

# **Discuss the Measures to Improve Science and Technology Innovation Education in Colleges and Universities**

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**Abstract:** For colleges and universities, science and technology innovation education can effectively improve the comprehensive literacy of college students, and also cultivate their innovative ability. In the actual education process, relevant educators should combine practice with theory, from textbooks, starting with reforms in curriculum settings and other aspects to ensure that science and technology innovation education can become the basic content for cultivating high-quality talents. This article explores the current situation of science and technology innovation education in colleges and universities, and based on this, proposes to optimize the subject knowledge structure, innovative education concepts. We will improve measures in several areas, such as the technology innovation platform, and hope to provide relevant people with reference and reference.

## **1. Introduction**

From the perspective of the development of colleges and universities, science and innovation education is a core function, which can enhance the comprehensive strength of colleges and universities. Based on this background, only the problems of science and technology education can be solved, the quality education concept, and the creation of a new and unique education model can enable students to quickly adapt to future jobs. Through the implementation of modular curriculum design, relevant educators should pay more attention to the integration of humanities education and science and technology education, and build a base of industry-university-research integration. On the basis of improving the overall teaching effect, it lays a solid foundation for the healthy development of students.

## **2. The Status of Science and Technology Innovation Education in Colleges and Universities**

### **2.1 Lack of a Reasonable Curriculum Architecture**

In the process of carrying out scientific and technological innovation education in colleges and universities, the problem of unreasonable curriculum system structure is common. Compared with the institutions of higher learning in many foreign countries, China's teaching methods and concepts are lagging behind and cannot meet the needs of society for scientific and technological personnel. In addition, for engineering students, the knowledge of ideological foundation and liberal arts is relatively lacking; for liberal arts students, the teaching of combining knowledge and scientific knowledge is not in place, and the integration of various disciplines cannot be achieved, which will produce students' enthusiasm for learning Large impact [1]. Finally, in the actual teaching process, there is no reasonable introduction of seminars, learning and flipping classes, etc., and the curriculum is not innovative enough.

### **2.2 The Emphasis on Teaching Practice Needs to Be Improved**

In the course setting of colleges and universities, the content of teaching is lagging. Most educators pay more attention to the teaching of laboratories and key disciplines, and do not pay enough attention to practical learning. the overall management of teachers is not strict. Will directly

affect the quality of talent training in colleges and universities to a certain extent [2]. In addition, due to the imperfect practice teaching system in colleges and universities, there is no systematic science and technology education outline, there is a certain randomness in practical teaching, and curriculum education is relatively random. As a result, the quality of teaching cannot be guaranteed. Due to the inadequate practical teaching facilities in colleges and universities, insufficient funding for scientific and technological practice, the establishment of an industry-academia internship base, and the relatively old technology and experimental equipment. Not only will it affect students' mastery of new technology, but will affect the effectiveness of practical teaching.

### **3. Measures to Improve Science and Technology Innovation Education in Colleges and Universities**

#### **3.1 Optimize Subject Knowledge Structure and Implement Modular Curriculum Design**

In the process of scientific and technological innovation education, colleges and universities must abandon traditional teaching concepts, but focus on the combination of humanities and sciences, and continue to broaden students' learning areas and cultivate students' practical ability. The integration with knowledge-based courses can attract students' attention [3]. Only by integrating the liberal arts and science education, gradually optimizing the knowledge structure of science and technology education disciplines, and further cultivating students into talents with outstanding theoretical and practical abilities. At the same time, in the field of higher education, advanced computer technology is gradually becoming popular. Educators should combine the strategic development goals of higher education institutions, integrate different professional calibers, and create distinctive specialties to continue improve the educational capabilities of colleges and universities. In the subsequent selection of majors for students to study, students can choose the majors of interest based on their independent needs. To ensure that students can form a scientific knowledge structure, interdisciplinary and curriculum content can be established. In order to achieve the core goal of comprehensive development of students.

In addition, the analysis of science and technology education models in colleges and universities mostly uses unified examination and assessment and teaching methods. This standardized curriculum setting will not only affect students' ability to think independently, but will also discourage students from learning in the long run. can not stimulate students' divergent thinking. Therefore, in the process of innovating science and technology education concepts, you can use modular teaching methods to more respect the interests of students of different majors. Start with logical thinking and cultivate to enable students to find the technology they are interested in. Knowledge module, combining professional needs with social post needs to improve their comprehensive capabilities. Only by ensuring that the educational model of colleges and universities are synchronized with the society, and in-depth exploration of the knowledge and progress of different specialties, and updating the content of science and technology education. The method of cooperation with social enterprises truly transforms scientific and technological achievements into the teaching needs of colleges and universities. Adopts a two-way interactive teaching method to ensure the timeliness of scientific and technological teaching content and ensure that students can keep up with the development of the times and adapt to social needs as soon as possible.

#### **3.2 Innovate Education Concept and Train High-Quality Talents**

In the teaching process of colleges and universities, relevant educators should take natural science theoretical knowledge and modern technology as the core content, the purpose is to improve students' comprehensive scientific and technological literacy [4]. At this stage, many colleges and universities' science and technology education is at the initial stage, it is necessary to continuously expand the knowledge and provide students with multi-disciplinary knowledge learning opportunities. By strengthening scientific and technological education innovation, adjustment of educational concepts. In the process of setting up professional courses, it is necessary

to improve the innovation ability as the core. Pay attention to the construction of teaching materials, and enrich teaching content, such as adding scientific and technological innovation theory and scientific research ethics. While teaching scientific and technological knowledge to students, educators should ensure that practical development training runs through it. Hope to learn from teaching models, starting from different aspects such as technical means, innovative teaching of science and technology has become the core content of cultivating high-quality talents.

In this process, colleges and universities should implement a flat management model, hoping to reduce unnecessary management links as much as possible, and improve the comprehensive ability of management personnel. Through the implementation of innovation in the management system, build a good science and technology education innovation the environment will highlight the advantages of academic education in colleges and universities. Only the integration of teachers and resources can stimulate the enthusiasm of students and teachers for scientific and technological innovation. Colleges and universities through the improvement of performance incentive mechanism to encourage the research staff of all departments to focus on In the course of academic discussions, you can also communicate and communicate with students on the Internet platform to create a multi-disciplinary and multi-professional teaching space for students, so that students can boldly express their true ideas and learn more technologies. Theoretical knowledge.

### **3.3 Establish a Course Website to Enhance Students' Practical Ability**

First of all, the innovation of science and technology education in colleges and universities is very important for cultivating the innovation of college students. The use of science and technology education can enable students to understand knowledge outside the professional field, and to develop natural science topics and high-tech development. Have a full understanding of the current situation, science and technology fields, etc., in order to continuously enrich students' knowledge of different disciplines [5]. On the basis of improving the thinking mode of college students, focus on the improvement of cross-domain and logical thinking ability. The platform approach creates a good learning platform for college students, focusing on the education of scientific research morality and innovation ability. It analyzes from horizontal and vertical perspectives, and strives to cultivate the application of scientific and technological innovation ability as the primary teaching goal. For different majors the development of students and entering into social posts has certain practical significance.

Secondly, in the process of professional teaching, educators should combine the actual conditions of each specialty, broaden the context, integrate different knowledge content, and innovate the mode of knowledge transfer, hoping to develop curriculum content with practical characteristics. Based on modern development under the background, colleges and universities can use the advantages of network information to establish course websites and truly realize the integration of online technology education and course teaching. In the course website, students can demonstrate course teaching videos, teacher courseware, and lesson plans. And master the latest materials of modern science and technology. I hope to provide students with richer teaching content, and also provide rich online teaching resources. In addition to self-learning course content, you can also understand the development prospects of modern science and technology from the Internet, and expand your horizons.

### **3.4 Pay Attention to the Construction of a Combination of Production, Teaching and Research Bases, and Improve the Technological Innovation Platform**

In the process of carrying out scientific and technological education innovation, colleges and universities should take market and subject teaching as the basic guidance. In the process of teaching and research, strengthen cooperation with the industry, and establish an integration of scientific and technological innovation and production, learning, and research the system hopes to provide services for the development of enterprises and the country. Based on the in-depth cooperation between the industry and higher education institutions, higher education institutions have also become important industry personnel. Using measures of industrialization work can effectively transform science and technology. Achievements to create higher social value to

strengthen the vitality of the science and technology industry. Utilize the advantages of production-study-research cooperation to build a dual-employment mechanism for talents, and highlight the advantages of scientific and technological personnel in universities and enterprises, establish high-quality scientific and technological teams, and innovate talent mechanisms. At the same time that colleges and universities achieve the integration of technology and equipment resources, they provide rigid conditions for the construction of school laboratories, and gain social and enterprise financial security, and gradually promote science and technology innovation and technology school.

Control the education of key disciplines by building a scientific and technological innovation platform. Colleges and universities should combine the direction of national scientific and technological research to establish a base for the transformation of technological achievements and research and development of science and technology, and implement a base for regional economic development and industrial integration. Adopt integrated higher education the scientific research base of universities and colleges relies on national key research laboratories, and uses dynamic control and management methods to invest in scientific research resources and manpower to explore major scientific research projects, hoping to continuously improve their scientific and technological achievements and innovation capabilities.

Use practical technology training projects, combined with the future job requirements of college students, select high-tech technology technologies in order to train students' practical ability and equipment use ability, hoping that students can master the professional skills of future jobs, Such as imaging technology, image editing technology, etc. On the basis of improving the scientific and technological practice platform, an open, design-oriented teaching system should be adopted, and new scientific and technological innovation theories should be incorporated. In the process of evaluating students, small scientific and technological productions can be used. Or the way of scientific papers, in the students' works, show innovative technological thinking and learning effects.

#### **4. Conclusion**

In short, after entering the era of knowledge economy, scientific and technological innovation has received extensive attention from various countries. In the process of national innovation system, universities and colleges belong to the knowledge base for cultivating talents, and the ability of scientific and technological innovation and education in universities is not only related. The development of colleges and universities will also affect the progress of the country and society. Therefore, colleges and universities should innovate teaching systems, integrate the basic situation of college students, integrate teachers, and build a comprehensive curriculum learning platform. At the same time, strengthen students' practical ability and gradually grow into the talents that society needs, laying the foundation for the stable development of colleges and universities.

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