

Research on Cultivation of Students' Scientific Research Ability Based on Innovation, Creativity and Entrepreneurship Education

Shuqing Chen*

Binzhou University, Binzhou 256600, China

*Corresponding author

E-mail: *sqzb_3@126.com*

Abstract

Colleges and universities are important positions for cultivating applied talents. Scientific research ability is one of the essential qualities of applied talents, where innovation, entrepreneurship and excellence-creating education is an important channel to cultivate students' scientific research ability. We will create favorable conditions and platforms for students to create three activities and scientific research work through laboratory opening, practice education base and educational reform.

Keywords: Innovation, entrepreneurship and excellence-creating education; scientific research ability; teaching management reform.

1. Introduction

Colleges and universities are important positions for cultivating applied talents, where scientific research ability is one of the essential qualities of applied talents [1]. In university education and teaching, the cultivation of students' scientific research ability is not only integrated into daily teaching, but also through the innovation and entrepreneurship projects, discipline competitions and teachers' research projects. Therefore, the three creation of education is an important way for the development of students' scientific research ability.

2. The purpose and significance of the cultivation of students' scientific research ability

2.1. Scientific research ability is one of the basic accomplishments of Contemporary College Students

The teaching of ordinary undergraduate colleges and universities is located in the training of applied talents. Under this basic goal, scientific research ability is one of the basic contents of the ability training of contemporary college students.

Scientific research, that is, scientific research. Generally speaking, scientific research refers to the process of obtaining some objective facts through investigating, verifying, discussing and thinking about some phenomena or problems, then deducing, analyzing and integrating them [2]. Scientific research often comes from problems. The purpose of scientific research is to solve the problem. The requirements for the training of applied talents and academic talents are not the same. The requirement of applied talents training for students' scientific research is to solve common problems, including practical

problems and theoretical problems, in the future life and production practice, and their scientific research levels are mostly skills.

2.2. Scientific research ability is one of the basic accomplishments of Contemporary College Students

Scientific research is not entirely invention and creation. It is an important category of science and technology to make use of the existing scientific and technological achievements, to transform the current production technology and to improve the production skills. The training of the general undergraduate applied talents should take the training of scientific research skills as the main content. It is not the neglect of academic teaching to emphasize the cultivation of scientific research skills. In fact, the training of applied skills and academic teaching complement each other. First, students' other studies can be strengthened through scientific research. For example, in the process of scientific research, through the use of concepts and principles, the understanding of these concepts and principles will be further deepened, thus strengthening the memory [3]. Secondly, scientific research is a component part of students' basic quality. Through scientific research activities, students' teamwork consciousness, social skills and self-learning ability will also be developed accordingly. Therefore, the participation of scientific research will not only affect the students' academic achievements and various learning indicators, but also promote the overall development of the students.

2.3. College students have the ability to carry out scientific research and innovation activities

The ability of scientific research is hierarchical. The requirement of scientific research for ordinary undergraduate students is the lowest level, which requires them to do a certain research work according to the basic procedures of scientific research. The research criteria generally include the following five points: first, the choice of research subjects. That is, by observing the reality, finding the problem, and choosing a meaningful research question that has a good guiding value for the life of society or people. Second, make the research plan. That is, on the premise of clear thinking, it outlines the research roadmap, formulates the steps of the research, and determines the time arrangement of the research. Third, carry out research. That is, the implementation of research. This is the focus of the research work. The main contents include the planning, the use of a tool or means, the actual operation, or to the society to investigate and collect information. Fourth, the analysis of the data. By means of mathematical methods, the collected data are processed with the help of computer. Fifth, draw a conclusion. The information and reality are compared and analyzed, the problems are found and put forward, and then the suggestions for improvement are put forward.

3. Pay attention to "three creation" education to promote the development of students' scientific research

"Three creation" education refers to the combination of three creative education, innovative education and entrepreneurship education, so as to train high-quality talents with "three creation" spirit and ability. [1]. In the early twentieth Century, many countries in Europe and America put forward the theory of "three" education and raised them to the strategic height.

3.1. Improving the open management mechanism of the laboratory to provide a broad platform for the development of students' scientific research

In order to ensure the quality of the laboratory opening, for students to record three activities and the cultivation of scientific research ability to provide places and technical support, to establish open laboratory management and operation mechanism; at the same time, high quality of experimental teachers with a certain number, as an assistant director in the form of some selected students to assist laboratory. The experimental instructor should supervise the students to conscientiously perform the various management systems in the laboratory, and strengthen the opening process and the evaluation of the results. Schools should set up special funds and incentive measures for open experiment, and carry out special funds for special purpose [2].

3.2. Building a base of practice and innovation inside and outside school so that students can develop scientific research ability in three activities

The "three creation" education has very strong application and practice, and the university education should create the conditions to provide the practical platform for the students.

First, the building of the school practice base. First of all, colleges and universities can open the experimental training room, for students to innovate, business services, so that students to understand the frontier of discipline. The "three creation" education research center can accept part of the students to participate in the research. Secondly, the school can establish the Guidance Center for college students to provide funds and consulting services for students. Finally, the school can set up the "three" center of college students and the incubating base for college students to organize college students to carry out their entrepreneurial experience. The two is to carry out social practice. Colleges and universities can cooperate with relevant enterprises and institutions to work together to build a batch of outside school practice bases to improve the three consciousness and ability of college students. With the use of cold summer and summer vacation, students enter the field of enterprise, exercise at the top, and practice in the field. It not only exercised the professional quality, but also improved the "three creation" skills. Through three activities, scientific research skills will be effectively exercised and promoted.

3.3. Reforming the management system of education and teaching to create a relaxed environment for the training of students' scientific research ability

The effective implementation of "three creation education" is the guarantee of the educational and teaching management system. It is required to establish a student oriented education and teaching system with the goal of the long-term development of the students and an innovative, independent, open and individualized education. Therefore, universities should be in the appropriate scope and authority, increase the flexible credit scale, increase innovation, entrepreneurship and other aspects of the credit and incentives, the establishment of "three students hit the base, entrepreneurship fund and helping policy and system, and encourage students to take part in the three creation activities, actively carry out scientific research and technological development, and various competitions, such as entrepreneurial activities. At the same time, we should emphasize the importance of three creation education in the evaluation system, pay more attention to the evaluation of process evaluation, innovation and practical ability, and pay attention to individual differences and emotional expression.

3.4. Adjusting the target of talent training and curriculum system and cultivating the scientific research ability of the navigation aid students

The university personnel training, should be added to the "three hit" talent training objectives: to develop highly innovation and innovative spirit of innovation; to break the normal procedure, dare to break through the traditional, innovative thinking; self-consciousness and participation consciousness and entrepreneurial spirit. In terms of curriculum system reform, according to the characteristics of "three creation" education, we should develop corresponding talents training programs, courses, contents, mechanisms, teaching methods, etc., to increase open courses and learning contents, and open up second classroom. To reduce the required course time in a proper amount, ensure the development of scientific research in time. It pays attention to students' participation and process evaluation, and provides opportunities and space for students to "create three" activities.

4. Strengthening the reform of teaching management and promoting the development of students' scientific research ability

The author's practice has proved that it is meaningful and feasible for undergraduates to take part in research or guide students to carry out research projects. However, this is a new thing, the workload of teachers is larger, and management is more troublesome. In order to do this work effectively, it is suggested that:

(1) The study of students' participation in the subject is a study requirement alone. The study of the subject is listed as a class of subjects and given a certain amount of credit. The school educational service department should set up a special management department and set up special research funds.

(2) The school creates a more relaxed environment for students to have more opportunities to participate in the research. To reduce the required course time in a proper amount, ensure the development of scientific research in time. Further open the laboratory.

(3) Combine the subject research with the theory course and the experiment course. To reform the curriculum content and teaching process, strengthening basic knowledge, basic skills, basic thought (") teaching, and give students a certain space, give full play to students' active exploration of knowledge, all the students' learning potential release. At the same time, teachers should be allowed and encouraged to carry out the teaching reform boldly, and change the students' learning to guide students to learn actively.

(4) To promote the development of students' scientific research ability on the basis of subject curriculum proposal

Have in principle, students love, cutting-edge courses, and the introduction of the latest research achievements in the discipline development course, to stimulate students' interest in learning, to guide them to grasp the subject of scientific development, actively selected topic.

(5) To further encourage and support teachers to carry out the guidance of students' scientific research work

High sense of responsibility and high quality teachers are the necessary conditions to guide students to participate in scientific research and to carry out research. It is necessary to train the students to carry out research or participate in scientific research work as the category of teachers' work, and to take a certain amount of work. Teachers with high professional titles should guide more students.

References

- [1] Lingguo Kong. Research of effect on higher education for regional economic development, Tianjin Economy 2009, 9, 31.

- [2] Deshuang Guo, Xiaolan Tong. Effect of the development of local higher education on the regional economic growth, *Journal of Hubei Normal University (Philosophy and Social Science)*, 2010, 30(5):68.
- [3] Dezhong Wang, Rong Hu. Measure and anylisis on the efficiency of the economic growth in Shanaxi higher education, *Journal of Xi'an University of Post and Telecommunications*, 2008, 13(6): 76