

# A brief discussion on the construction and innovation of higher education ecosystem

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**Abstract:** A reasonable learning ecosystem can not only help students to realize systematic learning of knowledge, but also promote the cultivation of students' autonomous learning ability. It not only gives play to the leading role of teachers, but also gives students full freedom and encourages students to carry out inquiry learning, expansion learning and innovative learning. This paper uses the principles of ecology to examine the development of the internal ecosystem of higher education, and provides some suggestions for promoting the healthy and sustainable development of higher education.

**Key words:** higher education; Institutional ecology; Structural ecology; construct

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When the human society is moving towards ecological civilization, higher education, as the product of human civilization, is an organic part of the whole society. Of course, it is impossible to stay out of the ecological trend of social development. Various ecological forms are not only reflected in the political, economic and cultural fields, but also inevitably reflected in the higher education system. How to make higher education more in line with its own development law? And how to make higher education realize the balance and optimization of the ecosystem? It is a major topic put forward by the concept of sustainable development and system innovation of higher education in the new era, and it is also one of the important contents of the construction of a powerful country in higher education.

## 1.The concept and connotation of higher education ecosystem

The so-called higher education ecosystem refers to guiding the development of higher education with the principles, laws and methods of ecology, rationally allocating higher education resources, optimizing the structure of higher education, coordinating the development of higher education with the development of nature and society, and establishing a new type of development mode of higher education that is people-oriented, natural, harmonious and open. To achieve the dynamic balance of the higher education system. The ecology of higher education pursues the interdependence, mutual promotion and mutual benefit of the internal and external subjects and objects of higher education, the unity of the naturalness, sociality and practicality of the objects of higher education, the publicity of natural personality and the expansion of innovation, and emphasizes the dynamic balance of the input and output of various educational elements. Higher education ecosystem is composed of its main body, environment, structure, function, system and other basic elements. Among them, the main body of higher education ecosystem refers to educators, educatees and colleges and universities, in which students are the center; The ecological environment of higher education refers to the social macro environment outside higher education, the middle environment composed of different levels and forms of higher education inside higher education, and the micro environment composed of various ecological factors inside higher education, among which colleges and universities are the center; The import and export ecosystems of higher education

In a narrow sense, it refers to the relationship between enrollment and employment, and in a broad sense, it refers to the communication and connection between the ecosystem of higher education and the external social ecosystem. The structural and functional ecosystem of higher education refers to the functional state determined by the structure of higher education, that is, what kind of higher education structure has what kind of function is

compatible with it; The institutional ecosystem of higher education refers to the institutional arrangement of the higher education system, such as whether the system is dominated by academic power or administrative power, centralized management or decentralized management, open system or closed system, etc. Such institutional arrangement will affect the decision-making behavior, resource allocation and school-running efficiency of higher education

## 2. Benefit plays a decisive role in the construction of higher education system

Second, the necessity of higher education ecosystem construction

The significance of higher education ecosystem construction lies in the coordination of various ecological and environmental factors of higher education to make it co-exist, coordinate and develop, the use of ecological adjustment mechanism to improve the carrying capacity of the higher education system, and focus on solving the contradictions and imbalances in the higher education ecosystem, so as to promote the healthy and sustainable development of higher education.

First of all, the construction of higher education ecosystem is the need to achieve sustainable development. Higher education system and natural ecosystem have similar internal mechanism and attributes. In addition to the stability, integrity, hierarchy, correlation, independence and other characteristics of general systems, it also has the attributes of self-maintenance, self-regulation and sustainable development of ecosystems. From the perspective of the internal structure of higher education, institutions of higher education of different levels and forms are rationally divided according to the needs of social development and their own educational foundation, and each occupies different ecological positions in the whole higher education system. They are interrelated with each other, and maintain balanced development and co-evolution in a certain combination way and proportional relationship. From the perspective of the internal environment of higher education institutions, educational factors such as scale, structure, conditions, system, facilities, atmosphere and mode jointly constitute students' learning situation, affect students' behavior, and students' actions change the real school situation and affect the physical and mental development of students and other individuals. From the perspective of the relationship between the whole higher education and the external environment, it constantly exchanges material, information and energy with environmental factors such as politics, economy and science and technology, adjusts itself to the changes and needs of the external environment in the process of development, and constantly absorbs human, financial, material and other nutrients from the external environment to achieve its own reproduction, and at the same time, it also serves the external environment

The environment continuously outputs talents and achievements, and maintains a relatively balanced energy exchange relationship with each other. As long as this relationship is benign and lasting, the sustainable development of higher education ecology can be maintained. Secondly, the construction of higher education ecosystem is the need to resolve the internal crisis. Since the reform and opening up, China's higher education has begun to transform from elite education to mass education, driven by many forces such as political, economic and social needs. Since the launch of the higher education popularization policy in 1999, the gross enrollment rate of higher education in China has jumped from 9.8 percent in 1998 to 24.3 percent in 2011. After more than 10 years of continuous expansion, the scale of higher education in China has achieved the historic span, not only through a course that developed countries take 30 years to complete, but also into a stage of internationally recognized popularization of higher education, and basically realized the strategic goal of transforming China from a large population into a large human resources country. However, when China's higher education is transforming from "elite" to "mass" education, due to ignoring the law of ecological development of education, it has walked out of a non-ecological development road in seeking rapid development, resulting in a series of educational ecological crises: First, the structural imbalance in the great development of higher education leads to the unbalanced development of regional higher education, the uncoordinated development of disciplines, and the imbalance of structural supply and demand of talents; The second is the standardization of educational objectives, the model of educational means and the assimilation of educational environment, which makes the individuality of students submerged and the characteristics of schools not obvious; Third, the orientation and classification of higher

education have not been effectively implemented, resulting in the loss of the development characteristics of single-subject and multi-subject colleges and universities, all tend to be integrated, and single-subject has replaced diversity again. At present, the scale of China's higher education has become the first in the world, but there are few internationally competitive universities, disciplines and innovative talents

Horns. Although China's modern education history is not long, it is difficult to compete with the developed countries, but it is not unrelated to the deterioration of its own ecological environment. According to this development trend, it will be difficult for higher education to adapt to the development needs of economic globalization, and its own development will be difficult to sustain. Therefore, it is necessary to deepen the reform of higher education, adjust the development direction of higher education in time, and strengthen the construction and innovation of the current higher education ecosystem.

Third, the construction and innovation of higher education ecosystem

The main thrust of the construction of higher education ecosystem is as follows: first, higher education is regarded as a complex ecosystem composed of various elements, so that the elements in the system restrict and promote each other, and the state of symbiosis, competition, balance and development is dynamically presented between each other; The second is to make all the elements of the higher education ecosystem interdependent and enjoy the same rights of development in a balanced way. If they are not well coordinated, it means the destruction of the ecological balance of the system; The third is to allow the uneven development of various elements in the higher education ecosystem, and to recognize and respect this difference; The fourth is to vigorously promote the benign interaction between the elements of the system, so that the elements between the talent and trust

The input and output channels of information, energy and materials remain smooth. To be specific, the construction and innovation of higher education ecology are as follows: First, the construction and innovation of higher education system ecology. China's current higher education system ecology is not balanced, administrative power

Over academic power, centralized management over decentralized management. For example, the state and education authorities are still integrated with the right to organize higher education, the right to run schools, the right to manage and the right to supervise. The decision-making and management are almost top-down, and the schools still lack the right to operate and run schools independently and the power to make independent decisions. 2j. In this highly centralized and "administrative" control of the higher education ecosystem, the higher education institution is only a subsidiary of the competent department, and becomes an extension of the administrative system in the higher education system. Institutions of higher learning act in full accordance with the rules of administrative organizations, and administrative personnel become the core and protagonist of school operation and development, while teaching and scientific research personnel are marginalized. This kind of institutional ecology is extremely incompatible with the modern university concept of "university autonomy" and "academic freedom". It is necessary to straighten out the relationship between institutions of higher learning and the government, optimize the external institutional ecological environment, establish the main position of higher education, and realize the dynamic balance and coordination among various elements in the system of higher education. It is necessary to innovate the internal organizational structure of colleges and universities and establish a good operating mechanism, especially to establish an academic-centered organizational structure and power structure in colleges and universities. Second, the construction and innovation of higher education structure ecology. The structure of higher education system directly affects the function of higher education. Therefore, in order to improve the function of higher education, we must adjust the structure of higher education and strengthen the construction of the ecological structure of higher education. Looking at the structure of China's higher education from the perspective of ecology, it can be clearly seen that there are many problems in the current structure of higher education, such as unbalanced regional distribution, uncoordinated layout of disciplines, and unreasonable curriculum Settings. The emergence of these problems, in a large part, stems from the improper allocation of resources in the development of Chinese higher education. In order to change the deteriorating ecological structure, we must integrate higher education resources scientifically according to the

principle of "overall consideration and harmonious development", and improve the system function of higher education by optimizing the structure of higher education. Specifically, in terms of regional distribution, the state should rationally allocate higher education resources according to the actual situation of social, economic, cultural and higher education development in each region, combined with their respective main function and location advantages. Through the establishment of higher education financial compensation, support and transfer mechanism, improve the donation tax preferential policy and other administrative control means, as far as possible to allocate, integrate and guide higher education resources to the region in need of development. At the category level, the types and proportions of each level can be adjusted on the basis of expanding the overall scale of higher education. For example, in the proportion of undergraduate education, we can vigorously support the development of higher vocational and technical education, and train local vocational and skilled human resources that can be retained and used, so as to solve the actual demand for a large number of technical talents in the front line of production. In terms of the proportion adjustment of level types, the number and proportion of applied talents in each educational level can be appropriately increased to meet the actual needs of such talents in various industries, especially high-tech industries. In the form of education, diversity, characteristics and avoidance of convergence should be encouraged. In terms of discipline structure, it is necessary to strengthen the macro-control of disciplines and specialties, expand the training of innovative, applied, composite and skilled talents, so as to maintain an appropriate proportion of disciplines and specialties. In addition, it is necessary to adjust the structure according to local conditions according to the principles of ecology, so that all levels and types of higher education can develop together and progress together, so as to enhance the overall function of higher education.

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