



Analysis of Practical Dilemmas and Practical Approaches to Disciplinary Construction of New Colleges in Universities Under the Background of Connotative Development

Yi Wang, Wei Wang, Feng Wang, Wenguo Wu

Central University of Finance and Economics, Beijing 100081, China

Abstract: Against the background of in-depth connotative development of higher education and the advancement of the Four New Disciplines construction, newly-established institutions such as Schools of Future Technology and Institutes of Interdisciplinary Science have become important carriers for universities to optimize disciplinary layout and cultivate emerging interdisciplinary disciplines. In light of the requirements of higher education development in the new era, this paper systematically analyzes the practical dilemmas of newly-established colleges in disciplinary positioning, interdisciplinary integration, faculty introduction and cultivation, and supporting system construction. Aiming to solve the prominent problems of unrealistic positioning and superficial interdisciplinary integration, this paper puts forward practical approaches from four aspects: strengthening top-level design, deepening interdisciplinary integration, building high-quality faculty teams, and improving supporting mechanisms, so as to provide references for newly-established colleges to promote high-quality disciplinary construction and achieve distinctive development.

Keywords: newly-established colleges; disciplinary construction; interdisciplinary integration; Four New Disciplines construction; characteristic development

1. Introduction

With the in-depth implementation of the national innovation-driven development strategy, the new round of scientific and technological revolution, industrial transformation and higher education reform are accelerating integration. The traditional knowledge production mode of single disciplinary differentiation is gradually shifting towards in-depth interdisciplinary integration, which puts forward new requirements for universities to restructure disciplinary systems and enhance independent innovation capabilities. In early 2025, the CPC Central Committee and the State Council issued the Outline for Building a Strong Education Nation (2024–2035). In August of the same year, the Leading Group for Education Work of the CPC Central Committee issued the Action Plan for the Adjustment and Optimization of Higher Education Disciplinary and Major Settings (2025–2027). From the perspective of national strategy, the documents clearly require universities to break traditional disciplinary barriers, strengthen the layout of interdisciplinary disciplines and strategically urgent fields, dynamically adjust and optimize disciplinary and major structures, and better serve China's high-level self-reliance and self-improvement in science and technology.

Under such circumstances, universities across the country have successively set up newly-established colleges, research institutes and other new institutions. They drive disciplinary innovation through organizational innovation, promote the optimization of disciplinary ecology via institutional breakthroughs, actively respond to national strategic demands and regional industrial development, and facilitate the iterative upgrading of disciplinary systems. Compared with traditional colleges, newly-established colleges enjoy advantages in flexibility regarding disciplinary layout, institutional mechanisms and integrated innovation. Nevertheless, in practice, they generally face deep-seated contradictions such as the disconnection between strategic objectives and operational approaches, and the coexistence of interdisciplinary concepts and organizational barriers. General Secretary Xi Jinping pointed out that universities should “adhere to the correct political orientation of running schools, build high-caliber teaching staff, and develop a high-level talent cultivation system.” Resolving developmental dilemmas and constructing a scientific and efficient disciplinary system is not only the core task for newly-established colleges to fulfill their functions of talent cultivation, scientific research and social services, but also a key for universities to optimize disciplinary ecology and improve overall core competitiveness.

2. Core Orientations of Disciplinary Construction in Newly-established University Colleges

2.1 Adhere to national strategic orientation and arrange disciplines in response to major demands

The vitality of disciplinary construction lies in keeping pace with national strategies, industrial demands and regional development. Disciplinary layout divorced from actual demands will lose its developmental foundation and practical value. In carrying out disciplinary construction, newly-established colleges must always base themselves on the overall national strategy, take serving major national strategic demands as the fundamental starting point, focus on nationally urgent fields, industrial shortcomings and cutting-edge directions, and proactively lay out strategic emerging areas including artificial intelligence, integrated circuits, biomedicine, national security and digital economy. Guided by solving major practical problems, they integrate multidisciplinary resources to reconstruct knowledge systems, ensuring that disciplinary development is always consistent with national development.

2.2 Adhere to interdisciplinary orientation and break barriers to foster emerging disciplines

In-depth interdisciplinary integration is the core driving force of current knowledge innovation and disciplinary evolution, and also the distinctive feature that distinguishes new disciplines in newly-established colleges from those of traditional colleges. As early as 2018, the Ministry of Education explicitly encouraged universities to break disciplinary and major barriers, promote interdisciplinary collaborative education and scientific research innovation, and actively cultivate emerging interdisciplinary disciplines. Newly-established colleges should overcome the limitations of single-discipline development in traditional colleges, build interdisciplinary clusters centering on major scientific issues and industrial projects, follow the requirements of Emerging Engineering, Emerging Liberal Arts, Emerging Medicine and Emerging Agriculture construction, and explore integrated models including Discipline + Industry, Discipline + Technology and Discipline + Region. They shall cultivate forward-looking and leading emerging interdisciplinary directions, promote in-depth integration of arts, science, engineering and medicine, and realize genuine interdisciplinary development driven by practical problems.

2.3 Uphold characteristic development orientation and build differentiated disciplinary advantages

Distinctiveness is the foundation for the survival of newly-established colleges. Only by forming irreplaceable disciplinary advantages can they avoid homogeneous involution and achieve dislocation development in fierce competition. The disciplinary construction of newly-established colleges should closely combine the university's running orientation, advantageous disciplinary foundation and regional resource endowments, pursue characteristic, differentiated and advantageous development, and build disciplinary brands with high recognition and competitiveness. Meanwhile, in light of local economic characteristics, they shall accurately meet regional industrial demands, develop applied and compound disciplines, promote in-depth industry-university-research integration, and realize two-way empowerment between disciplinary construction and national as well as regional development.

2.4 Follow the talent-oriented principle and consolidate the foundation of disciplinary construction for education

The ultimate goal of disciplinary construction is to cultivate high-quality innovative top talents. Newly-established colleges should integrate disciplinary construction with talent cultivation deeply, incorporate cutting-edge disciplinary achievements and scientific research resources into the whole process of talent cultivation, support major optimization, curriculum reform and practical teaching innovation through disciplinary development, construct an integrated bachelor-master-doctor talent cultivation system, deepen industry-university-research collaborative education, and improve students' interdisciplinary thinking, innovative practical ability and complex problem-solving ability, so as to realize positive interaction among disciplinary construction, scientific research innovation and talent cultivation.

3. Practical Dilemmas in Disciplinary Construction of Newly-established University Colleges in the New Era

3.1 Inaccurate disciplinary positioning and ambiguous development direction

In the construction of new colleges and disciplines, there exists the phenomenon of blind policy following and hot-spot chasing. Without systematic demonstration of their own running foundation, advantageous disciplines and regional demands, as well as insufficient top-level design and long-term planning, the strategic disciplinary positioning becomes unrealistic. Problems such as excessively broad disciplinary directions, unclear core research fields, scattered disciplinary

layout and incomplete development system emerge, making it difficult to form agglomeration effects, and eventually falling into the dilemma of homogeneous and low-level development.

3.2 Formalistic interdisciplinary integration with insufficient resource integration

Although the concept of interdisciplinary integration has reached consensus, traditional disciplinary barriers still exist in practice, and cross-disciplinary resource integration is difficult. Most so-called interdisciplinary practices remain at superficial levels such as major combination, curriculum splicing and joint education, failing to achieve in-depth integration. There is a lack of stable and effective collaborative mechanisms among different disciplines, poor sharing of teaching, scientific research and platform resources, and a lack of interdisciplinary core curriculum systems throughout talent cultivation. The insufficient in-depth integration of knowledge systems, research paradigms and talent cultivation leads to superficial integration with substantive separation, hindering deep integration of knowledge systems.

3.3 Difficulties in faculty introduction and cultivation with low adaptability to disciplinary construction

Newly-established colleges are in urgent need of high-level interdisciplinary and compound faculty. However, current teachers are mostly transferred from related disciplines of traditional colleges with relatively single knowledge structure and obvious disciplinary path dependence, lacking willingness and ability to carry out interdisciplinary research. High-level interdisciplinary leading talents and young backbones are extremely scarce. In addition, the existing faculty evaluation system still adopts traditional single-discipline standards, which cannot adapt to the development laws and requirements of interdisciplinary disciplines. This leads to high cost and difficulty in introducing high-level talents, slow transformation of existing faculty, and directly restricts the improvement of disciplinary innovation capacity.

3.4 Imperfect disciplinary support system and unsound long-term mechanisms

In the process of disciplinary construction, newly-established colleges generally face insufficient supply of hardware resources including scientific research funds, experimental platforms and practice bases, as well as lagging software support such as management systems, operational mechanisms and incentive policies. Many newly-established colleges still adopt the governance model of traditional colleges with long decision-making chains. Sound long-term investment mechanism, flexible incentive mechanism and management mechanism for disciplinary construction are incomplete, which restrict the innovative vitality of newly-established colleges to a certain extent and hinder their long-term stable development.

4. Practical Approaches for High-Quality Disciplinary Development of Newly-established University Colleges

4.1 Strengthen top-level design and accurately anchor disciplinary development directions

The disciplinary planning of newly-established colleges should carry out three-dimensional comprehensive analysis of strategic demands, internal capacity and characteristic advantages. First, deeply align with national strategies of education, science and technology as well as human resources, and closely connect with regional pillar and emerging industrial demands to find the integration points of disciplinary construction. Second, systematically sort out internal disciplinary foundation, faculty, scientific research platforms and running resources to avoid unrealistic layout and ensure solid construction foundation. Third, analyze the disciplinary layout of peer universities, clarify distinctive development tracks and pursue differentiated and characteristic development. On this basis, establish a disciplinary construction committee with industrial experts and off-campus scholars to conduct regular assessment and dynamic adjustment, formulate medium and long-term disciplinary plans, concentrate resources on core development directions, and construct a disciplinary system with prominent priorities, distinct features and clear levels to ensure accurate development orientation and feasible paths.

4.2 Deepen interdisciplinary integration and construct innovative disciplinary ecosystem

Break traditional disciplinary barriers and closed independent operation, improve interdisciplinary collaborative mechanisms, integrate multidisciplinary internal resources, and jointly build interdisciplinary teaching and research platforms as well as innovation teams with research institutions and industrial enterprises. Centering on talent cultivation, major scientific research projects and industrial technical problems, optimize interdisciplinary curriculum systems with the structure of core curriculum modules plus directional elective groups, implement interdisciplinary supervisor team mode, and support multidisciplinary joint research. Improve students' interdisciplinary innovation ability through core interdisciplinary courses and laboratory rotation. Meanwhile, expand international cooperation, carry out joint research and talent cultivation with world-class universities and research institutions, and continuously enhance disciplinary frontier level and international

influence.

4.3 Build up faculty teams and consolidate talent support for disciplinary construction

Adopt a combined faculty development strategy of leading talent guidance, backbone talent cultivation and external talent introduction. Utilize dual appointment, part-time employment and flexible introduction to gather high-quality internal and external faculty, focus on introducing high-level disciplinary leaders and young research elites at home and abroad, and build interdisciplinary teaching and research teams with reasonable structure. Improve faculty training system, encourage teachers to participate in interdisciplinary study and industry-university-research cooperation, and enhance their compound teaching and research ability. Optimize the evaluation mechanism, establish teaching assessment, achievement recognition and scientific research evaluation systems adapted to interdisciplinary characteristics, and fully stimulate teachers' enthusiasm for disciplinary construction. In addition, invite industrial leading talents and enterprise technical experts as industrial mentors to strengthen industry-education integrated education.

4.4 Improve supporting mechanisms and empower high-quality disciplinary development

Continuously increase funding investment in the disciplinary construction of newly-established colleges, establish stable and sustainable funding guarantee mechanisms, accelerate the construction of high-level research platforms and experimental training bases, and consolidate hardware foundation. Innovate internal governance structure, grant greater disciplinary construction autonomy to newly-established colleges, optimize resource allocation process, and improve operational efficiency and resource utilization rate. Complete incentive mechanism, dynamic monitoring and performance evaluation mechanism for disciplinary construction, conduct regular assessment on construction effects, and timely adjust development strategies. Systematic institutional guarantees will promote the steady and long-term development of disciplinary construction.

5. Conclusion

Disciplinary construction of newly-established university colleges is a systematic and long-term project, which is directly related to the optimization of higher education disciplinary system and the improvement of innovative talent cultivation quality. It is not a simple replication of traditional college model, but a profound reform involving knowledge production mode, organizational operation mode and institutional cultural environment. In the new era, newly-established colleges should firmly grasp the four orientations of national strategy, interdisciplinary integration, characteristic development and talent-oriented education. They should accurately solve practical problems in disciplinary positioning, interdisciplinary integration, team construction and supporting mechanisms, steer development with top-level design, stimulate vitality through institutional innovation, support development with talent teams, and consolidate achievements with supporting systems. By exploring high-quality disciplinary construction mode suitable for their own conditions, newly-established colleges will earnestly shoulder the important missions of cultivating interdisciplinary disciplines, training top talents and serving national strategies, and provide strong support for the connotative development of universities, national innovative talent cultivation and national self-reliance in science and technology.

References

- [1] CPC Central Committee, State Council. Outline for Building a Strong Education Nation (2024–2035) [Z]. 2025.
- [2] Leading Group for Education Work of the CPC Central Committee. Action Plan for Adjustment and Optimization of Disciplinary and Major Settings in Higher Education (2025–2027) [Z]. 2025.
- [3] Yin Zhaohui, Ren Yixin. The Value Essentials and Path Selection of High-Quality Development of Interdisciplinary Disciplines [J]. Chinese Higher Education, 2025(8): 16–22.
- [4] Hong Dayong. Promoting the Sound Development of Interdisciplinary Disciplines on the Basis of Disciplinary Intersection [J]. Universities and Disciplines, 2022, 3(1): 5–8.
- [5] Liao Xiangyang. “Discipline” and “Intersection”: The Logic of Organizational Structure of Interdisciplinary Disciplines [J]. Journal of Higher Education, 2023, 44(3): 16–25.
- [6] Cui Yubao, Li Jinlong, Zhang Shulin. Interdisciplinary Discipline Construction: Connotation Analysis, Implementation Dilemmas and Promotion Strategies [J]. Chinese Journal of Higher Education Research, 2022(4): 16–22.