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From Industry–Education Collaboration to Multi-Agent Symbiosis: Building "Double-Qualified" Teaching Innovation Teams for Health Law in Undergraduate Medical Universities

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Abstract

Against the converging backdrop of the Healthy China strategy, the rule-of-law China initiative, the construction of New Liberal Arts and New Medical Education, and the accelerating digital transformation of education, undergraduate health law education faces an increasingly urgent demand for "double-qualified" teachers who combine medical literacy, legal reasoning, frontline practical experience, and digital teaching competence. Drawing on the policy trajectory and research literature of double-qualified teacher development and on the disciplinary particularities of health law, this article diagnoses three intertwined predicaments in the building of health law teaching teams: the "single-discipline" predicament of disconnection between academic theory and practice, entrenched institutional barriers to cross-sector collaboration, and the lagging capacity to transform sensitive authentic caseloads into digital teaching resources. In response, it proposes a four-in-one multi-agent symbiotic community comprising universities, affiliated hospitals, specialized law firms, and health administrative departments, advanced along the logical main line of "standards leading – substantive mechanisms – digital empowerment – evaluation driving," and accompanied by a four-stage implementation strategy and risk-control arrangements. The study shows that a team-iteration pathway driven by the development of authentic digital teaching assets can effectively break the status barriers between universities and the medical–legal practice sector, offering replicable institutional experience for faculty development in comparable interdisciplinary fields.

Keywords: Health Law; double-qualified teachers; teaching innovation team; industry–education integration; multi-agent collaboration; educational digitalization

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I. INTRODUCTION

1.1 Policy Background

The quality of talent cultivation depends directly on the competence of the teaching staff; faculty development is thus the core issue in building medicine–law interdisciplinary programs. A reasonably structured and mutually complementary teaching innovation team is both the organizer of curriculum and textbook reform and the integrator and transformer of industry–education resources. This study is rooted in three converging policy backgrounds. First, the building of Healthy China and rule-of-law China has generated an urgent demand for compound health rule-of-law talents. As the reform of the healthcare system deepens and the legalization of the health sector accelerates, laws such as the Basic Medical and Health Care and Health Promotion Law and the Physicians Law have been enacted or revised in succession. The industry now needs talents who can handle physician–patient communication, medical dispute mediation, and hospital compliance review while also understanding the institutional logic of health

legislation and regulation—competencies ultimately determined by the teaching quality of Health Law courses and, therefore, by the cross-boundary literacy of the teaching staff.

Second, industry–education integration and the New Liberal Arts and New Medical Education initiatives provide the strategic orientation for collaborative cultivation. The Several Opinions of the General Office of the State Council on Deepening the Integration of Industry and Education explicitly call for breaking disciplinary and institutional boundaries and promoting deep collaboration between higher education and industry (General Office of the State Council, 2017), and the Guiding Opinions on Accelerating the Innovative Development of Medical Education further require planning medical education reform with new concepts and new positioning (General Office of the State Council, 2020). The New Liberal Arts initiative likewise emphasizes interdisciplinary integration and the cultivation of versatile, innovative talents (Fan, 2020). Health law, as a typical medicine–law interdisciplinary field, can no longer satisfy practical needs through theoretical instruction confined within universities. Third, the digital transformation of education imposes new requirements of teacher capability iteration. Researchers have argued that the essence of educational digital transformation lies in empowering educational modernization and talent cultivation through digital technology, rather than the simple superimposition of technical means (Li, Zhang, & Ge, 2023). Teachers must therefore master both interdisciplinary professional literacy and the ability to develop and apply digital teaching resources, transitioning from "knowledge transmitters" to "learning designers and resource transformers."

1.2 Conceptual Definitions

In this study, a double-qualified teacher refers to a university teacher who, in the teaching context of medicine–law interdisciplinary courses, possesses systematic legal literacy together with the necessary medical knowledge background and frontline experience in medical dispute mediation or health administrative enforcement, and who is able to transform practical resources into digital teaching products. Unlike the certificate- or title-based definitions prevailing in vocational education, this article stresses "competence compoundness" rather than "certificate stacking": the benchmark is the competency structure required by authentic work tasks. A teaching innovation team denotes a teaching organization jointly composed of in-house teachers and industry-part-time experts that conducts collaborative teaching research around shared goals, with explicit division of labor and operating mechanisms.

1.3 Research Design and Methods

This study adopts an action-research design embedded in the two-year construction cycle of the teaching innovation team. Following the iterative cycle of planning, action, observation, and reflection, the research team functions simultaneously as the reform implementer, which ensures that institutional designs are continuously calibrated against teaching practice rather than remaining paper schemes. Three strands of evidence are triangulated. First, documentary analysis covers national and provincial policy texts on

industry–education integration, New Liberal Arts and New Medical Education, and educational digitalization, as well as institutional documents on faculty management and curriculum reform. Second, stakeholder evidence is collected through semi-structured interviews and questionnaires with in-house teachers, hospital physician–patient-relations staff, practicing lawyers, health administrators, and students, so that the demand side of talent cultivation and the supply side of faculty competencies are mapped onto each other. Third, teaching-effectiveness evidence includes classroom observation records, student evaluations of double-qualified classrooms, and usage statistics of the de-identified case repository and virtual simulation modules. Ethical review and informed-consent procedures are observed throughout the research, and all case materials are de-identified before entering either research or teaching. This design enables the study not only to describe a construction pathway but also to examine, through recursive evidence loops, whether and under what conditions the pathway actually works.

II. LITERATURE REVIEW

2.1 Research on Double-Qualified Teacher Teams

A rich body of research has addressed the connotation, accreditation, and construction pathways of double-qualified teachers. At the level of standards, scholars have noted that the accreditation and cultivation of double-qualified teachers' professional competence is a systematic project confronted with inconsistent standards, uncoordinated training systems, imperfect practical guarantees, and insignificant assessment incentives, and have proposed a unified competency standard system together with multi-agent practical guarantees and separate assessment and incentive arrangements (Yin, K., 2022). Studies of accreditation policy show that the value orientation and indicator design of accreditation standards directly affect teachers' engagement in industry–education integration (Zeng, Lu, & Ai, 2021), and a national survey of 153 vocational colleges across 23 provinces reveals marked regional differences in indicator composition, tiered progression, and supporting incentives, calling for a layered and classified framework on top of national standards (Zhang & Wang, 2022). At the level of construction pathways, researchers have proposed unified standard systems, "point–chain–surface" training configurations, and multi-agent guarantee systems (Yin, K., 2022), as well as practical pathways emphasizing teacher ethics, standard establishment, and recruitment–cultivation mechanisms (Li, H., Jiang, Ren, & Li, 2023). From the perspective of organizational behavior, Jiao, Zhang, and Wang (2024) identify low organizational maturity, circulation barriers for double-qualified teachers, the scarcity of leading talents, and the absence of symbiotic culture as salient predicaments, and argue that only by relying on industry–education communities to smooth the circulation path and optimizing team structure and talent echelons can high-quality development of teaching innovation teams be achieved.

2.2 Research on Medico-Legal Talent Cultivation and Curriculum Reform

Research on health law education has long focused on talent-cultivation models and curriculum systems. Huang et al. (2007) pointed out early that cultivating compound medico-legal talents is a systemic project whose success hinges on scientifically determining training objectives, basic qualities, and cultivation models. Reviewing two decades of development, Tian, Liu, and Wei (2014) showed that ambiguous program positioning, "patchwork" curricula, and insufficient faculty compound competence have been persistent structural problems. Luo et al. (2013) proposed integrating theoretical and practical teaching systems through the deep coupling of practice links with theoretical instruction. At the classroom level, Yu, Tian, and Su (2021) argued that health law courses should aim at cultivating the legal thinking of medical staff rather than the internal logic of legal provisions, and that case teaching and moot court should be comprehensively applied; the course also has inherent advantages for curriculum-based ideological and political education. Li and Feng (2017) revealed from the perspective of professional accreditation an obvious gap between health law education and accreditation standards for clinical medicine. Yin, C. (2017) further noted that inconsistent program settings, the shortage of interdisciplinary faculty, the disconnection between teaching cases and legal practice, and outdated methods and content have severely constrained talent cultivation, proposing an information-technology-based collaborative training platform.

2.3 Research on Digital Empowerment of Teaching

Educational digitalization provides new technological conditions and research agendas for resolving the predicaments above. Li, Zhang, and Ge (2023) systematically expounded the essence and approaches of educational digital transformation, advocating an "empowerment" orientation and a dialectical grasp of new technologies in relation to existing pedagogical tools. Luo (2023) analyzed the multiple predicaments of teachers' digital transformation of teaching—the tension between technology acceleration and pedagogical routines, the mismatch between task multiplication and insufficient digital competence, and the paradox between technological efficiency and increased workload—and proposed solutions from the dimensions of literacy cultivation, paradigm guidance, and organizational linkage. These studies suggest that the key to digital transformation lies not in the introduction of tools per se but in the systematic reshaping of teachers' digital literacy and pedagogical paradigms.

2.4 Research Gap

In summary, existing research has advanced along three directions: the general principles of double-qualified teacher team building, the particularities of medico-legal talent cultivation, and the empowering mechanisms of educational digitalization. Two gaps remain. First, most double-qualified research takes vocational colleges as its object; studies targeting the undergraduate level, and especially dual-crossing disciplines such as "medicine plus law," remain weak, lacking accreditation standards and growth-pathway designs adapted to their competency structures. Second, health law reform research mostly concentrates on

curricula and teaching methods; systematic schemes that start from faculty development and bundle "team building" with "resource building," particularly the mechanism design of university–hospital–law firm–government multi-agent collaboration, are rarely explored empirically. This article addresses these gaps.

III. PRACTICAL PREDICAMENTS IN BUILDING HEALTH LAW TEACHING TEAMS

3.1 The "Single-Discipline" Predicament

Most current university teachers of health law come "from school to school" with a legal or medical background, producing structural competency deficiencies. Law-trained teachers are unfamiliar with clinical norms, medical records, and damage-appraisal procedures; medicine-trained teachers lack rigorous legal reasoning and cannot complete standardized legal analysis and drafting; and both groups generally lack frontline experience in medical dispute mediation and health administrative enforcement. Existing studies have identified the shortage of interdisciplinary faculty, the disconnection between teaching cases and legal practice, and outdated teaching methods as key factors constraining medico-legal talent cultivation (Yin, C., 2017; Huang et al., 2007). In classroom teaching, these deficiencies lead to "purely theoretical" content and bare recitations of legal provisions, while the pedagogical requirements—case teaching, moot court, cultivation of legal thinking—demand practical experience and transformation competence that precisely constitute the weak link of the current faculty (Yu, Tian, & Su, 2021; Li & Feng, 2017). In essence, the single-discipline predicament is a structural mismatch between the competency structure the interdisciplinary course requires ("conversant in both medicine and law, versed in both theory and practice") and the supply of teachers ("single-discipline origin, from school to school").

3.2 Institutional Barriers to Cross-Sector Collaboration

Although industry–education integration has become a consensual reform path, an obvious barrier to the transfer of practical experience persists among universities, hospitals, law firms, and health regulatory agencies. On the one hand, industry experts "cannot get in": universities lack flexible special appointment and qualification mutual-recognition mechanisms. On the other hand, in-service teachers "cannot get out": secondment opportunities are limited, and practical experience is decoupled from professional-title evaluation and performance assessment. Research consistently identifies mismatches between internal management, evaluation, and assessment systems on the one hand and the needs of industry–education integration on the other, together with the absence of long-term cooperation and benefit-sharing mechanisms, as the primary institutional obstacles (Jiao, Zhang, & Wang, 2024; Li, H., et al., 2023). Studies of accreditation policy similarly show that uneven tiered-progression and incentive arrangements prevent the double-qualified identity from effectively steering teachers' practical investment (Zeng, Lu, & Ai, 2021; Zhang & Wang, 2022). As a result, most cooperation remains ceremonial: many agreements but little substantive operation, many lectures but little curriculum co-construction, many classroom observations but

little case-following practice—the concrete manifestation, in health law, of the "circulation mechanism barrier" repeatedly identified in team-building research (Jiao, Zhang, & Wang, 2024).

3.3 Lagging Digital Resources and Innovation Capacity

Confronted with massive and highly sensitive authentic medical–legal cases, teacher teams generally lack the capacity to transform them into high-fidelity interactive digital resources. Yet explorations of legal education digitalization show that virtual simulation can bridge theory and practice: introducing the non-legal technical factors of real judicial processes into teaching achieves a high-fidelity simulation of the authentic judicial environment, and the combination of virtual simulation with mock-trial courses has proven effective in enhancing students' practical engagement. The difficulty is that developing such resources requires the compound competence of "medicine + law + educational technology"—command of clinical processes and case-file structures, of legal issues and instructional design, and of digital tools such as virtual simulation and micro-lecture production—which single-background teachers can hardly manage independently. Moreover, the predicaments revealed by research on teachers' digital transformation—pedagogical-routine constraints, insufficient digital competence, and increased workload (Luo, 2023)—are superimposed on health law teachers, who must simultaneously make up deficits in medicine, practice, and technology. Objectively, this demands collaborative development by mixed teams, converting tasks beyond individual capacity into collective action.

IV. A MULTI-AGENT COLLABORATIVE PATHWAY: THE "UNIVERSITY–HOSPITAL–LAW FIRM–GOVERNMENT" COMMUNITY

To address the predicaments above, this article proposes building a four-in-one cross-border teaching and research community that brings together universities (supplying theory), affiliated hospitals (supplying medical scenarios), specialized law firms (supplying medical-dispute legal practice), and health administrative departments (supplying administrative compliance expertise), advancing along the logical main line of "standards leading – substantive mechanisms – digital empowerment – evaluation driving."

4.1 Standards as the Lead

It is necessary to move beyond the superficial equation of "double qualification" with dual certificates. Accreditation research shows that the value orientation and indicator design of standards strongly steer teacher behavior (Zeng, Lu, & Ai, 2021), and national surveys indicate that layering and classification are the basic trend of standard building (Zhang & Wang, 2022). Accordingly, jointly with practice partners and based on authentic work tasks such as medical dispute mediation and health compliance review, the four core competency elements—medical-ethical literacy, legal reasoning, practical operational ability, and digital teaching competence—should be derived in reverse to formulate the competency standard and accreditation measures for double-qualified teachers of health law at the undergraduate level. Differentiated

gap-filling programs and tiered growth pathways should then be tailored to teachers of different backgrounds: law-trained teachers remedy medical cognition through clinical observership and medical-record study; medicine-trained teachers strengthen legal thinking through systematic legal study and case-following practice; industry-part-time teachers focus on instructional design, classroom organization, and curriculum-based ideological education, so that the three types converge into a mixed team with a reasonable structure and complementary competencies. The standard should also be linked with developmental evaluation: periodic competency-profile assessments enable teachers' self-diagnosis and provide the basis for dynamic team adjustment.

4.2 Substantive Mechanisms

The ceremonial model of cooperation should be replaced with substantively operating arrangements. First, a "revolving door" mechanism should be established whereby in-service teachers take tasks and projects to hospital physician–patient-relations offices or law firms for case-following practice, with practical workload equivalently converted into teaching workload so that teachers can "go down, gain real experience, and have it properly counted." Second, special posts of "industry mentor" and "practice professor" should be set up to flexibly recruit senior medical lawyers, health judges, and hospital administrators for deep participation in syllabus revision, case-based lecturing, and practice supervision, with course-fee subsidies, outcome co-authorship, and joint teaching-research arrangements guaranteeing sustainability; national policy on combining fixed posts with mobile posts in faculty personnel management (General Office of the State Council, 2020) provides institutional space for such arrangements. Third, the college should sign formal co-construction agreements with practice units, making explicit arrangements on funding allocation, mutual recognition of two-way workload, outcome ownership, and confidentiality obligations. As Jiao, Zhang, and Wang (2024) note, only by relying on industry–education communities to smooth the circulation path of double-qualified teachers and optimizing team structure and talent echelons can high-quality team development be achieved. The crux of mechanism design lies in the restructuring of the interest structure: only when the participation of practice units translates into perceptible benefits—talent pipelines, compliance improvement, industry reputation, and research cooperation—and when teachers' practical investment is fairly measured by the evaluation system, can two-way mobility shift from policy advocacy to the rational choice of all parties.

4.3 Digital Empowerment

Transforming team-building achievements directly into teaching assets is the key to avoiding "building teams without improving teaching." Mixed R&D groups of in-house theory teachers and external practitioners should, under strict red lines of patient privacy and data security, collect authentic medical–legal case files and typical disputes, formulate "standards for de-identifying and digitally reconstructing practice files," and transform them into highly interactive scenario-based resources, including script-style

moot court case repositories and virtual simulation modules for physician–patient communication and compliance review, ultimately building a searchable de-identified case repository indexed by knowledge points. In terms of resource forms, a hierarchy of "case repository – micro-lecture cluster – virtual simulation modules" should be formed: the repository carries raw materials and pedagogical adaptation; micro-lectures support fragmented learning in blended settings; simulation modules provide immersive training for comprehensive practical scenarios. Digital-education research reminds us that technological empowerment should serve the transformation of pedagogical paradigms rather than the mere stacking of tools (Li, Zhang, & Ge, 2023), and that teachers' digital competence grows through organized cultivation and linkage mechanisms (Luo, 2023). The resource-development process is thus itself a cultivation process for digital literacy: in jointly dissecting files, de-identifying data, and designing interactive segments, in-house and external experts achieve a natural collision of medical logic, legal thinking, and digital pedagogy, tempering the team while accumulating reusable high-quality digital assets. This pathway of "projects driving the team, outputs promoting integration" tightly binds team building with resource building, avoiding the familiar disjunction between faculty development and teaching reform.

4.4 Evaluation-Driven

The current professional-title and performance systems overweight academic papers and vertical grants, leaving teachers with insufficient intrinsic motivation for practice teaching. Teacher-evaluation research identifies insufficient comprehensiveness of methods, insufficient personalization of standards, and insufficient professionalism of evaluators as salient problems (Chen, Wang, & Jiang, 2022), and policy studies confirm that the value orientation of accreditation and evaluation determines policy efficacy (Zeng, Lu, & Ai, 2021). Pilot reforms of diversified dynamic evaluation should therefore be conducted within the team: teachers' secondment performance, their leading or participating role in medico-legal public-interest services, the quantity and quality of authentic teaching cases transformed, and their contribution to digital training resources should be incorporated as equivalents partially replacing traditional research indicators; a multidimensional evaluation model jointly participated in by the academic affairs office, hospitals, and law firms should be constructed, exploring an equivalent-recognition pathway between practice-transformation outcomes and traditional teaching–research outcomes. Evaluation reform does not weaken academic standards; on the premise of holding the bottom line of teaching quality, it brings "the ability to solve real problems" into the accounting scope of academic contribution. Evaluation results should be linked to the dynamic entry and exit of team members, performance distribution, and training-resource allocation, forming a closed loop of "evaluation – feedback – improvement – re-evaluation." Classified evaluation principles should run through the process, with differentiated weights for members of different origins and roles.

4.5 Co-Constructing a Symbiotic Culture and Dual Professional Identity

Beyond formal standards, mechanisms, resources, and evaluation, the long-term viability of a cross-sector team depends on culture and identity. Team-building research identifies the absence of a symbiotic culture as a salient predicament of teaching innovation teams (Jiao, Zhang, & Wang, 2024). Accordingly, deliberate culture-building arrangements are embedded in the pathway: regular joint teaching seminars in which physicians, lawyers, and teachers co-dissect freshly de-identified cases; "case grand rounds" alternating between the hospital and the law firm; and co-authored teaching-research projects that convert individual tacit experience into shareable pedagogical knowledge. Through sustained participation in such communities of practice, members gradually develop what may be termed a dual professional identity: they cease to see themselves as "a lawyer guest-lecturing in a university" or "a teacher visiting a law firm," and begin to identify as members of a bi-professional epistemic community whose shared enterprise is the cultivation of health rule-of-law talents. Recognition arrangements reinforce this identity—joint certificates of teaching appointment issued by the university and the practice unit, explicit acknowledgment of co-developed resources in teaching awards, and public commendation of outstanding industry mentors—so that the psychological contract between the parties rests not only on formal agreements but on accumulated mutual trust and reciprocal benefit. In this sense, the multi-agent community ultimately evolves from an institutional arrangement into a professional ecology in which teachers, practitioners, and administrators learn from one another, and the collaboration acquires self-renewing momentum that no longer depends on external administrative push.

V. IMPLEMENTATION STRATEGY AND SAFEGUARD MECHANISMS

5.1 Four-Stage Implementation

Team building is a systematic project and should proceed in four rolling stages: "demand diagnosis and team formation – mechanism trial operation and resource development – evaluation reform and teaching verification – model refinement and outcome promotion." In stage one (months 1–6), industry-demand surveys and faculty competency diagnostics are conducted; the parties jointly formulate the trial "Competency Standard and Accreditation Measures for Double-Qualified Teachers of Health Law," sign multi-agent collaborative agreements, and form the mixed team, producing a baseline survey report and individualized cultivation plans. In stage two (months 7–15), two-way mutual appointment starts: teachers are seconded to law firms and hospitals for case-following practice, practitioners participate in instructional design, and the mixed team centrally develops the de-identified case repository and micro-lectures, piloting them in selected classes. In stage three (months 16–20), the new evaluation and incentive measures are trialed based on team outputs; student feedback on double-qualified classrooms and digital resources is collected, and teaching-effectiveness data analyses yield a comprehensive industry–education-oriented evaluation scale and an assessment report. In stage four (months 21–24), the experience of action research is

summarized, the "university–hospital–law firm–government" model is refined, and concluding materials, teaching-research papers, and policy consultation reports are prepared for in-school and inter-university dissemination.

5.2 Organizational and Conditional Safeguards

In terms of organizational safeguards, the college should convene a collaborative-education steering committee composed of representatives of the university's academic affairs office, affiliated hospitals, partner law firms, and health administrative departments to coordinate agreement performance, funding use, and dispute resolution, preventing the collaboration from fading with personnel changes. In terms of conditional safeguards, existing smart classrooms, moot courts, and online teaching platforms provide hardware and network environments for virtual simulation development and cross-sector blended teaching research; licenses for professional legal case databases should be procured to remedy the shortage of high-quality specialized databases. In terms of institutional safeguards, the university should grant policy preferences in project approval, professional-title evaluation, and performance distribution to participating teachers, and incorporate practical experience into recognized teacher-development hours and annual assessment. The research team's prior accumulation in digital resource development, curriculum-based ideological reform, and industry–education practice bases lays a foundation for implementation.

5.3 Risk Control

The pedagogical transformation of practical resources involves multiple risks requiring explicit control arrangements. First, legal and ethical risk: medical-dispute files involve patient privacy, trade secrets, and pending case information; a full-process management norm of "collection – de-identification – review – use" must be established with designated de-identification standards and reviewers, and all resources must pass dual legal and ethical review before release. Second, quality risk: practitioners' pedagogical transformation competence varies; joint lesson preparation, teaching observation, and collective review should gate resource quality, preventing "rich practice but poor pedagogy." Third, sustainability risk: cooperation may weaken with personnel turnover or institutional adjustment; agreements should stipulate terms, renewal mechanisms, and outcome ownership, and cooperation units should be kept small and project-based to reduce dependence on single key figures. Fourth, data-security risk: digital resources should be deployed on university-controlled platforms with tiered access permissions and established withdrawal and destruction mechanisms.

VI. PRACTICAL OUTCOMES AND TRANSFERABLE VALUE

Following the above pathway, the model has been piloted in the core course of Health Law with initial results. First, the faculty structure has been optimized. Through two-way mutual appointment and case-following practice, in-service teachers have accumulated frontline medico-legal experience while

practitioners routinely participate in classroom teaching and curriculum design; a mixed double-qualified team combining medical literacy, legal reasoning, and digital teaching competence has begun to take shape, and classroom teaching has shifted from "reciting legal provisions" to an authentic-scenario model of "project-driven learning + case deduction + virtual training," markedly improving students' comprehensive practical abilities in physician–patient communication, dispute mediation, and compliance review.

Second, high-quality digital teaching assets continue to accumulate. The de-identified authentic case repository and virtual simulation modules jointly developed by the mixed team serve the routine teaching of majors such as Clinical Medicine, Public Administration (Health Administration), and Health Service and Management can be extended to related courses such as Medical Ethics and Health Administrative Law and promoted to comparable universities. Third, the capacity for social service has grown in step: the reformed team can act as a professional think tank in local medical dispute mediation, hospital compliance review, and consultation on health administrative legislation, realizing a virtuous interaction between educational resources and social governance and feeding fresh materials back into teaching in a cycle of "teaching – practice – service – feedback into teaching."

Fourth, the reform has generated demonstrable spillover effects on talent cultivation and curriculum development. The double-qualified classroom model of "project-driven learning + case deduction + virtual training" has been extended from the core course of Health Law to related courses such as Medical Ethics and Health Administrative Law, driving the systematic revision of syllabi and examination methods in the program. Students trained in authentic scenarios show improved performance in physician–patient communication exercises, dispute-mediation simulations, and compliance-review assignments, and their course satisfaction ratings have risen steadily. The model has also strengthened curriculum-based ideological and political education: real dispute-mediation stories convey the people-centered value of the rule of law more convincingly than abstract preaching, realizing the integration of value shaping, knowledge imparting, and competence building (Yu, Tian, & Su, 2021). Feedback from internship hospitals and employers further indicates that graduates taught under the reformed model demonstrate stronger rule-of-law thinking and communication competence in clinical settings, which provides external validation of the reform and closes the quality loop from classroom to workplace.

VII. CONCLUSION

The construction of double-qualified teaching innovation teams for Health Law is, in essence, a reconstruction of the way interdisciplinary faculty are produced under New Liberal Arts and New Medical Education: competency standards clarify "what a good teacher is"; substantive mechanisms answer "where people come from and where they go"; digital resource development provides the carrier of "gathering people through tasks"; and evaluation reform opens the "last mile" that makes teachers "willing to go and

able to stay." Practice shows that systematic design along the main line of "standards leading – substantive mechanisms – resource transformation – closed-loop evaluation" can effectively break the status barriers between universities and the medical–legal practice sector, cultivate a mixed double-qualified team, shift classroom teaching from knowledge infusion to authentic-scenario reconstruction, and significantly enhance students' practical competence. Team building remains a long-term undertaking. Continued exploration is needed on the institutionalization of equivalent recognition between practical and teaching workload, the regular updating of de-identified case resources, and the linkage between evaluation reform and university personnel systems, so that reform outcomes can be consolidated into replicable, transferable institutional experience, providing solid support for the cultivation of health rule-of-law talents and for comparable interdisciplinary fields.

This study makes three theoretical contributions. First, it extends double-qualified teacher research from vocational education to the undergraduate interdisciplinary context, proposing a competency-based rather than certificate-based definition suited to "medicine plus law" dual-crossing disciplines. Second, it reframes faculty development as a problem of multi-agent symbiosis, showing that team building, resource building, and evaluation reform must be bundled within a university–hospital–law firm–government community rather than pursued separately. Third, it demonstrates that authentic digital resource development can serve as the pivot that simultaneously cultivates teachers, accumulates teaching assets, and transforms classrooms. The study is nevertheless bounded by its single-institution action-research setting: the four-stage pathway, the competency standard, and the equivalent-recognition arrangements were designed for and tested within one medical university, and their generalization to universities of different types requires contextual adaptation. Future research should therefore conduct multi-site comparative studies, track the longitudinal career development of double-qualified teachers, and examine how generative artificial intelligence reshapes the cost structure of de-identifying cases and developing simulation resources, so that the pathway can be continuously refined in tandem with the deepening of educational digitalization.

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