Research of Present Situation Analysis and Promotion Measure on Humanities Quality Education of Science and Engineering Students

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Abstract. According to the situation of the lack of humanistic quality on science and engineering students, the paper analyzes the practical significance of improving the humanistic quality for the formation of the science and engineering students' creative thinking and the future occupation development, based on humanistic connotation analysis. Then, the reasons for the lack of humanistic quality of science and engineering students are discussed. Finally, it gives the way to improve the humanities the quality of science and Engineering students.

Introduction

Humanistic quality education is one of the important contents of College Students' education. It is the basis of College Students' education to infiltrate and promote each other with physical and mental quality education and scientific quality education [1]. In 2010, the Ministry of Education promulgated the outline of educational planning, and proposed that "improving quality as the core, and implementing quality education in an all-round way" as an important strategy for China's educational reform and development. In the same year, the Ministry of education carried out the "excellent engineer education program", and especially pointed out that one of the goals of higher engineering education is to train a large number of engineering talents with international competitiveness. It not only pointed out the development direction of higher education, but also made a macro strategic orientation for cultural quality education, which pointed out the direction for college students, especially students of science and engineering, to carry out humanistic quality education.

Connotation of Humanistic Quality

"Humanistic quality" of science and engineering students refers to the science and engineering students' reflection in the psychological quality and spirit after the learning of literature, history, philosophy and art and the accumulation of humanities knowledge, and it is mainly embodied in three aspects of humanistic knowledge, spirit and behavior [2]. The humanities knowledge, compared with the knowledge of natural science, mainly includes basic knowledge of the spiritual realm, such as art, history, literature, religion, philosophy, ethics, which is the foundation of humanistic quality formation; Humanistic spirit emphasis on people-oriented and pays close attention to people's life, the value and significance of which is the core of humanistic quality; The internalization of humanistic knowledge and the explicit of humanistic spirit perform as the human behavior. The humanistic quality of science and engineering students is a capability of internalizing humanistic knowledge into the humanistic spirit and then manifesting it through humanistic behavior after learning and mastering the humanities knowledge.

The Practical Significance of Enhancing Humane Quality of Science and Engineering Students

The enhancement of humanistic quality for science and engineering students is the key to promote the students of science and engineering by specialized technical talents to the leadership
talents of high level or to management talents of strong comprehensive ability. It has very important practical significance to enhance the humanistic quality of science and engineering students.

From the Personal Development, the Students of Science and Engineering Need to Improve Their Humanistic Quality

From personal development needs the science and engineering students facing, pluralistic and open social economic and cultural development makes the time when students of science and engineering with just technical knowledge were popular all over the world gone forever. In order to improve their competitive power and realize their own value in the diversified economic society, students of science and engineering must make great efforts to improve their humanistic quality. Then they can enhance the insight and resilience to capture economic and social development trends. At present, China's economic development has entered an important period of transition and development, when we need not only high-level technical personnel with strong professional abilities, but also high-level and all-round talents who can meet the needs of economic and social development. It can't work without humanistic quality. The promotion of humanistic quality of science and engineering students is not only conducive to broaden horizons, active thinking, improve the ability to analyze and solve problems, but also to enrich their language expression ability, social sense of responsibility, sense of belonging and to promote the harmonious development of the quality and ability of the students of science and engineering, so as to further improve their competitive ability and professional development ability.

From the Demand of Social Development, the Students of Science and Engineering Need to Improve Their Humanistic Quality

From the social development demand of science and engineering students, diversification and internationalization have become the trend of modern economic and social development. The economic and social development requires not only professional and technical personnel with strong professional theory and skills, but also need to have innovation consciousness and ability, can contribute to social development by the occupation ethics and broadmindedness, and own strict quality responsibility and dedication to the team spirit. Humanistic quality plays a very important role for scientific and technological students in the formation of innovative ability and the cultivation of comprehensive quality. From the development situation after the students entering the society, the effect of occupation promotion after a few years of employment is no longer the key factors of professional knowledge, but humanistic quality such as teamwork ability, innovation ability and language ability. Therefore, in order to realize their value and quality of life, students of science and engineering begin to pay attention to extensive reading of humanistic knowledge, which has become a subjective pursuit.

Improving the Humanistic Quality of Science and Engineering Students is the Era Requirement of the Development and Reform of Higher Engineering Education in China

Whether considering the number of students or graduates, China is engineering education in the country, however there are still some deficiencies such as emphasizing science and technology, but despising ethics, environment and humanity, which has been a tendency.

Improving the Humanistic Quality of Science and Engineering Students is the Practical Need for the Full Implementation of "Made in China 2025"

In his report on the work of the government in 2017, Premier Li Keqiang held the full implementation of "made in China 2025" as the key task in 2017, and proposed the development of intelligent manufacturing as the main direction of attack ...... keep vigorously developing advanced manufacturing and promoting Chinese manufacturing to the middle and high level as measures to lead the transformation of the real economy, and constantly improve the effectiveness of the real economy and competitiveness [3]. Intelligent manufacturing is a new direction of manufacturing industry, and the development of intelligent manufacturing industry requires compound creative talents. In future the manufacturing engineers should have natural science, engineering science,
sociology and other aspects of the encyclopedic knowledge, take on good logical thinking ability, creative thinking ability, learning ability, strong hands-on ability, great teamwork and communication skills.

The Analysis of Science and Engineering Students’ Science and Engineering Humanities Quality

Humanistic Quality of Students Majoring in Science and Engineering

The overall quality of Chinese language is not high. The quality of mother tongue is one of the most basic cultural qualities of contemporary college students, including science and engineering students. It has become an indisputable fact that the students of science and engineering are not of high quality. Such as: in the thesis, experimental report, application, written cover letter and other basic writing, the format is not standardized, full of typos and the statement is not fluent, which has been more and more common. Also, many students do not have standard pronunciation in Mandarin. They are afraid to speak and communicate in public places, and there are obstacles to communication for them. All of above seriously affect the career development of science and engineering students.

Fickleness is common. Impetuous phenomenon is mainly manifested in the following aspects: one is that in deal with the relationship between individual and others, individuals and units, individuals and the state, their spirit and sentiment is low and show strong self-awareness; two is that they are often confused, lack of ideals and beliefs and have difficulty to find the coordinates of life; the three is the lack of dedication. They are easy to despair, keep weak ability to withstand setbacks; four is taking school without seriousness. The truancy, cheating, plagiarism and other phenomena can’t be ignored.

Behavior and civility need to be improved. Most students of science and engineering pay more attention to the study and accumulation of specialized courses, professional knowledge and skills, but neglect or even ignore them for civilized manners and ethical cultivation. It embodies the lack of basic civilization, such as honesty and trustworthiness, civilized behavior and environmental care, all of which show the lack of humanistic quality [4].

Personalization and diversification of values. Today, with the all-round development of market economy, showing individuality has become the inevitable choice for Contemporary College Students. However, the values of the market economy are also used by contemporary college students. Individualism, hedonism, pragmatism and utilitarianism exist in different degrees to some students [5].

Analysis of the Lack of Humanistic Quality of Science and Engineering Students

First, the idea of "useless theory of Humanities and Social Sciences" make people not pay enough attention to the humanistic quality education. Some of the students of science and engineering and their family keep "the useless theory of Humanities and Social Sciences" deeply ingrained, which leads to the marginalization and neglect of their humanistic quality education. It can hardly be changed in a moment.

Second, science and engineering universities do not pay enough attention to humane quality education and lack enough investment. At present, the employment difficulties of college students have not been fundamentally solved. The idea of "employment first" is the standard for the university management institutions, society and parents to judge the quality of higher education. Therefore, many universities of science and engineering often attach importance to the study of students' professional knowledge and the cultivation of their professional practice ability. The lack of attention to humanistic quality education and the lack of investment lead to the lack of humanistic quality of students majoring in science and engineering.

Three, the premature division of Arts and science affect the humanities quality of students of science and engineering. The premature division of Arts and Science in senior high school is one of the reasons that leads to the poor elementary knowledge of science and engineering students in
literature, history and art. Lack of humanistic knowledge, awareness of active learning of human knowledge will be also poor \[^4\].

Four, too much fast food culture affects the humanistic quality of students majoring in science and engineering. Along with the popularization of Internet and campus network and constant permeation of the network culture, fast food culture, many science and engineering students are addicted to the virtual world of the network and the culture of fast food consumption. It is difficult to learn and master the knowledge of Humanities meditation.

Five, some students of science and engineering have a misunderstanding of professional learning, which influences the development of their humanistic quality. Although the vast majority of students can realize the importance of humanistic quality, but with professional knowledge and skill learning in comparison, they often think that learning professional knowledge will be able to have a good job, a good future, a good life. For students of science and engineering, they believe that "survival" is more important than "life". It is more realistic and important to learn "physics and chemistry" than to improve the quality of humanity \[^6\].

The Humanistic Quality of Science and Engineering Students Should Possess

**Great Moral Quality and Professionalism**

Contemporary science and engineering students are engineers of the future. Their engineering practices are directly related to their world outlook, outlook on life and values, and to some extent, have a greater impact on human health and the ecological environment. When engineers have good ideological and moral quality and professionalism, they will also have the potential for sustainable development. In the future, they can not only obtain great progress in their personal career, but also contribute to the realization of the national dream of china. Therefore, it is very important for engineers to have good ideological and moral quality.

**Team Spirit and Interpersonal Skills**

At present, employers are most valued for students’ team spirit and interpersonal skills. Good team spirit, cooperation consciousness, overall situation consciousness and service consciousness are the guarantee of organization efficient operation. Interpersonal skills are conducive to the realization of cooperative spirit and management ability. The science and engineering students with good team spirit and interpersonal skills, after employment can quickly adapt to the regularization of the project operation mode and meet the actual needs of today's society for engineering talents.

**Innovative Spirit and Management Ability**

In twenty-first Century, the competition of overall national strength is essentially the competition of national creativity. The spirit of innovation presents a new requirement for engineering and technical personnel in the era of knowledge economy. It is also the non-professional quality that the future "excellent engineers" must possess \[^7\]. From the point of view of career development of science and engineering students, some students will grow into managers of enterprises or projects, and good management ability is essential to management. Therefore, in order to grasp the opportunities brought about by the revolution in science and technology and seize the commanding heights of high-tech, we must train a large number of high-quality talents with innovative spirit.

**Positive Humanistic Knowledge and Healthy Professional Spirit**

Science and engineering students begin their long career and social life after they graduate from school and set foot on their posts. As the social men, firstly they are members of the society and should be a good man in social life; secondly, they are a professional person, with wisdom and innovation, hard work and dedication, honesty and detail. Only those who have advanced social morality, values and necessary humanistic knowledge can form good professional concept, professional attitude, professional style, professional discipline and professional skills, so that they can do better. The accumulation of human knowledge is the attitude and quality of a person's life,
and also the foundation of the healthy and professional spirit of the science and engineering students.

**Practical Approaches to Enhance the Humanistic Quality of Students Majoring in Science and Engineering**

**Pay Attention to the Popularization and Accumulation of Humanistic Knowledge**

Classroom teaching is the main position of humanities education. We should combine humanistic qualities and professional learning, keep the education of humanistic quality in every step of teaching, achieve effective integration of humanistic spirit and scientific spirit, which is the important way to enhance the science and engineering students' humanities quality. We should give full play to the leading role of classroom teaching, infiltrate humanistic quality education in the classroom education, cultivate students' strong social adaptability, and lay a solid foundation for the future development of science and engineering students.

**Pay Attention to the Infection and Edification of Humanistic Spirit**

Each faculty member is the person responsible for quality education and the communicator of humanistic spirit. What should we do is to be the demonstration with high scholarly attainments, to a high degree unity achieve whether it is on work or in life, in the class or out the class, at school or off campus, to devote to work, to be strict with oneself, to make oneself an example, and to be a model for others.

**Pay Attention to the Combination of Humanistic Quality and Professional Quality**

The humanistic quality embodies a kind of inner spiritual value, which can't only rely on fields of literature, history, religion and Philosophy. The logic deduction, physics and chemistry experiment of science and engineering course also contain the reasoning of science, the background of ethics, the outlook on life, the development of values and world outlook. Further digging these connotations and knowledge can also improve the scientific and technological students' devotion to science and the spirit of striving for it.

**Pay Attention to the Combination of Human Behavior Norms and Daily Behavior Norms**

The internalization of humanistic knowledge and the outward appearance of humanistic spirit are manifested as humanistic behavior. In order to realize the harmonious development of humanistic knowledge, humanistic spirit and humanistic behavior, humanistic knowledge and humanistic spirit must be promoted into the humanistic behaviors of science and engineering students [4], and through the students’ daily life, shows the good humanistic quality of them, then realizes the combination of humanistic behavior norms and daily behavior norms.

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**References**


