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The Analysis of the Cultivation Path of College Students' Scientific and Technological Innovation Ability from the Perspective of New Engineering

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Abstract: In the context of the continuous improvement of my country's modern education level and the deepening of education reforms, the importance of the college of engineering to the cultivation of applied talents has gradually been recognized by people. However, in the process of actually cultivating talents of college students in engineering colleges, due to the influence of various factors, the satisfactory results have not been achieved. Therefore, the traditional education methods must be reformed. This article analyzed in detail the effective ways of cultivating the scientific and technological innovation ability of Chinese college students under the new engineering perspective, and laid a solid foundation for the further improvement of the professional ability and professional quality of innovative applied talents in my country.

1. Introduction

Science and technology is not only the primary productive force that promoted the development of our society, but also the main symbol that could embody advanced productive forces. As the soul of a national spirit, innovation can provide a steady stream of powers for the country's prosperity and development. Therefore, increasing the intensity of cultivating professionals with high innovation ability and scientific and technological innovation spirits is not only an important educational task shouldered by my country's engineering colleges, but also has an important impact on my country's national development and international competitiveness. As an important position for cultivating scientific and technological innovation talents, engineering colleges shoulder the important mission of cultivating scientific and technological innovation talents under the entrust of the times. Therefore, teachers and employees of engineering colleges must have the ideological consciousness to follow the trend and take responsibility, take innovation and creativity as the main goal of cultivating college students, and cultivate a large number of high-quality and high-level scientific and technological innovation talents for our society.

1. THE CHARACTERISTICS OF THE TRAINING MODE OF COLLEGE STUDENTS' SCIENTIFIC AND TECHNOLOGICAL INNOVATION ABILITY FROM THE PERSPECTIVE OF NEW ENGINEERING

1.1 The Open Features

In the process of cultivating scientific and technological innovation talents, engineering colleges need to fully integrate with the needs of social and economic development to ensure that the established talent training goals can be unified with the needs of social and economic development. The establishment of an open science and technology innovation curriculum system can be used as a carrier of innovative curriculum to build existing majors, to establish a connection platform between the outside and colleges, and to effectively connect the innovation chain, industry chain, talent chain, and education chain.

1.2 The Progressive Features

Engineering colleges should strictly follow the progressive method of “scientific and technological innovation awareness-scientific and technological innovation knowledge-scientific and technological innovation ability” in the process of setting up specific curriculum systems according to the characteristics of students in different grades. Through the development of phased and progressive courses, science and technology innovation education has a stronger goal and pertinence, so that the innovation ability and innovation quality of college students can be comprehensively improved.

1.3 The Fusion Features

The development of science and technology innovation education in engineering colleges should strengthen the training of students' solid professional basic ability and good moral quality, so that students can always have a clear direction in scientific and technological innovation through the guidance of socialist values. Through the flexible use of solid professional foundations, technical guidance was provided for students to carry out scientific and technological innovation. Therefore, engineering colleges should integrate scientific and technological innovation courses with professional courses as effectively as possible.

2. EFFECTIVE WAYS OF CULTIVATING COLLEGE STUDENTS' SCIENTIFIC AND TECHNOLOGICAL INNOVATION ABILITY FROM THE PERSPECTIVE OF NEW ENGINEERING

1.4 Improving the Constructiveness of Training Measures

Firstly, for curriculum ideology, it is mainly to explore the ideological and political education functions contained in specific courses, so as to achieve the purpose of collaborative education. Therefore, in the process of cultivating students' scientific and technological innovation ability, engineering colleges should always run through the ideological and political education, and conduct in-depth exploration of the ideological and political elements contained in the scientific and technological innovation courses.

Secondly, in the process of cultivating students’ awareness and ability of scientific and technological innovation, it is not just relying on a few simple scientific and technological innovation courses and science competitions to achieve the goal of improving students’ scientific and technological innovation literacy, but from a systematic perspective, ensuring the organic integration of scientific and technological innovation courses and professional courses to form a complete chain system that combines scientific and technological innovation awareness, scientific and technological innovation knowledge, and scientific and technological innovation capabilities.

Thirdly, engineering colleges must keep pace with the times, continuously improve and update the content of scientific and technological innovation courses in accordance with the actual development needs of the society, combining offline advanced new technologies, new theories, and

social hot-spots to make the courses have timeliness and to make innovation further improved. In addition, relevant faculty members must have the awareness and ability to use modern teaching methods flexibly [1].

1.5 Clarifying the Construction Purpose of the Training Measures

Firstly, as far as the awareness of technological innovation is concerned, it mainly refers to students' actual cognition, specific feelings, and objective evaluation of technological innovation, as well as their attitudes towards technological innovation in this environment, and their psychological attitudes and their situation and learning activities towards themselves through this attitude are adjusted and standardized. In other words, cultivating students' awareness of scientific and technological innovation is the basis for building a scientific and technological innovation education curriculum system.

Secondly, as far as technological innovation knowledge is concerned, it is divided into tacit knowledge and explicit knowledge. The individual characteristics of tacit knowledge are more obvious, which are mainly presented through personal experience. While explicit knowledge mainly refers to students acquiring through textbooks and reference books as well as teachers' oral narration, which is easier for students to acquire knowledge .

Thirdly, for the training contents of students' scientific and technological innovation ability, it mainly includes students' creative ability, communication ability, cooperation ability, writing ability and cognitive ability, etc., which requires diversified courses for training. Therefore, engineering colleges should offer related courses such as "Employment and Entrepreneurship Guidance" and "Career Planning", and carry out school-enterprise cooperation with enterprises to provide students with diversified scientific and technological innovation opportunities and platforms [2].

1.6 Understanding the Construction Content of Training Objectives

Firstly, the first classroom. In the process of developing the first classroom education activities of science and technology innovation, engineering colleges should combine the actual teaching goals and the specific conditions of students, and divide the science and technology innovation classroom into three levels: elementary, intermediate and advanced. In the elementary class, the student group is the first-year students who mainly are cultivated the students' awareness of scientific and technological innovation. In the intermediate class, the student group is the second-year students who mainly are taught the knowledge of scientific and technological innovation. In the advanced classroom, the mask team consists of third and fourth grade students, who mainly are jointly cultivated students' awareness and ability of technological innovation.

Secondly, the second classroom. In the process of carrying out the second classroom education activities of technological innovation in engineering colleges, although the relevant teaching content is not included in the specific teaching plan, it can still cultivate students' awareness of technological innovation, develop good technological innovation habits, and improve their own technology ability to innovate, which played an obvious role. In the college education stage of engineering college students, the second classroom in the science and technology innovation education curriculum always runs through it, which is involved in every education link, which provides a good supplement and improvement for the effective development of the first classroom. The effective development of the second classroom can enable students to understand and familiarize themselves with scientific and technological innovation from different perspectives, and can play a positive role in increasing students' interest in scientific and technological innovation. At the same time, it is also an important carrier for the effective development of scientific and technological innovation education in engineering colleges [3].

2. Conclusions

Based on the above detailed analysis and systematic research on the effective cultivation of scientific and technological innovation capabilities of Chinese college students under the new engineering perspective, we can more clearly understand that innovation capabilities are the source of powers to promote the continuous development of our society.

As the main camp for cultivating applied talents in our country, engineering colleges must attach great importance to the cultivation of college students' scientific and technological innovation ability. Engineering colleges should build a set of independent characteristics of science and technology innovation training system for college students based on the actual characteristics of the school and the specific characteristics of the subject through continuous exploration and research, which could contribute to the further improvement of the company.

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