



Research on Diversified Reform of Continuing Education Theses under Industry-Education Integration

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Abstract. With the deepening advancement of the national strategy for industry-education integration, continuing education—as a vital component in establishing lifelong learning systems and learning societies—faces an urgent need to transform and upgrade its talent cultivation models. As a pivotal component in assessing the quality of continuing education talent cultivation, graduation theses currently suffer from widespread issues such as impractical topic selection, monotonous formats, inadequate supervision, and rigid evaluation mechanisms, severely hindering the enhancement of students' practical innovation capabilities. Grounded in the contemporary context of industry-education integration, this paper thoroughly analyses the challenges confronting graduation thesis work in continuing education and proposes a reform philosophy centred on 'diversification'. The article systematically outlines diversified reform pathways for graduation theses across topic selection sources, outcome formats, supervision methods, assessment criteria, and management mechanisms. It aims to establish a novel thesis framework tailored to adult learners' characteristics, aligned with industrial demands, and promoting deep integration of learning, research, and industry. This provides theoretical reference and practical insights for enhancing continuing education talent development quality.

Keywords: Industry-education integration, Continuing education, Graduation thesis, Diversified reform.

1 Introduction

Problem-Oriented Approach: Transitioning from 'Virtual Topics' to 'Real Projects'. Traditional thesis topics were often proposed by supervisors based on personal research interests, leaving students in a passive acceptance role. Such topics frequently lacked relevance to students' actual work. Industry-education integration requires students to transform real-world workplace challenges into research subjects.

Competency-Based Approach: Shifting from 'Academic Speculation' to 'Practical Innovation'. Traditional thesis topics were often proposed by supervisors based on personal research interests, leaving students in a passive acceptance role. Such topics frequently lacked relevance to students' actual work. Industry-education integration requires students to transform real-world workplace challenges into research subjects. [1]

Theses should originate from practical demands on production lines, management sites, or R&D departments, with research outcomes possessing the potential to resolve tangible issues.

Multi-stakeholder Engagement: Shifting from ‘Single-Institution Supervision’ to ‘Industry-Academia Co-supervision’. Industry-education integration dismantles the barrier of the institution as the sole education provider. Enterprises are not merely consumers of talent but should become active participants in talent cultivation. In the thesis process, corporate experts possess practical experience unmatched by academic staff.[2] Establishing a dual-mentorship system—where academic supervisors guide methodological rigor and theoretical frameworks while industry mentors focus on practical application and project implementation—is pivotal to enhancing thesis quality.

Diverse Value: Shifting from ‘Grade-Based Assessment’ to ‘Contribution-Based Evaluation’. Industry-education integration dismantles the barrier of the institution as the sole education provider. Enterprises are not merely consumers of talent but should become active participants in talent cultivation. As a vital component of the national education system, continuing education shoulders the crucial mission of enhancing the calibre of working professionals and serving socio-economic development (see Fig. 1).

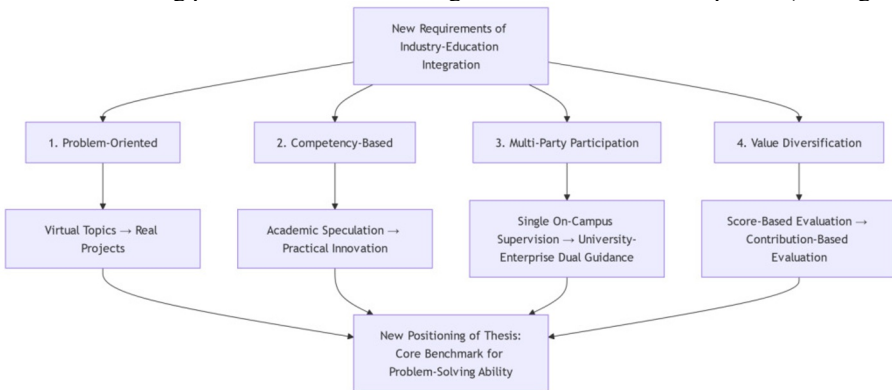


Fig. 1. The flowchart introducing the research background

2 Principal Challenges in Current Continuing Education Theses

2.1 Rigid Topic Selection Models Disconnected from Practical Needs

Most continuing education faculties still adopt undergraduate-style topic selection models, with slow-updating or stagnant topic banks. Topics predominantly focus on theoretical or literature review-based subjects, such as ‘Reflections on XX Issues’ or ‘A Preliminary Analysis of XX Status Quo and Countermeasures.’ Such broad, abstract topics often allow students to complete their work by piecing together existing literature, lacking relevance to specific workplace scenarios.[3] Students wishing to address technical challenges encountered in their own work frequently face rejection due to the

unavailability of suitable supervisors or non-compliance with so-called ‘academic norms.’

2.2 Monotonous Output Formats Stifle Individual Strengths

The uniform format of graduation theses represents the greatest obstacle to current reforms. Regardless of whether students are technical workers from production lines or corporate managers, or whether their disciplines lie in science/engineering or humanities/social sciences, all are required to submit a formal academic paper exceeding ten thousand words. This one-size-fits-all approach disregards the diversity of adult learners.

2.3 Unregulated Writing Processes and Concerns Over Academic Integrity

Due to demanding work schedules, heavy family responsibilities, and insufficient writing training, plagiarism and ghostwriting persistently occur during thesis preparation. Some students neglect regular accumulation of knowledge, resorting to last-minute cramming by piecing together content via ‘Ctrl+C’ and ‘Ctrl+V’.[4] This not only contradicts the fundamental purpose of education but also severely damages the social reputation of continuing education. Beyond student-related factors, this stems from generic thesis topics and lax process management.

2.4 Weak Supervision and Absent Corporate Involvement

Faculty resources for continuing education are relatively strained, typically relying on full-time university lecturers taking on additional responsibilities. These instructors often face heavy teaching workloads and lack practical industry experience, frequently finding themselves ill-equipped to supervise theses closely tied to real-world production. More critically, due to insufficient institutional safeguards and funding support, enterprise technicians show low enthusiasm for participating in thesis supervision.

3 Pathways for Diversifying Continuing Education Dissertation Reform

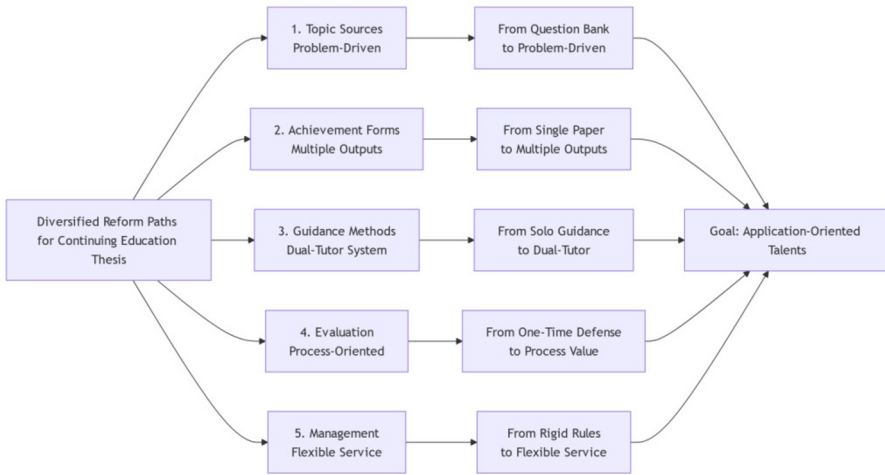


Fig. 2. Pathways for Diversifying Continuing Education Dissertation Reform

3.1 Diversifying Topic Sources: From ‘Question Bank Selection’ to ‘Problem-Driven’

Position-Oriented Topic Selection: Encourage students to select technical challenges, management bottlenecks, or process optimisation issues encountered in their current roles as research subjects. For instance, mechanical engineering students might choose ‘Improvements to the Machining Process for a Specific Part Model,’ while logistics students could select ‘Designing an Efficiency Enhancement Plan for Warehouse Sorting Operations at Our Company.’ Industry-Commissioned Topics: Partner enterprises publish small-scale research topics or technical improvement projects needed in actual production, establishing an ‘Enterprise Topic Repository’.

3.2 Diversified Output Formats: From ‘Single Thesis’ to ‘Multiple Outcomes’

This represents the most tangible manifestation of diversified reform. Based on disciplinary characteristics and talent development objectives, students are permitted and encouraged to select one of the following output formats: Research Reports: Suitable for management and sociology disciplines. Students conduct in-depth investigations into specific corporate phenomena, industry challenges, or market dynamics, employing statistical analysis to produce high-quality reports with improvement proposals. Reports must feature comprehensive data, rigorous analysis, and actionable conclusions. Product/Process Design Specification: Suitable for science and engineering disciplines. Outcomes may include design blueprints for mechanical devices, development

documentation for software systems, or manufacturing procedures for novel products.[5] Assessment focuses not only on the final design documents but also on the technical analysis and innovative aspects demonstrated throughout the design process.

3.3 Diversified Supervision Approaches: From ‘Solo Endeavour’ to ‘Dual-Mentor Collaboration’

Establishing a structured university-industry ‘dual-mentor system’ is pivotal for implementing industry-education integration. Institutional mentors ensure ‘standardisation’: Primarily responsible for thesis topic vetting, research methodology guidance, writing standard training, and academic ethics oversight. They assist students in clarifying logical frameworks, ensuring outcomes meet required academic standards and theoretical underpinnings. Industry mentors ensure ‘practical application’: Senior technical specialists or experienced managers from enterprises are appointed as industry mentors. They guide students in identifying real-world problems, acquiring research data, validating research proposals, and evaluating the practical applicability of outcomes. Cross-disciplinary supervisory teams: For complex interdisciplinary projects, ‘supervisory panels’ comprising multi-disciplinary academic staff and multi-departmental industry experts may be formed to provide joint supervision.

3.4 Diversified Evaluation Mechanism: Transitioning from ‘One-off Defence’ to ‘Process-based Value Enhancement’

Diversified Evaluation Bodies: Form defence committees comprising ‘academic experts + industry specialists + sector representatives’. Particularly for applied outcomes, industry experts’ input should carry significant weight. Departmental managers overseeing students may also be invited to assess the practical contribution of outcomes. Diversified Evaluation Content: Construct a comprehensive metric encompassing ‘Process Evaluation (30%) + Content Evaluation (40%) + Impact Evaluation (30%)’. Process Evaluation: Assesses the quality of students’ project proposals, progress during mid-term reviews, frequency of communication with supervisors, and authenticity of data collection. Content Evaluation: Assesses the practical relevance of the topic, scientific validity of methodology, structural rigour, and novelty of perspectives.

3.5 Diversified Management Processes: Transitioning from Rigid Management to Flexible Services

To accommodate the working status of continuing education students, management processes should adopt greater flexibility. Flexible Timing: Abolish the rigid ‘academic year’ timeframe by implementing year-round topic selection and batch-based defence scheduling. Students may request to advance or postpone their defence based on work commitments. Digitalised Processes: Develop an intelligent thesis management platform to digitise the entire workflow—from topic application and proposal submission to mid-term reviews, thesis submission, assessment, and defence scheduling.[6] This enables students to submit materials and track progress anytime, anywhere. Rigorous

Integrity: While offering flexible services, we uphold the fundamental principle of academic integrity. A stringent plagiarism detection system is implemented alongside a random thesis sampling mechanism. Plagiarism, ghostwriting, and other forms of academic misconduct will be subject to an immediate disqualification policy (see Fig. 2).

4 Conclusion

Industry-education integration represents a major strategic initiative by the state to organically link educational pathways, talent development, industrial chains, and innovation ecosystems, injecting powerful momentum into reforming continuing education talent cultivation models. As the ‘final mile’ of the continuing education teaching process, the quality of graduation theses directly impacts the ultimate effectiveness of talent development.

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