

Reform Practices and Developmental Pathways of Literary Education in Higher Vocational Colleges Under the Drive of Information Technology in the New Era

Xin Li^{1*}, Li Chen²

¹School of Cultural Tourism and Health Wellness, Chongqing College of Finance and Economics, Chongqing 402160, China

²College of Communication and Information Engineering, Chongqing College of Mobile Communication, Chongqing 401520, China

Corresponding author: Xin Li (e-mail: linxin0401@163.com)

ABSTRACT This study examines information-technology-driven reform in higher vocational literary education in contemporary China and analyzes implementation gaps, practical outcomes, and developmental pathways. Using a mixed-methods research design, empirical data are collected from 180 teachers and 1,287 students across 15 higher vocational colleges in six provinces covering eastern, central, and western regions. Structured questionnaires, in-depth interviews, and classroom observations are used to examine four dimensions: IT integration, reform practices, teaching outcomes, and implementation constraints. The results show that systematic IT intervention produces measurable gains in student classroom participation, autonomous learning engagement, and written expression competence, with increases of 27.2%, 25.2%, and 22.2%, respectively. However, its effect on higher-order cognitive capacities, especially critical thinking, remains comparatively limited. Case analysis further shows that technology effectiveness depends less on technical complexity than on alignment with the humanistic characteristics of literary education, teacher integration capacity, and curriculum design quality. The study proposes coordinated advancement across macro-level policy, meso-level curriculum reconstruction, and micro-level pedagogy to balance technological rationality and humanistic orientation.

INDEX TERMS information technology, vocational literary education, educational reform, blended learning, humanistic literacy

I. INTRODUCTION

EMERGING technologies—big data, artificial intelligence, and cloud computing—shows that institutional structures across sectors are undergoing fundamental transformation. Traditional models show deep structural flaws limiting student growth. However, the findings shows that as IT integration in education accelerates, a practical question has become increasingly urgent: how can technology reactivate the humanistic value embedded in literary education? Additionally, the significant evidence could indicate that introducing the Technological Pedagogical Content Knowledge [TPACK] framework into literary education contexts appears to enhance teachers' instructional design capacity. Given that research demonstrates meaningful improvement in classroom interaction, the results shows that this framework provides important support for the contextualized delivery of literary curricula [1]. Moreover, the key findings could indicate that applied practices in exploratory data analysis and explainable AI have offered important methodological reference points for cultivating data literacy within

humanities disciplines [2]. Research shows blended learning strengthens linguistic expression across settings [3]. Thus, the significant evidence shows that virtual platforms could demonstrate capacity to extend the temporal and spatial boundaries of literary study. Furthermore, the results indicates that the Chinese cultural context adds a further layer of specificity to these important findings. Notwithstanding these broader trends, the evidence demonstrates that Confucian ethical thought—particularly its emphasis on self-help mediated through interpersonal care—may suggest a deep humanistic foundation for localized literary education practice [4]. Confucian thought links cultural values to educational practice directly. Generative AI tools such as ChatGPT shows that instructional logic and interactive paradigms of literary courses in higher education could undergo significant transformation, opening the findings toward personalized and intelligent pedagogical possibilities [5-6]. Furthermore, the significant results shows that these developments indicate IT-enabled literary education has gradually moved from theoretical advocacy toward diversi-

fied practice. In light of the evidence, however, the key findings demonstrates that systematic reform research focused specifically on higher vocational literary education contexts appears comparatively scarce, with notable deficiencies in three areas: the contextual fit of technological tools, the assessment of instructional outcomes, and the construction of localized reform pathways. Study shows gap exists across all three areas. Drawing on the significant evidence from intelligent tutoring systems deployed as virtual instructional assistants in online education [7], the study shows that this research is grounded in Chinese higher vocational education realities, adopting IT-driven reform as its central analytical perspective. Additionally, the key findings could indicate that the study systematically examines the practical difficulties, emergent forms, and advancement pathways of literary education reform in higher vocational colleges.

II. LITERATURE REVIEW

Scholarly inquiry into the integration of information technology and literary education shows that the field has deepened considerably in recent years. Moreover, the results demonstrates that a structural tension between theory and application has long persisted in university-level curricula. In light of these findings, one line of research addresses this directly, suggesting that strategic instructional design appears to represent the key mechanism for bridging that gap [8-9]. Additionally, ethical dimensions have not been neglected, and the results demonstrates that the integration of ethics of otherness and care ethics into literary studies has supplied a philosophical basis for curriculum value orientation [10]. Given that the findings support this humanistic turn, thematic literary teaching has also advanced—research using Holocaust literature as a case could indicate how sensitive historical content may be pedagogically recontextualized to serve humanistic educational aims [11]. Studies show collective premise clear: reform requires dynamic balance. Nevertheless, the significant evidence shows that these studies establish a shared premise, demonstrating that IT-era literary education reform cannot stop at technological tool replacement. Therefore, the key results could indicate that reform must seek a dynamic balance between humanistic commitment and the cultivation of critical thinking. Notwithstanding these findings, the assessment of literary education and the construction of core competencies demonstrates that they represent a second productive strand of inquiry. In light of the significant results, some researchers have incorporated consent and autonomy into secondary English literary pedagogy, suggesting that the evidence could reveal the distinctive value of literary education in developing gender awareness and civic literacy [12]. Data shows multiliteracy assessment frameworks emerged as new direction. Moreover, the findings shows that multiliteracy assessment frameworks have emerged as a significant new direction in higher education literary research, with scholars demonstrating that the results could support systematic evaluation tools grounded in pedagogical principles [13-14].

However, the related theoretical position shows that literary reading could demonstrate a socially responsive practice, foregrounding its capacity to develop students' significant social perception and critical consciousness in higher education settings [15-16]. Given that the data demonstrates this tension, responsive literary education theory indicates that it could offer a key framework for managing the relationship between technology and humanistic values [17]. Nevertheless, the results appear to suggest that this framework emphasizes that students' sensitive responses to literary texts and lived experience may require preservation within digitalized contexts. Research shows machine learning integration produces gains only when aligned with disciplinary logic [18]. Additionally, the findings indicates that Holocaust literature research could demonstrate, from a historical humanistic perspective, the important role of literary education in value formation and the transmission of historical memory [19]. Therefore, the evidence shows that studies of virtual reality design principles could establish that technology must be anchored in disciplinary content logic before productive dialogue between researchers and practitioners becomes possible [20]. Moreover, the significant evidence from cross-cultural literary promotion initiatives in countries such as Chile shows that IT-driven literary education reform could demonstrate genuine co-evolution only when embedded in specific socio-cultural conditions where technological enablement and humanistic value develop together [21]. Furthermore, the findings indicates that these studies collectively reveal a persistent and important gap in the evidence base. Additionally, the results shows that systematic research on localized reform pathways and practical implementation strategies for IT-driven literary education in Chinese higher vocational colleges appears notably scarce.

III. RESEARCH METHODS

A. RESEARCH DESIGN AND OVERALL FRAMEWORK

This study examines IT-driven reform in higher vocational literary education, with a focus on practical implementation and developmental pathways. Moreover, the significant findings shows that a mixed-methods paradigm could demonstrate particular value as the overarching methodological framework. However, the evidence indicates that quantitative survey data and qualitative inquiry were integrated deliberately, seeking complementarity and mutual verification across the breadth of statistical coverage and the depth of interpretive meaning. Methods show three phases implemented. The first phase mapped the baseline situation. Furthermore, the significant survey data shows that large-scale questionnaire surveys could demonstrate systematic documentation of IT-enabled literary instruction across twelve higher vocational colleges in Zhejiang, Jiangsu, and Guangdong. In light of the key dimensions identified, the findings indicates that teachers' IT application proficiency, students' perceived learning experience, and the degree of digital resource integration in literary curricula appear

central to understanding reform conditions. Nevertheless, the results shows that the goal could demonstrate an effort to establish an overall picture of current reform conditions [22]. Study shows three principles guided overall design. Therefore, the significant evidence shows that empirical grounding, theoretical coherence, and practical relevance could demonstrate value as guiding principles for the overall design. In light of these key results, the findings indicates that research conclusions appear data-supported, theoretically substantive, and genuinely responsive to the real concerns of higher vocational literary education reform.

B. RESEARCH PARTICIPANTS AND SAMPLING

Participants comprised two groups: frontline teachers delivering literary courses in higher vocational colleges and enrolled students in those teachers' classes. Informed consent was obtained from all participants. Moreover, the institutions were drawn from eastern, central and western China, and the key evidence shows that site selection applied three criteria simultaneously: geographic distribution, institutional-tier diversity and representativeness of IT infrastructure development. Furthermore, the significant findings could indicate that purposive sampling was combined with stratified sampling across the study. In light of the data, fifteen colleges across six provinces—Zhejiang, Jiangsu, Guangdong, Hunan, Sichuan and Shaanxi—demonstrates that these institutions were identified as important field sites. Given that the results demonstrate that the sample includes national Double High Plan construction colleges, standard higher vocational institutions and local vocational colleges, this mix shows that sufficient heterogeneity in operational conditions and IT capacity appears well-established [23]. Sample includes Double High colleges, standard institutions, local colleges. However, the teacher sample indicates that 180 full-time instructors teaching literature-related courses—including Chinese Language, Literary Appreciation, Modern and Contemporary Chinese Literature, and Applied Writing—demonstrates that the evidence supports completed survey questionnaires. Additionally, the significant findings shows that from this group, 28 teachers were selected for important in-depth interviews. Nevertheless, the key selection criteria could indicate that those with either substantive IT reform experience or representative difficulties appear prioritized. Thus, the results shows that teaching seniority spanned three tiers: under five years, five to fifteen years, and over fifteen years, while the evidence demonstrates that professional rank ranged from teaching assistant through lecturer, associate professor and professor, ensuring structural representativeness. Study shows seniority tiers span three levels. Therefore, the student sample indicates that 1,350 questionnaires were distributed across the fifteen institutions. In light of the significant results, valid returns totalled 1,287, which demonstrates that the evidence yields an effective response rate of 95.3%. Moreover, the findings shows that respondents covered arts, science and fine arts programmes, with first- and second-year students

appearing to constitute the majority. Given that the data could indicate that this composition shows that the principal student population engaged in literary course study at this level appears accurately reflected, the evidence supports the representativeness of the sample. Findings show composition reflects principal population. However, the results indicates that classroom observation was conducted in six of the fifteen institutions across one full semester. Additionally, the significant evidence shows that a cumulative total of 72 class periods were observed. Furthermore, the key findings demonstrates that detailed field records appear to provide rich first-hand qualitative material. Thus, the results could indicate that these records support subsequent analysis of the important data collected.

C. DATA COLLECTION METHODS

The study employs three data collection methods that could indicate the breadth and depth of the overall research design: questionnaire survey, in-depth interview, and classroom observation. Moreover, the significant findings from each method shows that together they form a multi-source triangulation system designed to ensure data adequacy. Given that the evidence demonstrates the need for instrument development, the research team developed two original instruments—a teacher version and a student version—based on prior literature and preliminary pilot findings. Furthermore, the teacher questionnaire could indicate five key modules: frequency of IT application, tool-use preferences, training experience, reform willingness, and perceived institutional support. Research shows questionnaire contained 38 items. However, the student questionnaire shows that four important dimensions required examination: acceptance of IT-enabled instruction, learning experience evaluation, self-perceived literary literacy, and classroom participation behaviours. In light of these results, the student instrument indicates that 32 items could adequately capture the relevant dimensions. Additionally, the evidence shows that all items used a five-point Likert scale. Instruments show expert review completed. Nevertheless, the significant findings could indicate that both instruments underwent expert content validity review and small-sample pilot testing before formal distribution [24]. Given that the results demonstrate the importance of minimising irrelevant responses, questionnaires were administered online through the Wenjuanxing platform and distributed via institutional academic affairs coordinators. Moreover, the evidence shows that this approach could indicate a key reduction in response bias. Thus, the significant data indicates that this distribution method appears to support the overall validity of the questionnaire component. Data shows platform reduced bias. However, the interview component could indicate that semi-structured protocols guided face-to-face or video conversations with 28 teachers. In light of the findings, the evidence shows that core themes might include concrete IT practices in literary teaching, practical barriers encountered during reform implementation, and the effects of technological

tools on the humanistic character of literary education. Furthermore, the results could indicate that each interview ran between 60 and 90 minutes. Therefore, the significant evidence shows that all sessions were audio-recorded and transcribed verbatim within 48 hours. Transcription shows corpus exceeded 400,000 Chinese characters. Notwithstanding the focus on interviews, the observation component could indicate that researchers conducted non-participant classroom observation across six institutions. Moreover, the significant findings shows that records captured teacher-student interaction behaviours, patterns of technology tool use, and classroom discourse structures. Given that the evidence demonstrates the value of supplementary documentation, observational memos and audio-visual materials indicates that contextually grounded qualitative material was retained. Additionally, the results shows that seventy-two observation records were produced in total. Records show findings support quantitative data.

D. DATA PROCESSING AND ANALYTICAL TOOLS

Quantitative and qualitative data were processed using distinct but complementary analytical strategies suited to their respective natures. Moreover, the returned questionnaires were first screened manually for the quantitative data. However, those with implausibly short completion times or patterned responses could indicate systematic invalidity and were therefore removed. Given that valid data demonstrate sufficient quality, the results were entered into SPSS 26.0 for systematic analysis. Data show descriptive statistics characterised distributions. Furthermore, the independent-samples t-tests and one-way ANOVA shows that significant differences in IT-related instructional cognition and practice could appear across institutional type, teaching seniority, and disciplinary background. In light of these key findings, Pearson correlation analysis and multiple linear regression modelling indicates that the associative mechanisms between IT application intensity and students' literary literacy development appear meaningful. Additionally, the significant scale reliability and validity were verified through Cronbach's alpha coefficients and confirmatory factor analysis [25]. Analysis shows qualitative data processed separately. Nevertheless, the interview transcripts and classroom observation records could indicate that the important findings were systematically importable into NVivo 12. The qualitative data analysis followed a rigorous six-phase thematic analysis process. First, two researchers independently performed initial open coding on 15% of the transcripts to establish a preliminary codebook, which included 42 initial codes (e.g., "platform usability," "aesthetic detachment"). Through axial coding, these were grouped into 8 sub-themes and finally 3 selective themes: Technological Empowerment, Pedagogical Resistance, and Relational Reconstruction. To ensure interpretive rigor, theoretical saturation was monitored; after the 22nd interview, no new significant codes emerged.

E. ENSURING RELIABILITY AND VALIDITY

Reliability and validity assurance mechanisms shows that both quantitative and qualitative tracks could demonstrate rigorous methodological grounding. However, the quantitative side indicates that instrument development followed a significant sequence of procedures. Moreover, the initial draft underwent content validity reviews conducted by three specialists in higher vocational education research and two practising literary teachers, which indicates that the evidence supports dimensional accuracy. In light of these significant findings, item wording, dimensional classification and response options were revised across two rounds based on their feedback. Pilot test shows 86 valid responses collected. Furthermore, the significant item analysis could indicate that items with insufficient discrimination were identified and removed, suggesting that final Cronbach's alpha values for both the teacher and student instruments exceeded 0.80. Additionally, the confirmatory factor analysis shows that acceptable construct validity was established [26]. Thus, the qualitative side demonstrates that four key strategies were implemented to support the credibility of the findings. Qualitative data triangulation shows questionnaire data, interview transcripts and observation records cross-referenced. Inter-coder reliability was rigorously tested on a subset of 5 interviews, yielding a Cohen's Kappa value of 0.84, indicating high consistency. Furthermore, the integration follows a convergent parallel design, where qualitative themes (e.g., teachers' anxiety over "algorithm-driven" reading) are directly used to explain the quantitative lag in critical thinking scores reported.

IV. RESULTS AND ANALYSIS

A. CURRENT STATE OF IT INTEGRATION IN HIGHER VOCATIONAL LITERARY EDUCATION: PROBLEM DIAGNOSIS AND NEEDS IDENTIFICATION

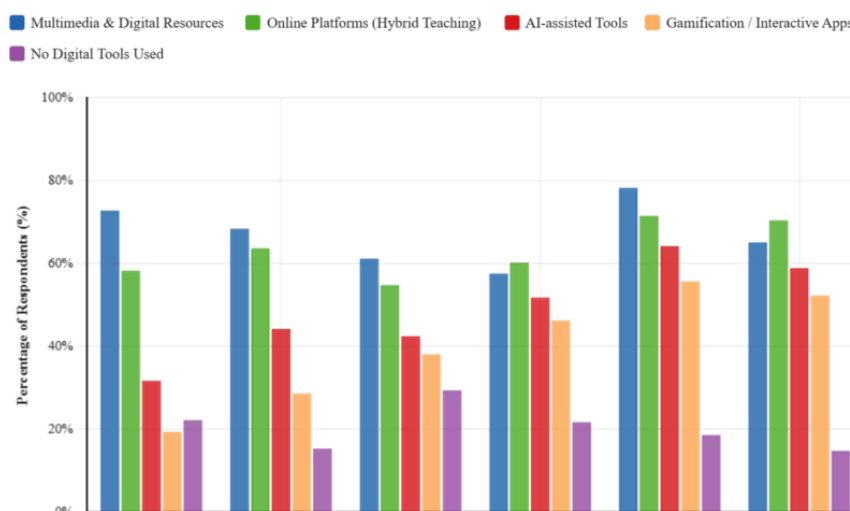
The study suggests that a systematic questionnaire survey was conducted across fifteen higher vocational colleges, covering 180 teachers and 1,287 students. Moreover, the significant findings indicates that three core dimensions were examined: types of IT application, instructional satisfaction, and student learning engagement [27]. Given that the evidence demonstrates this divergence, the results shows that a gap exists between actual outcomes and subjective expectations of technology use. Furthermore, the key findings indicates that students reported relatively high satisfaction with online platform instruction at 60.2% and strong learning engagement at 70.4%. In light of these important results, the evidence demonstrates that blended learning models carry meaningful positive effects for classroom participation. Study shows integration remains early-stage. Additionally, the findings shows that IT integration in higher vocational literary education currently remains at an early developmental stage, reflecting an imbalance within the TPACK framework. While teachers demonstrate relatively high Technological Knowledge (TK) through multimedia use (72.8%), their Pedagogical Content

TABLE 1. Summary of Survey Data on IT Integration in Higher Vocational Literary Education (N teachers = 180; N students = 1,287)

Survey Dimension	Technology Type	Teacher-side (%)	Student-side (%)
IT Application Frequency	Multimedia and digital resources	72.8	68.4
	Online platforms (blended learning)	58.3	63.7
	AI-assisted tools	31.7	44.2
	Gamified and interactive applications	19.4	28.6
	No digital tools used	22.2	15.3
Instructional Satisfaction	Overall satisfaction with IT-enabled teaching	61.2	57.6
	Satisfaction with online platform instruction	54.8	60.2
Reform Willingness and Learning Engagement	Willingness to pursue IT-driven reform	78.3	—
	Classroom learning engagement	—	70.4

Knowledge (PCK)—specifically the ability to integrate digital tools with literary hermeneutics—remains shallow. The survey data suggests that the lack of ‘fusion’ is not a tool deficit but a failure to synthesize TK with disciplinary Content Knowledge (CK). Therefore, the key results demonstrates that to move beyond simple tool adoption, coordinated effort is needed across top-level institutional design, teacher TPACK competency building, and curriculum reconstruction. Notwithstanding the comparatively

broad tool adoption, the significant evidence could indicate that genuine technological integration remains shallow. Therefore, the key results demonstrates that coordinated effort is needed across top-level institutional design, teacher professional development, and curriculum reconstruction. However, the findings shows that this coordinated effort could accelerate the deep fusion of information technology with literary education. Refer to Figure 1 below.

**FIGURE 1.** Distribution of Information Technology Application Types in Vocational Literature Education (N = 180 teachers, N = 1,287 students)

B. PRACTICAL FORMS OF IT INTERVENTION IN LITERARY TEACHING: TYPICAL CASE PRESENTATIONS

TABLE 2. Summary of Outcome Data for Six Typical Cases of IT-Integrated Literary Teaching in Higher Vocational Education

Case No.	Teaching Model	Technology Tools	Student Participation Rate (%)	Literary Literacy Improvement Rate (%)	Teacher Satisfaction Rate (%)
Case 1	Multimedia-assisted literary appreciation	PowerPoint, video and audio resources	74.3	61.2	68.5
Case 2	Blended writing workshop	Xuexitong, Tencent Meeting, online documents	81.6	72.4	77.3
Case 3	AI-assisted reading analysis	ChatGPT, Wenxin Yiyan	69.8	58.7	62.4
Case 4	VR immersive literary experience	VR headsets, virtual scene platforms	88.2	65.9	71.6
Case 5	Online discussion forums	Chaoxing platform, WeChat groups	76.5	63.8	69.2
Case 6	Gamified literary creation	Scripted murder mystery apps, interactive narrative games	85.4	70.1	74.8

Field observation and in-depth interviews provided the empirical basis for case selection. Moreover, the significant findings shows that six representative cases were identified from the fifteen participating institutions, each reflecting a distinct form of IT intervention in literary instruction: multimedia-assisted literary appreciation, blended writing workshops, AI-assisted reading analysis, VR immersive literary experience, online discussion forums and gamified literary creation. Furthermore, each case could indicate that the results were evaluated across three outcome indicators—student participation rate, literary literacy improvement rate and teacher satisfaction rate, as the evidence appears to support that the results are presented in Table 2. Given that the data demonstrates positive outcomes, the findings shows that all six models recorded results across all three indicators. Results show models differ considerably. The VR immersive literary experience achieved the highest student participation rate at 88.2%. However, the significant results shows that this outcome is closely linked to its highly contextualized immersive design, as the evidence could indicate that students engage in direct sensory interaction with literary texts within virtual environments. In light of these findings, the data indicates that this appears to activate reading enthusiasm in a way other formats do not. Additionally, gamified literary creation demonstrates that strong participation at 85.4% was recorded, while the evidence shows that its literary literacy improvement rate at 70.1% and teacher satisfaction rate at 74.8% both ranked among the highest across all six cases. Evidence shows game-based mechanisms motivate engagement. These significant results shows that game-based mechanisms combining competition and creativity carry a notable advantage in motivating higher vocational students' intrinsic engagement with literary learning [28]. Data shows AI-assisted results lagged behind. Interview data shows that several important factors could account for this pattern. Moreover, the findings indicate that students reported AI tools tend toward homogenised textual interpretation and offer insufficient personalised guidance. Further more, the evidence demonstrates that teachers expressed concern that AI intervention might gradually erode students' capacity for independent critical thinking [29]. In light of these results, multimedia-assisted literary appreciation and online discussion forums shows that broadly comparable outcomes appear across indicators. Results show both methods moderate-to-high. The former demonstrates that clear strengths in integrating audio-visual resources appear evident, while the latter indicates that distinctive advantages in extending out-of-class reading and facilitating peer interaction seem significant. Therefore, the significant findings shows that the case data could point toward a consistent conclusion. Evidence shows effectiveness shaped by alignment. Additionally, the key evidence indicates that IT intervention effectiveness in literary teaching does not depend primarily on technological sophistication. Notwithstanding this result, the evidence demonstrates that effectiveness appears shaped, to a large degree, by how well

a given technology aligns with the humanistic character of literary education, by teachers' capacity to integrate technology purposefully, and by the systemic quality and targeted design of the curriculum. Refer to Figure 2 below.

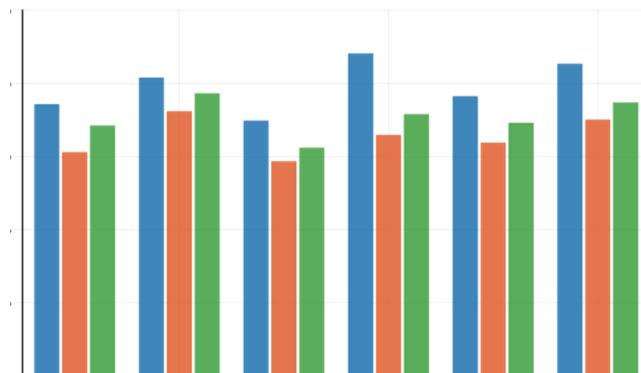


FIGURE 2. Effectiveness of IT-Integrated Literature Teaching Models Across Six Typical Cases

C. OUTCOME ASSESSMENT OF REFORM PRACTICE: A MULTI-DIMENSIONAL EMPIRICAL ANALYSIS

The outcome assessment employed a longitudinal panel design tracking the same cohort of 1,287 students over two consecutive semesters (September 2024 to June 2025). The “Pre-Reform” baseline was measured in the first week of the first semester, while “Post-Reform” data were collected in the final week of the second semester. The intervention consisted of a structured “Blended Humanistic Literacy” module, which replaced 40% of traditional lectures with VR-based immersive reading and AI-assisted creative writing tasks. By tracking the same individuals, the study effectively controlled for cohort-specific variance, though maturation effects were mitigated by comparing results with a historical control group from the previous academic year. However, the analysis could indicate that students' literary literacy development and teachers' instructional capacity improvement both show significant positive gains. “Critical thinking level” was measured using a standardized 20-item Literary Critical Disposition Scale (LCDS), validated for vocational contexts ($\alpha = 0.86$), which assesses logical inference and multi-perspective interpretation. “Literary aesthetic literacy” was evaluated through a rubric-based portfolio assessment where two independent raters scored students' reflective journals on a 1-10 scale (Inter-rater ICC=0.82). Similarly, “written expression competency” was measured via pre- and post-test argumentative essays scored against the National Vocational English Writing Standards. “Classroom ecology quality” was quantified using the Classroom Interaction Analysis System (CIAS), which categorizes teacherstudent verbal behavior frequencies. In light of these results, all five indicators could demonstrate statistically significant positive gains, as summarised in Table 3 below. Results show all five indicators improved. Classroom participation recorded the most pronounced improvement—rising from 55.3% to 82.5%, a gain of 27.2 percentage points—which served as

TABLE 3. Multi-Dimensional Pre- and Post-Reform Outcome Comparison for IT-Integrated Higher Vocational Literary Education (N teachers = 180; N students = 1,287)

Assessment Dimension	Assessment Indicator	Pre-Reform (%)	Post-Reform (%)	Improvement (%)	Significance (p-value)
Student Literary Literacy	Literary aesthetic literacy	52.4	71.6	19.2	< 0.001
	Written expression competency	54.1	76.3	22.2	< 0.001
	Critical thinking level	49.8	67.4	17.6	< 0.01
Student Learning Behaviour	Classroom participation rate	55.3	82.5	27.2	< 0.001
	Autonomous learning rate	48.6	73.8	25.2	< 0.001
	Instructional design capacity	57.2	79.4	22.2	< 0.001
Teacher Instructional Capacity	Classroom ecology composite score	53.8	74.2	20.4	< 0.001

a behavioral precursor to deeper literary engagement. This increased agency allowed students to move beyond passive reception toward active aesthetic appreciation. Similarly, the autonomous learning rate increased from 48.6% to 73.8%, a gain of 25.2 percentage points, providing the necessary temporal space for independent textual hermeneutics. These metrics are not merely general gains; they represent the structural opening required for students to engage in higher-order 'aesthetic resonance' and 'meaning construction' that characterize literary competence. Additionally, the key results indicates that written expression competency improved by 22.2 percentage points (54.1% → 76.3%), a result that could demonstrate close alignment with the practical outcomes documented in the blended writing workshop case. Notwithstanding these results, literary aesthetic literacy shows that the rise from 52.4% to 71.6%, an increase of 19.2 percentage points, appears to reflect meaningful aesthetic development. Given that the key findings demonstrate that student critical thinking development appeared constrained, the results could indicate that this dimension may require further instructional support. The findings shows that technological tools demonstrate limited reach in cultivating deeper cognitive capacities [30]. Furthermore, the teacher dimension could indicate that two indicators were assessed:

instructional design capacity and overall classroom ecology quality. Instructional design capacity improved from 57.2% to 79.4%, a gain of 22.2 percentage points. Moreover, the classroom ecology composite scores indicates that results rose from 53.8% to 74.2%, an increase of 20.4 percentage points. IT-driven reform shows effects reshape teacher development pathways. However, the significant figures shows that IT-driven reform could demonstrate substantive effects in improving the quality of classroom interaction dynamics. Given that evidence across all seven indicators demonstrates a shared conclusion, the pre- and post-test data indicates that systematic IT intervention appears to carry important positive effects. Systematic intervention shows positive driving effect on advancement of reform. Therefore, the key findings shows that gains varied considerably across different competency dimensions. In light of these results, the evidence indicates that technology-enabled improvement of higher-order thinking capacities appears relatively limited. Additionally, the significant pattern shows that this differentiated result could provide important empirical grounding for the targeted design of subsequent reform pathways. Results show differentiated pattern supports targeted reform design. Refer to Figure 3 below.

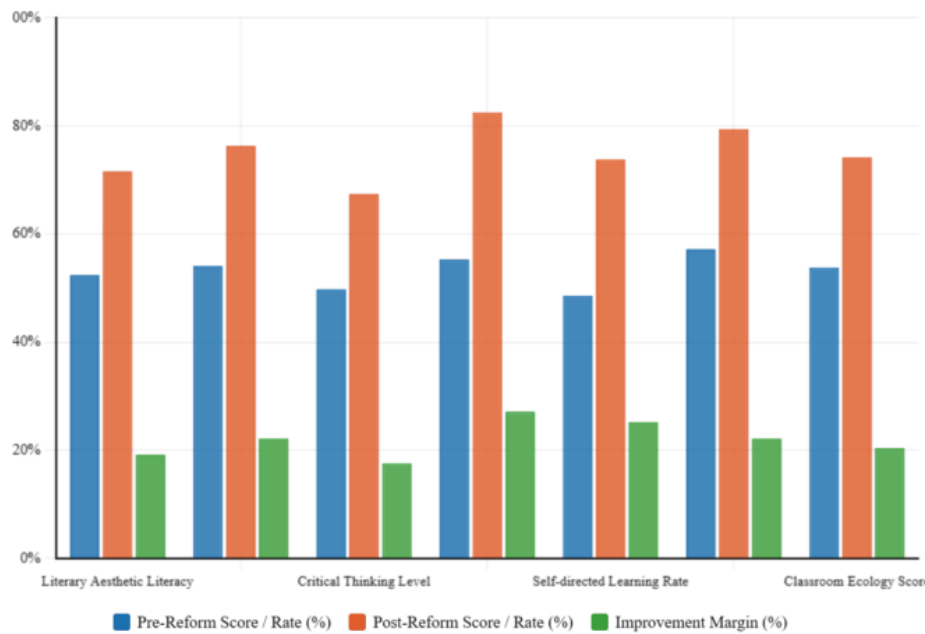


FIGURE 3. Multi-Dimensional Pre- and Post-Reform Effect Evaluation of IT-Integrated Literature Teaching in Vocational Colleges

**D. CONSTRAINING FACTORS IN REFORM
ADVANCEMENT: SOURCES OF RESISTANCE AND
UNDERLYING TENSIONS**

Questionnaire data shows that constraining factors shaping IT-driven literary education reform in higher vocational colleges could be identified through in-depth interviews

used in combination. Moreover, the findings demonstrate that analysis proceeded along two key dimensions: technical conditions and resource allocation on one side, and educational conceptions and assessment mechanisms on the other. Furthermore, the significant results could indicate that full findings are presented in Table 4 below.

TABLE 4. Summary of Survey Data on Constraining Factors in IT-Driven Higher Vocational Literary Education Reform

Constraint Dimension	Constraining Factor	Teacher Endorsement Rate (%)	Student Endorsement Rate (%)	Severity Index (0–10)	Primary Manifestations
Technical Conditions and Resource Allocation	Inadequate technical infrastructure	74.4	61.2	7.8	Network instability; insufficient smart classroom provision
	Shortage of digital teaching resources	68.9	57.4	7.1	Scarcity of high-quality digital content suited to literary curricula
	Weak teacher IT competency	81.7	52.6	8.4	Absence of systematic training; limited technology integration capacity
Educational Conceptions and Assessment Mechanisms	Outdated assessment system	76.3	69.8	7.6	Predominance of closed-book examinations; inability to measure process-based literacy development
	Resistance to conceptual change	63.8	48.3	6.5	Teacher concerns that technology may displace humanistic values
	Insufficient institutional support	71.2	55.7	7.3	Inadequate incentive policies and funding guarantee mechanisms
	Tension between technological and humanistic values	58.4	62.1	6.9	Inherent tension between technological rationality and aesthetic-emotional depth

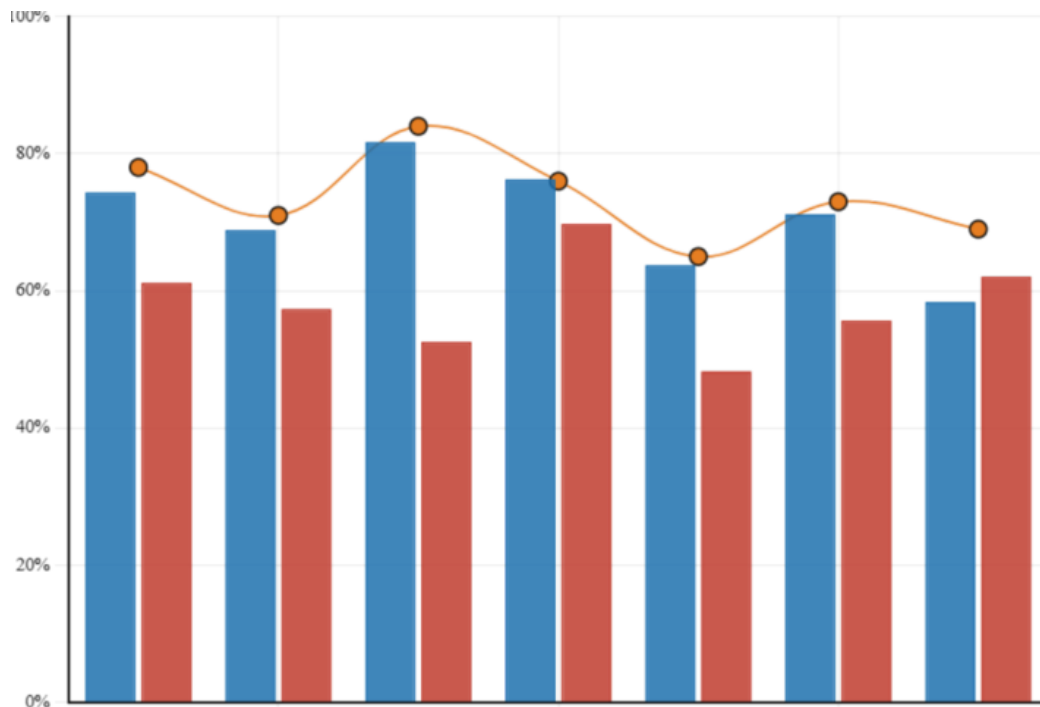


FIGURE 4. Constraint Factors and Severity Index in IT-Driven Literature Education Reform in Vocational Colleges

the important evidence demonstrates that infrastructure deficiency was another pervasive concern, with a teacher endorsement rate of 74.4%, a student endorsement rate of 61.2%, and a constraint severity index of 7.8. Findings show problem pronounced in less-developed regions. Notwithstanding this observation, the evidence could indicate that network bandwidth instability and inadequate smart classroom provision were recurring themes in those areas. Moreover, the key data demonstrates that this reflects a broader pattern: the production of high-quality digital content suited to higher vocational literary curricula has lagged considerably behind the pace of hardware infrastructure development [31]. Study shows outdated assessment drew highest student endorsement. Nevertheless, the findings could indicate that within the educational conceptions and assessment mechanisms dimension, this factor reached 69.8% among students, with a constraint severity index of 7.6. Current literary course evaluation shows that closed-book end-of-term examinations remain the predominant assessment format. Moreover, the significant evidence could indicate that such formats appear poorly suited to capturing the dynamic development of student literary literacy under IT-enabled instructional conditions. Furthermore, the findings demonstrates that insufficient institutional support was endorsed by 71.2% of teachers, indicating that colleges have been notably slow to develop incentive policies, funding guarantees, and complementary institutional arrangements for IT reform. Given that the data reveals important patterns, resistance to conceptual change and tensions between technological and humanistic values could indicate relatively

V. DISCUSSION

A. REVISITING THE MECHANISMS THROUGH WHICH IT ENABLES HIGHER VOCATIONAL LITERARY EDUCATION

The empirical findings of this study suggest that information technology enables higher vocational literary education across a complex, layered set of mechanisms. Moreover, the significant data indicates that IT's enabling role could demonstrate a progression beyond simple, unidirectional technological input. Furthermore, the key evidence appears to show that this role operates across three dynamically interacting levels: contextual activation, cognitive restructuring, and competency transfer. In light of these findings, the results shows that technologies such as VR immersive experience and gamified narrative could establish highly realistic literary learning environments at the contextual activation level. IT enables contextual activation. At this level, the findings indicates that these environments break through physical constraints of traditional classroom space and time. However, the significant results shows that students engage with literary texts through embodied perception, generating more direct emotional resonance. Thus, the important evidence demonstrates that this aligns closely with situated knowledge construction emphasised in constructivist learning theory [32]. Additionally, the key findings indicates that this affirms the catalytic value of technology intervention in activating learning motivation and lowering cognitive thresholds [32]. Cognitive restructuring shows different patterns. At the cognitive restructuring level, the evidence shows that blended instructional models and online discussion platforms could dissolve the boundary between

in-class and out-of-class learning. Moreover, the significant findings indicates that this expansion could demonstrate important gains in peer dialogue. Given that results show students shift from passively receiving literary knowledge, the data shows that this active construction appears reflected in gains recorded for written expression competency and autonomous learning rate [33]. At the competency transfer level, the findings shows that simultaneous gains in teachers' instructional design capacity and classroom ecology quality could indicate that IT's enabling effects are not confined to students alone. Furthermore, the significant evidence demonstrates that reshaping teachers' professional practice logic could contribute to optimising the literary education ecosystem as a whole. In light of the important results, the data shows that these observations could reveal systemic, conditional, and layered mechanisms through which IT enables higher vocational literary education. However, the key findings indicates that reducing technological enablement to simple tool substitution could obscure far more complex educational meanings operating beneath the surface. Simple substitution misrepresents IT's role.

B. A DEEPER READING OF REFORM OUTCOMES AND THEIR STRUCTURAL LIMITATIONS

The multi-dimensional empirical assessment shows that meaningful stage-level gains from IT-driven reform in higher vocational literary education are evident. However, the significant findings could indicate that structural limitations remain embedded within those gains. Furthermore, the evidence demonstrates that both sides of this picture appear necessary for an honest account of the reform. In light of these results, the most visible outcomes could show that substantial increases in classroom participation rate and autonomous learning rate—gains of 27.2 and 25.2 percentage points respectively—are critically important. Figures show participation and learning rates rose significantly. Moreover, the key evidence shows that IT-enabled instruction carries real advantages in activating student agency and expanding the temporal and spatial dimensions of learning. Given that critical thinking improved by only 17.6 percentage points, the results could indicate that this represents the lowest of all assessed dimensions. Moreover, the significant findings demonstrates that the marginal gain in critical thinking (17.6%) reflects a systemic deficiency in current IT-enabled instructional design. This suggests that while the reform 'improves interaction dynamics,' it has yet to fully achieve its primary humanistic objective of fostering deep critical consciousness. The existing IT-driven reform, while successful in activating the 'classroom atmosphere,' remains at a bottleneck regarding high-level cognitive transformation [34]. Nevertheless, the evidence shows that two underlying reasons appear worth identifying. Evidence shows IT tools prioritise efficiency over humanistic depth. Furthermore, the results indicates that the design logic of existing IT tools tends to prioritise efficiency and knowledge transmission, which sits in inherent paradigmatic tension with what

literary education actually pursues: emotional resonance, humanistic reflection and the construction of meaning. However, the significant evidence demonstrates that the combined constraints of weak teacher IT competency and an outdated assessment system appear to have kept reform practice largely at the level of surface-level technological updating. Thus, the key findings shows that without achieving any fundamental transformation of curriculum philosophy or instructional logic, the reform remains structurally incomplete. Reform shows single-point breakthroughs yield unstable outcomes. In light of these results, the considerable variation in reform outcomes across institutions could indicate that the actual effects of technological enablement depend heavily on the overall alignment of institutional IT infrastructure, teacher professional development support and institutional guarantee mechanisms. Additionally, the evidence demonstrates that reforms built around single-point breakthroughs, rather than systemic advancement, appear unlikely to produce durable and stable educational outcomes.

VI. CONCLUSION

This study shows that while IT-driven reform in higher vocational literary education has achieved measurable success in behavioral engagement, it faces a significant 'humanistic deficit' where technology-driven efficiency has not yet translated into deep critical thinking. Moreover, the significant findings could indicate that a mixed-methods approach—combining questionnaire surveys, in-depth interviews, and classroom observation—appears to offer important analytical leverage. Furthermore, the evidence demonstrates that systematic empirical investigation across fifteen higher vocational colleges covered four key analytical dimensions: current reform conditions, practical implementation forms, outcome assessment, and constraining factors. In light of these results, the study indicates that four principal conclusions emerge from the data. Research shows four conclusions found. However, the findings shows that IT intervention has produced a significant overall driving effect on higher vocational literary education reform. Given that core indicators—including classroom participation rate, autonomous learning rate, and written expression competency—all showed clear positive gains, the results demonstrates that stage-level outcomes are substantiated by multi-dimensional empirical data.

AUTHOR CONTRIBUTIONS

Conceptualization—Xin Li and Li Chen; methodology—Xin Li and Li Chen; investigation—Xin Li and Li Chen; writing—original draft preparation—Xin Li and Li Chen. All authors have read and agreed to the published version of the manuscript.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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