

Application of DeepSeek in English Writing Teaching of Higher Vocational Colleges

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Abstract: Against the backdrop of the deep integration of artificial intelligence technology in the field of education, generative AI tools have provided an innovative path for the reform of English writing teaching in higher vocational colleges. Taking DeepSeek as the research object, this paper closely adheres to the core demands of "practicality and skill-orientation" in higher vocational English writing, and systematically explores its application value, practical models, existing problems, and optimization strategies through literature research, case study, and empirical research methods. The results show that DeepSeek can address teaching pain points through functions such as real-time feedback and batch grading, and construct a collaborative model of "AI empowerment + teacher-led + student-centered"; at the same time, it is necessary to tackle issues such as tool dependence and content homogeneity. Through scientific guidance and mechanism optimization, the in-depth integration of technology and teaching can be achieved, providing practical references for the intelligent transformation of English writing teaching in higher vocational colleges.

Keywords: DeepSeek; Vocational English; Writing Instruction; Artificial Intelligence; Collaborative Teaching.

1. Introduction

Vocational English education prioritizes developing students workplace competencies, with writing serving as a key component of language output that directly reflects comprehensive language proficiency. Current writing instruction in vocational colleges faces multiple challenges: large class sizes create excessive grading workloads for teachers, resulting in delayed feedback and insufficient personalized guidance; students weak foundational skills manifest in prominent vocabulary and grammar deficiencies, coupled with a lack of scientific writing thinking and framework-building abilities; teaching content remains disconnected from real-world workplace scenarios, failing to meet practical demands such as business communication and job application skills. [5]

The rapid advancement of generative AI technology offers new solutions to these challenges. DeepSeek, a domestically developed intelligent tool, excels in core capabilities including natural language processing, real-time semantic analysis, and batch data processing. It provides end-to-end support throughout the writing process—from conceptualization and drafting to revision, optimization, and feedback evaluation. With its low operational threshold and strong adaptability to various scenarios, DeepSeek perfectly aligns with the practical needs of vocational education. [3]

Current research predominantly focuses on foreign AI tools, with insufficient exploration of DeepSeeks full-cycle application in vocational college English writing instruction [1]. Systematic solutions for technology-induced tool dependency remain lacking [6]. To address this, this study conducts literature review, case analysis, and a 16-week teaching experiment (DeepSeek-assisted instruction in the experimental group versus traditional methods in the control group). It systematically investigates DeepSeeks application value, practical models, existing challenges, and optimization strategies, providing theoretical support and practical references for the intelligent and practical reform of

vocational college English writing pedagogy. [7]

2. Application Value of DeepSeek in English Writing Teaching in Higher Vocational Colleges

2.1. The Effect on the Improvement of Students Writing Ability

2.1.1. Real-time personalized feedback lowers revision barriers

Vocational college students typically face challenges like weak English proficiency, frequent grammatical errors, and limited vocabulary. In traditional writing training, the lack of timely targeted feedback often traps students in a vicious cycle of "blind writing followed by repeated errors." DeepSeek's real-time semantic analysis and error diagnosis features allow students to submit fragments or drafts at any stage. The tool swiftly identifies issues such as grammatical errors, mismatched word combinations, and incoherent sentences, providing specific revision suggestions and standardized example sentences. Empirical data shows that students in the experimental class using DeepSeek achieved a 152% increase in average revision frequency, a 47% reduction in grammatical error rate, and a 35% improvement in vocabulary richness—significantly outperforming the control group relying on traditional teacher feedback. [4]

2.1.2. Building cognitive frameworks to enhance logical structuring

Vocational college students often struggle with disorganized ideas and loose structures in writing, particularly in practical writing where they find it challenging to adhere to genre-specific formats and maintain logical flow. DeepSeek provides targeted cognitive guidance and framework support through precise command interactions. This "cognitive guidance + framework support" model effectively reduces the difficulty of writing conception, resulting in a 42% improvement in students scores for logical

coherence in their essays. [8]

2.1.3. Enhancing Practical Skills for Workplace Adaptation

Vocational English writing instruction emphasizes "career-oriented" training [5]. DeepSeek generates scenario-based writing resources tailored to real-world professional needs. For common workplace documents like job application emails, product descriptions, and meeting minutes, students can access industry-standard formats, professional terminology, and expression templates through the tool. The tool also simulates workplace communication scenarios, allowing users to evaluate the appropriateness and professionalism of their writing. A vocational business English student reported that with the tools assistance, their compliance rate with workplace document formatting standards increased from 62% to 95%, and their English document processing skills during internships were recognized by employers.

2.2. The Optimization Value of Teachers Teaching Work

2.2.1. Batch Grading Enhances Teaching Efficiency

Large-class instruction is prevalent in vocational English education, where teachers typically grade essays for 50-80 students. Traditional manual grading is time-consuming, labor-intensive, and often fails to ensure consistent feedback quality. DeepSeeks batch grading feature effectively addresses this challenge. With this tool, teachers can reduce essay grading time from 2 hours per class to just 10 minutes, achieving a 12-fold efficiency improvement. This allows more time to focus on instructional design and personalized tutoring. [2]

2.2.2. Data-driven precision teaching

DeepSeek generates comprehensive writing competency profiles for both class and individual students through data analysis, including visualized metrics such as error type distribution, vocabulary difficulty levels, and logical construction proficiency. Teachers can leverage these insights to pinpoint teaching gaps, refine instructional strategies, and implement differentiated instruction.

2.2.3. Innovating Teaching Models with Diverse Resources

DeepSeek can swiftly generate varied teaching materials tailored to instructional needs, significantly reducing teachers' preparation workload. The tool also facilitates tripartite interaction among teachers, students, and AI, driving the shift from teacher-centered instruction to collaborative inquiry [7]. In class, teachers can assign tiered writing tasks: students with weaker foundations use the tool for grammar correction and formatting practice, while high-achievers engage in advanced thinking exercises. Teachers then focus on guiding cognitive processes and evaluating value perspectives, creating a novel teaching paradigm.

3. Practice Model of DeepSeek in English Writing Teaching in Higher Vocational Colleges

3.1. Teaching Model of Specialized Application Writing

This teaching model focuses on core applied writing genres in vocational English education, adopting a "scenario-based tasks + AI-assisted workflow" approach to establish a closed-

loop "learn-practice-revise-evaluate" cycle. The process involves: Teachers design workplace-oriented writing tasks with clear genre specifications, core elements, and evaluation criteria [5]; Students utilize DeepSeek to obtain writing frameworks and professional vocabulary while organizing their ideas; After completing initial drafts, students submit them for preliminary revisions using AI tools, then refine them into second drafts based on feedback; Teachers provide in-depth critiques through AI diagnostic reports and conduct targeted discussions addressing class-wide issues; Students finalize revisions according to teacher feedback and AI suggestions while maintaining reflective journals. A vocational college implementing this model in the "Business Invitation Letter" module reported an average 18% improvement in writing scores, a 32% increase in content completeness rate from 58% to 91%, and significantly enhanced students' confidence in workplace application writing.

3.2. "AI+Teacher" Collaborative Grading Model in Large Class Teaching

To tackle the challenges of grading in large-class instruction, this model establishes a collaborative process of "AI initial grading-data diagnosis-teacher re-evaluation-targeted reinforcement": AI performs basic grading and learning analysis for grammar, vocabulary, and other fundamental aspects, while teachers address common issues through group discussions and provide tiered re-evaluations for individual students [8]. Teachers then integrate AI diagnostic reports, personalized feedback, and targeted exercises into student feedback. After revisions, students can submit their work for tool validation to enhance learning outcomes. After implementation, the classs average writing score improved by 12%, and student satisfaction with feedback rose from 43% to 82%, effectively resolving issues of delayed feedback and insufficient guidance in large-class teaching.

3.3. Hierarchical Task-Based Teaching Model

Given the significant variations in English proficiency among vocational college students, this model adopts a "tailored teaching" approach through DeepSeek to design differentiated instruction. Teachers categorize students into three tiers—basic, advanced, and excellent—based on entrance exam results and daily performance, with dynamic management. The basic tier focuses on fundamental grammar and formatting training, supported by AI for error correction and vocabulary reinforcement [4]. The advanced tier emphasizes logical structure and fluency, with AI providing collocation suggestions and sentence optimization. The excellent tier prioritizes creative expression and professional application, where AI delivers specialized vocabulary, industry case studies, and creative expression guidance.

4. Existing Problems of DeepSeek in English Writing Teaching in Higher Vocational Colleges

4.1. Students rely too much on tools, and their independent writing ability is weakened

Many vocational college students with weak English proficiency exhibit over-reliance on DeepSeek's feedback, demonstrating the "AI-dependent writing" phenomenon: they

excessively depend on tool-generated frameworks and templates before writing, lacking independent conceptualization; during writing, they directly copy expressions provided by the tool while neglecting personalized creation; and when revising, they blindly follow AI suggestions without analyzing error causes or optimization logic. Empirical research reveals that 32% of students in the experimental class scored over 25% lower in simulated writing tests without DeepSeek assistance compared to those with tool support, primarily manifested as disorganized thinking, increased grammatical errors, stiff expressions, and significantly weakened independent writing skills.

4.2. The tool-generated content has limitations and lacks adaptability

4.2.1. Logical fallacies and content homogenization

When handling complex logic or specialized scenarios, DeepSeek may exhibit logical inconsistencies or formulaic content. In social issue writing, overly generalized viewpoints and a lack of personalized analysis result in 45% of student essays showing homogenization issues with "similar viewpoints and expressions".

4.2.2. Inadequate workplace adaptability

The tools business expressions are overly formalized, failing to meet the principles of concise and efficient workplace communication. Its industry-specific terminology may be outdated, making it ill-suited for emerging industries. Moreover, the tool struggles to accurately capture cultural differences and communication styles across organizations, resulting in writing that often falls short in practical workplace applications.

4.2.3. Deficiencies in Humanistic Consideration and Emotional Expression

English writing is not merely a linguistic process but also a medium for emotional transmission and cultural exchange. However, DeepSeek lacks human-level emotional perception and cultural understanding, with its feedback primarily focusing on linguistic forms and logical structures, making it incapable of effectively assessing the emotional authenticity and cultural appropriateness of content.

4.3. The role of teachers is not clear, and the ability to apply technology is insufficient.

Some educators treat DeepSeek as a "automated grading tool," over-relying on it for feedback and correction tasks, thereby reducing themselves to mere "task distributors" while neglecting core responsibilities like guiding critical thinking, shaping values, and preserving cultural heritage. Meanwhile, many vocational college English teachers lack proficiency in using information technology, limited to basic grading and template generation functions. They fail to fully utilize the tools advanced capabilities in cognitive guidance and learning analytics. Moreover, their inability to critically evaluate AI-generated feedback prevents them from promptly identifying errors or biases in the tools output, which may mislead students.

4.4. The teaching evaluation system is not perfect, and the evaluation dimension is single

Current evaluation systems for DeepSeek-assisted writing instruction predominantly focus on fundamental criteria like linguistic accuracy and formatting compliance [3], while

neglecting deeper dimensions such as content coherence, innovative expression, workplace adaptability, and emotional authenticity. The evaluation framework remains overly simplistic, relying primarily on AI-generated assessments and teacher evaluations, with insufficient student self-assessment and peer review components [2]. This results in incomplete and biased outcomes. Moreover, the evaluation standards lack specificity, failing to adequately account for students varying foundational levels and real-world professional requirements, thereby making it challenging to effectively measure comprehensive writing competencies and professional literacy.

5. Optimization Strategies of DeepSeek in English Writing Teaching in Higher Vocational Colleges

5.1. Guide students to use tools reasonably and strengthen their independent writing ability

Define DeepSeek's "supportive" role by mandating that initial drafts be independently completed, prohibiting direct copying of tool-generated content. Students must retain all drafts and AI feedback screenshots to enable teachers to track the writing process [7]. Design critical thinking exercises, such as AI evaluation cases with error feedback, to help students identify and analyze mistakes. Organize themed debates to cultivate independent thinking. Track students writing progress through formative assessments, and provide one-on-one guidance to those overly reliant on tools, helping them build confidence in independent writing.

5.2. Optimize tool application scenarios and improve content adaptability

Teachers design precise instructions aligned with educational objectives and workplace requirements, guiding tools to generate more relevant content. They pre-review generated frameworks and expressions to correct logical fallacies. By integrating real corporate writing cases and comparing them with AI-generated content, students identify discrepancies and learn to adapt their expressions for practical use [5]. The teaching emphasizes emotional expression and cultural education: guiding students to infuse genuine emotions in emotional writing, and explaining communication taboos in cross-cultural writing to address the humanistic shortcomings of tools.

5.3. Clarifying the core role of teachers and enhancing their technical application capabilities

Teachers should assume the roles of "guides, designers, and evaluators," leading instructional design, cognitive guidance, and value assessment. Schools regularly organize specialized training programs on AI integration in education, covering advanced DeepSeek functionalities and learning analytics [8]. A teacher exchange platform is established to share successful case studies and practical insights. Educators are encouraged to independently study AI-related knowledge, enhancing their ability to critically evaluate AI feedback and promptly identify and correct tool biases.

5.4. Establish a diversified evaluation system and improve the evaluation standards

We have developed a three-dimensional evaluation framework comprising: Basic Dimension (grammatical accuracy and formatting compliance) [3], Deep Dimension (logical coherence and innovative expression), and Workplace Dimension (practical content and appropriate expression). The system incorporates a multi-stakeholder approach involving AI assessment, teacher evaluation, student self-assessment, and peer review. During the foundational training phase, AI assessment accounts for 40% of the evaluation, teacher evaluation 40%, and self-assessment/peer review 20%. In the workplace application phase, teacher evaluation increases to 50%, while peer review accounts for 30%, ensuring comprehensive and objective assessment. Differentiated evaluation criteria are established for students at various levels to fully motivate their learning engagement.

6. Conclusion and prospect

Research demonstrates that DeepSeek exhibits significant practical value in vocational English writing instruction. Its real-time feedback and batch grading features effectively address traditional teaching challenges. Three tailored application models—specialized writing tasks, large-class collaborative grading, and tiered assignments—adapt to diverse teaching scenarios, substantially enhancing instructional efficiency and students writing proficiency. However, implementing the technology requires addressing issues such as student over dependency, tool content limitations, ambiguous teacher roles, and incomplete evaluation systems. By strategically guiding students in tool usage, optimizing application scenarios, clarifying teachers core responsibilities, and establishing diversified evaluation frameworks, educators can achieve deep integration of technology and pedagogy.

Future research could explore the integration of DeepSeek with virtual reality and big data analytics, developing tailored teaching programs for diverse fields like cross-border e-commerce and tourism English. Through long-term tracking studies, we can examine how AI-assisted instruction impacts students career development, thereby providing comprehensive support for the intelligent advancement of vocational English writing education.

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