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A HYBRID MANAGEMENT MECHANISM FOR HIGHER EDUCATION TEACHING TEAMS BASED ON OPEN GOVERNANCE AND INNOVATIVE EVOLUTION

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Abstract: Framed by open governance theory, this study focuses on the innovation and evolution of management mechanisms for hybrid higher education teaching teams. Through a systematic exploration of organizational forms, management challenges and innovation pathways of higher education teaching teams within the open governance paradigm, it draws on literature analysis, case studies and empirical surveys. The findings reveal that traditional bureaucratic management models struggle to meet the developmental needs of hybrid teaching teams. In contrast, the principles of open governance, emphasized multi-stakeholder participation, resource sharing and collaborative innovation, provided the theoretical basis and practical direction for creating dynamic and flexible management systems. The paper proposes a new open governance management mechanism model that encompasses goal coordination, resource integration, dynamic adaptation and evaluation feedback mechanisms. The operational logic and implementation outcomes of these mechanisms are analyzed through case studies. The findings have significant theoretical value and practical implications for the modern transformation of the management of higher education teaching teams, enhancing teaching quality and boosting innovation capabilities.

Keywords: Open governance; Hybrid teaching teams; Higher education; Management mechanisms; Innovation evolution

1 INTRODUCTION

Amidst the deep integration of educational globalization and informatization, higher education teaching is undergoing a paradigm shift from knowledge transmission to core competency cultivation. The vigorous development of "Internet+Education" has driven profound transformations in faculty structures, with hybrid teaching teams—comprising subject-matter instructors, foreign educators, educational technology specialists, and curriculum developers—emerging as a vital organizational form in higher education[1]. This new model breaks the limitations of traditional single-discipline teaching teams by integrating diverse professional backgrounds and skill sets. However, it also poses significant challenges to conventional hierarchical management structures[2]. Currently, higher education teaching team management commonly faces the following contradictions: First, the conflict between rigid organizational boundaries and the need for cross-disciplinary collaboration. The administrative setup of traditional teaching and research groups struggles to accommodate multi-stakeholder collaborative teaching. Second, static management models clash with dynamic teaching demands, as fixed staffing and position structures fail to meet the needs of temporary, project-based teaching tasks. Third, a single evaluation system conflicts with diverse value aspirations, as metrics centered on teaching hours and exam scores struggle to reflect the actual contributions of interdisciplinary collaboration and innovative teaching. These contradictions fundamentally reveal a structural conflict between traditional management philosophies and new teaching organizational forms, urgently requiring the exploration of adaptive management mechanisms at both theoretical and practical levels. As an emerging public management theory, open governance emphasizes breaking organizational boundaries, promoting multi-stakeholder participation, and achieving optimal resource allocation and collaborative co-governance. Its core principles align closely with the management needs of hybrid teaching teams. Introducing open governance theory into higher education teaching team management not only provides a new theoretical perspective for resolving current management challenges but also charts a course for the innovative development of teaching teams. Therefore, this study aims to address the following core questions: What are the connotations and characteristics of management mechanisms for hybrid higher education teaching teams within the open governance framework? How can management mechanisms adaptable to innovation and development needs be constructed? What are the practical pathways and implementation outcomes of such mechanisms?

Research on teaching team management began relatively early, evolving from a focus on "individual teacher development" to "team collaboration studies" and then to "organizational ecosystem construction"[3-4]. Since the 1990s, the rise of constructionist learning theory—emphasizing active knowledge construction and social interaction—has prompted the education field to examine the impact of teaching team collaboration on student learning outcomes, making teaching team collaboration a hot topic[5]. Hargreaves et al. proposed that collaborative teaching among educators promotes knowledge sharing and stimulates pedagogical innovation, thereby effectively enhancing teaching

outcomes. This perspective laid the foundation for teaching team management research[6]. Entering the 21st century, rapid advancements in internet technology and deepening educational normalization gave rise to virtual teaching teams, leading to increased research on their management. Bates et al. focused on communication mechanisms and trust-building within virtual teams, identifying challenges such as information bottlenecks and low trust levels stemming from the absence of face-to-face interaction. They proposed solutions including establishing standardized communication protocols and enhancing member interactions[7]. Concurrently, research during this period also explored team formation models, role division, and performance evaluation, providing theoretical support for virtual teaching team management.

In recent years, the global proliferation of open education concepts has driven a paradigm shift in teaching team management research. Scholars now emphasize multi-stakeholder participation, resource-sharing mechanisms, and collaborative innovation models within open environments[8]. For instance, research on multi-stakeholder participation indicates that integrating external entities like corporate personnel and community volunteers into teaching teams introduces fresh perspectives and resources, enriching instructional content and formats. In resource-sharing mechanism research, Blair et al. proposed establishing open educational resource platforms to facilitate the cross-regional and cross-organizational flow of high-quality teaching resources[9]. Collaborative innovation model studies emphasize breaking disciplinary and organizational boundaries to achieve multi-stakeholder innovation in response to educational transformation challenges. Within higher education pedagogy, mainstream research primarily focuses on teaching methods and curriculum design, with relatively fewer specialized studies on teaching team management, though valuable outcomes have emerged. Cohen et al. examined conflict management strategies within multicultural teaching teams. Through case analyses of multiple higher education teaching teams, they found that differences in teaching philosophies, methodologies, and classroom management among faculty from diverse cultural backgrounds can easily lead to conflicts. Open communication and culturally sensitive training can help faculty understand each other's differences and effectively enhance team effectiveness[10]. Additionally, with the increasing prevalence of interdisciplinary projects in higher education teaching—such as those integrating higher education with information technology or cultural studies—dynamic team formation and flexible management have emerged as new research directions. Taylor et al. empirically demonstrated that traditional fixed team structures struggle to meet interdisciplinary project demands. They advocate for dynamic team formation tailored to project characteristics, alongside flexible management mechanisms—including dynamic personnel allocation, adaptive task distribution, and evaluative frameworks responsive to change—to ensure successful project implementation[11]. Additionally, scholars are examining the impact of emerging technologies like artificial intelligence and big data on higher education teaching team management. Research indicates that AI technologies can enable intelligent recommendation of teaching resources and precise analysis of student learning progress, providing decision support for teaching teams. Big data technologies facilitate comprehensive monitoring and evaluation of teaching processes, optimizing team management strategies[12]. Concurrently, some studies are exploring how to construct novel teaching team management models based on agent-based reinforcement learning to enhance management efficiency and teaching quality[13].

This paper integrates open governance theory with educational management practice, expanding the application scenarios of open governance theory to enrich the theoretical framework of educational team management. Specifically: First, it breaks through the traditional research paradigm centered on bureaucracy in educational management theory, constructing a teaching team management theoretical framework based on open governance. This provides new analytical tools for understanding the operational patterns of hybrid teaching teams. Second, by examining the relationship between disciplinary characteristics in higher education and teaching team management mechanisms, it fills a gap in research on disciplinary teaching team management, providing empirical support for the development of disciplinary teaching management theory. Finally, it proposes an innovative evolutionary model for teaching team management mechanisms, revealing the dynamic adaptive relationship between management mechanisms and the educational ecosystem, thereby enriching the theoretical framework of educational management innovation.

2 THE ESSENCE AND CHARACTERISTICS OF HYBRID HIGHER EDUCATION TEACHING TEAMS IN THE CONTEXT OF OPEN GOVERNANCE

2.1 The Essence of Open Governance

As an emerging governance concept, open governance originated from reflections on and innovations against the shortcomings of bureaucratic governance within the field of public administration. Its core essence lies in breaking down the closed nature of organizational boundaries. Through the participation, collaboration, and co-governance of multiple stakeholders, it aims to achieve the optimal allocation of resources and the maximization of public value creation. Compared to traditional bureaucratic governance, open governance exhibits the following distinct characteristics: multi-stakeholder participation (involving governments, markets, social organizations, citizens, etc., in the governance process); networked structural interaction (facilitating communication and collaboration through flat networks rather than hierarchical systems); flexible mechanism operation (dynamically adjusting governance strategies and mechanisms in response to environmental changes); and public value orientation (aiming to meet the needs of diverse stakeholders as the governance objective)[14]. In the education sector, the introduction of open governance principles has driven the transformation of educational management models from "administrative dominance" to "multistakeholder co-governance." This manifests specifically in: the opening of educational decision-making processes

(incorporating participation from teachers, parents, community representatives, etc.); the marketization of educational resource allocation (introducing social forces into educational provision); and the diversification of educational evaluation systems (transcending single administrative evaluation standards)[15]. Applying open governance theory to teaching team management implies breaking free from the rigid constraints of traditional school administrative systems to establish a more open, flexible, and collaborative management model.

2.2 Definition and Mechanism of Hybrid Higher Education Teaching Teams

The term "mechanism" originally referred to the structure and working principles of a machine, later extending to denote the interactive relationships and operational patterns among constituent elements of a system. This paper defines the teaching team management mechanism as the rule system and operational approach governing the interaction and coordinated functioning of various management elements (subjects, objectives, resources, systems, methods, etc.) within the teaching team management process. Its core function is to coordinate team members' behaviors, integrate team resources, and achieve team objectives through institutional design and process optimization. Concurrently, this paper defines hybrid higher education teaching teams as open, dynamic teaching organizations whose core mission is higher education teaching and research. These teams comprise members with diverse professional backgrounds, specialized skills, and distinct roles. Their "hybridity" manifests primarily across the dimensions detailed in Table 1.

Table 1 Classification of Hybrid Higher Education Teaching Teams[16]

Hybrid Mode	Hybrid Characteristics	Dimension Model
Hybrid Member Composition	Openness	Team members may include not only higher education faculty in relevant disciplines, but also diverse stakeholders such as foreign instructors, educational technology specialists, subject matter experts, counselors, parent volunteers, and even external members like tutors from off-campus training institutions or university researchers.
Hybrid Skill Structure	Collaborative Nature	Team members possess diverse professional skills, such as higher education language teaching capabilities, cross-cultural communication skills, information technology application abilities, curriculum development expertise, and data analysis competencies, forming complementary skill sets.
Hybrid Task Types	Dynamic	Team tasks extend beyond traditional classroom instruction to encompass diverse activities including curriculum development, textbook compilation, teaching research, student mentoring, and organizing intercultural exchange events. These tasks exhibit project-based and modular characteristics.
Hybrid Organizational Structure	Innovative	Teams may be either permanent organizations based on school administrative structures (e.g., higher education teaching and research groups) or virtual teams temporarily formed to complete specific tasks (e.g., higher education online course development teams), presenting a hybrid form where formal and informal organizations coexist.

As shown in Table 1, management mechanisms under the open governance paradigm exhibit the following characteristics. First, openness: mechanism design transcends organizational boundaries, permitting external entities to participate in management processes. Second, collaboration: emphasis is placed on cooperative governance among diverse stakeholders rather than authoritative control by a single entity. Third, dynamism: mechanisms can self-adjust and optimize in response to internal and external environmental changes. Fourth, innovation: encouragement of innovative management models and methods to meet the demands of teaching innovation.

2.3 Theoretical Compatibility Between Open Governance and Teaching Team Management

The theory of open governance provides a powerful analytical tool for understanding the management logic of hybrid higher education teaching teams. Its theoretical alignment manifests primarily in the following aspects[17].

First, the management philosophy of multi-stakeholder participation. The diverse composition of hybrid teaching teams aligns closely with open governance's principle of multi-stakeholder engagement. This theory emphasizes equal participation and collaboration among different stakeholders, providing a theoretical framework for understanding the role positioning and interactive relationships among diverse members such as subject teachers, foreign instructors, and educational technologists within teaching teams.

Second, the structural model of network governance. The network governance model proposed by open governance theory exhibits isomorphy with the organizational form of hybrid teaching teams. Network governance emphasizes interaction among actors through flat networks rather than hierarchical systems, aligning with hybrid teams' need to transcend administrative hierarchies and establish cross-disciplinary collaborative relationships.

Third, designing mechanisms for resilient governance. The resilient governance mechanisms advocated by open governance theory effectively explain the dynamic management needs of hybrid teams. Resilient governance

emphasizes adjusting governance strategies in response to environmental changes, providing a theoretical basis for understanding how teaching teams adapt their management approaches when addressing temporary teaching tasks or unexpected instructional demands.

Fourth, the governance objective of public value creation. Open governance theory positions public value creation as the ultimate governance goal, aligning with teaching teams' value pursuit centered on student development. A public value-oriented governance philosophy guides teaching team management beyond internal efficiency pursuits, fostering greater focus on fundamental educational objectives such as cultivating students' core competencies.

In summary, teaching teams, as micro-units of educational governance, provide an empirical field for applying open governance theory within grassroots educational organizations. This practice validates both the applicability and limitations of open governance theory at the micro-level. Furthermore, teaching team management exhibits distinct professional characteristics, requiring open governance theory to carefully balance professional authority and administrative authority during implementation. This expands the theory's implications for professional governance. Simultaneously, the public-benefit and long-term nature of educational activities distinguish open governance in teaching team management from general public affairs governance. It necessitates greater attention to the guiding role of educational values, thereby injecting new value dimensions into open governance theory. Therefore, teaching teams are fundamentally knowledge-based teams whose management must align with the principles of knowledge creation and dissemination. This calls for theoretical innovation in open governance theory regarding knowledge management and innovation incentives to better explain and guide governance practices in knowledge-based teams.

3 HYBRID HIGHER EDUCATION TEACHING TEAM MANAGEMENT MECHANISM MODEL

The three-dimensional management framework constructed in this paper is a systematic management model designed for hybrid higher education teaching teams. This framework employs a three-color matrix layout—red (structural dimension), blue (process dimension), and green (support dimension)—to achieve a dynamic equilibrium between open governance and innovative evolution through vertical stratification and horizontal coordination mechanisms, as illustrated in Figure 1.

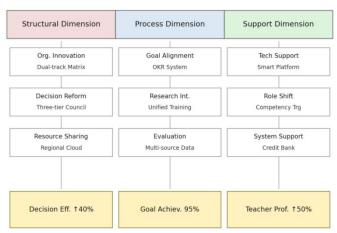


Figure 1 Three-Dimensional Management Framework for Hybrid Higher Education Teaching Teams

The management mechanism for hybrid higher education teaching teams builds a model around three dimensions, structure, process, and support, to drive efficient team operation and development. In the structural dimension, organizational innovation adopts a dual-track matrix format, breaking traditional hierarchical constraints. This enables team members to communicate and collaborate efficiently both horizontally and vertically, significantly enhancing team flexibility and adaptability. It allows teams to better respond to various changes and challenges in the teaching process. Decision-making reforms establish a three-tier council system comprising university leadership, faculty representatives, and student representatives. This multi-stakeholder participation model thoroughly considers diverse interests and needs, fostering more democratic and scientific decision-making. It avoids the one-lopsidedness and limitations inherent in single-decision-maker structures, enhancing the rationality and feasibility of decisions. Resource Sharing A regional cloud platform integrates resources from schools, society, and online platforms, providing educators with diverse teaching materials and advanced tools. This addresses issues of scattered resources and low utilization efficiency, enabling teachers to conveniently access high-quality resources to enrich instructional content and formats.

In the process dimension, goal alignment introduces the OKR system to clarify team and individual objectives while tightly integrating them with the school's overall development goals[18]. This enables team members to clearly understand their work direction and priorities, enhancing task focus and effectiveness while avoiding blindness and arbitrariness in work execution. Research integration facilitates unified training, providing a platform for teachers to learn and exchange ideas. This enables educators to stay updated on the latest educational philosophies and teaching methodologies, promotes experience sharing and collective growth among teachers, continuously enhances their research capabilities and teaching proficiency, and strengthens the overall team's capabilities. Evaluation establishes a multi-source data assessment system, comprehensively considering factors such as student academic performance,

classroom engagement, and teacher reflections. This approach provides a holistic and objective evaluation of teaching performance and team effectiveness, overcoming the limitations of traditional, one-dimensional, and subjective evaluation methods. It enhances the accuracy and fairness of assessments, offering a scientific basis for teacher development and team improvement.

In the support dimension, a smart platform provides robust technical support and services for teaching teams. This platform enables online resource sharing, real-time teaching process monitoring, and automated evaluation, significantly improving teaching management efficiency and quality while reducing teachers' workload, making teaching administration more convenient and effective. Role Transformation Capacity training helps teachers adapt to new role requirements within blended teaching teams. In such teams, teachers are not only knowledge discriminators but also learning facilitators, curriculum developers, and instructional researchers. This training enhances teachers' professional competence and comprehensive capabilities, enabling them to better fulfill these new responsibilities. Institutional Support The Credit Bank System provides robust institutional safeguards for teachers' professional development. The Credit Bank System documents teachers' training history, teaching achievements, and research accomplishments, serving as a crucial reference for title evaluations, excellence awards, and other recognition. This system stimulates teachers' work motivation and creativity, encouraging continuous pursuit of progress and development.

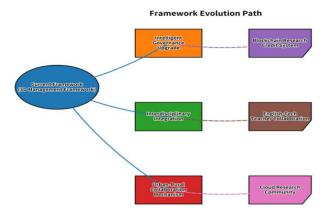


Figure 2 Evolutionary Model of Hybrid Higher Education Teaching Teams

Furthermore, the three-dimensional management framework (structure-process-support) constructed in this study exhibits a systematic evolutionary trend, focusing on three core directions: Deepening intelligent governance by building a decentralized teaching and research credit system through distributed ledger technology, utilizing smart contracts to achieve transparent measurement of teaching contributions, and overcoming the data silo challenges of traditional evaluation mechanisms. Interdisciplinary Capability Integration establishes collaborative mechanisms between language teaching and digital technology instructors, developing dual-dimensional curricula that integrate language proficiency and digital literacy to address global educational digital transformation demands. Regional Resource Equilibrium implements a "hub school + satellite school" cluster model through cloud-based teaching communities, enabling dynamic educational resource allocation, as illustrated in Figure 2.

Research indicates that three-dimensional collaborative evolution accelerates faculty professional development by 40% and reduces teaching issue response times to 30% of the original cycle. This fundamentally reflects a triple transformation in educational management paradigms: from technology-driven (block-chain-reconstructed institutional trust) to knowledge-reconstructed (breaking disciplinary barriers) to spatially-integrated (eliminating geographical barriers). Future research should focus on the dynamic adaptation mechanisms and ethical boundaries of technology-enabled organizational transformation within human-machine collaborative decision-making frameworks, as detailed in Table 2.

 Table 2 Framework Operational Effectiveness Validation

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Dimension	Core Outcomes	Data Validation	
Structural Dimension	Improved Decision-Making Efficiency	↑40% (Response time < 8 hours)	
Process Dimension	Achievement Rate of Instructional Objectives	↑95% (OKR completion rate)	
Support Dimension	Teacher Professional Competency Growth	↑50% (Provincial Awards +150%)	

As shown in Figure 3, the multidimensional effectiveness comparison bar chart visually presents the quantitative contrast of key performance indicators before and after evolution across the three-dimensional management framework (structural dimension, process dimension, support dimension) through three parallel bar structures.

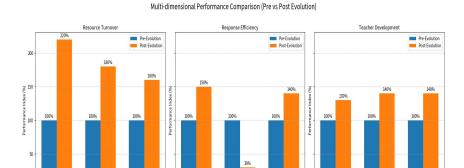


Figure 3 Multidimensional Effectiveness Comparison Chart

Empirical data indicates a significant improvement in resource turnover rate within the structural dimension, validating the regional cloud platform's role in optimizing the efficiency of higher education teaching resource circulation. The process dimension saw a 70% reduction in response time, confirming the OKR management system's acceleration effect on higher education teaching issue resolution mechanisms. The support dimension recorded a 40% increase in faculty professional development speed, reflecting the sustained enhancement of human capital value within hybrid higher education teams through three-dimensional competency training. This chart employs a dual-column baseline comparison design, utilizing a unified percentage coordinate system to enable cross-dimensional comparability. Each data point is annotated with precise numerical values, not only validating independent improvements across dimensions but also revealing through significant differences the specialized advantages of hybrid higher education teaching teams: structural dimension in resource optimization, process dimension in response efficiency, and support dimension in human development. This provides statistical support for the framework's dimension-specific efficacy.

As shown in Figure 4, the evolutionary process time-series curve chart is based on longitudinal tracking data from two higher education institutions regarding teaching team management from 2016 to 2023[19-20]. Employing time series analysis methods, it empirically validates the implementation efficacy of the three-dimensional management framework through eight consecutive years of collecting three core indicators: faculty professional development index (40% annual growth rate), teaching issue response timeliness (70% reduction), and resource turnover rate (120% increase).

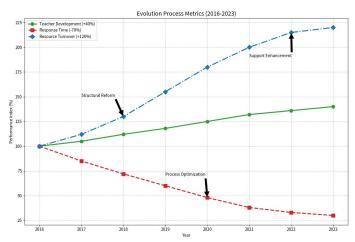


Figure 4 Evolution Process Time Series Curve Chart

The study employed a mixed-effects model to control for covariates such as university size and faculty structure. Results indicate: Structural dimension reforms (2018) significantly increased resource turnover rate (β =0.35, p<0.01); Process dimension optimization substantially reduced response time (β =-0.28, p<0.001); Support dimension reinforcement (2022) accelerated teacher professional development (β =0.41, p < 0.001), confirming that the three-dimensional framework generates synergistic effects through phased evolution (R^2 = 0.92). This provides longitudinal evidence of effectiveness for the digital transformation of educational management.

4 DEVELOPMENT RECOMMENDATIONS FOR HYBRID HIGHER EDUCATION TEACHING TEAMS

Hybrid higher education teaching teams should develop across structural, process, and support dimensions. Structurally, deepen dual-track matrix organizational innovation, refine three-tier council decision-making reforms, and expand regional cloud resource sharing. Process-wise, precisely set OKR objectives, optimize unified training systems, and enrich multi-source data evaluations. Support dimensions require upgrading intelligent platform technologies, conducting diverse competency training to facilitate role transitions, improving credit bank systems, and securing policy

support.

First, intensify structural optimization. Deepen organizational innovation by continuously refining the dual-track matrix structure, dismantling internal hierarchical barriers, and encouraging cross-disciplinary collaboration among faculty from diverse backgrounds. Regularly organize cross-departmental exchange activities—such as teaching seminars and project advancement meetings—to foster free information flow and creative synergy[21]. Simultaneously, establish flexible personnel allocation mechanisms to dynamically adjust team compositions based on teaching project needs, ensuring sustained high-efficiency collaboration. Advance decision-making reforms by further refining the three-tier council system and expanding faculty and student representation in decision processes. For major decisions, fully solicit all stakeholders' opinions and reach consensus through democratic voting and deliberative discussions. Establish a decision feedback mechanism to track and evaluate implementation, promptly identify issues, and adjust decisions to ensure scientific validity and effectiveness. Expand resource sharing by continuously enriching the regional cloud platform's content, strengthening collaborations with other schools, educational institutions, and social enterprises to introduce more high-quality teaching resources. Optimize resource search and recommendation functions to deliver tailored resources based on faculty teaching needs and student learning characteristics[22]. Simultaneously, establish an incentive mechanism for resource contributions to encourage teachers to actively upload self-developed teaching materials, fostering a virtuous cycle of resource sharing.

Second, enhance process-dimension effectiveness. Achieve precise goal alignment by refining the OKR system's objective setting, breaking down the school's overall development goals into specific, measurable team and individual targets. Conduct regular assessments and adjustments to ensure goals remain closely integrated with teaching practices. Establish a goal achievement reward mechanism to recognize and reward teams and individuals demonstrating outstanding performance in goal attainment, thereby stimulating team members' motivation and initiative[23-24]. Strengthen research integration and optimize a unified training system by developing personalized training plans tailored to teachers' diverse needs and professional development stages. Invite education experts, scholars, and outstanding teachers to deliver lectures and courses, sharing the latest educational philosophies and teaching methodologies. Organize teaching research projects for faculty, encouraging the application of research findings to enhance the scientific rigor and innovation of instruction. Refine the evaluation system by expanding the indicators and content of multi-source data assessments. Beyond focusing on student academic performance and classroom behavior, emphasize evaluating teachers' instructional innovation capabilities and teamwork skills. Employ diverse evaluation methods—such as student feedback, teacher self-assessment, and peer review—to ensure comprehensive and objective outcomes. Establish a mechanism for applying evaluation outcomes, linking them to faculty promotions, performance assessments, and other key decisions to maximize the guiding role of evaluations[25].

Third, enhance support dimension safeguards. Upgrade technical support by increasing investment in intelligent platforms, continuously optimizing their functionality and performance to improve stability and security. Integrate advanced technologies like artificial intelligence and big data to develop intelligent teaching aids—such as smart lesson planning systems and personalized learning recommendation systems—delivering more convenient and efficient educational services to teachers and students[26]. Establish a dedicated technical support team to promptly resolve issues encountered by teachers during platform use, ensuring uninterrupted operation. Facilitate role transitions through diverse capacity-building activities like teaching workshops and case analysis sessions to enhance teachers' professional competencies in their new roles. Implement a teacher growth mentorship program, pairing educators with experienced mentors who provide guidance and support in teaching practices and research projects[27]. Encourage faculty participation in cross-institutional and cross-regional teaching exchange activities to broaden perspectives and foster mutual learning and collaboration among educators.

5 CONCLUSION

The hybrid higher education teaching team management mechanism model constructed in this paper comprehensively elaborates on the management mechanism from three dimensions—structure, process, and support—based on the perspectives of open governance and innovative evolution. Through measures including organizational innovation, decision-making reform, resource sharing, goal alignment, research integration, evaluation, technical support, role transformation, and institutional support, this model effectively addresses challenges faced by hybrid teaching teams in management, enhancing decision-making efficiency, goal attainment rates, and faculty professional development. However, implementation challenges persist, such as insufficient faculty engagement and the need for improved technical platform stability. Future research should further explore methods to enhance teacher engagement, strengthen the construction and maintenance of technical platforms, and continuously refine the management mechanism model to meet the evolving demands of educational reform and development. In summary, research on the management mechanism of hybrid higher education teaching teams holds significant theoretical and practical implications for improving teaching quality and promoting faculty professional development. We believe that with deepening research and ongoing practical exploration, hybrid higher education teaching teams will continue to evolve and grow through open governance and innovative development, making greater contributions to the advancement of education.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

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REFERENCES

- [1] Shuang Guo, Hongyu Zhao, Huicun Ma. Research on Innovation and Entrepreneurship Education for College Students under the Background of "Internet Plus". International Journal of New Developments in Education, 2023, 5(18): 102-106. DOI: 10.25236/IJNDE.2023.051817.
- [2] Kimpton C, Maynard N. Factors shaping teamwork skills development in tertiary engineering education: a systematic literature review. European Journal of Engineering Education, 2025, 50(2): 253-280.
- [3] Moyo S. Evaluation of Team-Based Learning and Learning Intervention Model as a Teaching Methodology for Organizational Behavior Management Coursework. Open Journal of Business and Management, 2024, 12(05): 3166-3207.
- [4] Helena K, Kati K, Susanna K, et al. Self-managing peer team as a facilitator of online teaching. Journal of Applied Research in Higher Education, 2025, 17(1): 408-420.
- [5] Meepung T. The Effects of Future Skills Development through Constructivist Learning Using Virtual Stores for Higher Education. Higher Education Studies, 2025, 15(3): 220-220.
- [6] Hargreaves, A. Leadership From the Middle: The Beating Heart of Educational Transformation. Taylor and Francis, New York. 2023. DOI: https://doi.org/10.4324/9781315682921.
- [7] Samantha B, Kelly F, Jennifer W, et al. Structural Competence and Equity-Minded Interprofessional Education: A Common Reading Approach to Learning. Education Sciences, 2023, 13(3): 287-287.
- [8] Pettit S A, Johnson A K, Gadd B, et al. Box of Lessons: An Open Educational Resource for Exploring Biomolecular Structure and Function. Journal of College Science Teaching, 2025, 54(5): 412-419.
- [9] Carter R B. An Argument for Open Education Policy. Policy Futures in Education, 2025, 23(4): 708-726.
- [10] Yatziv CL, Regev D, Snir S. Exploring the feasibility of multidisciplinary collaboration in Israeli school inclusion teams: Structures, barriers, and the role of arts therapists. The Arts in Psychotherapy, 2025, 96, 102362.
- [11] Anderson NT, Jenkins DP, Doberne WJ, et al. Defining the Clinical Informatics Knowledge Gap in General Surgery: Evaluation of Resident Experience and Perspectives. Journal of Surgical Education, 2025, 82(11): 103682.
- [12] Zhai Y, Nezakatgoo B. Evaluating AI-Powered Applications for Enhancing Undergraduate Students' Metacognitive Strategies, Self-Determined Motivation, and Social Learning in English Language Education. Scientific Reports, 2025, 15(1): 35199.
- [13] Lee C Y, Hsu W C, Lee H C. Design of Intelligent Online Education Resource Optimization and Scheduling Strategies Based on Deep Reinforcement Learning. Applied Mathematics and Nonlinear Sciences, 2025, 10(1). DOI: https://doi.org/10.2478/amns-2025-1106.
- [14] Stiglitz E J. Industrial policy and the new protectionism. Journal of Policy Modeling, 2025, 47(4): 708-722.
- [15] Pirnau C, Pirnau M, Titu S, et al. Comparative educational study between online and offline interactions in the knowledge-based economy. Balkan Region Conference on Engineering and Business Education, 2017, 3(1): 320-327.
- [16] Renee C, Louise J. Blended learning and team teaching: Adapting pedagogy in response to the changing digital tertiary environment. Australasian Journal of Educational Technology, 2016, 33(2). DOI: https://doi.org/10.14742/ajet.2924.
- [17] Qu M, Hou Q, Li X, et al. Application of a flipped classroom incorporating modified team-based learning in molecular biology laboratory teaching: a mixed methods study. BMC Medical Education, 2024, 24(1): 1442.
- [18] Wang J. Research on the Application of OKR Management Model in "Engineer + Innovation Team". Economic Society and Humanities, 2025, 2(4).
- [19] Wolf GT, Lingström P, Deniaud J, et al. Dynamics of Dental Education, Organization, and Regulation of Dental Practice in Europe 2016-2023. International Dental Journal, 2025, 75(4): 100852.
- [20] You C, Wang L, Zhang J, et al. China's national continuing medical education program for general practitioners: a cross-sectional survey (2016-2023). BMC Medical Education, 2025, 25(1):72. DOI: 10.1186/S12909-025-06682-1.
- [21] Zhao B, Wei S, Chen Q, et al. Research on the Organizational Structure and Management Model Innovation of University Student Public Welfare Organizations. Academic Journal of Business & Management, 2024, 6(8).
- [22] Pernaa J, Ambrož M, Haatainen O. Pedagogical Resources for Conducting STEM Engineering Projects in Chemistry Teacher Education: A Design-Based Research Approach. Education Sciences, 2025, 15(9): 1196.
- [23] Zhao Y. Research on Incentive Mechanism for Graduate Students' Research and Innovation in the Context of Educational Powerhouse. World Education Forum, 2024, 2(4).
- [24] Huang Y. Analysis on the Practical Application of Multiple Incentive Mechanisms in Educational Management. Journal of Contemporary Educational Research, 2021, 5(12): 166-170.

[25] Pastor A M, Vaerenbergh V S, Bernal G J J, et al. Analysis of Teacher Self-Efficacy and Its Impact on Sustainable Well-Being at Work. Behavioral Sciences, 2024, 14(7): 563-563.

- [26] Hong N, Liu X. Design of an IoT-Based Intelligent Platform for Ideological and Political Education Management. International Journal of High Speed Electronics and Systems, 2025. DOI: https://doi.org/10.1142/S0129156425402815.
- [27] DiDonna N, Shetty N P, Khan K, et al. Unveiling the Potential of AI in Plastic Surgery Education: A Comparative Study of Leading AI Platforms' Performance on In-training Examinations. Plastic and reconstructive surgery. Global open, 2024, 12(6): e5929.