The Construction and Practice of a Diversified Curriculum System in Universities

Yan Xu*

Lincoln University College, Petaling Jaya, Selangor, 47301, Malaysia
**Corresponding author: xu13818135203@163.com*

Abstract: *As China's higher education shifts from scale expansion to high-quality development, traditional university curriculum systems are increasingly revealing problems such as structural monotony, rigid course design, and insufficient integration of general and specialized education. These issues hinder the effective cultivation of high-quality, interdisciplinary talent demanded by the new era. Based on the practical context of educational reform in higher education, this paper analyzes prominent structural and systemic challenges in current curriculum systems. Drawing on student-centered teaching concepts, educational ecology theory, and the Outcome-Based Education (OBE) approach, it explores the theoretical foundations and value logic behind constructing a diversified curriculum system in universities. The paper further proposes strategic suggestions such as activating curriculum resource-sharing platforms, optimizing course development and faculty collaboration mechanisms, and building a development-oriented course selection service system. These strategies are tested and validated through practical implementation. The research aims to provide both theoretical support and practical pathways for universities to optimize curriculum structures and upgrade talent cultivation models.*

Keywords: *university curriculum reform; diversified curriculum system; outcome-based education; teaching resource sharing; personalized education*

Introduction

At present, China's higher education is at a critical juncture, transitioning from "quantitative accumulation" to "qualitative enhancement." Traditional curriculum systems face multiple challenges in supporting the integrated development of general, professional, and personalized education. Issues such as content overlap and redundancy, the lack of interdisciplinary integration mechanisms, and limited opportunities for student-directed learning have become key barriers to improving the quality of talent development. The construction of a diversified curriculum system, as an important means of implementing the "student development-centered" concept, holds significant theoretical and practical value. On one hand, it helps break down disciplinary silos and stimulates students' cross-disciplinary innovation capabilities; on the other, it facilitates the construction of a competency-oriented curriculum structure, promoting integration of general and specialized education, alignment of learning with practice, and personalized development. Therefore, exploring a scientific, systematic, and feasible path for building diversified curriculum systems has become a pressing task in the ongoing reform of university education.

1. Structural and Systemic Issues in the University Curriculum System

1.1 Homogenization of Course Content and Discipline Barriers

In the context of the rapid development of higher education, the construction of university curriculum systems has exposed a series of structural contradictions, such as content convergence, lack of flexibility in structure, and insufficient collaboration. Firstly, the phenomenon of homogenization in course content has become increasingly prominent. The majority of universities still rely on traditional textbook systems for course development, which have long update cycles and outdated content, lacking alignment with societal development, industrial changes, and technological advancements. Course design often focuses on the accumulation and linear transmission of basic knowledge, neglecting the systematic cultivation of practical skills, comprehensive literacy, and innovative thinking. This results in overlapping content between courses, low knowledge intersection, and difficulty in forming interactive effects for knowledge

construction.

Secondly, the boundaries between disciplines are overly rigid, resulting in a clear "course silo" effect. Course resources are restricted by traditional disciplinary structures and departmental systems, lacking interdisciplinary course platforms and integration mechanisms. Although some universities offer elective modules or interdisciplinary course groups, the absence of collaborative mechanisms, incomplete credit recognition policies, and difficulty in faculty mobility between departments limit the effectiveness of these programs. This curriculum system, characterized by "disciplinary barriers," not only hinders the optimal allocation of teaching resources but also suppresses students' diverse interests and the development of their comprehensive abilities. Over time, students' knowledge structures tend to be fragmented and simplistic, making it difficult to meet the demands of complex social environments for interdisciplinary talent [1].

1.2 Difficulty in Integrating General Education with Specialized Education

General education aims to cultivate students' critical thinking, humanistic spirit, and social responsibility, which are key components for enhancing students' overall literacy and promoting their all-round development. However, in current university curriculum practices, there is often a structural disconnection and functional misalignment between general education and specialized education. On the one hand, general education courses are often marginalized. These courses lack systematic design, academic depth, and practical relevance, with fragmented content and slow updates, making it difficult to engage students' interest and foster a sense of identity. Some universities treat general education courses as "supplementary" or "low-threshold" subjects, with superficial teaching that lacks deep connection to students' future careers or academic growth.

On the other hand, the specialized education system tends to be "overly specialized," emphasizing the systematic and technical nature of knowledge while neglecting the diversity of students' individual development and their ability to engage in social participation. The content of specialized courses is disconnected from real-world societal needs, and the rigid structure of specialized course systems with a large proportion of credits squeezes students' opportunities to participate in general education and elective courses. Furthermore, faculty teams often struggle to cross disciplinary boundaries for the joint development and teaching of interdisciplinary courses, further exacerbating the practical difficulties of integrating general and specialized education.

In this structural context, students are unable to build a complete knowledge map and diverse cognitive framework, which limits the development of their cross-disciplinary thinking, comprehensive analysis, and innovative practical abilities. If universities fail to achieve organic integration of general and specialized education, it will severely affect the openness of the educational system and hinder the overall improvement of student development.

1.3 Imbalance in Personalized Course Design and Teaching Resource Allocation

In the new era, higher education increasingly emphasizes a "student-centered" philosophy, advocating for tailored teaching and classified cultivation, making the construction of a personalized curriculum system an important direction for promoting teaching reform and quality improvement. However, in practical teaching operations, the contradiction between personalized course design and resource allocation has become more prominent. On the one hand, some universities have established modules for personalized development courses, cross-disciplinary electives, and innovation and entrepreneurship courses in an attempt to meet students' diverse learning needs. However, due to the limited total number of courses, the narrow variety, and restricted accessibility, these efforts have not yet formed a truly flexible, diverse, and inclusive curriculum system [2].

At the same time, quality teaching resources are highly concentrated in traditional core professional courses, with insufficient investment in marginal, experimental, and exploratory courses. Faculty work hours and performance evaluation systems tend to support standardized teaching tasks, lacking incentive mechanisms for course innovation and the implementation of personalized teaching. Additionally, the elective course mechanism is not well-developed, and many universities have not established dynamic course selection guidance and development systems, resulting in ineffective guidance for students' course selection and a large degree of randomness in their academic planning. This makes it difficult to achieve the inherent unity of personalized development and ability enhancement.

The teaching management system also has shortcomings in its technical support. Features such as

intelligent scheduling, course recommendations, and academic profiling are not fully developed, restricting the precise matching of teaching resources with students' needs. These issues directly impact the adaptability, flexibility, and openness of the curriculum system, making it difficult to build a personalized learning ecosystem for the future. Therefore, advancing the systematic reconstruction of course resources, upgrading technical platforms intelligently, and deeply optimizing governance mechanisms are key pathways to solving the imbalance in personalized teaching resource allocation.

2. Theoretical Foundations and Value Logic of Building a Diversified Curriculum System

2.1 The Manifestation of Student-Centered and Competency-Based Concepts in Curriculum Design

The student-centered educational philosophy is the core guiding principle of current higher education reform, emphasizing that educational activities should focus on students' interests, needs, and developmental potential, reconstructing the logical relationship between knowledge transmission and competency development. In constructing a diversified curriculum system, the student-centered concept manifests in the design of courses that start from students' individual differences, offering diverse, highly selectable, and growth-oriented course modules to help students achieve both personal development and comprehensive growth.

The competency-based teaching philosophy advocates shifting learning goals from knowledge acquisition to the cultivation of core competencies and comprehensive abilities, especially emphasizing the development of key skills such as problem-solving ability, innovative practice ability, cross-cultural communication skills, and social responsibility awareness. This philosophy requires the course design process to closely align with talent cultivation specifications, clearly defining "what to learn," "how to learn," "to what extent to learn," and "how to apply," ensuring the systematic coordination of course goals, content, teaching methods, and learning evaluation [3].

In this context, curriculum design should break away from traditional knowledge transmission models and adopt teaching forms such as modularization, project-based learning, and case-based approaches. These methods guide students to complete tasks and solve problems in real-world situations, promoting the internalization of knowledge and the enhancement of competencies. Furthermore, the teaching process should place greater emphasis on student participation and learning experience, granting them more choices and autonomy in their learning paths, thereby promoting a fundamental shift in universities from a "teacher-centered, content-driven" model to a "student-centered, competency-based" approach.

2.2 The Support of Educational Ecology and Interdisciplinary Integration Theories for Curriculum System Construction

From the perspective of educational ecology, the curriculum system is no longer seen as a static, closed structural unit but as a dynamic, open, and highly interactive educational ecosystem. Its core features include multi-stakeholder collaboration, multi-resource integration, and multidimensional feedback. In building a diversified curriculum system, universities should adopt a systems thinking approach to examine the interrelations and ecological interaction between elements such as courses, teachers, students, environment, and policies, activating the internal vitality of the entire educational system through resource optimization and mechanism coordination.

At the content level, educational ecology advocates that curriculum resources should be based on principles of diversity and adaptability, reflecting the complexity, interdisciplinarity, and practicality of course content. This provides students with learning content that is relevant to real-world issues and future-oriented. Simultaneously, curriculum development should break down departmental barriers and the division of knowledge, creating interdisciplinary course groups and knowledge modules, blending the boundaries of humanities, social sciences, natural sciences, and technology disciplines. This forms a composite curriculum system that supports students' cross-disciplinary cognition and interdisciplinary thinking.

Interdisciplinary integration theory emphasizes collaborative innovation and comprehensive integration between different disciplines. In curriculum system construction, this manifests as the multi-integration of course design, multidimensional interaction of teaching methods, and cross-disciplinary collaboration in faculty structure. For instance, "problem-based" and "challenge-based" learning projects can integrate knowledge from science and engineering with social sciences and humanities, promoting students' ability to analyze from multiple perspectives and think systematically. This theoretical

foundation not only provides a theoretical support for the university curriculum system but also encourages universities to transition from a discipline-based to an innovation-driven approach, better serving the cultivation of interdisciplinary talents required by national strategies and social development.

2.3 Optimizing Curriculum Structure Under the Outcome-Based Education (OBE) Concept

The Outcome-Based Education (OBE) philosophy emphasizes that the comprehensive outcomes students should achieve upon graduation are the core of curriculum design. The curriculum system and teaching process are reverse-engineered to ensure that students acquire the necessary knowledge, abilities, and qualities during their studies. This philosophy reconstructs the design logic of course structure and the way teaching goals are set, stressing the need to design the entire educational process "from the end point."

Under the guidance of the OBE philosophy, universities should refine the graduation requirements for each program, outline the corresponding course groups and learning outcome indicators, and build the linkages and progressive pathways between courses, ensuring a close correspondence between teaching objectives, course content, and competency output. Courses are no longer isolated units of knowledge transmission but should become platforms for guiding students to achieve specific learning outcomes [4].

The optimization of curriculum structure is also reflected in the transformation of teaching content into tasks and projects, encouraging students to acquire multidimensional skills through solving real-world problems. For example, incorporating elements such as situational simulations, interdisciplinary collaboration, and data analysis into the curriculum can enhance students' ability to apply knowledge comprehensively and their practical hands-on skills. Meanwhile, the course evaluation mechanism also needs to be reformed by introducing diverse assessment methods such as formative assessments, peer reviews, and self-evaluation, improving the relevance and effectiveness of teaching feedback.

3. Strategies for Building a Diversified Curriculum System and Operational Mechanisms

3.1 Activating the Cross-Campus and Cross-Disciplinary Course Sharing Platform

To promote the diversification of the curriculum system, breakthroughs in resource integration and institutional design are urgently needed. One key initiative is the establishment of a cross-campus and cross-disciplinary course-sharing platform, which is essential for enhancing course supply capacity and facilitating the efficient circulation of teaching resources. This platform not only breaks the traditional spatial and temporal limitations and professional barriers but also provides students with a real pathway for cross-disciplinary learning, helping to create a new curriculum system characterized by "broad foundation, strong intersection, and heavy integration."

The course-sharing platform should be built upon the existing information infrastructure of universities, establishing an efficient, intelligent, and collaborative course resource management system that enables standardized input of course content, unified scheduling, and data-driven accurate recommendations. The platform should include modules for course display, online learning, academic tracking, and interactive discussions, while also incorporating multi-dimensional search and course combination recommendation mechanisms. This will support students in autonomously constructing personalized learning plans based on their interests, abilities, and career development paths [5].

To ensure the sustainable operation of the platform, systems for credit recognition, grade conversion, and shared management of teaching resources must be implemented. By establishing unified credit conversion standards, teaching quality evaluation systems, and academic cooperation mechanisms, barriers between institutions, disciplines, and administrative units can be broken down, forming an open, shared, and collaborative course operation ecosystem. The platform's development should also align with national top undergraduate course construction, "golden course" cultivation, and high-level faculty mobility mechanisms, creating a batch of high-quality shared courses that combine academic value with practical orientation. This will promote the open coverage of high-quality courses across multiple campuses and disciplines, establishing a new shared model of "resource co-construction, results co-sharing, and credit interoperability" and transforming the curriculum system from a "closed supply" to an "open integration" approach.

3.2 Improving the Mechanism for Diversified Course Development and Faculty Collaboration

Course development in universities needs to break away from the traditional "single-teacher-led" model and shift towards an integrated development model across disciplines and fields. During the course design phase, a three-dimensional collaborative mechanism involving universities as the main body, industry support, and faculty as the core should be established. This will facilitate the transformation of course content from "disciplinary knowledge to professional competence" and enhance the applicability and foresight of the courses. Course development teams should include teachers from diverse disciplinary backgrounds, industry experts, and educational technology personnel. Through collective discussions and collaborative design, they will jointly complete the construction of course frameworks, content development, and teaching method design, forming a knowledge-map-based course organization structure. This integrated development approach can effectively enhance the innovation of course content and the diversity of teaching methods, meeting the learning needs of students from different professional backgrounds.

In terms of faculty development, universities should create stable "teaching communities" and encourage faculty teams to collaborate on teaching research, course iteration, and teaching method innovation. By introducing corporate mentors and project-based teachers, universities can promote the deep integration of theoretical and practical teaching, ensuring a precise alignment between course objectives, teaching processes, and learning outcomes. Through project-based teaching management, faculty performance assessment, and continuous training support, a faculty development mechanism focused on cooperative innovation, professional collaboration, and continuous optimization should be established, improving the efficiency and quality of the diversified curriculum system's operation [6].

3.3 Establishing a Course Service Mechanism Focused on Student Autonomy and Development Orientation

To achieve the fundamental transformation of the curriculum system from a "teaching-centered" to a "learning-centered" approach, a course service mechanism centered on individual student development must be established. This mechanism will enable the curriculum system to dynamically adapt to students' differentiated development needs and truly implement the student-centered educational philosophy.

At the institutional level, the course selection system should be made more open and flexible, breaking down professional and grade-level barriers. A "self-selected courses + classified guidance + diverse course-taking" system should be formed. Courses should be categorized based on learning objectives and competency structures, with core courses, extension courses, research-oriented courses, and career-oriented courses offered to meet the diverse needs of students at different stages of learning and development.

In terms of personalized development support, a multi-dimensional advisory team, consisting of academic advisors, career development coaches, and professional mentors, should be established to provide students with course selection advice, academic planning, and career guidance throughout their learning journey. By constructing a growth portfolio system and academic profile model, students' learning interests, skill levels, and developmental potential can be accurately analyzed, helping them create personalized learning paths.

Regarding information services and technological support, big data and artificial intelligence technologies should be leveraged to build an intelligent course selection platform that supports functions such as interest-based recommendation, competency-based matching, and academic load monitoring. This will enhance students' access to and usage efficiency of course resources. Additionally, by establishing a data feedback system based on students' growth trajectories, the structure and supply rhythm of the curriculum can be dynamically adjusted, making the curriculum system more flexible and forward-looking.

In terms of learning outcome evaluation, a multi-dimensional evaluation system should be implemented that goes beyond using "grades" as the sole standard. This system could incorporate tools like learning outcome portfolios (e-portfolios), process-oriented assessments, and competency-based outcome display platforms, enabling comprehensive evaluations of knowledge acquisition, skill development, and overall quality improvement. This will enhance students' sense of achievement and control over their learning path.

Conclusion

This paper systematically analyzes the practical issues existing in the current curriculum system of universities, such as homogenization, low integration, and irrational resource allocation, from three dimensions: curriculum content structure, course development mechanisms, and service operation systems. In terms of theoretical support, the paper emphasizes the student-centered curriculum perspective, the system optimization logic from the educational ecology viewpoint, and the guiding role of the OBE (Outcome-Based Education) concept in course goal orientation and structure construction. On the practical level, several strategies are proposed, including cross-campus and cross-disciplinary course resource sharing, the construction of a diversified course development mechanism, and the establishment of a student development-oriented course selection service system. These strategies provide a reference for achieving the diversification, flexibility, and intelligent development of university curricula. Looking to the future, the construction of a diversified curriculum system in universities still needs to further strengthen data-driven dynamic adjustment capabilities, enhance faculty competence in cross-disciplinary course development, and improve personalized learning support systems. With the deep application of artificial intelligence, big data, and other technologies, the precise matching and intelligent operation of university curricula will become the new direction of development.

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