

The Debate on the Orientation of Higher Education: the Historical Evolution of General Education and Professional Education

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Abstract: *This paper aims to explore the historical evolution of general education and professional education and the dispute over their orientation in the modern education system. It reviews the origin and development of general education and professional education, points out the educational goals and social functions of the two in different historical periods, and analyzes the necessity of interdisciplinary talent training and its impact on the traditional education model in the context of the knowledge economy. The article further discusses how higher education can balance the breadth of general education and the depth of professional education in the era of globalization and informatization, and how to build an education system that adapts to the needs of future society. Higher education institutions should attach importance to interdisciplinary curriculum design and promote the cultivation of students' critical thinking and innovation capabilities in order to cope with the transformation and change of the knowledge production model. Through an in-depth analysis of history and current situation, this paper provides a new perspective and thinking on the development direction of higher education.*

Keywords: Higher Education, General Education, Professional Education.

1. Introduction

With the rapid development of higher education in my country, the positioning and role of general education and professional education in higher education have received increasing attention. General education aims to cultivate talents with comprehensive qualities, innovative spirit and practical ability, while professional education focuses on cultivating talents with specific professional knowledge and skills. In the context of the new era, how to coordinate the relationship between general education and professional education and achieve an organic combination of the two has become an important topic in the reform and development of higher education. This study aims to explore the historical evolution of general education and professional education and their positioning in modern higher education, and to provide a theoretical basis and practical guidance for my country's higher education reform.

Since ancient times, my country's higher education has been centered on Confucian culture and emphasizes the cultivation of humanistic qualities. However, with the introduction of Western science and technology in modern times, professional education has gradually emerged and become an important form of higher education. Since the 20th century, my country's higher education has always faced a debate on the orientation of general education and professional education in its development. On the one hand, general education emphasizes broadening the knowledge horizon and cultivating humanistic qualities, so that individuals can have certain qualities in multiple fields; on the other hand, professional education focuses on cultivating professional talents to meet the society's needs for specific industries.

The focus of the current reform should be to achieve the value pursuit of integrating general education with professional education, so that the two training modes of general education and professional education can complement and promote each other. By sorting out the historical evolution of general

education and professional education, analyzing their positioning in modern higher education, their value orientation and development strategy, it has important practical significance for optimizing my country's higher education system, exploring the interaction and integration of the two in the modern higher education system, and providing theoretical support and practical suggestions for the development of general education and professional education in my country.

2. Definition of General Education and Professional Education

2.1 The Connotation of General Education

General education, as an educational concept aimed at cultivating students' comprehensive qualities and extensive knowledge, can be traced back to ancient Greece. In ancient Greece, education was regarded as an important means to cultivate civic literacy and moral qualities, and the concept of general education was born at this time. As analyzed in the Harvard Committee Report: "The concept of liberal education originally originated from slave societies such as Athens. In ancient Athens, there was indeed a clear class division in society, including free men and slaves. This social structure had a profound impact on the concept and practice of education. The concept of liberal education emphasizes the importance of personal freedom and critical thinking, which is to some extent a reflection and challenge to the social hierarchy at that time. Philosophers such as Plato and Aristotle have emphasized the breadth and comprehensiveness of education, and believed that education should cover multiple fields such as morality, sports, music, and mathematics. "General education" is translated from the English general education, which can also be translated as "general education". The first person to link "general education" with university education was Professor Packard (AS) of the United States.

In my country, the concept of general education originated from Confucian culture. Confucian education emphasizes "cultivating oneself, managing the family, governing the country, and pacifying the world", and advocates cultivating talents with noble moral qualities and profound cultural heritage through extensive learning. The ancient imperial examination system, although mainly based on classics, also involves poetry, books, rituals, music and other aspects, reflecting some characteristics of general education.

In modern times, general education has developed rapidly in the West. At the end of the 19th century, American educator John Dewey proposed the concept of "progressive education", advocating that education should focus on the all-round development of students and emphasize the importance of practice and experience. At the beginning of the 20th century, American educator John Penny proposed the concept of "general education" and defined it as "an education aimed at cultivating students to become responsible and discerning citizens". This concept was soon widely recognized and applied in Western higher education.

Mei Yiqi analyzed the connotations and social needs of general education and specialized education in his book "An Explanation of University": "General education is the preparation for general life, and specialized education is the preparation for special careers. The use of general education is not only to improve oneself, but also to make oneself understand others. If we believe in this theory, general education is the foundation and specialized education is the end. What society needs is generalists, followed by experts. If experts without generalists are in charge of the people, the result will not be to educate the people, but to disturb them."

2.2 The Connotation of Professional Education

The concept of professional education has not existed since ancient times, but came into being with the expansion of the field of natural sciences and the wave of the industrial revolution, becoming a part of the modern knowledge system. The origin of professional education can be traced back to the industrial revolution. With the increasing demand for various professional and skilled talents in society, professional education gradually differentiated from traditional general education. In the West, countries such as Germany and France had established some institutions for training teachers at the end of the 17th century, which was one of the early forms of professional education. In order to adapt to the development of the times and social needs, the United Kingdom established the "Royal Society" in 1660, which played a key role in promoting scientific and technological progress and scientific research, and had a profound impact on higher education. The Industrial Revolution promoted the transformation of universities, making them gradually secularized, and began to introduce natural science courses and hold related lectures, aiming to cultivate talents with professional skills for society. France adopted a different strategy, closing the University of Paris and instead establishing a number of higher vocational colleges focusing on specific fields, which focus on imparting practical knowledge and professional skills. During this historical stage, universities opened many courses related to professions based on the actual needs of social development, promoting the implementation of professional education.

With the popularization of education and the increase in the number of schools, formal teacher education has developed rapidly in Western countries. It initially belonged to the nature of secondary education and later gradually developed into the scope of higher education.

From the perspective of historical evolution, the development of professional education has gone through the following stages:

First, the rudiments of professional education had already appeared in ancient Greece, when craftsmen passed on their skills through the master-apprentice system. Although this form of education was simple, it already had some characteristics of professional education.

Secondly, in the Middle Ages, with the rise of universities, professional education was further developed. During this period, universities were mainly divided into four colleges: literature, law, medicine, and theology, which trained professionals in different fields. However, professional education during this period was still mainly based on theoretical knowledge, with relatively few practical operations.

Third, since modern times, with the rise of the industrial revolution and the rapid development of science and technology, professional education has gradually become an important part of higher education. During this period, professional education began to focus on practical operations, emphasizing interdisciplinary studies and skill training. For example, in the late 19th century and early 20th century, the technical colleges and vocational education schools that emerged in the United States were representatives of the development of professional education.

In my country, the historical evolution of professional education can be traced back to the ancient "master-apprentice system". However, professional education in the true sense did not begin until the early 20th century. With the rise of the New Culture Movement, my country began to introduce the Western professional education system and set up various professional colleges in higher education. Since the reform and opening up, my country's professional education has developed rapidly, forming a multi-disciplinary, multi-level and multi-type professional education system.

2.3 The Relationship between General Education and Professional Education

General education and professional education are complementary in their training objectives. General education focuses on cultivating students' comprehensive qualities and interdisciplinary abilities, emphasizing critical thinking, moral judgment and humanistic care, while professional education focuses on students' professional knowledge and skills in specific fields. This complementarity is reflected in the fact that general education provides students with a broad knowledge background and profound cultural literacy, providing a solid foundation for professional education; professional education, on this basis, allows students to explore in depth in specific fields and achieve personal career development.

In terms of curriculum setting and teaching methods, general education and professional education draw on each other. General education emphasizes interdisciplinary curriculum setting and encourages students to explore knowledge in different fields. While professional education cultivates students' professional skills, it also gradually introduces the concept of general education, such as opening courses in humanities and social sciences to broaden students' knowledge horizons. In addition, the two also influence each other in the reform of teaching methods, such as project-based learning and case teaching, which not only help to cultivate students' practical ability, but also promote the formation of students' critical thinking.

However, the relationship between general education and professional education is not always harmonious and unified. In actual operation, the contradictions and conflicts between the two are also obvious. On the one hand, while general education emphasizes interdisciplinary learning, it may lead to students' insufficient knowledge in their professional fields; on the other hand, professional education overemphasizes skill training, which may lead to the lack of comprehensive quality of students and affect their future career development. In addition, there is also a certain degree of conflict between general education and professional education in terms of resource allocation and educational evaluation. In terms of resource allocation, general education and professional education often require different teaching staff, teaching equipment and curriculum systems, which may lead to contradictions in resource allocation in schools. In terms of educational evaluation, general education emphasizes the assessment of comprehensive quality, while professional education focuses on the evaluation of professional skills, which may lead to conflicts in evaluation standards.

3. The Historical Evolution of General Education and Professional Education

3.1 General Education in Ancient Higher Education

Although the form and content of general education in ancient higher education are different from those of modern general education, the educational concepts and goals they pursue are similar. In ancient times, higher education was mainly limited to a small number of social elites, and these educational institutions often aimed to cultivate the comprehensive qualities of the ruling class and intellectuals.

In ancient Greece, Plato's Academy and Aristotle's Lyceum were early representatives of general education. These academies not only taught natural sciences such as mathematics, geometry, and astronomy, but also covered humanities and social sciences such as philosophy, ethics, and rhetoric. This educational model emphasizes rational thinking and moral cultivation, aiming to cultivate students into citizens with independent thinking ability and good moral qualities. In China, ancient higher education was mainly reflected in Confucian education. Confucian education takes the "Four Books and Five Classics" as the core courses, covering many fields such as morality, politics, history, and literature. This educational model emphasizes "investigating things to gain knowledge" and "sincerity and uprightness of

mind", aiming to cultivate scholars with noble character, profound cultural heritage and social responsibility. In addition, after the Tang Dynasty, the establishment and development of the imperial examination system also promoted the popularization of general education. The imperial examination not only tested the literary talents of the candidates, but also involved knowledge in many fields such as history, law, and politics. In India, ancient Buddhist education was also a form of general education. Buddhist universities such as Nalanda Temple taught Buddhist classics, philosophy, logic, mathematics, astronomy, medicine and other subjects. The study of these subjects was not limited to the religious field, but also involved all aspects of social life at that time.

General education in ancient higher education has the following characteristics:

- 1) Comprehensiveness of educational content: General education covers multiple fields such as natural sciences, humanities and social sciences, aiming to cultivate students' all-round qualities.
- 2) Morality of educational goals: General education emphasizes moral cultivation and character development, and believes that the ultimate goal of education is to cultivate moral and responsible citizens.
- 3) Practicality of educational methods: Although ancient general education was mainly based on theoretical knowledge, it also emphasized practical operations. For example, the study of subjects such as medicine and astronomy was often combined with actual observation and practice.
- 4) The elitism of education objects: In ancient times, higher education was mainly limited to the social elite, and general education therefore became a symbol of identity and status.

3.2 The Rise of Professional Education in Modern Higher Education

The rise of professional education in modern higher education marks a major shift in educational concepts and practices. During this period, professional education gradually matured from its early gestational stage and became an important part of the modern higher education system. From the late 19th century to the early 20th century, with the deepening of the industrial revolution and the rapid development of science and technology, society's demand for professional talents increased. During this period, professional education began to separate from traditional academic education and formed an independent education system. The rise of professional education is particularly evident in Western countries, especially Germany and the United States.

German higher education began to emphasize professional education in the mid-19th century. The establishment of institutions such as Humboldt University of Berlin marked the rise of professional education in Germany. These universities emphasized the combination of scientific research and teaching, and trained a large number of engineers, doctors, lawyers and other professionals, meeting the social demand for professional talents during the Industrial Revolution.

In the United States, the rise of professional education is closely related to the rise of vocational education. At the end of the 19th century, the establishment of schools such as the Moore Institute of Technology (MIT) in the United States marked the beginning of engineering professional education. Subsequently, the concept of professional education quickly spread to other fields such as business, law, and medicine. The American higher education system began to attach importance to the cultivation of professional knowledge and skills to adapt to the rapidly developing social economy.

The rise of professional education in modern higher education in my country can be traced back to the early 20th century. With the promotion of the New Culture Movement, my country began to introduce Western scientific knowledge and educational concepts, and gradually established a higher education system with professional education as the core. Especially in the 1950s, my country's higher education experienced a large-scale adjustment of departments and faculties, and professional education was further strengthened and expanded.

3.3 The Conflict between Modern General Education and Professional Education

In the development of higher education, the conflict between general education and professional education has become increasingly prominent. There are significant differences between these two educational orientations in terms of philosophy, purpose, content and implementation methods, which leads to contradictions and conflicts between them.

In terms of concept, general education is "non-professional and non-vocational" education. It is a university concept that emphasizes all-round development and the cultivation of humanistic qualities. It advocates that through interdisciplinary curriculum settings, students should have a broad knowledge system and the ability to think independently. Professional education focuses on imparting knowledge and skills in specific fields to meet society's demand for various types of professional talents. These two concepts are mutually exclusive to some extent. General education pursues the all-round development of people, while professional education focuses more on the imparting of skills.

In terms of purpose, general education aims to cultivate students' humanistic qualities, critical thinking and innovation, so that students can think across boundaries and solve problems in different fields. Professional education, on the other hand, focuses on cultivating students' professional knowledge and skills in specific fields to meet society's demand for professional talents. These two goals are contradictory to some extent. General education focuses on students' comprehensive qualities, while professional education focuses more on students' professional skills.

In terms of content, general education involves multiple disciplines, including humanities, social sciences, nature and art, and emphasizes the breadth of knowledge. It is a broad, non-utilitarian basic knowledge. Professional education focuses on professional knowledge in a specific field,

emphasizes the depth of knowledge, combines teaching content with social production and life, and focuses on application. There is a certain conflict between these two types of content in the curriculum setting. General education tends to broaden students' knowledge horizons, while professional education focuses more on in-depth exploration of knowledge in specific fields.

In addition, in terms of implementation methods, general education usually adopts a variety of teaching methods such as lectures, discussions, and practice to encourage students to actively participate and think. Professional education focuses more on classroom teaching and experimental practice, emphasizing students' hands-on ability and practical skills. There are significant differences in teaching methods between these two implementation methods. General education focuses on cultivating students' autonomy, while professional education pays more attention to students' skill training.

4. Future Development Trends of General Education and Professional Education

4.1 Integration of General and Professional

The two educational training modes of general education and professional education complement each other, and one cannot negate the other. The current applied undergraduate colleges, based on serving the local economy and society and adapting to the development needs of higher education, clearly put forward the cultivation of innovative and applied talents as their core goal. These colleges advocate the development model of integrating general education with professional education, aiming to break the various barriers that have emerged in current educational practice, such as the gap between general and professional education, the superficiality of general education, and the excessive utilitarianism of professional education. In order to achieve this goal, colleges and universities must stabilize their internal environment and build a strong support mechanism. At the same time, it is necessary to supplement it with continuous and in-depth improvement measures, and conduct comprehensive and comprehensive education before specialized education to ensure the continuous improvement of education quality and the smooth realization of education goals. Such a development strategy not only helps to cultivate students' comprehensive qualities, but also enables them to adapt to the development needs of society and become compound talents with both theoretical knowledge and practical ability.

4.2 Interdisciplinary Training

Since the Middle Ages, the British higher education system has been famous for its "elite training" model, but the development speed of doctoral education in the UK has lagged behind that of most European and American countries in the process of modernization. In this field, the refined "mentor-apprentice system" was once regarded as the core way to train doctoral students. However, with the dual needs of doctoral education quality - internal improvement and external supervision - the British government gradually realized that the traditional "mentor-apprentice system" no longer meets the training standards of the new era, and began

to explore innovative ways to train doctoral students.

At present, the British government, higher education institutions, enterprises and other social organizations have jointly built a doctoral training consortium. In this regard, the UK has created a stable and solid doctoral training environment with a sound policy framework, mature organizational structure and sufficient financial support. On the other hand, the UK has created a vibrant doctoral training atmosphere by implementing an integrated collaborative training model, precise course integration, a shared tutor system and interactive participatory activities.

With the advent of the 21st century, cross-border integration of knowledge has become increasingly normal, which has directly promoted the transformation and innovation of the knowledge production model. The second knowledge production model shows interdisciplinary characteristics. Under the clear guidance of consensus, multidisciplinary knowledge is deeply integrated and becomes an interdisciplinary knowledge fusion in a specific scenario. This fusion is not only the splicing of knowledge from different disciplines, but also their high integration and synergy. This solution cannot be created independently by any single discipline. In this process, the knowledge of each discipline is no longer an isolated island, but a network that is intertwined and complementary to each other, and together builds a new framework for solving complex problems. In this context, higher education institutions are faced with the urgent need to reimagine interdisciplinary talent training programs.

4.3 Forming a Problem-based Interdisciplinary Approach

In the development of modern higher education, the integration of general education and professional education is not only reflected in the curriculum setting and teaching methods, but more importantly, they are jointly committed to forming a problem-based interdisciplinary model. This model emphasizes the cross-integration of disciplines and aims to cultivate students' comprehensive ability to solve complex problems. In the problem-based interdisciplinary model, the core of teaching is no longer the knowledge imparting of a single discipline, but an interdisciplinary discussion around practical problems. This teaching concept encourages students to jump out of the framework of a single discipline and use multidisciplinary knowledge and thinking to solve problems. For example, when discussing environmental protection issues, not only professional knowledge of environmental science is needed, but also knowledge support from multiple disciplines such as economics, sociology, and law is also needed. In the process of implementing problem-based interdisciplinary model, continuous practice and reflection are essential. Educators and students need to constantly evaluate teaching effectiveness, identify existing problems, and seek ways to improve them. Through continuous practice and reflection, the interdisciplinary model can be gradually improved to improve the quality and effectiveness of education.

5. Conclusion

From a historical perspective, the development of general education and professional education has shown a pendulum

phenomenon. In the early 20th century, Western higher education focused on general education, emphasizing the cultivation of citizens with broad knowledge and humanistic qualities. However, with the development of science and technology and the division of labor in society, professional education has gradually emerged and the goal of education has shifted to cultivating talents with professional skills. At the end of the 20th century, people began to reflect on the limitations of professional education and once again emphasized the importance of general education. In our country, this change is also obvious. From the early "comprehensive development" education concept to the later "quality education" and then to the current "new engineering" construction, the education goal has fluctuated between general knowledge and professional knowledge.

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