

Research on Teaching Reform Path Based on College Students Innovation Capacity Training

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ABSTRACT: College students innovation capacity training must rely some innovative education system and the curriculum must be in the background in the true sense of innovative education system. Modern curriculum theory believes that course is divided into the subject courses, activities courses and environmental courses. Development of innovative education must proceed from the whole process of education, it is necessary to make curricular education and the second class education as important as position, both as a major channel for the implementation of innovative educational development, and continue to explore a variety of innovations personnel training mode within the two main channels and continue into teaching plans, in order to adapt to variety of training needs of the personality development. From the teaching point of view, training of college students innovation ability should become an important part in the innovation theory and practice of education.

KEYWORD: College students; Innovation; Teaching Reform

1 INTRODUCTIONS

Innovation is capabilities to provide new, unique with social or personal value product based on certain objectives and tasks and creative idea as the core. Students innovation capacity is one of indicators to measure a country's international competitiveness.[1] In the new situation of increasingly intense international competition, all over the world set off a crazy wave of training innovation ability. United States has paid attention to the students innovation ability training since the 1950s, while Britain is the birthplace of creative personnel training, paying specially attention to research related factors of innovation capacity in the last two decades. Under this situation, Students innovation ability training has become an important task for Chinese Universities. As a basic activity of Higher education, teaching is the main channel of innovative ability training. If there is no scientific, effective teaching initiatives, the innovation training may only be empty talk. Well-organized teaching content, application innovative teaching methods and to optimize the psychological atmosphere in the classroom and other are important teaching reform measures based on innovative capacity training.

2 ANALYSIS OF CAUSES FOR GENERAL LACK OF COLLEGE STUDENTS INNOVATION ABILITY

2.1 *Subjective causes*

Many of the students think that innovation is unattainable thing and only for a handful outstanding students, so they are fainthearted and afraid to try; Although some students pursuit innovation, but lack of the necessary innovation skills; Other students process innovation courage and skill but lack of unremitting perseverance. These factors affect the formation and development of university students innovation capacity.

2.2 *Objective causes*

Several factors lead to the status that the college students today general lack of innovation ability.

Firstly, the institutions lack of teachers and overload teaching work making teacher has no leisure to engage in research on teaching, science and technology, not to mention innovative teaching. Even if the individual institutions hired a lot of well-known professors, entrepreneurs and other successful people from society, but it is just a figurehead only and few or no people give students essential guidance. Old teaching content, lagging education concept and lack of faculty with industry

background and experience are factors severely restricted the students' ability to innovate and improve.

Secondly, Chinese college teaching methods are still traditional "chalk and talk", teachers taught mainly in class and students can only accept knowledge and learning passively. The students training by this method is relatively easy to cope with the current exam, while independent thinking and problem-solving skills have no grow and acquire knowledge is not secure. In addition, the single assessment method "written answer" make students only satisfied with rote of existing knowledge. Over time, this will lead to students learning motivation passivation, thinking blocking, innovative spirit and consciousness weaken, thereby affecting the ability to develop and enhance innovation.

Thirdly, teaching and research equipment in most Chinese universities is serious shortage in investment at present, the obsolete equipment eliminated by society often placed in the laboratory. Completely out of touch with the current high-end technology experimental equipment can not attract the interest of college students and not meet the needs of students innovation ability training. Very limited funding leads to lack of teaching high-level scientific research and experimental equipment, so that students internship is just a mere formality.

3 TEACHING MODE REFORM PATH OF PROMOTING INNOVATIVE CAPACITY TRAINING

Before the 1990s, our teaching mode is basically teacher-centered, the class completely dominated by the teacher and the students are passive recipients of knowledge, which ignore the role of students' cognitive subject and not conducive to practical and innovation ability to improve.[2] One of the main objectives of the current university teaching reform is to change the traditional teacher-centered teaching mode and establish the new teaching model in which teachers play a leading role and fully embodies the main role of students as understand body in order to train talent with practical ability.

3.1 *Establish student-oriented teaching philosophy with innovative education as the core*

We must change educational thinking and update education concept, establish innovative education-centered thinking, emphasize holistic development of students and improve the overall quality. To establish the body status and role of the student in the process of education, respect and foster student autonomy and creativity, focusing on students' innovative spirit and practical ability. In the process of teaching, we must strive to create a democratic,

lively atmosphere to make students full play the autonomy and enthusiasm, using the methods of question and answer, discussion, problem-solving to teach, continues to introduce the thinking activity of educational subjects into finding and solving the problem environment, fostering the ability of students to ask questions and solve problems and making the thinking of education objects from passive to active. In the classroom, we must strengthen and inspire students awareness of the problem and encourage students to identify problems, ask questions, and then solve the problem; to care for and train students curiosity and thirst for knowledge, to protect the spirit of exploration and innovative thinking of students; to create atmosphere of pursuing and respecting for Truth. Teaching methods should change to inspire students to active pursuit of knowledge and enable them to actively participate in the process of teaching, changing students from passive learning to active learning.

3.2 *Building curriculum system to train students innovation capability*

To develop students' ability to innovate, we must optimize the teaching content and adjust knowledge structure to build rational curriculum system which is conducive for training students innovation ability. It is necessary to establish curriculum system which compliance with current educational practice and adapt to university education form development to optimize the teaching content. To develop students' ability to innovate, teaching content must be constantly updated. In the university curriculum system, it should increase the proportion of elective courses based on the protection necessary expertise basic knowledge of learning, meeting the students personality, differentiated learning requirement through variety of elective courses. In the process of teaching, teachers should pay more attention to the latest knowledge and introduction of innovation direction, focusing on teaching learning and research methods. To improve the course structure, we must focus on the intersection of arts, sciences and humanities education simultaneously, with particular attention their penetration and integration. Course structure should be optimized, setting basic course according to the principle which broaden the basis and dilute the professional awareness to create conditions for students to develop in multi-direction. We should increase the proportion of elective courses, meeting the student's personality, differentiated learning requirements through variety of elective courses; We also should increase the teaching hours proportion of elective courses and reduce that of required courses to promote character development of college students and meet the needs of social development. To create some appropriate training courses related to creativity, such as

thinking of science, psychology, scientific methodology, so that students master the methods of scientific thinking, provides methodology guidance for training the students ability to innovate. Practical training should be strengthened to improve the operation ability by reducing the number of hours of classroom teaching, increasing the experiment, internships and graduation designs and other practical aspects.

3.3 Update teaching methods and activate teaching means to construct teaching model aim at improving teaching effectiveness

The traditional and modern teaching methods and combined with the knowledge decomposed into several independent modules, progressively, step by step, will make learning seem easier and more relaxed; Guide students to solve problems and inspire students learning interest by asking questions, making them actively involved in the teaching process, will improve students self-learning ability and creativity; Teachers integrate their knowledge and experience into the teaching of the contents will increase students interest and initiative. Teachers change the traditional teaching style and introduce "problem teaching approach", "research methodology" and "discuss pedagogy" and so on into the class will helps a lot to cultivate students independent learning and innovation ability. Universities should actively create conditions to encourage teachers to adopt modern teaching methods such as networking and multimedia, etc., through the creation of knowledge, ideas, fun, aesthetic in one of the scenes of the learning environment, to stimulate student interest in learning and mobilize students to participate in the teaching activities actively.[3] Also, we should reform the practice teaching methods. For the status of current university that lack of practice teaching time and space and more emphasis on research, theoretical and structured, experimental teaching should reduce confirmatory demonstration experiments and increase the design or comprehensive test, combine with realities closely and organize students to do graduation practice and design which has really meaningful. It should also encourage students to apply the theoretical knowledge learned in social practice through visits, social surveys, consulting services, technology development, work-study and other forms, improving students practical and innovation ability.

3.4 Reform the examination methods and content to establish scientific assessment index system

Examination reform in universities is the important part to improve the quality of education, test and improve students innovation thinking and creative

capability. The presence of examination in university exists the problems such as weight knowledge and light capacity in test content, examinations form is over single and did not establish an effective evaluation mechanism. To deepen the reform of college exams and foster innovation students, we must reform the examination content and establish scientific evaluation index system. In the exam content, innovation capability assessment should become an important part of the exam. To minimize the rote contents required in basic knowledge and theory and increase the innovation ability test as possible, not only test the theory, but also test the experiment; Test results not only consider the end of exams, but usually considered the situation of completing the job case, class discussion, second class and so on. Papers in favor of innovative ability essay questions, analyze problems, a title given problem, etc. should account for a large proportion and the method should be flexible to take open-book examination, oral examination, papers and other forms combination, guiding the students towards independent thinking and answer the questions according to their own understanding. Exam evaluation should encourage insights and innovation and help students develop individualized thinking in exploring the role of knowledge. On the assessment methods are not only closed book examination, there should be open-book examination. To develop a reasonable evaluation system which can promote and encourage the development of student innovation capability, test both knowledge, ability and overall quality, in order to promote students actively improve their sense and capability of innovation. The key of cultivating students innovative spirit and ability is to build a brand new course structure, establish an effective teaching model, play a good guiding role of teachers and active role of students, of course, it need to have a series of matched management mode. In the teaching reform, we must remember: Students are the subject in learning, teaching should give students a greater initiative to allow them independently explore the issue, making them develop a positive idea and habit of innovation at the same time of learning knowledge, becoming practitioners of innovation activities.

4 CONCLUSIONS

The 21st century is the century of knowledge-lead economy, but also the century full of competition and challenges. Innovation is the core of the knowledge economy, the reality of knowledge innovation rely on innovation sense, spirit and capability of people. Only when the country has a number of innovative talents, it can adapt to future

technological advances rapidly changing world situation and to participate in the fierce competition in the world. As the main base for the personnel training, Chinese universities shoulder inescapable mission. However, in the current situation, the culture of college students innovation ability is not enough in place and the effect is not ideal, which is reflected in the aspects: students' thinking is active but lack of innovative thinking; there is inspiration but lack of innovation skills; there is innovation enthusiasm but lack of innovation goals. Therefore, in order to build China into an innovative country, teaching reform in focusing on the college students innovation capability is an urgent task.

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