



Research Article

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Study on cultivating innovation ability of forestry and agriculture kind graduates

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ABSTRACT

For cultivating forestry and agricultural kind graduates' innovation ability, graduates should overcome some weaknesses, refuse unhealthy attraction, improve scientific literacy, and especially enhance psychological professionalism. In the period of university study, forestry and agricultural kind graduate should combine of cooperative research and explore independently, master the relevant professional skills through the system of professional knowledge learning and experience accumulation, thus making contribution on the agriculture and forestry field.

Keywords: Professional knowledge; Experiment accumulation; Cooperation and independence.

INTRODUCTION

With the expansion of higher education in China in 2005, the gross enrollment rate of higher education reached 21% in 1999. The higher education of our country quickly entered the stage of popularization, at the same time, the number of graduate students increased rapidly. Since 1999, graduate enrollment increased by a large margin, in 2003 reached 26.9 million people, it was more than 3.7 times increased in 1978, post graduate total in 2006 exceeded one million, the scale of graduate education became into the forefront of the world^[1]. The expansion of the scale of graduate education was the requirement of China's social and economic development, but also the only way to build a strong power of human resources. A large number of high-level talents would be an indispensable prerequisite for enhancing the overall national strength and improving the international competitiveness of our country. However, the rapid growth of the number of graduate students had also brought some problems. For example, long-standing shortage of higher education resources issues became more prominent, colleges and universities in school funding, teaching staff, teaching and experiment facilities and students living conditions faced unprecedented pressure, the quality of post graduate education had also been significantly affected.

In accordance with the requirements of the 'country urgent needs, the world first-class', China aimed at significant demand for cutting-edge science and national development, the key discipline construction was regarded as the foundation, and mechanism reform was focused, improving innovation ability was a breakthrough point, collaborative innovation was promoted vigorously, and the country should give full play to the higher education as an important role in the combination of science and technology, the first productivity and talents were regarded as the first resources in national development in a unique role, so as to support the sound and rapid economic and social development.

Graduate students' cooperation education essence was that the government, industry (enterprise) departments and universities, research institutions and the needs of target users, collaborative innovation was based on their respective comparative advantages, the coordinated development of education, science and technology and the economy was needed. School- enterprise training graduates jointly was the cooperation between University and enterprise, it provided teachers, information, for graduates training such as software environment and experiment,

living facilities such as hardware environment, according to the training plan and training requirements, cooperative training graduate students was the model.

In order to realize cultivating interests and the national strategy as the fundamental purpose, collaborative innovation concept should be under the guidance of government policies and regulations, and give full play to the main advantage of educating people, effective coordination of universities, enterprises, research institutes and other core subject of responsibility and authority relations should be clear. The full exchange, fair distribution and full cooperation on the basis of the cooperation culture had broaden interdisciplinary background knowledge, strong innovative spirit and innovation ability were solution ways to the development of national major scientific and strategic issues of high-end talent mode of action.

EXPERIMENTAL SECTION

In recent years, the forestry and agriculture kind graduate student's scientific research ability, innovation ability and employment difficulties were paid close attention by the society, as a high level talents of students, it is a big challenge whether graduates have good professional learning and training so as to make outstanding achievement of the required quality and ability in professional and related work or job. In order to understand the current situation of graduate students better, there was a study of 505 college graduate students as the research object in several universities in Hunan Province, through the questionnaire survey way, graduate competency was investigated, study competence and personality characteristics, time management disposition relationship were discussed, in order that both effect and action of time management disposition in graduate competency and personality traits were cleared. This aimed to provide more empirical support for graduate competency research, the students could be guided to focus on self competency, combining with their own characteristics, through the reasonable management and utilization of time, all aspects of their quality and ability could be upgraded.

According to Eysenck personality inventory, T scores is the intermediate type between 56.7 -43.3, 43.3-61.5 or 56.7-38.5 belong to the tendency, less than 38.5 points or more than 61.5 points belong to the typical type. According to the Table 1 available: the average of the three characteristics are about 50, the investigation of the internal and external tilt of the graduate, the spirit and the nervous are concentrated in the middle type. The internal and external points of high expression love communication, they pursuit stimulation, adventure, but they are easy impulse. The high scores of the spirit of others are less concerned about others, they are difficult to adapt to the environment, they get along with others not friendly, and easy feel lonely, easy provoke. The high score of nervousness is prone to anxiety, fear and other emotions, in the case of certain stimuli prone to strong emotional reactions, and they even make irrational behavior. In Table 1, the average of the master's nervous degree is high, the next was the inside and outside. It shows that the personality trait of the forestry and agriculture kind graduate students was easy to worry, and the mood was not stable^[2].

Tab 1. General description of personality traits of forestry and agriculture kind graduate students

	Minimum value	Maximum value	Mean value	standard deviation
Internal & external tendency	25.3	70.05	50	10.001
Mental quality	34.94	83.34	49.998	10.001
Nervous	21.73	89.36	51.643	15.116

Problem:

1 Lacking of excellent enrolling graduate students

Affected by academic and professional prejudice, there was a certain gap compared to employment prospects of the forestry and agricultural mechanization graduates and engineering college graduates, so it was difficult to attract more excellent talents into professional development of forestry and agricultural mechanization engineering. It also made outstanding graduates get into the enterprise or becoming graduate students of better colleges and universities of science and engineering^[3].

2 Graduate students of forestry and agricultural mechanization engineering were mostly from rural, there was higher life pressure relatively. Some graduate students relied on part-time to maintain learning and living, there was also employment pressure, employ unit needs to have the experience or professional counterparts and application of strong research, they had to spend a lot of time to learn more courses, frequently to take part in all kinds of recruitment.

3 Social unhealthy erosion trend of campus academic culture

In the academic holy of university, pure academic breeze seemed to flutter slowly, bad atmosphere was wantonly provoked this piece of quiet and pure net. In the era of knowledge economy, facing of the rapid development of the

knowledge economy, the demand for talents, especially the demand for innovative talents was increasing. However, the negative impact of the market economy might also be floated to the school. Bad social atmosphere, some of the graduate students caused a very bad impact. Some forestry graduate students forgot their original study of the beginning of the heart, clinging to "relationship" madly, they lacked of academic love. However, we all know that, on the pursuit road of truth and science, researchers only have science hearts to do academic seriously and practically in order to achieve the corresponding development in relative fields^[4].

At the same time, the bad social atmosphere might affect the school's mentors. The tendency of the school officialdom had been very obvious in our Chinese country. In order to comment on the title or other impure targets, some instructors obtained research projects at any cost. Bad social atmosphere also affected the normal relationship between tutors and forestry graduate students. Some instructors' power desire was too heavy, the basic idea was on the administration, there was no time for scientific research, and no time on their own academic guidance of forestry graduate students. Under the guidance of the lack of learning, forestry kind graduate students, especially academic graduate students were difficult to make difference in the academic, after all, their ability and knowledge were limited. Just because of this, the teacher was not academic, students were not academic, the academic atmosphere of the whole campus was not strong.

RESULTS AND DISCUSSION

1 Profound knowledge is the foundation of creative thinking

With precise mechanical products, green process of extreme manufacturing, the development of digital method had the fast and efficient characteristics, then the integrated, intelligent manufacturing, machinery field related disciplines crossed each other, mutual integration, mutual promotion and more prominent, the urgent requirements of mechanical study of bovine should have broad knowledge in order to adapt to the needs of social development^[5].

But for a long time, mechanical engineering graduate students in the process of training the knowledge did not achieve "Fine" "Deep", "Broad" requirements, understanding knowledge was also difficult to reflect frontier dynamic of mechanical discipline and the latest research results, the mastery of the knowledge was difficult to reflect the characteristics of disciplines crossing each other, mutual integration, promoting each other, which were not conducive to the cultivation of innovative thinking of post graduates.

The first author comes from the school of mechanical engineering it is very important to broaden the understanding of knowledge for the students. The school students of mechanical engineering were arranged in a more distinctive class, quite achievements of more than a dozen doctoral tutors of mechanical engineering department taught a lesson in different fields of study respectively, teaching content included not only their respective research field in the front of the dynamic study and the latest research results, but also contained their engaging in research work experience, methods and personhood's truth, after listening, not only the graduate students' knowledge could be expanded, but also it made graduate student's innovative thinking ability improved.

2 Forestry kind post graduate education should be reflected in the graduate students as the main body, so the teaching method should be the main way of graduate education. In western developed countries, students' self study ability and autonomous learning are paid more and more attention. In the British, the graduate courses are divided into lectures, tutorials and seminars. Lecture is a summary of the subject matter and the existence of the subject, so students need to spend their own time to refine the content of the subject through self digestion. The tutorial class is an extension of the lecture, the guidance teachers and students discuss the issue of the previous week's problems and papers, then teachers solve the problems of students, they exchange views and layout of the next week's work. This kind of teaching method is mainly based on the graduate student, it is innovative and initiative, it guides the students to carry on the inquiry learning. Seminar is pre arranged around the teacher questions, in teacher's inspiring and guidance, the format is in group discussion, different angle analysis is encouraged, one student communicates with other students positively, and teacher's task is maintaining the normal discussion, errors are corrected, collection, analysis and inductive argument should be done. Teachers and students jointly explore the learning process of knowledge, so encourage students to explore and digest the knowledge, cultivate and exercise the independent thinking, so problem-solving ability of graduate students is improved.

This inquiry teaching model can be used for reference in the forestry mechanization engineering graduate education in China, it reforms traditional knowledge mode imparting or infusion. According to the requirements of the course, teachers can teach basic theories, ideas and key clearly, offers courses learning outline to the student, and points out the relevant bibliography and literature, it requires students to learn content then writing a report, or asks students to do the related academic report in some special questions, this method can let the students master the skills of literature searching and expressing ability, exercise learning autonomy in the course of learning stage, thus it plays

the topic basis for later research^[6].

3 The best way to test forestry kind graduate students' innovative ability is to let students stay in the whole open laboratory, so as to train the students' practical ability. It is the essential link for students to collect the information, analyze, process and apply, etc. We should make a detailed introduction of the laboratory equipment and the experimental project to the students, so that they can make their own test plan according to the needs of the graduate students in scientific research. And some good foundation of the laboratory should be selected to open fully; regular academic discussion could cultivate graduate students good habits. The opening of the laboratory allows the graduate students to think fully, and stimulate the enthusiasm and initiative of scientific research.

For mechanical engineering graduate students, according to their theoretical knowledge and work experience, innovation ability is defined to use new methods or means to solve fore-problem or improve and perfect the existing techniques, find new theories and laws, develop new equipment and instruments, in order to reduce production costs and improve productivity. The innovation ability mainly includes three parts: innovative consciousness, innovative thinking and innovative practice. Among them, innovation consciousness refers to explore the subjective initiative of the new problem on the basis of knowledge accumulation; innovative thinking refers to the ability of thinking in the development of new technology and new method, it is the core part of creation, but also the key of solving problems; New practice is new method used in engineering practice, this would realize the production and application. In the training of engineering graduate students, only does the school strengthen and pay attention to the cultivation of innovation ability, high level compounding senior personnel might be output to the enterprise, so as to promote the development of the enterprise and the society.

4 Making the training objectives clearly

At present, the forestry kind post graduate training in universities is still mainly based on the academic master, and the training of engineering graduate students can easily be marginalized, or could not be distinguished from the training mode of graduate students. Therefore, doing well the training of graduate students, first of all the training objectives of engineering master should be cleared. The training of engineering master is focused on the research ability or the ability on the engineering application. Therefore, engineering graduate students are generally the technology and management backbones and elites of recommended units, some students have many years work experience and strong management capabilities, there should have a higher standard cultivating these students. For professional mechanical engineering graduate students, the cultivating goal should be innovative, skills and application of engineering and technical personnel, innovation and application ability and solution actual problem ability should be raised, the professional mechanical engineering graduate students should be flexible and creative, using all kinds of knowledge and skills in practical work, solving the practical problems in engineering field effectively, they should become high level innovative engineering technology and management personnel in the field of unit mechanical engineering enterprises and institutions^[7].

CONCLUSION

In our daily life, we emphasize the team spirit, which is many people work together to complete a task. Forestry kind graduate students engaging in scientific research can also cooperate with instructors and classmates, but graduates must maintain independent individuals on the basis of cooperation, they should have their own views, but also do their own research, they can combine of cooperative research and explore independently.

To enhance their scientific research ability, forestry kind graduate students should have enough professional knowledge and scientific research skills firstly. In the study, they might make full use of their knowledge and skills to explore knowledge. In front of the problem, they could keep clear minds, and have their own unique solutions to the problem, rather than seeking for help of teachers and students blindly. Theory is only proved by the practice, it is really scientific. Graduates research scientific independently, not only they test their own assumptions in the practice, and they can develop their own spirit of independent exploration, constant thinking in practice, and getting constant progress. At the same time, the spirit of independent exploration of knowledge is the basic quality of any scientific research, but also it is necessary condition to enhance their own research skills. It provides a strong guarantee for the scientific research after they graduate.

Forestry and agricultural kind graduate students master the relevant professional skills through the system of professional knowledge learning and experience accumulation; they general can carry out certain professional research activities independently, in order to improve the ability of scientific research continuously. Through the guidance of teachers, they have more profound understanding of the field of knowledge, they will have more strong hopes to broaden their knowledge, deepen the understanding of knowledge, in order to develop greater.

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