Research on the Practical Education System of the Second Classroom for Business Talents in the Artificial Intelligence Era

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Abstract: Against the backdrop of artificial intelligence (AI) technology reshaping the business ecosystem, higher education in business faces severe challenges of accelerated knowledge iteration and transformed skill demands. From the perspective of the second classroom, this paper, based on John Dewey's "Learning by Doing" theory, situated learning theory, and the experiential learning cycle theory, explores the construction of a practical education system that synergizes with the core educational mission of the first classroom and aims to cultivate the core competitiveness of business talents in the AI era. The study proposes the practical education philosophy of "industry leadership, multi-dimensional collaboration, and closed-loop empowerment," constructs a multi-dimensional education matrix integrating "industry, university, research, competition, and innovation," and designs a logically hierarchical and interconnected framework. This paper systematically elaborates on the theoretical foundation, core elements, implementation paths, and guarantee mechanisms of the education system, aiming to provide theoretical reference and practical framework for the reform of business education in the AI era.

Keywords: Artificial Intelligence; Business Talents; Practical Education; The Second Classroom; Integration of Industry, University, and Research

1. Introduction: Dual Challenges of Business Education in the AI Era and the Strategic Value of the Second Classroom

The rapid development of AI technology is subverting traditional business operation models and talent demand structures. Digital transformation and industrial demand upgrading have put forward new requirements for the education field, calling for the efficient allocation of educational resources.[1] John Dewey's "Learning by Doing" theory has regained new explanatory power in this context.[2] Dewey argued that education is not preparation for future life but life itself; true understanding stems from experience, and the most effective learning occurs when individuals participate in meaningful activities. In the AI era, the "feedforward knowledge transmission" model of traditional business classrooms is facing the dilemma of a sharply shortened "half-life." According to a report by the McKinsey Global Institute, by 2030, nearly 400 million jobs worldwide will undergo fundamental changes due to automation technology, with the automation potential of traditional business positions such as financial analysis and market research as high as 50%-60%. The systematic knowledge transmission of the first classroom is no longer sufficient to address this challenge, while the second classroom, which emphasizes active practice and real experience, precisely provides a core venue for practicing the concept of "Learning by Doing."

Therefore, the strategic value of the second classroom has become increasingly prominent. Its characteristics of flexibility, practicality, and interactivity make it a bridge connecting abstract theories with dynamic industrial practices. The second classroom plays a significant role in cultivating students' innovation and entrepreneurship capabilities, broadening their innovative and entrepreneurial horizons, enhancing emotional intelligence management, strengthening cooperative spirit, improving language expression skills, and simulating enterprise operation and management.[3] Studies have shown that business students who actively participate in high-quality second classroom activities have significantly higher employability, innovation capabilities, and career adaptability than those with low participation. Essentially, this improvement in capabilities is achieved through "situated learning" proposed by Lave & Wenger—students gradually master the tacit knowledge to solve complex business problems through legitimate peripheral participation in near-real "communities of practice."[4] Constructing a second classroom practical education system adapting to the AI era has become a key response of business education reform to the propositions of the times.

2. Core Concepts: The "Industry + Business" Practical Education View and Multi-Dimensional Collaborative Education Matrix

All printed material, including text, illustrations, and charts, must be kept within the parameters.

2.1 Positioning of the Second Classroom: "Industry-Led, Competence-Oriented" – The Practical Expansion of Situated Learning Theory

Entering the AI era, the transformation of business models is reflected in multiple aspects such as business processes, customer experience, model types, and market patterns. Grasping the main characteristics of business model transformation empowered by AI is the logical starting point for building a high-quality business talent training system oriented towards the future.[5] Traditional second classrooms are often regarded as a "supplement" or "extension" of the first classroom, but this positioning is no longer sufficient in the AI era. This study proposes that the second classroom should establish a new positioning of "industry-led and competence-oriented," forming a two-way reinforcement closed loop of "theory-practice" with the first classroom. The deep theoretical foundation of this concept is precisely situated learning theory. This theory holds that knowledge is a product of activities, contexts, and cultures, and learning is essentially a social, practical process mediated by the participation of diverse resources. Knowledge transmission divorced from real business contexts is prone to generating "inert knowledge"—students can pass exams but cannot activate and apply this knowledge in real work scenarios.

Therefore, the core mission of the second classroom is to construct "authentic learning scenarios." The construction of an interactive mechanism between new-quality productive forces and the integration of production and education can enable education to form an innovative model oriented towards industrial needs.[6] This positioning transformation requires the pre-introduction of industrial demands, integrating real projects, data, problems, and technical tools from enterprises into campuses, allowing students to think and act like practitioners in near-real contexts. This embodies the essence of situated learning: learners gradually grow from novices to experts by participating in real activity systems composed of goals, tasks, tools, and cultures.

2.2 The "Five-in-One" Multi-Dimensional Education Matrix of Industry-Academia-Research-Competition-Innovation (IARCI) Ecosystem – The Systematic Presentation of Social Constructivism

Based on the "industry + business" practical education concept, the practical links of business education in the AI era need to construct a "five-in-one" multi-dimensional education matrix integrating industry, university, research, competition, and innovation. This matrix is a systematic and operational presentation of the social constructivist view of learning. Social constructivism holds that knowledge is co-constructed through social interaction, and learning is the result of the interaction between learners and a broader social system.[7] The matrix emphasizes the organic connection and synergistic efficiency among various elements, jointly forming an ecosystem that promotes the collaborative construction of knowledge.

The industry docking layer serves as the "context provider" for knowledge construction, offering real cognitive challenges and cooperation partners. The academic support layer acts as the "scaffold provider" for knowledge construction, guiding students to systematically integrate and deepen theoretical knowledge in practice through a dual-mentor system. The research feedback layer reflects the high-level goal of "learning as knowledge creation," encouraging students to transform practical problems into research topics and complete the leap from knowledge consumers to producers. The competition-driven layer creates a positive pressure environment within Vygotsky's "zone of proximal development," stimulating students to surpass their existing capabilities through team collaboration via well-designed challenging tasks.[8] The entrepreneurship incubation layer functions as the "value converter" for knowledge construction, externalizing internalized knowledge and capabilities into products or services with social value.

These five layers form a dynamic, networked interactive knowledge innovation network. For example, a successful competition project may give rise to entrepreneurial ideas (competition → entrepreneurship); real problems encountered in the entrepreneurial process can become new research topics (entrepreneurship → research); research results can not only feed back into teaching (research → learning) but also provide solutions for enterprises (research → industry). This cycle vividly illustrates how knowledge is continuously created, tested, and applied in social activities.

3. System Architecture: A Hierarchical, Competence-Oriented Practical Education Path for the Second Classroom

Based on the aforementioned education matrix, this paper designs a "three-level and four-stage" practical education path for the second classroom. The core design of this path follows David Kolb's experiential learning cycle theory (learning circle theory). Kolb believes that learning is a cyclical process consisting of four stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation.[9] The four-stage path in this paper is a large-scale and systematic application of this cycle theory, ensuring that students achieve progressive capability development in a spiral upward manner. (As shown in Table 1)

Table 1. The "Four-Stage" Practical Education Path Based on the Experiential Learning Cycle

Practical Stage	Kolb's Experiential Learning Stage	Core Goal	Typical Activity Forms	Focus of Competence Development
Perceptual Experience Stage	Concrete Experience	Obtain direct sensory experience and emotional resonance of AI's business applications	Enterprise visits, technical immersive experience halls	Perception and interest
Simulated Practice Stage	Reflective Observation & Abstract Conceptualization	Reflect on experiences in a simulated environment and form initial operational concepts	Virtual simulation experiments, case review workshops	Tool skills and conceptualization
Practical Training Stage	Active Experimentation & Concrete Experience	Proactively test and revise concepts in real projects to gain new complex experiences	Real enterprise projects, high-level competitions	Complex problem-solving and innovation
Integration & Output Stage	Abstract Conceptualization & Active Experimentation	Systematically integrate all experiences to form personal theories and create new value	Entrepreneurship incubation, social innovation projects, strategic consulting reports	Integrated innovation and value leadership

3.1 Basic Cognition Level (Perceptual Experience Stage): The Starting Point of Embodied Cognition Theory

This level targets lower-grade students, and its design concept is derived from embodied cognition theory. This theory emphasizes that cognition is deeply rooted in the interaction between the body and the environment, and learning begins with specific, physical experiences. Through activities such as "AI + Business" themed enterprise open days and technology decryption workshops, students gain not abstract "knowledge about AI" but "experience of coexisting with AI." Observing robot collaboration in intelligent warehouses and feeling the transformation of information flow into decision-making flow in data cockpits, these multi-sensory immersive experiences lay a solid physical and emotional foundation for students to construct cognition about AI, effectively breaking the cognitive barrier caused by the technical "black box."

3.2 Skill Integration Level (Simulated Practice Stage): From "Legitimate Peripheral Participation" to the Center

For middle-grade students, the form of practice shifts to virtual simulation and project workshops, or what is called smart learning workshops. This stage perfectly interprets Lave & Wenger's theory of "legitimate peripheral participation," a process where learners participate in real contextual activities as legitimate members of a community of practice to learn. Smart learning workshops aim to break through the limitations of traditional teaching and simulation software, combining actual business scenarios and advanced technologies to create realistic and interactive business environments. They provide learners with immersive and experiential learning platforms, allowing them to make decisions and solve problems under pressures and dynamics similar to real business environments, thereby deeply understanding business logic and improving practical skills and the ability to respond to uncertain challenges.[10] Schools carry out "immersive experience" practical teaching, and jointly build digital and intelligent practical teaching scenarios with local governments and enterprises. For example, business administration majors can construct a "three-in-one" characteristic training model of "professional knowledge + digital skills + application scenarios."[11] In the "community of practice" composed of teachers and enterprise mentors, students initially engage in relatively simple, low-risk tasks (such as analyzing given datasets with tools). As their skills improve, they gradually take on more core tasks (such as independently designing analysis models). The "Intelligent Finance Platform" of Central University of Finance and Economics provides such a progressive, scaffold-supported participation path. Students start by observing the decisions of "experts" (systems or mentors), then gradually attempt on their own in a simulated environment, with their decision-making logic and processes recorded and fed back—this is exactly the learning trajectory moving from the "periphery" to the "center."

3.3 Innovation Application Level (Practical Training Stage): Identity Transformation in the "Community of Practice"

The "Real Enterprise Project Immersion Program" for senior students marks their identity transformation into core members of the "community of practice." At this stage, learning shifts from mastering established skills to creatively applying and integrating knowledge in uncertain real contexts. This aligns with the concept of cognitive apprenticeship: experts (enterprise mentors) guide students to participate in real professional practice through demonstration, guidance, and scaffolding, and gradually withdraw support. During this stage, students not only apply technologies but also, under the guidance of enterprise mentors, learn to define problems, coordinate resources, manage project cycles, and other cultural and tacit dimensions of professional practice, completing the identity transformation from "students" to "quasi-professionals." In the AI era, the application of AI technology has broken through the traditional value acquisition paradigm of "identification-creation-implementation," presenting a "non-linear value co-creation model" of "interaction-feedback-enhancement."[12] Through data mining and analysis, AI discovers consumer needs, market trends, and business optimization points hidden in massive information, achieving non-linear value growth. Meanwhile, practical project-based training can be introduced. For example, intelligent accounting majors can adopt project-based learning, breaking the limitations of traditional classroom teaching. Students deepen their understanding of accounting theories in projects and take the initiative to apply intelligent technologies to accounting project practice, thereby effectively integrating theoretical knowledge with practical skills and improving their comprehensive quality.[13]

3.4 Value Creation Level (Integration & Output Stage): Self-Determination Theory and Leadership Development

The integration stage before graduation focuses on the sublimation of intrinsic motivation and the construction of personal theories. Deci & Ryan's self-determination theory points out that when people's sense of autonomy, competence, and relatedness are satisfied, they generate strong intrinsic motivation.[14] Entrepreneurship incubation and social innovation projects precisely provide students with opportunities to pursue autonomous goals (sense of autonomy), use comprehensive capabilities to solve major challenges (sense of competence), and establish deep connections with teams and social needs (sense of relatedness). The learning outcomes at this stage are not only solving a problem but also forming internal beliefs and action frameworks about technology, business, and society through in-depth reflection and integration—i.e., generating their own "practical theories," laying the foundation for future roles as responsible leaders.

4. Implementation Guarantees: The Collaboration of Systems, Resources, and Culture from a Constructivist Perspective

The successful implementation of any education system requires solid guarantees. From a constructivist perspective, the purpose of the guarantee system is to create an environment that supports meaning construction, promotes social interaction, and provides abundant resources.

4.1 System Innovation: Building "Scaffolds" and Promoting "Metacognition"

The core of system innovation is to provide structural "scaffolds" for students' experiential learning cycles. The "co-curricular transcript with competency mapping" system structures and visualizes diverse practical experiences, serving as a navigation for students' experiential learning maps. More importantly, the reform of the evaluation mechanism needs to shift from focusing on "output results" to "learning processes" and "metacognitive development." Colleges and universities should design evaluation mechanisms such as "competence radar charts" to generate formative evaluations. Through multi-source feedback, students can visualize the trajectory of their experiential learning cycles—where they perform well and where they need to strengthen reflection or abstract conceptualization. This evaluation itself is a powerful tool to promote students' metacognitive development. At the same time, schools and cooperative enterprises should establish stable cooperation mechanisms and mutual evaluation mechanisms to ensure the interests of both parties, improve the enthusiasm and stability of cooperation, and thus provide students with more professionally targeted internship and employment opportunities during regular internships and graduation.[15]

4.2 Resource Integration: Building a Distributed Network of "Cognitive Tools"

The core of digital transformation lies in stimulating the potential of data elements. Through digital transformation, enterprises can reshape their competitive advantages and achieve sustainable development.[16] Therefore, the ability to mine and use digital technologies in the AI era is a top priority for cultivating business talents. From the perspective of distributed cognition theory, wisdom not only exists in individual minds but also is distributed among individuals, tools, environments, and cultures. Therefore, the goal of resource integration is to build a distributed network of "cognitive tools." "On-campus laboratories" provide basic cognitive tools (software, computing power); "off-campus bases" introduce cognitive tools from the real business world (industry data, business systems) into the learning process; "cloud platforms" break physical boundaries, making global cognitive tools and cooperation networks accessible. Schools and colleges can establish a cloud platform for business practice data, allowing students to remotely access public business data at home and abroad and carry out team collaboration across campuses, even at home and abroad. This means that students' cognitive activities are carried out in a globally distributed resource network, and their ways of thinking and problem-solving capabilities naturally possess a social perspective and international vision.

4.3 Cultural Shaping: Cultivating Shared Values of the "Community of Practice"

The essence of culture is the shared beliefs, values, and behavioral norms of members of a "community of practice." The human-AI collaboration culture and safe trial-and-error culture required in the AI era must be cultivated through well-designed social interactions. Activities such as "human-AI debates" create a new social discourse model where differences between human and AI thinking are not obstacles but collaborative resources to be explored, understood, and utilized. The "institutionalized failure-based learning mechanism" and "failure experience sharing sessions" redefine the meaning of "failure" at the community level, transforming it from a shameful label into a "valuable concrete experience" worth sharing and rich in learning value. This fundamentally reduces the psychological cost of exploration and innovation, encouraging students to bravely enter the "zone of proximal development" of learning.

5. Conclusions and Prospects

The transformation of the training paradigm for business talents in the AI era is essentially a shift from the "knowledge transmission" paradigm to the "knowledge construction" paradigm. As the main venue for practical education, the second classroom is far more than skill training—it provides a comprehensive venue for practicing Dewey’s "Learning by Doing" thought, Lave & Wenger’s situated learning theory, and Kolb’s experiential learning cycle. The system constructed in this paper, based on classic learning theories and through the multi-dimensional matrix of industry-university-research-competition-innovation, systematically designs an ecosystem that promotes students to actively construct knowledge, capabilities, and values in real social practice.

The closed-loop nature of this system is reflected not only in the iterative optimization of processes but also in its adherence to and enhancement of the fundamental laws of learning: experience is transformed into insights through reflection, insights are tested in application, and new experiences trigger deeper reflection. It aims to cultivate "reflective practitioners" who can continuously self-evolve in this cycle, with both technical insights, business wisdom, and ethical responsibility.

Looking forward, the system can be deepened in two directions: first, using learning analytics technology to track and visualize each student’s experiential learning cycle, providing highly personalized "learning path navigation"; second, deepening the construction of cross-cultural communities of practice, allowing students to cultivate global leadership through collaboration in addressing global challenges (such as AI ethics and digital economy governance). Only in this way can the second classroom truly evolve from the "second channel" of education to the core melting pot for shaping outstanding business leaders in the AI era.

References

[1] Bu, L., Wang, Y., Gao, G., & Chen, F. Two-way empowerment: Research on the interaction mechanism between new quality productivity and industry-education integration under new business education. Commercial Accounting, 2025, (21): 123-127.
[2] Dewey, J. Experience and education. New York: Macmillan, 1938.
[3] Zhang, Y. Research and practice on the integration of second classroom and innovation entrepreneurship education in finance and economics universities. Technology Wind, 2025, (5): 100-102.
[4] Lave, J., & Wenger, E. Situated learning: Legitimate peripheral participation. Cambridge University Press, 1991.
[5] Jin, F. AI reshaping business models and business education responses. Journal of Yangzhou University (Higher Education Study Edition), 2025, 29(6): 109-118.
[6] Jiang, S., Luo, T., & Bao, L. Research on digital literacy cultivation path for new business talents in application-oriented universities under digital economy. Strait Science and Technology and Industry, 2024, (9): 72-75.
[7] Berger, P. L., & Luckmann, T. The social construction of reality: A treatise in the sociology of knowledge. Anchor Books, 1966.
[8] Vygotsky, L. S. Mind in society: The development of higher psychological processes. Harvard University Press, 1978.
[9] Kolb, D. A. Experiential learning: Experience as the source of learning and development. Prentice-Hall, 1984.
[10]Cui, Y. Research on the construction of smart learning workshops for new business education. Shanghai Business, 2023, (10): 220-222.
[11]Li, H. Exploration of practical teaching reform in new business education in the digital economy era. China University Teaching, 2024, (9): 65-71.
[12]Yang, X., & Liu, W. Nonlinear value co-creation mechanism in intelligent business. Science and Technology Management Research, 2022, (14): 219-228.
[13]Zhang, M., Wang, Y., & Li, A. Project-based learning methods for business students under new liberal arts: A case study of intelligent accounting major. Finance and Accounting Monthly, 2021, (23): 63-67.
[14]Deci, E. L., & Ryan, R. M. The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior.

Psychological Inquiry, 2000, 11(4): 227-268.
[15]Jin, W., Yan, T., Shuang, Y., Cao, Z., et al. Research on innovation of school-enterprise collaborative education mechanism from the perspective of new business education. Journal of Higher Education, 2025, (31): 87-94.
[16]Ji, F., Zhang, H., Li, X., et al. Connotation requirements and realization paths of interdisciplinary business talent cultivation in digital-intelligent era. Higher Education Management, 2023, 17(6): 40-50.