ISSN 2706-6827 Vol. 4, Issue 8: 33-36, DOI: 10.25236/IJFS.2022.040806

Discussion and Research on the Training Mode of Postgraduate Innovation Ability

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Abstract: *Innovation ability is one of the important ability of school training talents, this paper discusses the training mode of postgraduate students' innovation ability, puts forward the implementation of teaching and research process monitoring management organization, cycle evaluation and continuous improvement mechanism and the specific content of innovation ability training mode. Through comprehensive innovation ability training, improve the innovation ability of postgraduate students.*

Keywords: *Postgraduate Students, Innovation Ability, Innovation Training, Training Mode*

1. Introduction

Postgraduate innovation ability training is an important part of the national innovation education system, and innovation ability and practical ability are the core content of postgraduate training[1-2]. As the backbone of the scientific research team, the main purpose of the postgraduate student training is to cultivate the postgraduate student's scientific research and innovation ability. In a sense, the quality of postgraduate student innovation ability cultivation is also an important factor in determining the innovation level and ability of a country. With the progress of science and technology, international competition is becoming increasingly fierce, and the normalization of competition between countries is actually the competition of talents, which restricts the strength of national innovation ability and the level of international competitiveness[3]. Therefore, giving full play to the role of higher education, especially the training of high-quality postgraduate students, will consolidate the foundation of China's innovation ability[4]. However, there are still many problems in the training quality of postgraduate students in China, which are mainly manifested in the lack of innovation consciousness, repetition of academic views and practical content, imitation of others' existing achievements, and lack of innovative research results. Therefore, how to improve the innovation ability of postgraduate students is the top priority of postgraduate student training mode reform[5].

2. Management Organization Setup

The establishment of good management institutions is the guarantee for the smooth progress of various systems of postgraduate education. At present, most universities implement the three-level teaching and scientific research process management system of postgraduate office, college-to-tutor, which can well realize the monitoring of teaching process. Under the three-level postgraduate office-college-tutor teaching and research management responsibility institution, it is necessary to further implement the rights and responsibilities of various departments and tutors. The college establishes the postgraduate teaching and research committee with the tutor as the main body, and the teaching and research committee needs to strengthen communication, constantly improve the curriculum system, syllabus setting, regular review and revision, the postgraduate office checks and feedback the whole process of the teaching process, and supervises the implementation of scientific research plan made by the tutor team, postgraduate office-college-tutor level 3 teaching management responsibility organization as shown in Figure 1.

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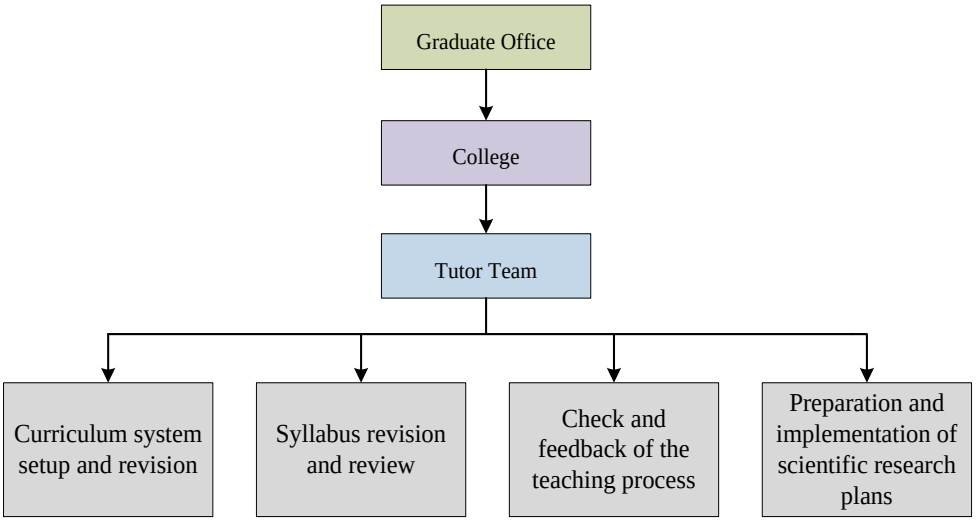

Figure 1: Postgraduate Office-College-Tutor Third-level teaching and research management responsibility institution.

3. Circular Evaluation and Continuous Improvement Mechanism

Based on the three-level process management organization of postgraduate Office-college-tutor, each management organization has clear division of labor and responsibilities, forming a complete and rigorous postgraduate teaching and research process quality monitoring system. In the process of postgraduate teaching and research quality monitoring, the quality standards of teaching links should be clearly defined according to the professional talent training objectives and graduation requirements, which is mainly reflected in the curriculum system setting and related detailed rules of teaching and research management. Carry out the macro, special and daily quality control from the three levels of the school, the college and the tutor, and supervise and control the whole process of each teaching link and the scientific research process. Ensure the operation of the monitoring system from the system, determine the evaluation method, basis, process, cycle and responsible person of each link. While performing the process monitoring, form the result evaluation mechanism including the detail data of the teaching process, teaching quality, curriculum system, scientific research plan, teaching and scientific research results, curriculum goal achievement and graduation requirements. A quality monitoring mechanism of teaching and scientific research with the cycle characteristics of "evaluation-feedback-improvement" has been formed based on the data analysis results.

Quality monitoring mechanism in line with the "student-oriented, achievement oriented, continuous improvement" concept, aims to build teaching research process quality monitoring and evaluation mechanism, form a standardized and orderly teaching management and monitoring mode, clarify the quality requirements of the major teaching and scientific research links such as classroom teaching, scientific research, engineering practice and graduation design, carry out regularly evaluation of course quality and scientific research results, improve the professional talent training ability, enhance the overall quality of postgraduate students, expand the influence and social popularity of the school. At the same time, evaluation of the achievement situation should be carried out regularly through improving the organizational structure, optimizing the operation system, strengthening the system guarantee, and establishing the achievement evaluation mechanism. The teaching and research quality monitoring system is based on the talent training program, and has established a perfect quality requirements of teaching and research links, including classroom teaching, course assessment, practice teaching, innovation training, scientific research process, graduation design (thesis), cultural quality development. Each link has clear quality requirements, execution method, quality assessment points, responsible person, assessment cycle, assessment results. At the same time, the information of each link is collected and feedback, and the teaching and research process is analyzed and evaluated according to the quality requirements of teaching and research links, in order to further optimize the quality requirements and monitoring measures of teaching and research links, improve the quality of professional teaching and scientific research level, and form a circular mechanism of continuous improvement.

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4. Cultivate Innovation Ability

The establishment of process management institutions and the formation of teaching and research quality monitoring mechanism are a strong guarantee for the cultivation of postgraduate innovation ability. The cultivation of postgraduate innovation ability is crucial to the talent training of the school, and is of great significance to the employment of students and the innovative development of the society.

Around the postgraduate teaching and scientific research process, the postgraduate innovation ability can be improved from the following aspects:

(1) Curriculum teaching

Theory course is an important channel for postgraduate students to understand the professional knowledge, postgraduate course set should closely around policy top design, close to the professional practice, the course should cover the professional basic theory, application technology and software. Taking the chemical process control major as an example, while highlighting the core position of system identification and modeling, process control and optimization theory courses, applied mathematics and simulation courses are added. In the teaching process, we should pay close attention to the frontier of the subject and scientific research trends, encourage students to actively use the school's database or online to find relevant information, and combine theory with practice.

(2) Management mechanism

Management mechanism innovation is not only the thing of manager itself, but also the managed. In the management system, everyone participates in the mutual benefit and complement each other, can the management mechanism innovation be effectively realized. Each student is an individual with his own strengths. Therefore, cultivating the innovation ability of postgraduate students needs to teach students in accordance with their aptitude, pay attention to their personal development needs, and give full play to the bright points of each student. Instructor as the core research team, aims to solve the theoretical problems of industry development and the actual needs of the enterprise, team members make weekly plan according to the task and report progress, meanwhile, find out new ideas or new economic model and form innovative thinking habits in the process of reporting and communication. The school management mechanism, mentor management mechanism and self-management planning complement each other. The student-oriented team aims to improve the postgraduate training mechanism in the continuous exploration, form a benign system and innovation mechanism, form a reasonable incentive mechanism, and ensure the sustainable development of the team's innovation ability.

(3) Innovation training

Practice shows true knowledge, in the process of cultivating postgraduate innovation ability, we need to constantly train this innovative thought. On the one hand, can start from actively declaring postgraduate innovation entrepreneurship training project, through innovation training topic, from the system innovation, system structure innovation, design method innovation, guide students through literature review, field survey, independent thinking, multi-party debate, innovative entrepreneurship training as an opportunity to cut into the postgraduate topic in advance. On the other hand, we choose to participate in various forms of team or individual competitions, such as mathematical modeling competition. This process is also to give innovative ideas to practice, unknowingly accumulate experience, cultivate innovation ability, apply theoretical knowledge innovation to practical problems, and achieve the goal of combining theory with practice.

(4) Innovation culture

In the process of cultivating postgraduate students' innovation ability, good mechanism guarantee is the premise. We should not only develop theory, but also pay attention to practice, and pay attention to teamwork. Only in this way can we promote each other and produce "1 + 1> 2" effect. A stable scientific research team needs cultural inheritance, and good cultural inheritance is crucial to a team, which can increase the cohesion and centripetal force of the team. In a free and open cultural team, it can better cultivate interest, divergent thinking, and form a innovative situation of multiple flowering.

5. Conclusion

It takes ten years to grow a tree, but a hundred years to bring up a generation. It should be pay more

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attention to cultivate postgraduate innovation ability, which can make the student to form a comprehensive, open knowledge structure, master the theoretical knowledge of the major, and then apply the theory to solve practical problems, eventually improve postgraduate innovation ability and practical ability, thus become an innovative talents to meet the needs of social development.

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