Study on the Construction of Science and Research Platform Under the Background of Double-class in Colleges and Universities

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Abstract. Double-class construction refers to the construction of world-class universities and first-class disciplines. The construction of scientific and research platform is an important part of the innovation system, and it’s also a significant factor for promoting the competitiveness of colleges and universities and realizing the connotation development of the discipline. This paper introduces the requirements and significance of the scientific and research platform construction under the background of double-class colleges and universities, analyzes the exiting problems and deficiencies in current construction of science and research platform in colleges and universities, and emphatically probes into the countermeasures and methods for accelerating the development of science and research platform construction in colleges and universities.

Introduction

Colleges and universities are the most active and creative academic palace and the origin of new ideas and new culture. The science and research platform is becoming a major base for carrying out scientific research, collecting and cultivating innovative talents, and conducting academic exchanges. It’s also an important supporter to realize the function of social service in colleges and universities. The construction of science and research platform under the background of double-class mainly includes the discipline layout, the talent team and the management system. Therefore, it is very necessary to reinforce the top-level design and strategic planning of discipline arrangement, develop a number of first-class predominant disciplines, strengthen the construction of talents and promoting the scientific research ability of talents, and establish the innovative management mechanism, and implementing scientific, rationalized and standardized management [1, 2].

The construction task for improving the level of science and research has been clearly put forward in the general plan of promoting the first-class disciplines and building world-class colleges and universities which issued by state in 2015. In word to build a group of superior disciplines that take the lead in the domestic and famous in the world, we should regard the national major demands as a guide, reinforce the top level design and strategic planning of discipline arrangement. In word to improve the ability to solve the major problems and the ability of original innovation, we are supposed to improve the mechanism of scientific research and strengthen the construction of talent team gradually. Last but not least, for the sake of building the prevalent academic atmosphere and a comfortable innovative environment and stimulating innovation vitality of talents, we should innovate and reform the management system and optimize the allocation of resources. The science and research platforms in colleges and universities play an important role in fundamental research, new and advanced technology development, and national major science and technology plans. Construction of the science and research platforms, enhancing the scientific and technological opening-up level, continuous research & development and innovation, and implementation of the strategy of strengthening the country on talents, shall help to maintain the progress and rapid development of colleges and universities, develop the national scientific innovation team, and promote the enhancement of the overall national scientific and technological strength; at the same
time, it plays a positive role in the national scientific innovation and the prosperity of the country and society in recent years[2].

Existing Problems in the Construction of Science and Research Platforms in Colleges and Universities

In recent years, the reform of national and university education has been deepening, the construction of scientific research platform in colleges and universities has been developed rapidly, the advanced instrument and equipment have been greatly increased, the degree of opening and sharing is greatly improved, and the direction of scientific research is more forward-looking, international and innovative[2, 3]. However, there are still some problems in the process of rapid development of science and research platform. The top-level design of discipline arrangement is missing and the direction of research needs to be condensed urgently. The construction of talent team remains to be enhanced and the level of scientific research needs to be improved. The management system of science and research platform needs reform and innovation to improve management efficiency.

The Top-level Design of Discipline Arrangement Is Missing and the Direction of Research Needs to Be Condensed Urgently

The top-level design and strategic planning of discipline arrangement determine the development direction of disciplines in colleges and universities, and the direction of research is the primary problem to be solved and an essential part in the construction of science and research platform, which plays an important role in leading the construction and development of science and research platform. Only by choosing the direction of research accurately and making unremitting efforts in the long term, can we occupy the commanding point in this field of research, so as to provide scientific and technological support for the solution of important basic and key problems in economic construction and social development, and thus promote the formation of the advantages and characteristics of science and research platform [4].

In the course of the development and construction of scientific research platform, some colleges and universities have insufficient understanding of the role of scientific research platform, and the systematic planning and clear goals for the construction and development of scientific research platform is missing, which lead to the direction of research is relatively scattered, the characteristics of research are not obvious and the focus of research is not prominent. Most of the researchers are act of themselves free will, and it’s difficult to form effective resultant force and reflect superiority of scientific research team, which is not conducive to the healthy and sustainable development of the science and research platform. This will undoubtedly affect the construction of discipline, impede the formation of discipline advantages and characteristics, and make it impossible to complement each other [5]. Therefore, the construction of science and research platform should rely on the advantages and characteristics of the disciplines, and carry out a rational overall arrangement and positioning.

The Construction of Talent Team Remains to Be Enhanced and the Level of Scientific Research Needs to Be Improved

The construction of talent team is the basis for the development of science and research platform, and it’s the necessary condition for the formation of teaching and research environment with a strong cohesion. A scientific research team with innovative ability and reasonable structure of age and educational background is significant to sustainable development of the science and research platform. In the scientific research team, the leading talents of the science and research platform with innovative ideas and scientific management ability are the core of the construction of science and research platform. The high level experimental technology team with innovative spirit and innovative vitality is the foundation and guarantee of the construction of scientific research platform in Colleges and universities.
In the process of the construction and development of science and research platform in colleges and universities, the scale age structure positional title structure and educational background structure of the talent team have been greatly improved compared to the previous, but there are still some problems. The high level of academic talents and the experimental and technical personnel are relatively lacking, the excitation mechanism of examine and the system of remuneration needs to be perfected continually. The innovative ability of academic talents is not enough, and the ability to solve major problems and original innovation need to be improved. The experimental technical talents are supposed to learn and understand the advanced knowledge of sophisticated equipment and frontiers knowledge to broaden their horizon, and strengthen professional skills training to improve the professional skills and abilities.

The Management System of Science and Research Platform Needs Reform and Innovation to Improve Management Efficiency

Simple and efficient management system is the guarantee of the system to realize the rapid development of science and research platform and it’s also a necessary prerequisite to improve management efficiency and enhance the enthusiasm of scientific research staff. Compared with the construction experience of famous foreign science and research platforms, the following problems exist in the management system of the science and research platform in colleges and universities. In the course of the management system construction of science and research platform, No specialized agencies have been set up for unified planning and effective management by some colleges and universities for the construction of science and research platform, which will lead to the potency dimension of the integration and sharing of scientific and technological resources is not enough, the scientific and technological cooperation between teachers and departments lacks effective management mechanism, and it’s difficult to carry to the large-scale cooperative projects. There are still some problems such as investment duplication, waste of resources, blindness and inheritance in the area of planning construction and system management of the science and research platform in some colleges and universities of our country. Therefore, we ought to absorb the valuable experience of domestic and foreign science and research platform management to reform and develop the management system combined with our actual situation.

Countermeasures and Methods for the Construction and Development of Science and Research Platform in Colleges and Universities

Under the background of double-class construction, colleges and universities are supposed to reform and innovate the management system of science and research platform and establish clear development goals, truly incorporated the construction and development of science and research platform into the vital distribution of the survival and development of colleges and universities. The science and research platform in colleges and universities has gradually become a significant platform for training well-educated academic talents and developing high-level academic research, and an important windows and channels for the achievement transformation of production teaching research under the energetic support of national preferential policies. In view of the existing problems in the process of the construction and development of science and research platform, three suggestions and countermeasures from three aspects of discipline distribution talent team and management system are put forward. Strengthening the top-level design of discipline distribution and condensing the direction of research. Reinforcing the construction of talents team and enhancing scientific research ability of talents. Reforming and innovating the management system of science and research platform and improving the efficiency of management.

Strengthening the Top-level Design of Discipline Distribution and Condensing the Direction of Research

Discipline construction is an important foundation and carrier of scientific research and talent cultivation in colleges and universities. It’s the bonding point of teaching, scientific research,
high-level academic talents cultivation and the construction of teaching team, and also an important support for professional construction. The level of discipline construction has become an important symbol of measuring the actual strength of teaching and researching in colleges and universities. Condensing the direction of research is not only a process of continuous improvement, continuous summary and continuous development, but also the process of converging academic teams, making clear objectives and tasks, and forming research characteristics for science and research platform in colleges and universities [7].

The research direction of the science and research platform should be determined by relying on the dominant and characteristic subjects of colleges and universities, adhering to the guidance of major problems and demand, and combining the exploration of the frontier of science with the national goal. It is possible to occupy the commanding heights of the field after a long period of unremitting efforts. Colleges and universities are supposed to make a macro and overall planning for its science and research platform in view of different specialties and different fields, encourage the integration and intersection of discipline, and promote the full use of scientific research resources, embody the discipline advantages of colleges and universities.

**Reinforcing the Construction of Talents Team and Enhancing Scientific Research Ability of Talents**

The construction of talent team is the critical factor for the construction and development of science and research platform in colleges and universities. Only if we have first-class scientific research talents and experimental technical talents can we make the first-class achievements in scientific research and establish a first-class science and research platform [8].

Firstly, colleges and universities ought to cultivate and introduce high-level academic leaders. Broad vision, innovative academic leaders play an important role in the construction of talents team and are the core strength of the science and research platform construction. Excellent and famous academic leaders can attract and collect a group of outstanding academic talents and then to form a high level research and innovation team.

Secondly, a group of laboratory technicians with high level and high quality are the significant guarantee and technological support for the output of scientific research achievements. There is no doubt that colleges and universities should strengthen the construction of laboratory technicians, conduct some regular training and assessment for the experimental technicians to improve the professional ability and practical ability of the experimenters, and then to establish an experimental technical team with high level professional ability and innovative spirit.

Last but not least, colleges and universities are supposed to perfect the mechanism of assessment and incentive and salary system to improve the enthusiasm and creativity of the talents team, and better serve the construction and development of science and research platform.

**Reforming and Innovating the Management System of Science and Research Platform and Improving the Efficiency of Management**

Scientific and efficient management system is an important system guarantee for the construction of scientific research platform [9]. Colleges and universities should refer to experience of planning and management of first-class science and research platform at home and abroad, combine the development condition of colleges and universities itself, establish the relevant institutions and institutions to carry out a unified and effective management for the science and research platform of colleges and universities.

Under the background of double-class construction, colleges and universities ought to strengthen the potency dimension of integration and sharing of scientific research resources, improve the utilization rate of scientific research resources, promote and improve the cooperation and exchange of scientific research between teachers and departments for the intersection and amalgamation of multidisciplinary, and boost the deep development of scientific research. Furthermore, a dense academic atmosphere and a relaxed environment of innovation should be constructed by colleges and
universities after reforming and establishing the related management system about the construction of science and research platform [10].

Finally, colleges and universities ought to make full use of the advantages of regional development, adhere to the demand of regional development, promote the deep integration between universities and enterprises, realize the transformation of scientific research achievement, and better serve the development of regional economy.

Summary
The science and research platform of colleges and universities has become an important base for training the scientific research talents with high professional quality and enhancing the scientific research power for our country. Under the background of double-class construction, colleges and universities ought to further construct the dominant disciplines, adhere to the demand of regional economic development, reform and innovate the management system, cultivate and introduce a group of scientific research talents with the scientific research ability, innovative spirit and wide field of vision and a number of highly skilled and experienced technicians of experimental technology, create a dense academic atmosphere and a relaxed environment for innovation so as to realize the rapid development of science and research platform.

References


