

Research on the Improvement of Humanistic Quality and Aesthetic Ability of Science and Engineering Students under the Background of New Engineering

Bo Meng, Qian Wang

Xi'an Eurasia University, Xi'an, Shaanxi 710065, China

Keywords: Humanistic quality, Aesthetic ability, Science and engineering

Abstract: With the rapid development of economy and society, the social demand for talents has changed from the requirement of single technical ability to the requirement of comprehensive quality of talents. College students should not only have skilled professional skills, but also have good humanistic quality and aesthetic ability. The cultivation of innovative talents is an inevitable choice in the rapid development of modern higher education and global economic integration. Under the background of new engineering, aesthetic education will have more important significance in our country's undergraduate engineering personnel training system. It can promote aesthetic taste and act on people's moral will and humanistic quality. The cultivation of humanistic quality plays an important role in the cultivation of innovative thinking, scientific research ability and happy life ability of college students, especially science and engineering students. How to carry out humanistic quality education, improve students' humanistic quality and cultivate students' aesthetic ability is a problem that must be seriously considered and properly solved in Colleges and universities, especially in Colleges of science and engineering.

1. Introduction

Under the background of classified development of ordinary colleges and universities and the transformation of science and engineering colleges to applied technology type. It is an undisputed consensus that science and engineering colleges should aim at training applied talents due to misplaced competition and differential development. With the rapid development of economy and society, the society's demand for talents has changed from the requirement of single technical ability to the requirement of comprehensive quality of talents. College students should not only have skilled professional skills, but also have good humanistic quality [1]. Improving the ability of independent innovation and building an innovative country are the core of China's development strategy and the key to improving the overall national strength [2]. The cultivation of innovative talents is an inevitable choice in the rapid development of modern higher education and global economic integration. Aesthetic education, which appeals to emotion, plays an important role in moral education. Therefore, aesthetic education is indispensable in the comprehensive cultivation of undergraduate engineering talents. It guides people's spirit and behavior, and can help engineering students establish the lofty ideal of promoting the harmonious development of the country, people and society with science and technology [3]. Colleges and universities shoulder the mission and responsibility of cultivating college students' innovative consciousness and innovative ability. Higher education is an important measure for the country to improve its independent innovation ability and implement the strategy of strengthening the country with talents [4]. The cultivation and improvement of the humanistic quality and aesthetic ability of college students is one of the main research directions of the development of higher education in our country.

Human literacy regards the beautiful realm of life and society as the goal of development, and regards the enrichment of human imagination and the diversified development of life as an important content of its own existence [5]. The core of the transformation is to highlight the application and locality, but this in no way means a reduction in the level and quality of the school. In order to meet the needs of social development, many colleges and universities are in the process of transition to application-oriented development [6]. The requirement for talents in the new era is not only to recognize and master the laws of natural and social development, but also to have a

strong sense of responsibility and dedication to the country and society, the natural environment of human beings and the humanities and social environment [7]. How to cultivate the practical ability and innovation ability of college students is an important issue facing higher education and a long-term systematic project. Application-oriented colleges should not only position the school's talent training goal to cultivate innovative talents, but also reflect deeply on the process of talent training [8]. How to develop humanistic quality education, improve students' humanistic quality, and cultivate students' aesthetic ability is a problem that colleges and universities, especially science and engineering colleges, must seriously consider and properly solve.

2. Humanistic Quality and Aesthetic Education of Science and Engineering Students

2.1 Lack of Humanistic Knowledge

Some colleges and universities even put too much emphasis on professional knowledge education and practical ability training, but they have neglected the all-round development of students, especially the important role of basic humanistic quality in improving the comprehensive quality and long-term career development of college students in the future. Today's college students enter the university under the confinement of examination-oriented education in middle schools. Most of them read examination books that contain less humanistic knowledge. Some application-oriented universities do not pay enough attention to the humanistic quality education of college students, which is mainly manifested in the over-emphasis on the professional education of science and engineering and the neglect of humanistic quality education. Social transformation refers to the transformation of human society from one type of existence to another. Social transformation has not only brought about great changes in economic and social structures, but also profoundly affected people's ideas. Theoretical teaching and practical teaching are an organic whole [9]. In the process of introducing professional teachers and building teachers, colleges and universities often do not consider teachers' humanistic quality education. Such professional teachers will inevitably lay particular stress on imparting students' professional knowledge and skills in the teaching process, and it is impossible to integrate humanistic and social science knowledge into natural science knowledge. Training high-quality applied talents with certain aesthetic ability and being able to adapt to the rapid development of science and technology in the future should be our talent training goal orientation. To form and improve the quality in the process of team cooperation and communication, thus effectively improving students' multi-level practical ability and aesthetic ability.

2.2 Lack of Humanistic Spirit

Due to the complexity of the growing environment and the weakening of moral education, some science and engineering students have lost their humanistic spirit. In recent years, although the overall quality of college students in our country has been improved, due to the influence of examination-oriented education for a long time, students are under greater pressure to enter a higher school, which has hindered the improvement of students' overall quality to a certain extent. In the primary stage of training engineering talents in our country, aesthetic education is in a relatively backward state. The historical reason lies in the large demand for practical engineering education in China's economic and social development since the founding of the People's Republic of China. Science and engineering colleges and universities must not neglect to carry out humanistic quality education for students, otherwise it may lead students to enter the society with personality defects, which will definitely bring endless harm to the development of the country and the nation. The growth of contemporary college students in the period when the achievements of reform and opening-up are prominent is deeply influenced by economic globalization. Some college students pay too much attention to the pursuit of realistic material benefits. They often extend the principles in the economic field to the ideological field. The cognition of ideals and beliefs shows a tendency of utilitarianism and fuzziness. Aesthetic education supported by the curriculum system of art education plays an important role in improving the artistic knowledge and aesthetic ability of

engineering students, but its content and form are too single to adapt to the rapid changes of society.

3. Strategies for Improving Humanistic Accomplishment and Aesthetic Ability

3.1 Change the Concept of Education

Colleges and universities must change the current educational situation of “attaching importance to professional teaching but neglecting humanistic quality education” and set up the concept of all-round development of talent cultivation, aiming at cultivating talents with both excellent scientific skills and higher humanistic quality. As far as the reform of teaching content is concerned, the aesthetic education of undergraduate engineering talents in our country should add aesthetic education and creative aesthetic education on the basis of art education. Leisure of aesthetic phenomena occurs under certain social conditions. It requires time, material conditions, system and other conditions, but the most important thing is the subject's leisure ability [10]. The connotation of humanistic accomplishment is rich, which includes not only the knowledge of political science, economics, ethics, philosophy, history, law and other humanistic sciences, but also the intrinsic quality and spirit centered on human beings [11]. At present, China's economic development has entered an important period of transformation and development, which requires not only high-level technical personnel with strong professional ability, but also high-level all-round development personnel capable of meeting the needs of economic and social development. For college students, humanistic quality education is an important supplement to professional education, which can not only improve their knowledge quality, enrich their inner world, but also enhance their ability to adapt to social environment.

3.2 Strengthen the Construction of Campus Culture

Influenced by traditional education, many college students think that they only need to study professional knowledge seriously during their school days, and nothing else needs to be involved. Science and engineering colleges should combine professional learning with humanistic quality education, permeate humanistic quality education into the whole process of learning knowledge and cultivating ability, and change the marginal position of humanistic quality courses in the school curriculum system. Reflecting the guidance and cultivation of innovative consciousness and ability in theoretical teaching requires teachers to have profound professional theoretical knowledge and rich scientific research and innovative work experience. In order to improve the enthusiasm of students to participate in scientific and technological innovation and competitions, it is necessary to increase publicity on the significance of participating in scientific and technological innovation activities. At present, world science and technology are developing rapidly. Modern product design courses can be fully incorporated into the curriculum library of public aesthetic education and assume the function of cultivating innovative thinking [12]. This educational concept can provide a reference for our country to cultivate innovative talents. In the process of personnel training, application-oriented colleges and universities should focus on the cultivation of students' ability and quality, and take students' real income as a guide, so as to avoid separating professional knowledge education from humanities and social science education when training application-oriented talents, so that students can enhance their professional knowledge ability and practical application ability while enhancing their humanistic quality.

Campus culture is the concentrated embodiment of university spirit and university culture, and is an important carrier of humanistic education. In the process of humanistic quality training for science and engineering students, it has many functions that other courses cannot replace. For engineering students, although traditional art education is indispensable, modern design, as a branch of practical art, can improve their ability to feel and create the aesthetic attributes of life. In the teaching activities of financial management specialty guided by the promotion of innovation and entrepreneurship, more innovative teaching modes should be introduced. Aesthetic education for engineering students in colleges and universities should be realized through a hierarchical teaching platform, and innovations should be made in the curriculum system, teaching mode, teaching

methods, etc. Without innovation, there is no room for enterprises to survive and the national economy cannot develop. The thirst for innovative talents has become a necessity for the survival and development of the industry. It is necessary to analyze the market demand and combine the internal and external environment of the school to train the talents needed by the market. Colleges and universities should cultivate comprehensive teachers with both scientific and humanistic backgrounds, so that teachers should pay attention to instilling humanistic spirit into students in knowledge teaching, and achieve the organic combination of professional teaching content and humanistic spirit education to realize the unity of teaching and educating.

4. Conclusion

“New Engineering” points out the direction for the current construction of application-oriented universities and the future innovation of engineering education in our country. Application-oriented universities should take this opportunity to improve the quality of application-oriented talents training with higher requirements. The characteristics of science and engineering students require the society to pay attention to the ways and means of cultivating their humanistic quality and improve their humanistic quality level. In order to further improve students' humanistic quality and cultivate students' aesthetic ability, learning has to reflect on some existing education methods, education system and education mode, and explore an education and management mode that is more suitable for China's development requirements. To improve the aesthetic quality of science and engineering college students is determined by the weak aesthetic quality of science and engineering college students, which is not optimistic. In the process of cultivating the humanistic quality of science and engineering students in Colleges and universities, based on science and humanistic education, it is an effective way to improve the professional quality, scientific research ability and humanistic quality of students through the intersection of Arts and Sciences, discipline integration and so on, so as to cultivate talents with both ability and diligence. Colleges and universities should cultivate comprehensive teachers with both aesthetic ability and humanistic background, so that teachers should pay attention to the content of humanistic spirit in the teaching of knowledge, and achieve the organic combination of professional teaching content and humanistic spirit education, so as to realize the unity of teaching and education.

Acknowledgment

Key course construction

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