Construction Significance of Scientific Research Innovative Team in Non-key Colleges and Universities

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The research is financed by Scientific Research Fund of Sichuan Provincial Education Department（Project No.13SB0017）

Abstract

The paper puts forward the construction significance of the scientific research team in non-key colleges and universities in China by analyzing the current situation and scientific research construction significance at present and the problems they faced. According to the analysis, it is necessary and important for those non-key colleges and universities to build their own innovative research team, whose building can bring benefit for them to cultivate the excellent academic leader, integrate the valid resources, concentrate the research strength, develop the characteristic discipline, display own superiority and explore their potential. For the non-key colleges and universities, it is playing a non-substitutable role in improving the ability of undertaking the major science and technology projects. This paper focuses on the construction significance, which can help those colleges and universities to realize their importance of constructing the team well.

Key words: Non-key Colleges and Universities; Research Situation; Scientific Research Innovative Team; Construction Significance

1. Introduction

With the development of science and technology, the collective and comprehensive and scientific research activities have brought the unprecedented challenge to the scientific research management work. The old fashioned way, only to individual or team is difficult to adapt to the development of modern social science and new changes of technology. In today's era, the knowledge economy is dominating the whole world. With the constant development and integration of knowledge, the difficulty of the continuously increasing is exploring the unknown fields of exploration and research. In addition, the highly differentiation and highly integrated knowledge production mode urgently need to use complex experiment means and

multidisciplinary cooperation project. The individual ability in such a complex environment is thinner and more fragile. Therefore, to get a creative breakthrough, it is urgent to realize a larger social cooperation and form a great collective labor.

In recent years, with the technology developing, more and more key universities have conducted scientific research innovation and promoted their own scientific research ability by setting up scientific research team, so they have undertaken many various complicated and high-end projects. The scientific research teams have been the core form in our country. However, for these non-key colleges and universities, blinded by their scientific research abilities, limited research resources and short of the research team, they have no capacity of bearing the major and key scientific projects. Therefore, building the team is the necessary way which must be passed on them. At present, some of them are also stepping into the ranks, hoping to establish a stable professional research team, make full use of school favorable resources, and further improve the research level of the school, by setting up the scientific research team. At the same time, it strengthens the comprehensive strength of the study.

The rapid development of China's economy cannot stand away from the development of science and technology. Along with the constantly emerging technological problems, how to solve those problems has become the key to our country's science and technology development. However, to solve a certain technology problem often needs to integrate many discipline knowledge, and a lot of professional talent strength. Through the establishment of a research team, it can build-up a high-quality, professional and knowledgeable research team, integrate the subject resources and play the team's strength. It will play an important role in solving our country's science and technology development and economic development problem through cooperative and group research. Universities have made great contributions to the national economic and science and technology development. Meanwhile, they have shown their extraordinary strength in the national science and technology innovation. The reasons for universities' important position in social and science and technology development are that universities have a rational structure, talent concentration, strong innovation and professional research team. In the future social development, universities should play more scientific research team's strength and make more contribution for the development of our national economy.

However, because the construction of the scientific research team in non-key colleges and universities is still in the primary stage, the various aspects need to improve such as the team construction, team management, technology innovation and members reasonable composition, all of which needs strengthening and improving further. Moreover, many problems also exist in the teams such as without clear research target, being lack of long-term planning, not having consistent research direction and relevant contents, and so on. In addition, the use of funds is not reasonable and other aspects of the problems. All of these make result in failing to develop an outstanding team with the ability of undertaking some important scientific which affects the development of the team. If the management team cannot be strengthened as soon as possible, having the term develop freely, it's definite that the team will not come to a useful affect and cause the scientific health development in the non-key colleges and universities. Certainly, improving the scientific research ability to promote them to higher and healthier development is impossible. Based on all the above, this paper will explore the importance and necessity of scientific research innovative team according to analyze its implication, essence and current situation.

2. The implication of the scientific research innovation team

2.1The connotation of the team

Team was first originated from army, and namely, "DEUK" was the primal interpretation of it. Famous scientist Lawrence Hollp also has his own unique insights on team. He thinks that team regarded common dedication as the core, and common goal as the job requirement. American scholar, Kateznbach has mentioned team in his work more than once. He said that team is a group, composed by individuals who have their own skills and would like to work for the common goal and mutual cooperation. Moreover, this group isn't amateur, but it is formal and professional. In 1996, Robbins further researched the team. Through careful research, he found out the difference between team and group. He draw out the following conclusions: the first is that team not only needs sharing the resources, but also need to pay emphasis on the collective performance; The second is that team's responsibility should contribute to individuals and should also have collective's common responsibility; The third is that team should complement skills, and do not do things their own; The fourth is that team has positive effects.

Based on the understanding of many experts and scholars' opinion, we can think that a common goal condensed into a team: although he is a group, but it is an organic integrity which every member are closely linked and tightly integrated. In this team, for a common goal, the team members make full use of their own skills and take common methods to struggle for the goal. In the process to realize team's purpose and performance goals, the team members gradually form the tacit understanding coordination, commitment and trust each other and responsible for each other.

2.2 The essence of scientific research innovation team

The connotation of innovation is that in order to achieve certain purpose, the innovation body carry out unique and innovative activities that can promote social progress and the development of science and technology, and also bring benefit to the realization of personal value. Innovation activities should not only have innovative, but have progress value and benefit to social progress. At present, it is not only refers to the innovation of economic phenomena, but also extends to education, politic, culture, technology, management and system. Innovation has become a common phenomenon of human society.

The so-called scientific research innovation team mostly is based on university teachers as the main research members. They are lead by excellent academic leaders, supported by the lab or research centers, treat science and technology research and development as the content, and also have reasonable structure academic echelon. Although they don't have many numbers, they complement their knowledge and skill structure, for the same scientific research purpose and goal to closely cooperate, and at the same time assume the responsibility. Each of their research results can bring benefit to the progress of the society or the realization of personal value. They are scientific research team which has creative spirit and innovation ability. The team is the foundation strength in university developing scientific research activities, and has huge internal potential. It is the fertile soil to cultivate and bring up the field-leader and academic backbone. Besides, it has positive leading role to the teachers' growth, and plays an irreplaceable important role to promote the development of college scientific research.

2.3 The nature of the scientific research team in colleges and universities

Scientific research team, based on the content of scientific research and technology development, with a clear purpose of technology and innovation, is made up of some skilled talents, who possess different professional knowledge, same research target, and they would like to bear mutual responsibility for common scientific research purpose and devote themselves to common research work. Both the team leader and the member have different quality requirement. The former ought to provide with the perfect expertise, the scientific research quality, and a certain management talent and to promote the whole team to be coordinated growth, the latter should make their respective advantages complementary to each other, being engaged in certain scientific research activities ability, also having the spirit of dedication, and the courage of shouldering the responsibility. The team, which is possessed with some typical features, such as common goals, resources sharing, science and technology innovation and powder condensed.

3. The construction situation of scientific research team in non-key colleges and universities

The research team in colleges and universities is a typical group with the vitality and vigor which get grounded in the organic soil with cultural atmosphere, and rich knowledge resource. At the same time, it is the cradle of talents, where the university teachers' good theoretical attainment and the theory of different subjects provide good guarantee for setting up the scientific research expertise team and the advantageous safeguard provided with taking the high-tech problem. Especially for those non-key colleges and universities, it is urgent to build the scientific research team, for their weak scientific research basis and lower scientific research ability. They need a specialized, knowledgeable and modern team to help take some more difficult and key scientific research projects. However, it is not optimal seeing from the situation of scientific research team in non-key colleges and universities.

3.1 Unstable scientific research team and discontinuous research direction

At present, the common problem, existing in the innovative research team of non- key colleges and universities, is that the team leader always chooses the talents temporarily according to the scientific research target, not having long-term plan and stability. The research directions of some team members are different, causing the team unhealthy development without a long-term goal. The phenomenon of the members coming together to work on some research as soon as the emergency comes up. Not to speak of some members are pulled into the team even without knowing anything about the research team, whose construction goal, members structure, research direction, research field, study feature, and so on. Above of these has caused a team to be unstable and inconsistent.

3.2 Not having integrated the disciplinary resources effectively and lack of information shared

Having been confined by long-term management system of schools and colleges, the non-key colleges and universities have faced some difficulties, such as, the traditional subject classification, the subject of protectionism, and hard integration between the different subjects objectively. This, to a certain extent, blocked the team interdisciplinary construction. It is not certainly conducive for the team to integrate the academic resources and team members to participate in the study effectively. For the reasons above, the research methods of them are single, without multiple theoretical knowledge and practical experience, so the

whole team is hard to produce innovative scientific research achievements. Therefore, in the declaration national projects, their projects have no special advantages.

3.3 Dislocated project director going against the cultivation of the leader

The innovation team is mostly in the control of the competent responsibility system rather than the real meaning of the leader in the field of responsibility system. Although the study field and direction of the leader possessed continuity and stability after long-term development, but because of the person, who is in charge of it, has no professional knowledge in the study, it can't make the team members around themselves rally and closely to work on the study. This will influence the stability of the team, resulting in the lack of common direction of the existing team and aim.

3.4 Expending the funds improperly and lack of the effective control

At the present time, with the team funds invested increasing in the non-key colleges and universities, each team has more sufficient funds for scientific research activities. At the same time, the team leader can dominate more and more money to go on the research base. But from the use of funds, it is a common phenomenon that the leader pays more for him, having no other team members using the funds in the expending record. From this, it is easy to know it is uneven in the process of using funds. The expenditure is mainly taking team project principal responsibility system, the personnel team do understand this, in the allocation of funds to use is existing on the phenomenon. If let it alone, this will reduce the members' study enthusiasm and go out of the team at last, resulting in the team not developing healthily without special talents.

4. The construction significance of the innovation team in non-key colleges and universities

Along with the national and local governments paying more attention to the scientific research in our country, scientific research projects, such as the national majority, key, general projects, international cooperation projects, the national science program, ministries have been released at various levels. But to some non-key colleges and universities, if they want to independently bear some major, key projects, owing to the scientific research level, scientific research ability and scientific research of the limited resources, lack of national key project, they must have a rational structure, the research direction novel and the professional quality and high comprehensive quality guaranteed, innovative scientific research group, with "elite team" to win. Generally speaking, there are several construction significances for those non-key colleges and universities to establish the scientific research innovation team in the following several aspects.

4.1 It's helpful to focus on academic strength and improve the ability of scientific research for major projects

Now, the projects are mostly complicated and difficult with some or more subjects, not easy to complete. The universities, by setting up innovative research team, regarding the existing discipline leaders as the core, to call on the subject backbone, scientific research rookie rally closely around the leader in the field, with a research goal as the core, concentrate the power, and a joint research, will be better to complete the important tasks, which does not only cultivate the outstanding subject leaders, but also exercise the scientific

research team, to enhance the school bear ability of major projects.

4.2 It can integrate academic resources and improve the level of the significant scientific research projects

The non-key colleges and universities, by setting up scientific research team, is to integrate the existing academic resources, around a good leader with the outstanding research foundation and a special research direction and target in the field, to focus on the collective wisdom and strength, to form a stable academic echelon, the existing research direction produces support force, to promote team overall scientific research strength.

In a word, to strengthen the construction and management can enhance the ability of the whole team, which is necessary and important for those non-key colleges and universities. However, it is not easy to construct the team well and smoothly. The non-key universities must take measures to reform the scientific management work, such as the construction of the perfect system and mechanism for the team, the scientific assessment, the combination between the long-term cause and the short-term cause, the humanized reward system, the organic bond between the social benefits and the group benefit. Besides, we should pay more attention to the cultivation of the team lead and the excavation of the individual ability, promote further the coordinated growth in the teaching, scientific research and discipline construction for the non-key colleges and universities.

4.3 It's good to build up a professional, knowledgeable and stable research team

If ordinary universities want to improve their research level, they should not only have advanced management theory knowledge and scientific researchers, but also should have a high-quality, professional, scientific research innovation team. Therefore, ordinary universities should imminent cultivate a stable team with professional knowledge and full of energetic innovation. Talents are critical to improvement of scientific research level. On the one hand, the build-up of innovation team should gather the excellent highly-educated, high-quality and professional talents, condense the talents' strength and brainstorming, accumulate strength and enhance ability for ordinary universities to undertake major national projects; On the other hand, through the integration of talents, we can work out the multi-level, multi-channel and multi-form research methods according to the talents' strong points and characteristics, fully digging out their own potential to promote the development of scientific research of ordinary universities. And through the active declaration of subject, using the practice exercise to improve the comprehensive quality of the team, and also greatly improve schools' scientific research ability. Stable, high-quality, better-educated and professional research team is the prerequisite to universities' scientific research of getting out of the bottom of the valley. It is fundamental to improve the ability of scientific research development and good foundation to produce innovative scientific research achievements. What's more, it is also the security of scientific and standardize of ordinary universities' scientific research management. When establishing professional team, it also needs to use reasonable incentive to establish diversified incentive mechanism. It's necessary to establish and improve the assessment index, the fittest survival so as to optimize the team structure, well-defined power and responsibility, rewards and punish clearly, rational division of labor. In addition, universities should actively improve the living conditions of scientific researchers, improve their

living quality, promote them produce strong enterprising spirit and sense of responsibility, dedicated to service for scientific research.

4.4 It is good for the non-key colleges and universities to apply for the projects and implement smoothly

The difficulty and key for those non-key colleges and universities is to apply for some key projects, specially the projects with national and international level. In the past, the non-key colleges and universities have no chance to fight for the higher projects for shorting for experience of undertaking the key projects. Now there are more and more different projects in our country and more and more international cooperation projects. It is a good chance for the non-key colleges and universities. The building of the scientific research team for them is to obtain the projects and to improve scientific research projects for approval rate. Team members of the joint tackling not only can accelerate the scientific research project, complete scientific research achievements of output and improve the efficiency and output rate, but also can improve the quality of the output results.

4.5 It is helpful for the non-key universities to improve the academic, discipline and the development of teaching

Scientific research team were allowed to get the scientific research projects later, which usually held regularly or irregularly academic seminars or academic lectures, sometimes invite some famous scholars at home and abroad to give speeches, and actively encourage the team members to go out to participate in international and domestic large academic exchange. These series of academic activities, scientific research activities for the school to create a good study communication atmosphere to some extent, also actively promote the school internal and other between universities, academic exchange and development, and finally promote the non-key universities the development of scientific research. At the same time, the research team is the multi-disciplinary personnel composition, different disciplines in personnel engaged in scientific research activities, and other subjects between personnel exchanges to promote the exchange and integration between disciplines, so as to improve the teaching quality of the non-key universities, but also promote the original subject development and innovation.

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