

New Liberal Arts Construction and Education Reform

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Abstract: The new liberal arts education is a hot topic in the current education reform. Around the new liberal arts curriculum construction and reform, universities and government departments are actively involved in it. There are obvious differences between liberal arts and science and engineering majors in talent training objectives, enrollment quantity, employment market, etc., as well as in training mode, teaching method and value building. In the face of more and more global crises, education should play a role in promoting the integration of liberal arts and other disciplines, and integrate humanistic spirit and value into knowledge system, interdisciplinary thinking and curriculum, which will help to solve a series of problems caused by the opposition between arts and science.

Keywords: New Liberal Arts; Higher Education; Subject Integration; Education Reform

1. New liberal arts education concept

The new liberal arts education reform is a hot topic in the current higher education reform. This concept was first proposed by Hiram college in the United States. Since 2017, the college has reorganized its disciplines and majors by integrating new technologies into philosophy, literature, language and other liberal arts courses, and explored interdisciplinary learning mode. This kind of curriculum reform is an important exploration and attempt on the new liberal arts concept. It breaks the boundary and isolation of the knowledge system between arts and science, which integrates the ideological culture and value of arts into the development of other disciplines, so as to cultivate comprehensive talents who can meet the needs of future social development. After that, American universities began to explore the construction and development direction of new liberal arts.

The idea of new liberal arts reform can be traced back to the early 20th century. After the First World War, some scholars realized that there was a crisis in western social education. The progress of technology reduces the social value of human beings and improves the instrumental value. Due to the lack of knowledge sharing among different disciplines, they are becoming more and more closed subject fortresses. The educational circles in Britain and the United States have begun to pay attention to the opposition between rationality and sensibility, between science and emotion, between efficiency and value caused by the way of Arts and science education. Sarton put forward "new humanism", hoping to put science in the history of human development and let people look at science from a historical perspective. What's more important is to form a kind of awe. Science is not omnipotent, but human beings are often ignorant. With his efforts, the history of science has become a permanent course and research topic in many world-class universities. MIT has published "new liberal arts series" to explore the integration of new liberal arts and science and engineering. At the same time, MIT has always insisted on "taking humanities, arts and social sciences as the basis of educating great engineers, scientists, scholars and citizens and maintaining the school's innovation ability".

Domestic universities are also very concerned about the new liberal arts reform. From government agencies to colleges and universities, they also timely pay attention to explore the new liberal arts education mode with Chinese characteristics. In 2018, the Ministry of education proposed to vigorously develop new engineering, new medicine, new agriculture and new

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arts, so as to optimize disciplines and specialties and promote the construction of first-class undergraduate specialty with Chinese characteristics and world level. In the construction, we should promote the reform of education mode, knowledge production and innovation methods, and cultivate talents who meet the needs of the future development of society. In April 2019, the Ministry of education and other 13 departments jointly launched the "six excellence and one top-notch" plan 2.0, which clearly proposed to "comprehensively promote the construction of new engineering, new medicine, new agriculture and new arts, and enhance the ability of colleges and universities to serve social development". The construction of new liberal arts focuses on the integration of philosophy and Social Sciences and the new scientific and technological revolution, and the cultivation of first-class talents.

The development of new liberal arts is to meet the new requirements of philosophy and Social Sciences in the new era, and promote the "cultural style with Chinese characteristics and style". The strategy of developing new liberal arts is a forward-looking strategy proposed by the Ministry of education. The most important content is to promote the cross integration of liberal arts and science and engineering. "The rapid arrival of new scientific and technological revolution and industrial revolution will profoundly change the mode of production, mode of life and values of human beings. Liberal arts education has to carry out major reforms to meet the challenges."^[1] We should learn from the development and reform experience of higher education in other countries, and take the solution to the existing and development crisis which has been or will be faced at home and abroad as the direction. The goal is to improve the level of economic and social development and explore a path with Chinese characteristics for cultivating a large number of talents in line with the practical needs of social development. Whether it's liberal arts, science or other disciplines, change is the need of the times, and it's also the preparation of human society before facing all kinds of uncertain crisis challenges.

2. The challenge of liberal arts education

The number of liberal arts majors is significantly less than that of science and engineering majors, and the number of people choosing these majors is also generally reduced, and the employment market is shrinking. In addition, due to the fierce competition in the job market, people generally attach importance to science and despise liberal arts. Many companies and institutions give priority to science and engineering students in recruitment. At present, the most popular disciplines include artificial intelligence, Blockchain Technology, biotechnology, genetic engineering, virtual reality and so on, and their graduates are sought after. Their salary level is significantly higher than that of other majors, which has a great impact on talent cultivation in Colleges and universities. Parents, students, employers and universities are more willing to put attention and resources into science and engineering majors, which makes it difficult for them to do so. Liberal arts majors are not popular. The training mechanism of liberal arts majors is becoming more and more rigid, and the practical resources are becoming less and less. Therefore, the employment situation of these graduates is not satisfactory, and they are becoming more and more isolated, and even become "subject island".

Humanity is obviously different from other disciplines in talent cultivation mode and education mode. It can't achieve mass production of talents by investing quantifiable resources and reproducible mode to meet the needs of social development. From the perspective of the way of knowledge generation, science and engineering are mainly specific practical activities, such as experiment, observation, calculation and comparative research. Through the acquisition of formulas, data and theorems, we can master a relatively complete knowledge system and frontier achievements in a very short time. The main methods to learn liberal arts research are by observation, introspection, intuition and thinking, so as to obtain a kind of understanding and cognitive knowledge towards the objective world, and then establish a value system as the content of the spiritual world by focusing on the construction of Ideological and theoretical system and establishing thinking mode, as well as the mastery of research ability, which means that learners must go through the previous research road again. "Humanistic knowledge has its own characteristics of dispersion and diversity. Each person needs different time and content in understanding, which leads to the education of humanities must still complete every step carefully from the source of the subject."^[2] For example, read through the classics, master more scholars' views, theories and ideological system, which is the basis of innovative theory. This kind of innovation ability is determined by the thinking ability and research ability, including understanding, thinking, analysis, comparison and analogy, and innovation. The knowledge of liberal arts needs to

reflect and innovate on the basis of the existing knowledge system, produce new knowledge concepts, and organize innovative ideas and theories through thinking activities. The source of knowledge is diverse, and its direction is not fixed but divergent.

There are great differences between educational goals and wealth creation. The goal of humanistic education is to cultivate human value, personality, rationality and moral element, which belongs to the category of rational value. It maintains and pursues human dignity and value, attaches importance to spiritual culture and shapes ideal personality. Natural science generally directly participates in the production and distribution process of material wealth, which belongs to the category of instrumental value. In modern society, in fact, instrumental value is higher than rational value, because the latter can be measured by visible, available and quantitative index system. This causes the humanities education to deviate from the original path. First, the goal of education has changed from cultivating general talents to professional talents. Personnel training is to train those who can play an important role in a professional position. Second, the content of education changes from the whole subject knowledge to the professional subject knowledge. The current education is to let students master professional knowledge, so as to ensure that the educated can systematically master the knowledge in the field. Third, the value of education has changed from paying attention to people themselves to paying attention to society. The former pays attention to human dignity, value and destiny. Now it focuses on society and pays attention to the development and changes of society and the needs generated. Fourth, the evaluation system of education has changed from “becoming a person” at the spiritual level to “becoming a product” in the field of social production “Becoming a person” is to shape an individual with unique characteristics and perfect personality, “becoming a product” is to shape a person as a material existence that can meet the needs of social existence and development, These two ideas actually reflect the difference between people and things. We should attach importance to the cultivation of humanistic thinking and spirits, otherwise it will lead to unpredictable consequences and crisis. For example, with the increasing dependence on technology, human sensory perception ability is decreasing. Focusing on electronic images for a long time actually damages people's health, but it has become a modern social work mode. The development of biopharmaceutical technology can effectively improve people's physique and health, but it also aggravates the inequality between different social classes. The application of artificial intelligence in the field of production can not only improve the production efficiency and create more wealth, but also intensify the polarization between the rich and the poor. The biggest challenge they bring to human beings is how to maintain critical thinking ability in the “artificial world” and maintain the “essence of human life” determined by biological characteristics. All these have laid a hidden worry for the development of society. In the context of globalization, the crisis of human society will not be blocked by traditional geographical factors, but will evolve into a global crisis.

3. Promote the integration of disciplines

From the beginning of the industrial revolution, technological progress has resulted in more complicated social division of labor, more abundant social occupations, as well as more and more various technical posts. The goal of education is to cultivate talents for the society. The educational task of colleges and universities not only includes cultural continuity and humanistic spirit inheritance, but also should be extended to serve social development and progress and cultivate talents. The new liberal arts education is not only a guide to the current education reform, but also will speed up the construction and exploration of related disciplines. This will promote colleges and universities to explore a new way, that is, to cultivate more diverse talents to meet the needs of society. They should not only master the subject skills, theoretical and practical knowledge, but also have high moral standards, high humanistic quality and value pursuit. In the process of training professional talents, colleges and universities should add the content of general education of humanities to cultivate scientific spirit and humanistic spirit.

The new liberal arts construction takes promoting the integration of Arts and science as an important direction, so as to avoid Natural Science running counter to humanistic quality and spirit. “The interdisciplinary integration should be emphasized, and it should also contain the “interdisciplinary” perspective, which means a new research and education facing the complex problems of the living world.”^[3] First of all, this integration is the teaching of knowledge, the reference of research methods and the edification of values. It is necessary to ensure that professional talents have profound humanistic

feelings and value pursuit in the process of education. If we pay more attention to technical training, it will lead to the lack of humanistic edification and cultural literacy, and the lack of innovation ability and critical thinking ability. Therefore, how to understand the integration is an important part of the construction of "new liberal arts". There are three challenges in the construction of "new liberal arts": first, don't fall into the trap of technicism and utilitarianism, and don't mix humanities knowledge with other science and engineering professional knowledge. Second, don't take the humanities as the coat of natural sciences, which is not a real integration. Generally speaking, humanities scholars lack systematic training in natural science research methods, while science and engineering scholars tend to have a superficial understanding of humanities knowledge, leaving the understanding of humanistic spirit and human value on the surface, which makes it difficult to understand the realistic concern behind. Third, we should understand that not all majors are suitable for the integration reform. We should choose the appropriate majors and the appropriate ways. We must not ignore the objective laws and promote the integration of Arts and Science in a simple and crude way.

The new liberal arts should strengthen the connection with other disciplines, that is, the basic knowledge, typical thinking methods and humanistic value system should be properly integrated with other disciplines. At present, the interdisciplinary learning is to understand some humanistic knowledge, and does not take humanistic spirit as the content of education. "Mastering humanistic knowledge is one of the conditions of humanistic quality, and humanistic spirit is the core of humanistic quality. Humanistic spirit is the understanding of human meaning and the care of human value."^[4] Colleges and universities should extend the humanities education to all majors, open elective courses on thinking methods and humanistic values, so as to improve the teaching content. "It is very necessary to break through the traditional knowledge system of liberal arts, not only to learn the knowledge content of this subject, but also to fully infiltrate the humanistic spirit, innovative thinking, knowledge and skills into every point of the theoretical system, which not only embodies Chinese characteristics, but also has local culture."^[5] We should pay attention to the hot topics of science and engineering research, participate in them, and provide valuable humanistic research results. Moreover, we should pay more attention to the hidden humanities crisis behind these hot issues, and provide inspiration for research. The logic of new liberal arts research should not be influenced by engineering and science, but should limit the value system of science and engineering as far as possible to become the dominant system in humanities research. We should also strengthen the value guidance of human nature, virtue and morality. Technology and science are both a process of human exploration of the world. Their ultimate goal is to know the absolute existence through exploration and liberate human beings. The development history of the eastern and Western civilizations for thousands of years has proved that the fundamental pursuit and goal of education is to seek the way but not the food. But today, people are addicted to the creation and accumulation of wealth and become slaves of material. The performance world becomes the barrier which is difficult to break through. The spirit of science since the modern age of enlightenment makes people understand the nature better, but it also makes people dazzled and forget their original intention. All kinds of desires fill people's minds. The science and technology invented by human beings and the mysteries of the laws of nature are supposed to be the path to enhance the mind and discover the truth, but they are dragged by desire and imprison the light of human wisdom.

The cultivation of humanistic spirit should be one of the educational goals of all majors, and humanistic care and reflection on human society should be increased. In particular, it is necessary to increase the reflection on the crises and disasters that have happened, and to break the prejudice that the progress of science and technology can solve all problems.

"We should cultivate students' unique way of thinking, which is not blocked by disciplines, and expand their horizons by reforming the original research methods and thinking about social problems and solutions from an interdisciplinary perspective. This is helpful to cultivate compound and high-level talents with good humanistic quality and innovation ability."

^[6] Colleges and universities can promote reform by providing compulsory and elective courses for each major to improve the curriculum system and increasing the content of humanistic spirit education by adding some major disaster cases, so as to guide students to reflect on the development of disciplines and strengthen reflection on social and personal development. The opposition and division between science and humanity bring civilization disaster. In the era of globalization, human beings are facing more and more crises, so it is a great challenge to solve these problems. "Few disciplines or individual branches of knowledge can solve these daunting problems, such as poverty, disease, unequal distribution of food and water, climate

control, and so on.”^[7] Behind these crises, there is a split between rational value and instrumental value. At present, people cannot get out of the misunderstanding of being obsessed with science, which will brew a new and bigger crisis, and it is difficult to change this kind of cognition.

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