

# Analysis on the Motivation of Higher Education Center Transfer and Deepening the Functions of Universities in China

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## Abstract

According to Yuasa Phenomenon, higher education centers around the world show a periodic shift. Some scholars point out that higher education centers tend to shift to the Asia-Pacific region. On the basis of summarizing the factors that influence the moving power of higher education center, this paper tries to analyze the realistic possibility of China becoming the next higher education center from three aspects: time force, space force and logic force. In this premise, in combination with the era background of the internationalization and the favorable factors of science development and progress in our country, choose university functions as the breakthrough point, proposed the university idea of "responsible", and to enrich the connotation of the university functions, including: training international talents, scientific research for the world and the globalization of social services.

## Keywords

Higher education center; Functions of the university; "Responsible" universities; Internationalization; Scientific.

## 1. Introduction

The Japanese scholar Mitsuko Yuasa found that the center of world science shifted periodically around the world, starting in Italy (1540-1610), moving to Britain (1660-1730), France (1770-1830), Germany (1810-1920) and then the United States (1920 to the present), Countries can maintain their scientific heyday for about 80 years. This is known as Yuasa's Law. When studying the transfer of the center of higher education, scholars find that it is consistent with the transfer of the center of science in the trend, but in time, it sometimes shows the characteristics of advance, lag and synchronization. In the words of Chinese scholar Zhou Guangli, it can be summarized as follows: the transfer of higher education has a "positive correlation" with the "soup shallow phenomenon". [1] Therefore, when thinking about the development of higher education, it is necessary to focus on the factors of scientific and technological development. It is worth noting that the transfer of higher education centers is accompanied by the emergence of new functions of universities. The change of university functions shows a strong internal correlation with the transfer of higher education centers. When discussing the value of universities, it is inevitable to think about their functions. Based on the above, based on the perspective of higher education centre, thinking in the development and progress of science and technology level in China today, how to grasp the science and technology and the inner link of higher education, from the perspective of university function, analysis of higher education where, for our country to become the next world higher education center to provide enlightenment.

## 2. The Concept of a Center for Higher Education

On the concept of "higher education center", few scholars give a definition, more analysis and generalization of its characteristics. Li Tielin (2009) was the first to give a clear definition. He took the number of universities as the standard and defined it as "the number of well-known universities in a country exceeds the number of well-known universities in the world by 25% at the same time. [2] As can be seen from the definition given by Zhu Leping (2017) and Zhang Yingduan (2011), higher education centers should include the following three characteristics: first, the country's higher education strength in this period was strong; Secondly, it has a wide influence all over the world. Secondly, it has become a learning object for other countries and regions. Related concepts include "World university Center", "Education developed period" and "World Education activity center". Shen Hong (1995) defined the world university center in the same way as Zhu Leping and Zhang Yingduan's definition of higher education center above, but she emphasized that the achievement of higher education cannot be measured simply by the number of universities. [3] Zha Youliang (1989) [4] and Jiang Guojun (1999) respectively defined the education developed period and the world education activity center from the perspective of educators, and believed that during this period, the country's (famous) educators should occupy the highest proportion in the world. Jiang Guojun made it more specific and pointed out that the total number of educators in the country should exceed 20% of the total number of educators in the world at the same time. [5]

Referring to the opinions of various scholars and according to the research needs of this paper, "higher education center" is defined as follows: In a certain period of time, the higher education of a certain country enjoys a prominent reputation in the world and makes important contributions to the development of the world, and becomes the object of imitation and reference by other countries. Its specific characteristics are as follows: it has high quality teaching and scientific research level, and has cultivated a large number of excellent talents; It has a certain number of well-known universities and scholars; Many scientific research achievements are of great significance to the development of science and technology in the world. It has advanced higher education system, which can be used for reference by other countries and attract a large number of international students.

## 3. The Cause of the Transfer of Higher Education Center and The Realistic Foundation of China's Higher Education

As for the dynamic factors affecting the transfer of higher education center, scholars have different opinions, but generally it can be attributed to the joint action of internal and external factors. This paper refers to the viewpoints of Dr. Wu Peng from Huazhong University of Science and Technology in the article "Factors influencing the Evolution of University Functions and their Mechanism", and divides the factors influencing the transfer of higher education center into time force (cultural tradition), space force (political, economic and cultural environment) and university's own development logic force. [6] On this basis, the realistic possibility of China becoming the next higher education center is analyzed.

### 3.1. Time Force Factor and Basis

Time force refers to the force that comes from tradition and the demands of the future. [6] In the final analysis, it is a kind of adaptation: the adaptation of traditional culture to mainstream thought and the adaptation of higher education to future social development. Where the center of higher education moves and whether it can be realized in a certain country depends to a certain extent on the adaptability of a country. In America, for example, when the concept of scientific research established in Germany, the United States combined with the national tradition of pragmatism, and seized the social development for the demands of higher

education, higher education in the United States through positive practice on the basis of the original bursts with new life, expand the function of the university, make its have the characteristics of social services. However, as the former center of higher education, Britain ignored the tide of technological development and rejected science. Even though it was forced to accept science later, due to the tradition of keeping distance from the society in Western universities, British universities still focus on "pure" science rather than applied science. As a result, universities in Britain, including Oxford and Cambridge, are lifeless. Can a country to its cultural tradition and The Times demand of emerging education concept, whether in the direction of higher education forward-looking foresight, to a certain extent, affects the country's higher education can keep up with the incident flow of The Times and go up, even can walk in front of the wave of education, become a leader of The Times.

Confucianism, as the official orthodoxy in ancient China, affects the temperament and character of Chinese people to a great extent. Confucian philosophy is to advocate the active entry into the world, emphasizing the responsibility of people in the society. In the Great Learning, it is mentioned that "cultivate one's morality, put the family in order, govern the country and bring peace to the whole world". In the Mencius, it is said that "if one is poor, he will be a good man alone, and if he is accomplished, he will help the whole world." In today's world of constant international disputes and severe ecological environment, it is particularly important to have the courage to face the problems existing in human society and actively assume social responsibilities. Influenced by Confucianism, the Chinese descendants have always held the sense of responsibility to regard the world as their own responsibility and care about the family and the country. In this outbreak, China's flexible and sensitive response to the epidemic and the active and effective rescue to other countries have further demonstrated our responsibility and mind as a major country.

### 3.2. Spatial Force Factors and Basis

Space power is the power of the political, economic and cultural environment in which things exist. [6] If time force influences the transfer of higher education center from the vertical dimension, then space force is analyzed from the horizontal dimension. On the one hand, certain political, economic and cultural environment creates conditions for the development of higher education, and on the other hand, certain political, economic and cultural environment requires higher education to provide continuous power for its development. Makes the two world wars in the political unrest in many countries of Europe and Asia, the embarrassment of the economic depression, less affected by the war of the United States firmly seize this opportunity, to develop the economy, and through policy support and so on way for the development of higher education provides a good environment, and on the other hand, because of the practical need of society development, American higher education gradually shows the characteristics of social service, which in turn promotes the development and progress of American society.

At present, the development of all aspects of China's society is flourishing. Both the economic and technological development level occupy an indispensable position in the world. As the world's second largest economy, China's GDP reached 101.6 trillion yuan in 2020, breaking the threshold of 100 trillion yuan for the first time, with a real year-on-year growth of 2.3%. Under the severe impact of COVID-19, China is the only major economy in the world to achieve positive GDP growth in 2020. In addition, China's economic structure is also constantly changing, and the proportion of the tertiary industry has shown a steady upward trend. In 2020, the added value of the tertiary industry accounted for 54.5%, which played a major role in driving the growth of GDP. Some scholars predict that China's GDP will overtake that of the United States around 2025 and become the world's economic leader.

In terms of scientific and technological development, the 2020 Global Innovation Index (GII) report released by the World Intellectual Property Organization (WIPO) shows that China has remained at the 14th place for two consecutive years and is the only middle-income economy among the TOP 30 economies in the GII overall ranking this year. According to the reports in recent years, China's ranking has achieved a continuous rise in four years from 2016 to 2019. In the global tech cluster ranking, 17 Chinese tech clusters are among the top 100 global tech clusters, with Shenzhen-Hong Kong-Guangzhou cluster ranking second and Beijing cluster fourth. The number of technology clusters is second only to the United States. In terms of the number of science and technology talents, the Institute of China Studies at Tsinghua University predicts that By 2030 China will top the world in the number of scientists and engineers.

**Table 1.** Number of full-time r&d scientists and engineers in major countries of the world (1980-2030) [7]

	1980	1985	1990	1995	2000	2005	2007	2020	2030
China	32	34	35	55	69	111	300	-	450
America	65	80	92.4	99	126	136	143	180	220
European Union	-	-	-	106	109	129	145	180	230
Japan	63	76	91	99	105	101	105	120	150
Russia	-	-	-	56	51	47	47	60	80
The World	-	-	-	538	688	721	721	1000	1500

### 3.3. Factors and Basis of Logic Force

Logical force is the inherent stipulation of the existence and development of things themselves. [6] The nature of a thing determines its internal potential for development. If a country wants to become the center of higher education, its higher education itself must be developed to a certain level in terms of scale and quality. Taking the United States as an example, its higher education developed rapidly after the founding of the People's Republic of China. Between 1870 and 1945, the number of institutions of higher learning increased from 250 to 1768, and the number of registered students of higher education increased from 63,000 to 1677,000. At the same time, its university system and system continue to improve, the university management system is increasingly mature, for its development as the world's higher education center laid a solid foundation.

In recent years, China's higher education has been booming. In terms of size, the enrollment of regular undergraduate and junior college students has been on the rise, with the enrollment of more than 9 million students in 2019. According to the Main Statistics results of National Education industry in 2020 released by the Ministry of Education, the total scale of higher education in various forms reaches 41.83 million people, and the gross enrollment rate of higher education is 54.4%, indicating that China's higher education is in the stage of popularization. In terms of improving the quality of higher education, the state has actively promoted the implementation of various policies, such as the construction of project 985, 211 and double first-class universities, striving to establish world-class universities and world-class disciplines, so as to improve the comprehensive strength and international competitiveness of China's higher education. In the QS World University Rankings 2020-2021, China has eight universities in the world's top 50 and 12 in the world's top 100.

## 4. The Ideological Appeal and Connotation of University Function in China are Deepened

The historical experience of the development of higher education in Germany and the United States is summarized. It is found that they have some common characteristics, such as attaching

importance to the introduction of excellent teachers, and for internationally famous teachers, the university does not hesitate to spend a lot of money to acquire them. In addition, the country often sent students to the world's famous universities to study, these students returned to the development of the country's various industries have made great contributions. The mobility of both teachers and students shows the characteristics of education internationalization. Throughout the world today, the internationalization of education has shown an irresistible trend. Cultural and educational exchanges among countries have become common. The increasingly close connection between countries has made the internationalization of education more and more prominent. This paper tries to find the spiritual appeal of university function concept from the perspective of internationalization, combined with the favorable factors of the rapid development of science and technology in China, and enriches the function of university in connotation, so as to adapt to the development and progress of The Times and provide development ideas for China to become the next world higher education center.

#### 4.1. The Spiritual Appeal of the Idea of University

The three functions of western universities in history correspond to three different university concepts: "teaching-oriented" concept, "research-oriented" concept and "service-oriented" concept. Due to the influence of historical factors, the higher education of all countries in the world presents complicated and diverse characteristics. Although the styles are different, they always contain common factors. If we want to seize the opportunity in higher education, we must grasp the "greatest common divisor" of these values, find the common value appeal of all mankind, and reflect this value appeal into the functional concept of higher education. Today, with increasingly close international exchanges and more prominent problems in all aspects of society, higher education is required to break the boundary between countries, deepen the connotation of internationalization, and strive to build a community with a shared future for mankind in the real sense. If, as the British educator ASHLEY said "America's contribution to the higher education is dismantled the campus fence", so, under the background of the new era of China's higher education's aim is to dismantle education between countries as possible "walls", make the boundary of the campus is not in the boundary of the "national", but "the boundary of the world", build in the true sense of "global village". Higher education is no longer just serving the country, but serving the world. For the common interests of mankind, it actively assumes the responsibilities of all aspects of society. We can regard it as a "responsible" university concept.

The temperament and character of Chinese people are deeply influenced by Confucianism. Confucianism, as a worldly philosophy, is consistent with the idea of "responsible" university advocated in this paper to some extent. It advocates that people should actively participate in the society and reflect a strong sense of social responsibility. But as the product of feudal society, Confucianism inevitably has the limitation of feudal times. Injecting the blood and vitality of the new era into Confucianism, it has considerable theoretical value to interpret the university concept of "responsibility". Fei Xiaotong once said: "The grassroots structure of Chinese rural society is a so-called 'differential pattern', which is a network composed of individual connections..... Filial piety, fraternal respect, loyalty and trustworthiness are the moral elements of personal relationships." [8] In the Analects of Confucius, Fan Chi asks about benevolence, and The Master says, "Love." "Love" in the time of Confucius is a kind of love with class difference. In order to break down the fence between countries in a real sense, the first is to break down the bad ideas and transform the traditional private moral elements into a public morality of "great love without boundaries". Expand the scope of responsibility, not just in one country, but in the world, and assume the common responsibility of the world.



## **4.2. The Connotation of University Function is Deepened**

### **4.2.1. Talent Cultivation -- Cultivating International Talents**

Finally, the internationalization of education is to realize the internationalization of people, which cannot be achieved without the internationalization of education system. We should build a more open and world-oriented curriculum system. First of all, the talent training plan should be updated and the idea of cultivating international talents should be incorporated into the teaching plan. In the course of curriculum reform, we should be good at using information and multimedia technology to transform teaching mode, optimize teaching quality and improve teaching efficiency. In terms of curriculum system, strengthen the development of international curriculum system, combine with the goal of international talent training, make reasonable adjustment in curriculum view, curriculum goal, curriculum content, curriculum structure and other aspects; In terms of curriculum mode, the past closed teaching should be changed, and reform should be carried out through international education, joint training and mutual recognition of credits. In practice, to realize the internationalization of student practice. Improve the communication and cooperation channels between China and other countries, provide more opportunities for college students to directly participate in international cultural exchange activities, and the scope of internship is no longer limited to the local scope, but in line with the international standards, to provide students with more diverse internship opportunities.

To ensure the internationalization of talent cultivation, we must consider the internationalization of teachers. First of all, teachers should have an international consciousness and an open ideological system. Online interaction and online courses can help teachers understand international knowledge and culture and broaden their international vision. Secondly, teachers should be equipped with international ability. The most important thing is to solve the language barrier. It is particularly necessary to strengthen the training of teachers' English ability. Thirdly, in terms of the internationalization of teachers, on the one hand, we can recruit teachers from all over the world and introduce world-class teachers. On the other hand, the international experience of local teachers can be increased, such as arranging teachers to conduct overseas study and exchange, carrying out international teacher training, participating in international exchange conferences, teachers studying abroad at public expense, etc.

### **4.2.2. Scientific Research -- Facing the Common Problems of the World**

With the continuous advancement of globalization, the problems of environmental protection and disease prevention and control are becoming more and more prominent. Under such social background, colleges and universities should take the initiative to take responsibility, follow up the hot spots in the international frontier field, play the role of scientific research, and provide ideas and methods for solving the common problems faced by mankind. The spread and development of science and technology is a worldwide phenomenon. University scientific research should face the world, pay attention to the development trend of world science, integrate scientific research with international standards through international academic exchanges, and study some important problems facing the world.

As scientific research is facing global problems, universities need to pay more attention to basic science. As scientific research brings more benefits to human beings, more and more people choose to take applied science as the research object, but ignore the importance of basic science. If we want to realize the leapfrog development of science and technology, we have to attach importance to the research of basic science. Today's universities focus on the research of applied science, showing the utilitarian tendency of the development of universities, but it should be noted that most of the benefits are "short, flat and fast". In order to obtain long-term

benefits and development, basic science as the most fundamental driving force of social development must be regarded as the research focus.

In addition, to ensure the effective performance of scientific research functions, it is necessary to promote the open sharing of scientific research resources on a global scale. The reciprocal sharing of scientific and technological resources in the world can be accelerated by setting up an international scientific and technological resources sharing platform, establishing a management mechanism to promote the open sharing of scientific and technological resources, and establishing an incentive mechanism to promote the open sharing of scientific and technological resources.

#### **4.2.3. Social Services -- Globalization of Services**

In order to make Chinese universities develop towards the world higher education center, we must understand the function of social service from an international perspective. The understanding of social service in Chinese universities is relatively vague and backward. First, the awareness of social services is not strong, many schools do not pay enough attention to it, or do not put it into practice at all, and formalism is rampant. Secondly, the concept of social service is backward, some people understand it as paid service, others understand it as only economic and social service; Finally, the scope of social service is narrow. Chinese universities usually serve local economic and social development without considering the overall interests of the country, let alone the common interests of mankind. Under the background of internationalization of higher education and the appeal of the concept of "responsible" university, we should renew the concept of university social service function and expand the scope of social service. The social service of higher education should weaken its utilitarian tendency and serve various fields of society. It is no longer only for a certain country or region, but for the whole world. Not only China's or regional issues, but also issues of common interest to mankind.

Universities should make good use of science and technology, develop science and technology according to the principle of innovation, and provide better service for society. Universities should make full use of modern science and technology to carry out research on the important and difficult problems in the process of internationalization of higher education and provide scientific basis for the development of higher education. In addition, when providing social services, colleges and universities should not be limited to the current international economic and social development, but should have a far-sighted vision and make a scientific forecast of the long-term requirements of the world economic development, so as to ensure that China's colleges and universities can always take the lead in economic and social progress.

## **5. Conclusion**

In the process of the development of higher education, the functions of universities are not immutable, but constantly adjust and change to adapt to the new university concept and meet the development and needs of the society. From the perspective of university function, this paper considers how to make the university of Our country move forward towards the direction of the next higher education center. To realize this goal, it needs not only the reform within the university, but also the coordination of various aspects of the society, as well as the comprehensive deployment and planning. There is still a long way to go for China to become the next world center of higher education. The key is to follow China's path, speak China's voice and formulate a set of "China's plan".

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