

Research and Practice of “Dual-Case” Teaching in New Business Majors at Higher Vocational Colleges from the Perspective of Classroom Revolution

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Abstract: Grounded in university–enterprise collaboration and situated within China’s “classroom revolution,” this study proposes and validates a dual-case pedagogy for new-business majors in higher vocational colleges. We design a scalable course resource platform that pairs introductory cases (learning for mastery) with practice cases (learning for application) and embed it in an “one core–two cases–three stages–multiple measures” model spanning pre-class preparation, in-class enactment, and post-class consolidation. Using parallel cohorts (experimental vs. control, $n=60$ each) over the 2024–2025 academic year, we evaluate effectiveness with independent-samples t -tests on three ordinal indicators: end-of-course performance, professional competition outcomes, and graded certification attainment. Results show significant gains for the experimental group across all indicators (e.g., course performance: $t=2.133$, $p=0.022$; competitions: $t=3.455$, $p=0.001$; certificates: $t=5.436$, $p<0.001$), evidencing improved knowledge mastery, skills application, and holistic development. The model addresses well-known pain points-scarce resources, implementation difficulty, and single-track assessment-while offering a replicable pathway for integrating information technology, a commitment to holistic student development, and industry–education synergy to enhance the quality of business-talent cultivation.

Keywords: Classroom Revolution; Dual-Case Pedagogy; New Business Majors; Higher Vocational Education; Teaching Effectiveness

1. Introduction

In 2019, the Implementation Plan for National Vocational Education Reform explicitly called

for improving professional teaching resource banks; developing informationized resources suited to the “Internet + Vocational Education” context; leveraging modern information technology to reform teaching methods; and elevating curriculum reform as a key measure to improve the quality of vocational education. In 2020, the Opinions of the Ministry of Education and the People’s Government of Shandong Province on Advancing Province-Wide Quality Enhancement and Excellence to Build a High-Quality Innovation Highland for Vocational Education emphasized strengthening the classroom as the “main battlefield,” launching a special initiative to enhance teaching quality, and popularizing project-based, case-based, situational, and modular instruction. In 2021, the Opinions on Promoting the High-Quality Development of Modern Vocational Education advocated deepening teaching reform, innovating instructional models and methods, and improving classroom quality by fostering the deep integration of modern information technology with education and teaching. The notion of a vocational-education “classroom revolution” was articulated in the Action Plan for Improving Quality and Excellence in Vocational Education (2020–2023), which stressed “Promote the ‘classroom revolution’ in vocational schools, adapt to the diverse characteristics of student cohorts, and push curriculum reform to deeper levels.” It is thus evident that deepening curriculum reform, innovating teaching methods, and improving talent training quality have risen to the level of national educational strategy-constituting both the mission and responsibility of higher vocational institutions.

2. Current State of Research at Home and Abroad

2.1 Overseas Research

In 1870, the dean of Harvard Law School formally introduced the case-teaching method. It was soon adopted at Harvard Medical School and Harvard Business School and has since been studied and emulated worldwide. At Harvard Business School, approximately 80% of courses now use the case method. In typical practice, students and their teams discuss pre-assigned cases and related readings and propose solutions to the problems presented. In Canadian universities, civic education courses likewise rely primarily on case teaching, generally proceeding through three phases: case selection and preparation, case analysis, and discussion and synthesis [1,2]. Research indicates that case teaching is an effective approach for tackling discipline-specific problems, fostering self-directed learning, and developing higher-order thinking. Additional studies characterize the case method as an interactive, contextualized pedagogy that places key skills in meaningful scenarios to cultivate problem solving and reflective capacity [3]. Overall, international scholarship has focused on implementation strategies, teaching effectiveness, and case writing. The core idea is to use relevant cases as instructional materials and, through teacher-student interaction and classroom discussion, cultivate students' initiative and independent analysis. In Germany, the method is most commonly applied in Übung (exercise) classes; in the United States, the clinical education model plays a similar role [4]. Existing English-language literature contains no systematic studies on a "dual-case" teaching method, leaving a gap that warrants further exploration [5].

2.2 Domestic Research

2.2.1 The case teaching method

As of July 2025, a CNKI search for "case teaching method" returns 24,100 publications; restricting to Peking University Core, CSSCI, and CSCD journals yields 1,821 articles. The present study takes these 1,821 core-journal papers as the data source to analyze research related to the case teaching method.

1) Disciplinary distribution

As shown in Figure 1, research on the case teaching method is concentrated primarily in business (33.83%), medicine (19.06%), law (17.85%), and computer science (6.04%), among other fields.

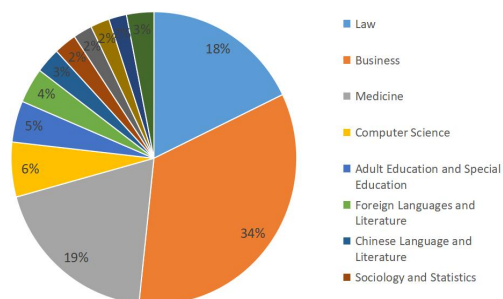


Figure 1. Disciplinary Distribution of Research on the Case Teaching Method

2) Publication trends by year

In China, the earliest publications on the case method appeared in 1981. Following a 1980 training program on business management case teaching, the method was introduced into Chinese higher education, with business disciplines engaging first. By 1992, scholarship had already argued that, historically, China was among the earliest countries to implement case-based education. Overall, the trajectory of influential publications has passed through four stages—slow development → steady growth (peaking at about 130 articles) → gradual decline → progressive recovery (see Figure 2). These shifts indirectly reflect evolving attention to and emphasis on the case method within the domestic academic community.

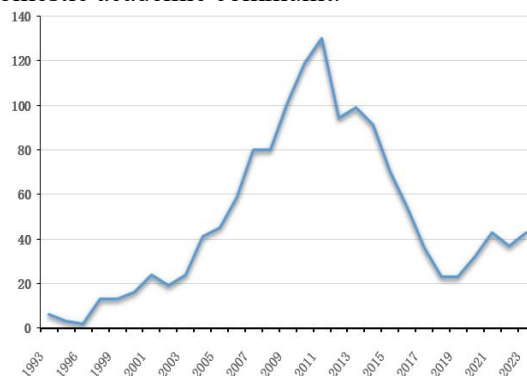


Figure 2. Annual Publication Trend in Research on the Case Teaching Method

3) Research themes

Hot topics cluster around the principles of case teaching, instructional agents, instructional design, teaching reform, teaching quality, instructional effectiveness, and application domains. Representative studies emphasize: (a) selecting cases in vocational C-programming that progress from easy to difficult and from shallow to deep to match cognitive development; (b) challenges in building online case resources with information technology, such as insufficient vividness; (c) a "textbook-case-original work" triadic model to improve adherence to

implementation norms in feed-science courses; and (d) the role of the case method in integrating ideological-political elements into curricula at public-security vocational colleges.

Domestic research on the “dual-case” approach remains limited. A CNKI search identifies only a small set of studies, mainly in STEM fields. Exemplars include a Visual Basic course employing two principal cases—one for mastering key knowledge and skills, another for professional application; a problem-oriented dual-case design in traditional Chinese medicine featuring patterns such as positive/negative, progressive, analogical, and expansive; and applications in software-technology programs that pair exemplary cases with flawed cases [6]. Notably, this body of work has yet to extend to vocational education in the business domain [7].

2.2.2 On the “classroom revolution” in vocational education

Instructional implementation is central to the “classroom revolution.” Introducing a dual-case method into innovative classroom practice for new-business majors has substantial research and practical value for building an ecological classroom [8]. As of May 2024, a CNKI search for “classroom revolution” returns 1,188 publications. Disciplinary distribution (Figure 3) shows the largest share in vocational education (32.06%), indicating strong sectoral attention. The earliest research explicitly targeting the vocational-education classroom revolution appeared in 2018 and proposed an integrated “five-teaching-as-one” approach—teacher, teaching materials, classroom, lesson plan, and teaching ethos—to achieve deep, synergistic education. As shown in Figure 4, studies on the classroom revolution in vocational education have increased annually since 2018, evidencing sustained growth in attention.

Focusing on vocational-education literature (restricted to Peking University Core, CSSCI, and CSCD; 28 articles), a review indicates the following: In the era of artificial intelligence, leveraging technology to drive a “classroom revolution” in higher vocational colleges—transitioning from traditional to smart classrooms—has become a prominent topic [9]. Reported challenges include substituting fragmented construction for holistic governance, allowing technological rationality to overshadow humanistic considerations, and implementing a one-dimensional transformation of practical teaching spaces [10]. Additional analyses

highlight new pressures on higher vocational institutions: diversified student sources, heterogeneous learning needs, rapid innovation in instructional technologies, the need to align teaching content with industrial development, and shifts in teaching models—collectively calling for effective classroom-level reforms. Persistent problems are also noted, such as the marginalization of classroom teaching, weak learning climates, and low instructional efficiency. Among the reviewed works, only one targets a specific discipline (logistics), underscoring the need to explore how a dual-case method could be implemented within courses in new-business majors at higher vocational institutions [11,12].

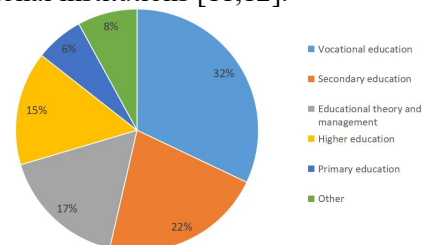


Figure 3. Disciplinary Distribution of “Classroom Revolution” Research

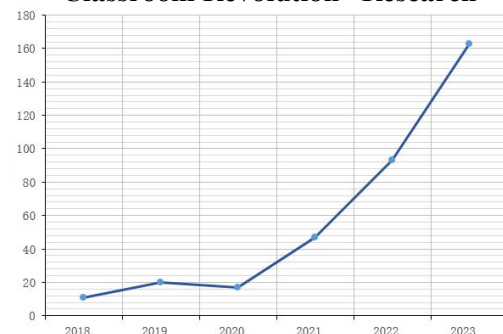


Figure 4. Publication Trends in “Classroom Revolution” Research Within Vocational Education

2.3 Evaluation

A review of domestic and international scholarship indicates:

Research on the case method concentrates in business, medicine, law, and computer science, and scholars generally agree that the case method is well-suited to business-discipline instruction.

Current challenges in case teaching include unengaging case resources, lack of interest, absence or difficulty of adherence to coherent implementation norms, insufficient integration with ideological-political education, and single-track assessment approaches. While fields such as medicine and computer science have

begun to address these issues, business disciplines still lag behind.

Domestic research on the “dual-case” method comprises only four studies, primarily in medicine and computer science; the business field remains unaddressed.

Attention to the classroom revolution in vocational education has increased continuously since 2018, yet much of the research centers on system-wide reform. Studies operationalized at the level of specific disciplines and courses remain relatively scarce, with hot topics focusing on the use of modern information technology, shifts in instructional models, and integration of ideological-political elements.

In summary, grounded in the training objectives for new-business talent in higher vocational education and starting from curriculum reform, this study innovates classroom pedagogy across the use of modern information technology, shifts in instructional models, innovations in teaching methods, integration of ideological-political education, and industry–education synergy. It investigates the application of the dual-case method in the classroom revolution for new-business majors at higher vocational colleges, aiming to develop a course-teaching model tailored to new-business disciplines, innovate evaluation approaches, address unengaging and uninspiring case resources, resolve the lack or difficulty of coherent implementation in case teaching, facilitate organic integration with ideological-political education, and overcome single-track evaluation—thereby filling the gap in applying the dual-case method within business education.

3. Constructing the “One Core–Two Cases–Three Stages–Multiple Measures” Course Teaching Model

With the cultivation of high-quality talent in new business majors at higher vocational colleges as the core objective, this study builds on a “dual-case” resource-bank platform and integrates the three phases of “before class + during class + after class.” The model runs through the entire process of instructional preparation, instructional design, and instructional evaluation, and adopts a diversified course-evaluation system. Through exploration and practice, it ultimately forms a practical and generalizable “one core–two cases–three stages–multiple measures” course teaching model. As shown in Figure 5.

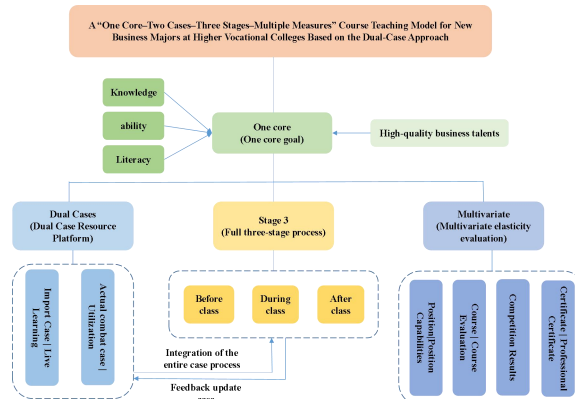


Figure 5. The “One Core–Two Cases–Three Stages–Multiple Measures” Course Teaching Model Based on the Dual-Case Approach

3.1 One Core

Cultivating high-quality talent in new business majors at higher vocational colleges. Guided by this goal, the model adheres to a student-centered approach and takes moral cultivation as a fundamental task. It makes full use of modern information technologies, integrates ideological-political education organically into the curriculum, and aims to develop well-rounded, high-quality talent of the new era in terms of knowledge, competencies, and character.

3.2 Two Cases

Introductory cases (“learning for mastery”) + practice cases (“learning for application”). Mature and effective classic cases from enterprises are selected and introduced into the course to guide students in dissecting cases and analyzing the associated knowledge and skill points, thereby achieving comprehension and internalization of the course project’s knowledge and skills. In parallel, transformed enterprise cases serve as practice cases. Through task-driven integration of learning and doing, these strengthen students’ application abilities and complete the transfer and internalization of knowledge.

3.2.1 Introductory cases.

(1) Case selection

Choose authentic, mature, and effective enterprise cases—instances of success in real operations with broad applicability and heuristic value. Cases should cover the knowledge points related to the course project.

(2) Case curation

Organize the collected cases by documenting background, problem statements, solutions, and

implementation outcomes. Include case analyses and takeaways to help students grasp the essence of each case.

(3) Case application

Apply curated cases in instruction; guide students to dissect case knowledge and master relevant knowledge and skills through analysis and discussion.

3.2.2 Practice cases.

(1) Case selection

Select authentic enterprise cases and adapt them pedagogically as an extension and deepening of the introductory cases.

(2) Case curation

Structure the adapted cases with background, problem statements, knowledge linkages, and scenario transformations.

(3) Case application

Use the adapted cases in teaching; through analysis, discussion, and simulation, guide students to complete case tasks, thereby elevating knowledge and enhancing skills. As shown in Figure 6.

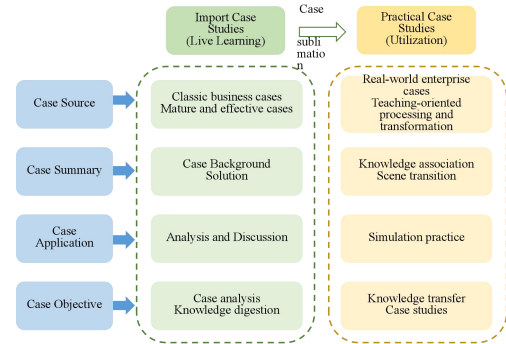


Figure 6. Comparison Of the Two Case Types
Three Stages: Whole-process integration of case resources across three phases. The dual-case approach seeks to equip students with effective learning methods while training their abilities to analyze and solve problems when confronted with challenges. To realize these aims, dual-case resources must be embedded consistently across the “before class + during class + after class” continuum and integrated into all links of instructional preparation, instructional design, and instructional evaluation. As shown in Figure 7.

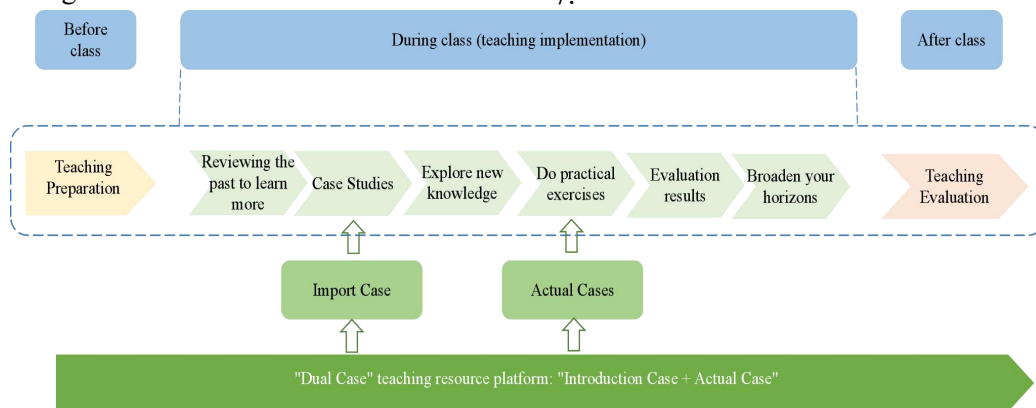


Figure 7. Process Flow of Dual-Case Teaching

Multiple measures: A flexible, diversified evaluation system combining quantitative and qualitative approaches. This study strengthens formative (process) evaluation, improves summative (outcome) evaluation, explores value-added evaluation, and enhances comprehensive evaluation. It proposes a flexible “quantitative + qualitative” evaluation model, establishes a rational credit system and assessment methods, and converts accomplishments such as prizes in skills competitions, “1+X” certificates, patents, publications, and participation in research into credits. Special focus is placed on “three rates, two evaluations, and one development”: the three rates refer to certification rate, transfer (application) rate, and employment rate; the two evaluations are student evaluation and enterprise

evaluation; and the one development emphasizes students’ career development. As shown in Figure 8.

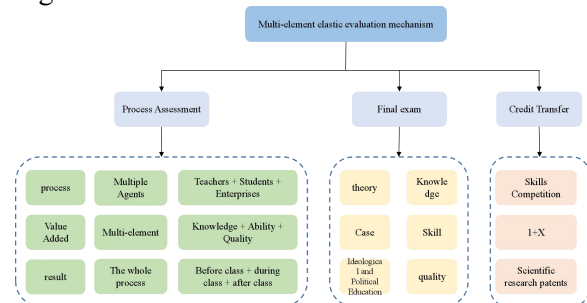


Figure 8. Flexible, Diversified Evaluation Mechanism

4. Empirical Evaluation of the “One Core–Two Cases–Three Stages–Multiple Measures” Teaching Model

To assess the effectiveness of the proposed model, this study selected two parallel classes of the same major within the Department of Economics and Management at the author's institution: an experimental group ($n = 60$; implementing the "one core–two cases–three stages–multiple measures" model) and a control group ($n = 60$; maintaining traditional instruction). Academic performance for both groups during the 2024–2025 academic year was recorded, with particular attention to three core indicators: end-of-course assessment grades, professional competition results, and graded certificate achievements.

4.1 Analytical Approach

Given the data types (ordinal rating scales) and the objective of comparing differences between two groups, an independent-samples t-test was employed as the primary analytical method, and SPSS software was used for data processing. Variable definitions were as follows:

Independent variable: Teaching model (traditional = 0; "dual-case" = 1).

Dependent variables (all rated on a 1–5 scale):

End-of-course assessment grade: 5 = ≥ 90 ; 4 = 80–89; 3 = 70–79; 2 = 60–69; 1 = < 60 (fail).

Professional competition result: 5 = national-level award; 4 = provincial-level; 3 = municipal-level; 2 = institution-level; 1 = no award.

Graded certificate achievement: 5 = relevant

professional qualification/skills certificate; 4 = relevant "1+X" certificate; 3 = CET-6/Computer Grade exam certificate; 2 = general-purpose certificate (e.g., driver's license); 1 = none.

The independent-samples t-test assumes normality of the two populations and homogeneity of variances (equal variances). If the homogeneity assumption was violated, a variance-corrected t-test (Welch's t), data transformation, or a non-parametric alternative (e.g., the Mann–Whitney U test) was considered. This testing framework evaluates whether the population means represented by the two independent samples (experimental vs. control) differ significantly, thereby inferring the effect of the "dual-case" teaching model relative to the traditional model on student outcomes.

4.2 Results

The independent-samples t-test for end-of-course assessment grades indicated statistical significance at the 0.05 level ($t = 2.133$, $p = 0.022$). Specifically, the mean grade level under the proposed model ($M = 4.23$) was significantly higher than under the traditional approach ($M = 3.82$). This suggests that the "one core–two cases–three stages–multiple measures" model more effectively enhances students' mastery of course knowledge and skill proficiency, thereby improving overall learning performance. As shown in Table 1.

Table 1. T-Test of Teaching Model Vs. End-of-Course Assessment Grade (Rating Scale)

Outcome	"Dual-Case" Teaching ($n = 60$) Mean \pm SD	Traditional Teaching ($n = 60$) Mean \pm SD	t	p	Sig.
End-of-course assessment	4.23 \pm 0.88	3.82 \pm 1.11	2.133	0.022	*

Note: $p < 0.05$ (*), $p < 0.01$ (**).

For professional competition results, the test revealed high statistical significance ($t = 3.455$, $p = 0.001$), with the experimental group outperforming the control group ($M = 2.27$ vs. 1.43). This indicates that the model strengthens

students' professional capabilities, boosts their motivation to participate in competitions, and ultimately leads to superior outcomes. As shown in Table 2.

Table 2. T-Test of Teaching Model Vs. Professional Competition Result (Rating Scale)

Outcome	"Dual-Case" Teaching ($n = 60$) Mean \pm SD	Traditional Teaching ($n = 60$) Mean \pm SD	t	p	Sig.
Professional competition	2.27 \pm 1.36	1.43 \pm 0.64	3.455	0.001	**

Note: $p < 0.05$ (*), $p < 0.01$ (**).

For graded certificate achievements, results were significant at the 0.001 level ($t = 5.436$, $p < 0.001$), with the experimental group exhibiting a substantially higher mean rating ($M = 4.10$) than the control group ($M = 2.75$). Between-group comparisons thus show that the model markedly elevates the level of certificates students obtain.

Beyond bolstering professional competencies, it also promotes broader development, reflected in higher success rates in professional qualification and skills certifications, greater willingness to pursue cross-domain learning and diverse certificates, and more efficient use of extracurricular time. As shown in Table 3.

Table 3. T-Test of Teaching Model Vs. Graded Certificate Achievement (Rating Scale)

Outcome	“Dual-Case” Teaching (n = 60) Mean ± SD	Traditional Teaching (n = 60) Mean ± SD	t	p	Sig.
Graded certificate outcome	4.10±1.04	2.75±1.23	5.436	<0.001 ¹	**

¹Reported in the original as $p = 0.000$; presented here as $p < 0.001$ per common statistical reporting practice.

Note: $p < 0.05$ (*), $p < 0.01$ (**).

The study demonstrates that, through structured pedagogical innovation, the “one core–two cases–three stages–multiple measures” model systematically advances students’ three-dimensional development: it significantly deepens mastery and application of course knowledge (academic dimension), enhances competition performance and acquisition of professional credentials (professional dimension), and broadens holistic qualities by stimulating cross-domain learning motivation and self-directed development (comprehensive dimension). In sum, the model achieves synergy between the depth of theoretical instruction and the breadth of practical competence.

5. Conclusion

Anchored in constructivist learning theory, humanistic education theory, subjectivity-oriented education theory, and developmental (value-added) assessment theory-and guided by problem orientation-the author and research team conducted work spanning a review of domestic and international scholarship, the reconstruction of professional course content, the development of a “dual-case” resource bank, reform of professional course teaching models, and evaluation of application outcomes. This research addresses outdated teaching philosophies, scarcity of course resources, difficulties in instructional implementation, and single-track evaluation.

Through empirical validation and practical application, the dual-case teaching approach significantly improves course quality. Pass rates, certification rates, employment rates, and the rate of translating learning into tangible outcomes all show marked increases. The practical results have earned dual recognition-from learners (satisfaction) and from employers (hiring needs). The study thus provides a replicable paradigm for reforming business curricula.

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Research and Practice of the “Dual-Case”

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