

Integrating Courses with Discipline Competition and Professional Certification: Pathways to New E-Commerce Talent Cultivation

Lihua Wu

School of Management Science and Engineering, Beijing Information Science & Technology University
Corresponding Author: lihua Wu

ABSTRACT: The rapid development of the new e-commerce industry has imposed dual requirements of industry-education and specialization-innovation integrations on talent cultivation. Taking courses as the core, this paper puts forward a differentiated reform strategy for business-oriented and data analytics-oriented modules. For the former, a course-competition integration mechanism characterized by full participation, whole-process penetration and outcome transformation is constructed. For the latter, the professional qualification certification of data analysts is embedded into courses. Practice demonstrates that the integration of courses with discipline competition and professional certification can form a closed loop of knowledge learning, competency training, and qualification certification, providing replicable pathways for cultivating new e-commerce talents with practical and innovative abilities.

KEYWORDS: Discipline competition; professional certification; e-commerce courses; talent cultivation.

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I. INTRODUCTION

In the era of the digital economy, the e-commerce industry is undergoing profound transformation. New business models such as live-streaming e-commerce, social e-commerce, and AI e-commerce are constantly emerging, imposing higher demands on the comprehensive quality of practitioners and requiring not only solid professional knowledge but also innovation awareness, entrepreneurial ability, and practical experience. However, traditional e-commerce talent cultivation models have long-standing challenges such as disconnection between teaching content and job requirements, separation of theory and practice, and the "two skins" phenomenon of innovation education and professional education.

Against this backdrop, industry-education integration and specialization-innovation integration have been established as key pathways to solve the talent cultivation dilemma. Industry-education integration emphasizes the organic connection among the education chain, talent chain, industry chain, and innovation chain. On the other hand, specialization-innovation integration is committed to integrating innovation and entrepreneurship education throughout the entire process of talent cultivation. How to implement these two ideas at the course construction level has become the core issue of teaching reform.

The emergence of the education model named post-competition-certification integration (Zhong, 2022) provides a solution to this issue. It advocates the systematic integration of job requirements, competition standards, and certification criteria into teaching, thereby aligning courses with industry needs, enhancing pedagogy through competitive practice, and validating student competencies through recognized credentials. This paper takes course-competition and course-certification integration as the entry point to explore the specific pathways for new e-commerce talent cultivation.

II. OVERALL FRAMEWORK OF COURSE INTEGRATION

The overall framework of course construction is a dual-driven model, with course-competition and course-certification integration as its two engines to establish differentiated and coordinated reform pathways. Specifically, differentiated strategies are adopted according to the course functions and competency objectives. Business-oriented courses are integrated with discipline competitions, driving students' innovative thinking and practical abilities. Data analytics-oriented courses are aligned with professional qualification certifications, strengthening students' job skills and professional competence. The two pathways are parallel and complementary, jointly contributing to the overall goal of cultivating high-quality talents for the new e-commerce industry. Figure 1 illustrates the framework.

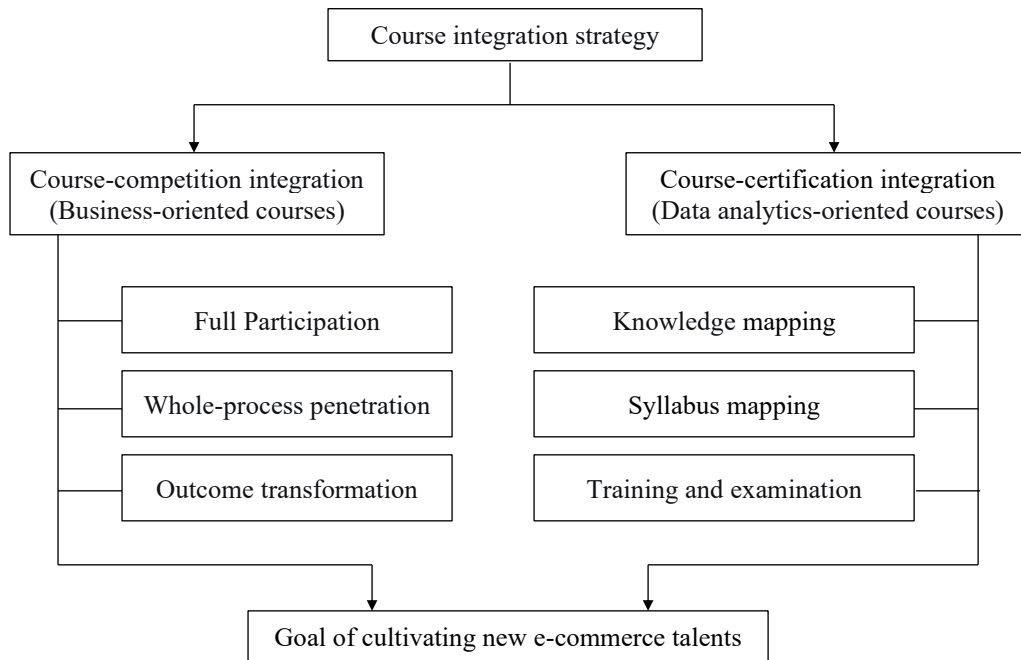


Figure 1: Overall framework of course integration

Differentiated integration strategies

Business-oriented courses, such as Internet Marketing and E-Commerce Operations, are characterized by wide knowledge, strong practicality and rich innovation, making them naturally suitable for integration with comprehensive discipline competitions like the College Students E-Commerce Innovation, Creativity and Entrepreneurship Challenge. Competitions can effectively stimulate students' innovation awareness and entrepreneurial enthusiasm, transforming business theories learned in the classroom into actionable business plans. Therefore, the course-competition integration for business-oriented courses aims to promote teaching, learning, practice and innovation through competition (He, Zhao & Peng, 2026), cultivating students' comprehensive business abilities throughout the entire competition process.

Data analytics-oriented courses are highly technical, standardized, and instrumental in nature, which typically aligns with the professional qualification certification system. The knowledge, skills, and assessment standards of the data analyst certification reflect the industry's competency requirements for data talents. Integrating certification standards into course teaching enables students to obtain industry-recognized qualification credentials while mastering data analysis skills. Hence, the course-certification integration for data analytics-oriented courses aims to foster learning, verify competencies and set standards, enabling a precise and effective connection between course teaching and industry standards.

Coordinated driving mechanism

Although the two integration pathways differ in emphasis, they are not isolated but mutually reinforcing within the talent cultivation system. The business insight, planning, and teamwork skills developed through course-competition integration provide problem awareness and real-world contexts for data analytics coursework, giving data competency training a clearer focus. Conversely, the data processing, quantitative analysis, and tool operation skills cultivated through course-certification integration feed back into competition projects—enhancing research, evaluation, and decision-making, and ultimately improving the quality of competition outputs. Together, the two pathways complement each other across different stages and dimensions of talent development, producing well-rounded e-commerce talents equipped with both innovative thinking and technical proficiency.

III. INTEGRATION PATHWAYS

Course-competition integration

Discipline competitions are widely recognized as effective vehicles for identifying and nurturing innovative and entrepreneurial talent, as they stimulate students' intrinsic motivation for self-directed learning and creative practice (Huang, 2026). In practice, however, competitions and classroom teaching often remain disconnected—competitions tend to benefit only a small group of elite students, and their outcomes are seldom fed back into the courses. To address this disconnect, business-oriented courses can adopt a course-competition

integration model built on three principles: full participation, whole-process penetration, and outcome transformation.

Full participation: Breaking the elitist tendency of competitions requires embedding competitive thinking and training into routine teaching. In the course reform, a Freshman Launch Program was introduced to expose all new students to creative activities such as idea competitions, rural immersion experiences, short video production, and simulated e-commerce transactions. The underlying rationale is that innovation awareness is best cultivated through hands-on experience. The full-participation approach ensures that every student encounters real business scenarios from the outset, building an early foundation for innovation and entrepreneurship and paving the way for deeper learning.

Whole-process penetration: The essence of deep course-competition integration is synchronizing the competition timeline with the course schedule. In the pilot course Introduction to E-Commerce, for instance, the early phase focuses on topic selection and team formation; the mid-phase involves iterative program design aligned with module content; and the final phase uses competition submissions as a key assessment component. This structure transforms competitions from an extracurricular add-on into an integral part of the learning process.

Outcome transformation: The real value of competitions lies not in winning awards, but in translating innovative ideas into tangible outcomes. The course construction efforts focus on bridging the last mile of project incubation. Outstanding competition works are repurposed as teaching cases to enrich classroom instruction. Promising projects, meanwhile, are channeled into entrepreneurship, technology transfer, or community service initiatives that generate both social and economic value.

Course-certification integration

Course-certification integration embeds professional qualification standards into course teaching, allowing students to earn both course credits and professional credentials. Since professional standards encapsulate the core competencies required by industry, their incorporation into courses effectively narrows the gap between academic preparation and workplace demands.

Implementation pathway: Course-certification reform uses the Data Analyst certification as a pilot, integrating it with business data analytics courses. This choice responds to a clear industrial reality, that is data has become a key production factor in the digital economy, and data analytics capability is a core competency for new e-commerce professionals. The implementation follows four steps: first, map course content against the certification's competency and knowledge frameworks; second, embed the mapped elements into the course syllabus, unit plans, and practical projects; third, incorporate real-world cases and past exam questions into teaching for targeted training; and fourth, allow students to sit for the certification exam upon course completion, creating a seamless loop of learning, training, and credentialing.

Collaborative conditions: Effective course-certification integration depends on multi-stakeholder collaboration. University must establish credit-certification recognition mechanisms; faculty need industry experience and certification training expertise; enterprises should contribute real cases and standard inputs; and students require clear learning goals and motivation. By co-developing course resources with enterprises, involving industry mentors in teaching, and building on-campus training and certification platforms, university is gradually fostering a collaborative ecosystem for course-certification integration.

IV. EFFECTIVENESS OF COURSE INTEGRATION

Course-competition and course-certification integration are not separate tracks but mutually reinforcing components of a unified system. Competitions emphasize application—turning knowledge into problem-solving ability; certifications emphasize standards—ensuring that competencies meet industry expectations. Together, they converge on a single goal: strengthening students' job readiness and long-term career potential.

Practice shows that course-competition integration has systematically enhanced students' capabilities. They have not only achieved strong competition results but also developed skills in innovation, creative thinking, entrepreneurship, planning, writing, presentation, and teamwork—turning learning for application from a slogan into reality. Similarly, course-certification integration has effectively bridged academic learning with professional credentialing, boosting students' employability.

What is particularly significant is that the integration of these two pathways fundamentally reshapes the talent cultivation model. By removing the barriers between courses, competition, and certification, it creates a closed loop of knowledge acquisition, competency development, and professional validation. This loop fulfills both the industry-education ideal of learning for application and the specialization-innovation principle of integrating knowledge with action.

V. CONCLUSION

The rapid evolution of the new e-commerce industry brings both challenges and opportunities for talent development. This paper explores the integration of courses with discipline competition and professional certification within the framework of industry-education and specialization-innovation dual cases. Findings

suggest that the course-competition model—built on full participation, whole-process penetration, and outcome transformation—effectively stimulates students' innovative and entrepreneurial potential, while course-certification integration ensures alignment with industry demands and professional standards. Looking ahead, further efforts are needed to strengthen university-enterprise collaboration, refine the curriculum, and enhance assessment mechanisms, so as to build a more solid foundation for preparing high-quality e-commerce professionals for the digital economy.

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