of all, teachers undertake research projects, based on a research platform to the transformation of scientific research achievements to the classroom teaching, can stimulate students to interest in learning, enhance students' ability to analyze and solve problems, to cultivate students innovative spirit. Teachers are rigorous in academic research, bold in innovation, and honest in cooperation in scientific research activities such as capturing hot topics, considering project topics, conducting research, engaging in scientific experiments, and solving research problems. These qualities will also influence students subtly in the teaching process, to promote students to develop innovative consciousness [8]. Secondly, the research platform can provide necessary support and services in terms of technology, site, resources, and management for college students to undertake innovation and entrepreneurship training programs, participate in discipline competitions and complete graduation thesis (design). Thirdly, relying on the scientific research platform, teachers can guide students to join the research group and participate in teachers' scientific research and technology development. Teachers undertaking scientific research projects on the platform can divide the research content suitable for students' ability level into student teams according to the requirements of college students' innovation and entrepreneurship training programs, discipline competitions or students' graduation thesis (design), and guide students to carry out scientific experiments and research by virtue of superior scientific research resources of the scientific research platform. To complete college students' innovation and entrepreneurship training programs, graduation thesis or participate in discipline competitions. Relying on scientific research platform and teachers' scientific research project, thanks to teachers pass, help, belt, students will learn and research into an organic whole, both were offered the opportunity to research and practice of exercise, stimulated research interest, let passive accept knowledge into active study and solve the problem, also learned the research methods, improve the scientific research consciousness, cultivate the innovative spirit.

4. More than theory

In the short course of running private undergraduate colleges and universities, many of them have experienced the qualification evaluation of undergraduate teaching work of the Ministry of Education, or even the examination and evaluation; There are also approved by the national degree office for master's degree awarding units, there are also many approved for the provincial master's degree project construction units, local application-oriented high-level university project construction units. Despite this, overall, the scientific research strength is still weak and there are few high-level scientific research achievements. The support degree of scientific research to promote the quality improvement of applied talent training is not enough. It needs both the state education authorities to run by the local undergraduate universities support, more need to run by the local undergraduate colleges and universities face encountered in the process of development of fetter, give full play to the educational model of flexibility, initiative, with the advantages in the founder technology innovation and industrial resources, pay attention to the political line of enterprise collaborative research in the school, strengthening the construction of characteristic scientific research platform, We should improve the academic quality and skill level of teachers and enhance students' innovation consciousness and practical ability, to realize the continuous

improvement of the training quality of innovative, compound and applied talents that meet the needs of economic and social development.

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