

A study of the integration of disciplines and specialties in the context of "double first-class" initiative

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Abstract. From the perspectives of philosophy, planning, mechanism, faculty, curriculum and assessment, this paper mainly deals with the integration of disciplines and specialties within the background of "double first-class" initiative. Overall planning, coordination of related elements, resource allocation optimization, engagement of science and education are essential measures. It is argued that in order to realize the integration of disciplines and specialties successfully, we should carry out the systematic top-level design, advance comprehensive construction with holistic thinking, and promote coordinated development through integration.

Keywords: Disciplines, Specialties, Integrated construction, "Double first-class" initiative.

1 Introduction

Discipline construction is a comprehensive, systematic, and long-term elementary project. It is an important support to promote the connotative development of universities and enhance the strength and level of university running. China makes overall plans to promote the construction of world-class universities and disciplines and the implementation of the "Double Ten Thousand Plan" for first-class specialties construction. The integration of disciplines and specialties from a new way of thinking in line with the times will improve the inherent quality of higher education within such background.

2 Issues raised

Disciplines and specialties are basic discourses of running a university. So far, many studies have elaborated on the concepts, connection, difference and mutual relationship between the two. For example, some study explored its basic connotations and demonstrated its dialectical relationship by referencing "Ci Hai" and "Chinese Dictionary"[1]. Based on the source from the foreign language roots (discipline) and foreign scholars' works, some other studies summarized their constituent elements and explained the development differences

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and the internal connection between them [2]. Based on its construction goals, content, etc., some studies analyzed its mutual relationship of cooperation and competition [3]. From the historical review of the development and reform of higher education in China, scholars explored the synergy between the two to promote the integration of science and education, and to improve high-quality undergraduate teaching, etc [4].

Since the State Council issued in October 2015 the "Overall Plan to Promote the Construction of World-Class Universities and First-Class Disciplines" (hereinafter referred to as the "Overall Plan") and relevant ministries and commissions' policy documents, the state's "double first-class" initiative has accelerated. The provinces followed closely and started the construction of first-class universities and first-class disciplines in local universities. In this context, the emphasis is placed on the discipline construction, which directly affects the output of scientific research, and the contradiction between teaching and scientific research in colleges and universities has become increasingly obvious. How to integrate the two basic activities of university teaching and scientific research to support the cultivation of innovative talents jointly is becoming an important issue to be solved urgently [4]. China's first-class undergraduate construction is put forward under the framework of "double first-class" construction. The logic of "double 10000 plan" is that first-class universities must have first-class undergraduate courses [5]. The core of building a world-class university and a first-class discipline is to deal with the relationship between teaching and scientific research, and the key is to promote the integrated construction of disciplines and specialties [6]. First-class undergraduate education is the foundation of building a world-class university and an important support to construct a world-class discipline [7]. Without first-class undergraduate education, there is no first-class university. The construction of disciplines and specialties is a key issue to accelerate the construction of world-class universities and first-class disciplines in line with first-class undergraduate education.

3 Dimensional analysis of the relationship between disciplines and specialties in the new context

Accelerating the construction of first-class universities and first-class disciplines is a major strategic decision made by the CPC central committee to accurately grasp the new trends in world development, the new requirements for economic and social development in China, and the new changes in the development pattern of global higher education. We are in the transition from a big country of higher education to a strong country of higher education, marching into a new world-class era and realizing the overall goal of the "double first-class" initiative

3.1 Analysis from the perspective of the objective and task: to share the responsibility of morality education in the respective development

General Secretary Xi Jinping emphasizes that "What talent to cultivate is the primary issue in education" in the national education conference. All of us should take the effectiveness of morality education as the fundamental criterion to test all school work. Universities must internalize morality education into all fields, aspects, and links of university construction and management, so as to take people as the core and talent cultivation as the root, and take "cultivating new people of the era who are responsible for national rejuvenation" as the university's fundamental mission and target mission. The level of discipline construction is a concentrated reflection of the university's core competitiveness. It is also an important foundation for the university to realize the social functions of talent training, scientific

research, and social services. Specialty is the basic unit and foundation for talent training, and it is the "four beams and eight pillars" for building first-class undergraduate education and training first-class talents. Therefore, the construction of first-class specialties is an important foundation and fundamental starting point to accelerate the construction of first-class universities and first-class disciplines. Judging from the goals and tasks proposed in the "Overall Plan", discipline construction is the fundamental foundation of "double first-class" construction. We must prioritize breakthroughs on this aspect, which can drive other developments. The construction of first-class disciplines must build first-class specialties, nurturing talents, and the two share the fundamental task of talent training.

3.2 Analysis from the perspective of the path: Highlighting contradictions in the competition for resources

Although the "first-class university construction plan" for selected universities has been released and implemented, there is no clear definition and unified understanding of what is a world-class university. Universities generally follow the academia consensus and regard world-class disciplines as the hallmarks of world-class universities, and use the top 100 disciplines in the world or 1% or even 1‰ of ESI as the evaluation criteria for first-class disciplines. However, the standards of such discipline evaluation often have obvious scientific preferences. For example, the ESI discipline ranking evaluates discipline construction through "the six indicators of the number of papers, the frequency of cited papers, the cited papers, highly cited papers, hot papers and cutting-edge papers. ARWU world-class discipline ranking uses the Incites database of Clarivate Analytics as the data source. It regards 27 authoritative academic awards from academic excellence surveys and 94 disciplinary top journals as criteria for index design. It comprehensively evaluates the five dimensions from the total number of papers, the influence of standardization of papers, the proportion of international cooperation papers, the number of top journal articles, and the number of authoritative awards received by teachers. Faced with the pressure of "double first-class" construction or ranking among the "double first-class" initiative, the baton effect of the evaluation has shown a high degree of guidance. Universities have introduced rewards and special support policies, even pushing teachers to publish papers at great expense to create "peak" first-class disciplines. Scientific research indicators have strong effectiveness, but talent training has poor effectiveness. If colleges and universities focus on improving their performance in the university rankings, emphasis will be placed on scientific research rather than teaching inevitably [8]. However, first-class undergraduate education should be implemented on a first-class specialty platform and reflected in cultivating first-class talents[9].The orientation of evaluation will definitely affect the input of resources to a large extent in the running of universities. Their contradictions will become more prominent as disciplines and specialties construction compete more fiercely for resources.

3.3 Analysis from the perspective of the policy Environment: Coordinated development in overcoming challenges

According to the requirements and deployment of the "Overall Plan" and "Implementation Measures for the Promotion of the Construction of World-Class Universities and World-Class Disciplines (Interim)", several and more universities and disciplines have entered the world's most popular based on the step-by-step design. On the one hand, "double first-class" universities must face the external challenges of international competition. On the other hand, they must also cope with the fierce challenges of many domestic universities that are expected to rank among the "double first-class" universities. Facing the dual

challenges at home and abroad, "double first-class" universities must not only implement discipline development and build world-class "peak" disciplines, but also play the leading role of disciplines to improve the level of running schools and overall strength. Quality is the key, and connotation development is fundamental. The Ministry of Education is vigorously promoting the implementation of the "Six Excellencies and Top Ones" plan 2.0, which has started the "quality revolution" for comprehensively revitalizing undergraduate education, and has proposed three core tasks: building gold disciplines, building gold courses, and building highlands. That is to say, the "Double Ten Thousand Plan" of first-class specialty construction, "Double Ten Thousand Plan" for first-class course construction and "highland construction plan" are open to all universities and specialties for application. From the perspective of the knowledge system, a specialty may involve the integration of knowledge in multiple disciplines, and the knowledge content of a discipline may also be applied to multiple professional fields. The development of "collective synergy" can overcome the challenges of all parties at home and abroad and promote the steady realization of the "double first-class" strategic goal.

4. The strategic thinking of promoting the integration of disciplines and specialties

To promote the joint development of disciplines and disciplines, we need to coordinate the functional differences between scientific research directed by discipline construction and the dissemination of knowledge directed by professional construction. It is necessary to coordinate planning and design from the aspects of ideas, plans, mechanisms, teachers, courses, and assessments, integrate relevant elements, optimize resources allocation and promote integration.

4.1 Guiding idea

Connotative development is the core of the higher education development policy of the party and the country in the new era. It is the fundamental method to solve the inherent problems of higher education. It is an inevitable choice for the realization of high-quality development of higher education. First-class undergraduate education is an indispensable connotation of "double first-class" construction. Talent cultivation must be the foundation, and the foundation must be built up so that the peak of the discipline can become high, and the top-ranking universities can become influential. We must properly examine the organic combination of connotation construction of first-class universities and first-class undergraduate education, firmly establish the concept of coordinated development of the integration of science and education, and the integration of disciplines and specialties, and use this concept to lead the practice of talent cultivation, scientific research and service, cultural heritage and innovation, international exchanges and cooperation, so as to grasp the key of the "double first-class" construction.

4.2 Top level design

Strategic planning is an open system theory that guides universities to understand environmental changes and foresight a blueprint for the future[10]. It is a behavior model that proposes coping strategies and solutions to problems that may arise in the future. It is also an important means to actively seek a favorable position. It is pointed out by ancient Chinese sage that preparedness ensures success, and unpreparedness spells failure. Since ancient times, people have attached great importance to the guiding role of planning on

career development. At present, universities and colleges have generally prepared special plans such as the five-year plan for the development of school careers and the development plan for discipline construction, while the specialty construction plan is not included in the school's career development planning system or is treated only as a part of the talent training plan. Under the general reform trend of "integration of multiple regulations," the leading strategic role of top-level design should be emphasized. The development planning of discipline construction and professional development should be integrated; the layout of disciplines and specialties structure should be reasonable; the relevant elements and resources should be vigorously integrated; and discipline integration should be implemented to promote the joint development of disciplines and specialties.

4.3 Scientific guarantee mechanism

The integrated construction of disciplines and specialties must establish a scientific guarantee mechanism and a mode of operation to urge disciplines and specialties to advance simultaneously and interact positively. It is necessary to establish the basic mechanism for disciplinary construction to guide and nurture specialty construction, build a disciplinary cross-innovation platform based on the discipline cluster, break the barriers of institutional mechanisms such as department management teaching, scientific research organization, management operation, and teacher financing, and promote the integration of disciplines and specialties. It is required to establish a mechanism for the overall allocation of resources, strengthen the coordination of resources at the school and departmental levels for resources such as discipline construction, and allocate and share resources more scientifically and reasonably to improve resource utilization. It is essential to establish a special fund for disciplines and specialties, highlight the key support for integrating disciplines and specialties with advantageous characteristics, strengthen the sense of responsibility for the integration of disciplines and specialties, and form an incentive and restraint mechanism. It is crucial to make overall plans for the construction of various teaching and research platforms such as laboratories and bases, focus on spatial construction and unified management, emphasize scientific layout and functional integration in content construction, and effectively promote the organic integration of science and education, and discipline construction.

4.4 Team building

Choosing the director in charge of the discipline is the first thing. It is necessary to select responsible persons with academic research strength, organizational management capabilities, and ideological and moral realms. They should give full play to the key aspects in condensing the discipline and specialty direction, building a talent team, coordinating scientific research and talent training, and promoting education and teaching reform. Second, we must strengthen the integration of teachers through breaking the barriers of teachers belonging to disciplines and students to specialties, and rearranging the organizational structure, system design, and teaching and research arrangements required for the integration of science and education and the integration of disciplines and specialties. It is essential to establish a scientific and technological innovation team according to the discipline research direction, a specialty team based on the undergraduate specialty, and a teaching team according to the course cluster. So that each teacher become the member of all three teams, and the faculty will form a matrix of famous instructors with strong academic research, excellent specialty construction and high teaching level.

4.5 Curriculum construction

The key to building a "double first-class" is that universities should seriously grasp the connotation construction and comprehensive reform; the foundation is the quality of undergraduate education [10]. It is through the cultivation of students that the future reputation of universities is improved [11]. Therefore, in the process of "double first-class" construction, we should further highlight the educational value of the curriculum, especially give full play to the significance of the curriculum for the cultivation of top-notch innovative talents [12]. The curriculum is a combination of discipline knowledge. We should conduct the reforms as follows: break down the barriers between disciplines, give play to the advantages of interdisciplinary resources, integrate the design of related discipline knowledge under a wider field of vision and a larger framework, build a curriculum group, and realize the collision of knowledge of different disciplines in teaching to stimulate students' interest in science and motivation for conscious learning. It is required to focus on the needs of students' development, redesign the curriculum, transform outstanding scientific research results into high-quality courses, especially launch cross-disciplinary cross-integrated courses, and organically integrate cross-disciplinary knowledge into new courses and cutting-edge courses. The innovative combination of content and modules are needed to generate new majors, support the development of cutting-edge disciplines, and cultivate top innovative talents.

4.6 Scientific assessment

It is essential to establish and improve the scientific assessment and evaluation mechanism to integrate disciplines and specialties. We should apply target management in the subject and specialty construction: incorporate discipline and specialty construction into the school's target tasks and performance evaluation system, undergraduate education annual job descriptions, and first-class university construction performance evaluation, track and evaluate the implementation process and construction effectiveness against the development plan and construction plan, pay attention to the combination of qualitative and quantitative, subjective and objective, process and results, scientific evaluation, reward for good and punish for bad, fully stimulate its endogenous motivation for integrated development, and promote disciplines and specialties the goal of integration construction was achieved with high quality. In a word, integrating disciplines and majors is a basic project to accelerate the construction of high-level undergraduate education, comprehensively improve the ability to train talents, and build world-class universities and first-class disciplines. Our educators' responsibility is to fully stimulate the endogenous driving force of its integrated development and promote the high-quality achievement of the goal of discipline and specialty integration.

5 Conclusion

"Educators are not for the past, not the present, but for the future." The mission of higher education in the new era puts forward a major issue of higher education structure adjustment and discipline and professional structure adjustment. Breaking the barriers between disciplines and specialties, teaching and research, and comprehensively and deeply integrating disciplines and majors is the primary project to accelerate high-level undergraduate education, comprehensively improve talent training capacity, and build a world-class university and first-class discipline. To implement this project well, we need to actively adapt to the new situation and address requirements for higher education development in the new era. We need to grasp the new relationship between disciplines and

specialties accurately. We should carry out the systematic top-level design, advance comprehensive construction with holistic thinking, and promote coordinated development through integration to provide a strong guarantee for the quality of higher education and a new driving force for building an educational power.

This article is the outcome of research project of 2017 Zhejiang Province Education and Science Planning (Serial Number: 2017SCG001).

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