

The research on “Discipline-Subject” Integrated Construction of Collaborative evolution and knowledge chain model

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Abstract

By analyzing the connotation of integrated construction of “subject-professional”, combining the theory of synergetic analysis and knowledge chain, construction of the “subject-professional” integrated system model, and to analysis the system structure and system characteristics , in-depth analysis on the basis of the “subject-professional” integrated construction system collaborative model and knowledge chain model, to investigate the interaction between the basic activity of subject construction and specialty construction of internal coordination between the auxiliary activities with the basic activities, to enhance “subject -professional” mutual support, to further promote the coordinated development of subject-professional construction, to promote the colleges and universities teaching model and to further promote and improve the quality of academic research level and professional training.

Keywords

Discipline construction; specialty construction; construction of “Discipline-Subject” integration; collaborative model; knowledge chain model component.

1. Introduction

Subject construction and professional construction level are two important indexes to reflect the development of colleges and universities. Subject construction marks the level of a college, professional construction level indicates the level of personnel training in colleges and universities. Discipline is the “source”, professional is a “flow”, the two interdependent, cooperative development. Therefore, in the process of discipline construction and specialty construction, colleges and universities should put them into the big system of “subject-professional” construction, in order to enhance the subject -professional mutual support, to further promote the coordinated development of subject and professional construction.

2. The connotation of “subject-professional” integration construction

In the process of university development, discipline construction and specialty construction exists a close collaborative relationship; we should promote the integration of them, to implementation integrated construction of “disciplines-professional”. That colleges and universities should set up both the concept on discipline construction and specialty construction and put professional construction into the discipline construction, to make discipline construction become the “power” of professional construction, through discipline construction promote the level of professional construction, and through professional construction promote the formation of subject construction, combine two complementary advantages, mutual support, promote the coordinated development of the two. The main points are as follows included:

2.1 Establish the equal emphasis on discipline construction and specialty construction idea.

Based on the synergetic theory, the system is composed of several subsystems; there are differences between each subsystem, but also through cooperation to achieve the system’s development. Colleges and universities must recognize the importance of building discipline construction system, the establishment of disciplines, professional groups, and make the collaborative development.

Colleges and universities should establish the integrated construction of “subject-professional” concept, establish the equal emphasis on discipline construction and specialty construction, and organically combine subject-professional groups, form the discipline construction to nurture professional development, use professional construction to improve the integration platform of the subject level.

2.2 Promote coordination symbiosis of disciplines and professional construction

According to the theory of knowledge chain, Rational structure of university disciplines exists knowledge links, discipline and specialty disciplines, professional, there are communication and exchange of knowledge, If the various disciplines of professional formation of university knowledge chain, it will produce a series of positive feedback, expertise in various disciplines in the chain will be developed rapidly, therefore, interaction, the specialized colleges and universities, forming a complex “subject-professional” network, promote enhanced collaborative symbiotic effect of discipline.

2.3 Achieve complementary advantages of subject- professional building and resource sharing

In the construction of colleges and universities discipline construction and professional, There are knowledge exchange symbiosis and complementary advantages among discipline specialty groups, and also the existence of resource sharing, such as the library materials, experimental equipment and the materials of research and development in subject construction, can professional construction students learning, provides resource conditions. The guide mechanism that complementary advantages and resource sharing of colleges and universities is necessary to establish, guiding mechanism can reduce the construction cost, but also can create the academic atmosphere, promote academic exchanges.

3. Literature “Discipline-Subject” integrated construction system’s formation and characteristic analysis

Because there is a natural synergy inherent link between subject and professional construction, the university should implement “subject-professional” integration construction; need to build “subject-professional” integration construction system. Integration system includes the system of discipline construction and specialty construction subsystem. According to synergetic theory, Constructing “discipline–subject” integration system premise is to promote and maintain a non-equilibrium, openness and synergy of professional disciplines construction, and thus to promote the coordinated development of subject construction and specialty construction, Universities need to build “disciplines-professional” integration of non-equilibrium open collaborative system. The system shows in Fig.1.

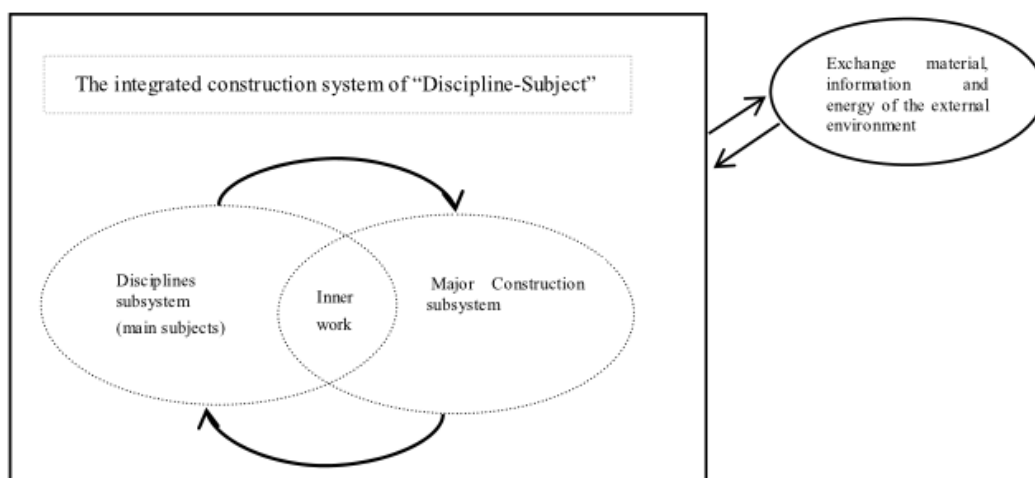


Fig.1 Openness and collaboration diagram of “Discipline-Subject” subsystems

3.1 Non equilibrium

The non equilibrium integration construction system of “subject - professional” is that nonlinear and far from equilibrium state. “subject-professional” integration require the system to make constantly adjust to subject construction and professional construction, so as to adapt to the changes of the party and the government’s educational policy, social economics changes and college teaching mode, requires the system to be in the dynamic process of change, so the system has the characteristics of far from equilibrium state.

3.2 Openness

Subject construction in Colleges and Universities need to continue to communicate with the outside world, need to adapt to changes in the external environment, need the social and the government financial support and policy guidance, need the results among colleges to reference, need to convert the achievements between school and enterprise, so the system of University “subject-professional” integration construction should be kept open, to promote the colleges healthy and orderly development.

3.3 Cooperativity

Interaction among the various disciplines and majors in Colleges and Universities, forming a complex subject-professional network, and constantly promotes the collaborative symbiotic effect of disciplines, so the system of University “subject-professional” integration construction is of cooperatives.

4. The “Discipline-Subject” integration system’s co-evolution model

According to synergetic, in “subject-professional” integration system every subsystems and elements are mutual coupling, that is universities in the “subject -professional” integrated construction, competition and cooperation in different department and professionals are independent, mutual unity and mutual transformation of each other. See Fig.2.

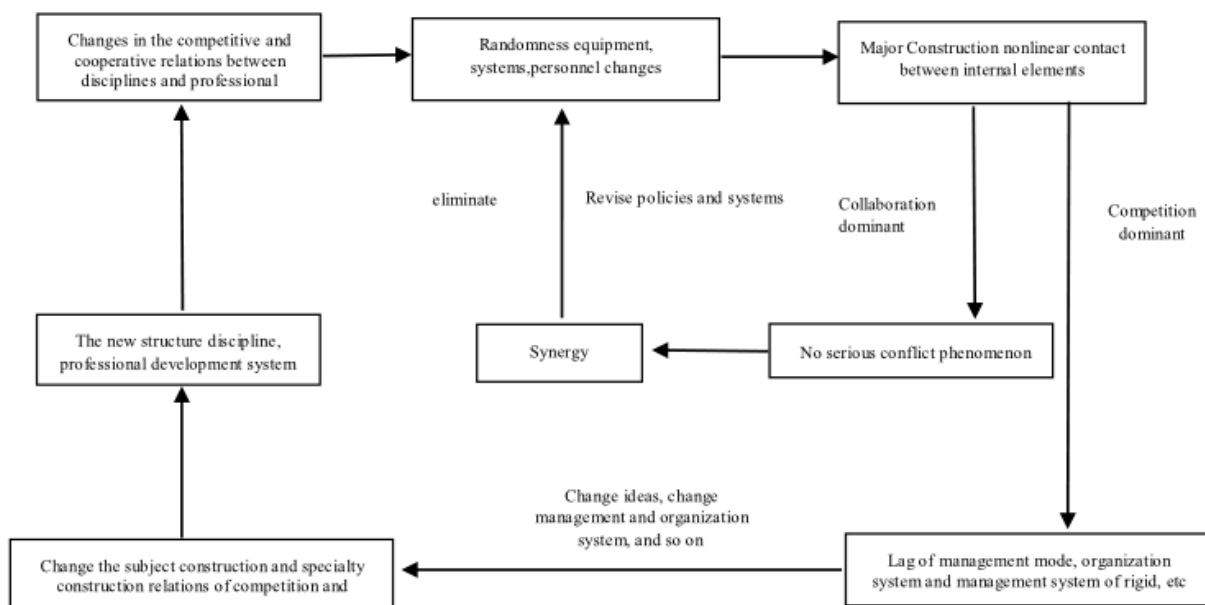


Figure 2 disciplines and professional development system evolution model

The mutual transformation relationship of competition and cooperation between discipline construction and specialty construction will produce contradiction and fluctuation, This fluctuation will lead to discipline construction and professional construction system deviates from the normal steady state, As the weight of the discipline construction, light specialty construction, many teachers generally attach importance to scientific research, and light teaching, makes the high-quality resources of discipline construction into the efficiency of the education resources low, to solve this

problem, need to emphasis on both construction and specialty construction, implementation of scientific research financed teaching “subject-professional” integrated construction, then produce all kinds of contradictions and conflicts. When the collaboration between the university discipline construction and specialty construction is dominant, “subject-professional” integration system structure is stable, the fluctuation caused by the change of competition and cooperation between the forming effect through the internal relationship, performance for some less serious uncoordinated phenomenon. When universities external environmental conditions change, “subject-professional” integrated construction system intrinsic synergy is not obvious, structure of the system is not stable, appear uncoordinated serious discipline construction and specialty construction management mode, divorced from reality, advantages of disciplines resources cannot be effective into educational resources, appear huge fluctuation, the requirements of the subject construction and specialty construction reform, reflection on the subject construction and specialty construction, change of subject construction and specialty construction thought, re-enact policies and change system, allowing the system to generate mutations produce new competitive and collaborative relationship, so that the “discipline-professional” integration of the system in the new steady state.

5. “Discipline-Subject” integrated construction system of knowledge chain model and analysis

The discipline and professional knowledge creation of “subject-professional” integration includes basic and support activities. “subject-professional” integrated construction system knowledge chain model as shown in figure 3.

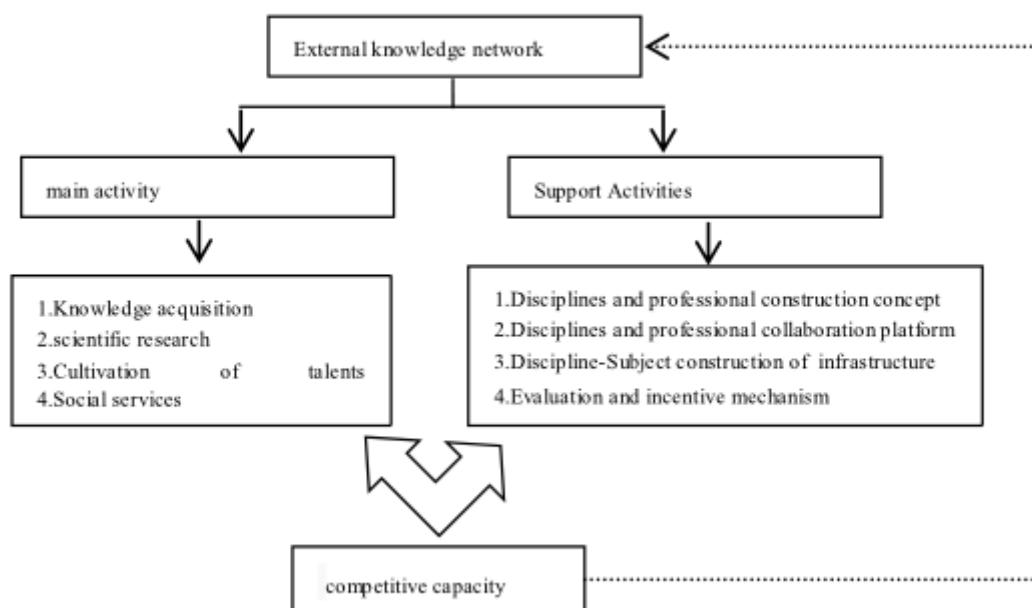


Figure 3 academic/professional knowledge chain model

5.1 The basic activities of “subject-professional” construction

(1) Knowledge acquisition. Academic and professional development is academic and knowledge sharing platform, need for the discipline-professional and external knowledge exchange of learning, need for creation and dissemination of knowledge in schools. The need for knowledge acquisition and knowledge acquisition is the main way of external knowledge learning and academic talent introduction.

(2) Scientific research. Scientific research in universities is intellectual resources of teaching, and also the main purpose of discipline construction. Scientific research mainly through knowledge

discovery, differentiation and innovation, improve the level of the school disciplines, exploring teaching method, so that scientific research is the key link to gain competitive advantage.

(3) Personnel training. It is the goal of discipline and specialty construction in Colleges and universities, is the mission of colleges and universities to cultivating talents of rich knowledge, comprehensive high quality and strong ability.

5.2 The auxiliary activities of “Discipline-Subject” construction

(1) Construction concept. Philosophy is the wind vane, is a guide to action. The discipline and specialty construction idea of universities screening of university construction position and cognition.

(2) Collaboration platform. The subject-professional collaboration platform construction includes system construction, policy innovation, coordination mode and complementary advantages of the project construction.

(3) Course construction. University disciplines - professional - course construction supplements each other. The discipline construction in colleges and universities is a platform of academic innovation, specialty construction is a platform of talent cultivation, and the curriculum construction is a platform for discipline knowledge into Culturing students' ability and quality.

5.3 Analysis of the collaborative relationship between the basic activities of subject construction

The knowledge acquisition is the foundation of the “subject-professional” integration construction system knowledge chain. Scientific research is the source of knowledge, talent cultivation is the mission of social services, and community service is the purpose. The basic activities in knowledge chain is a mutual connection and interaction whole, optimization of interaction between basic activities, is the important step to improve the performance of professional construction license.

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