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Constructing and Practicing a Precision Teaching Model for Business English Writing Course Empowered by AIGC

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Abstract

The advent of Artificial Intelligence Generated Content (AIGC), particularly large language models (LLMs), presents a transformative opportunity for addressing long-standing challenges in Business English Writing instruction. Traditional teaching models often struggle with providing timely, personalized feedback and creating authentic, scalable practice scenarios due to high teacher workload and heterogeneous student proficiency levels. This paper proposes a novel Precision Teaching model empowered by AIGC, designed to overcome these limitations. The model conceptualizes a dynamic teaching process comprising three core stages: AIGC-powered precise diagnostic analysis, AIGC-facilitated personalized learning cycles, and AIGC-assisted multidimensional holistic evaluation. It fundamentally redefines the roles of teachers and students, advocating for a "human-AI synergy" where AIGC handles repetitive tasks like initial drafting, grammar checking, and scenario generation, freeing teachers to focus on higher-order instruction such as critical thinking, strategic communication, and ethical application. A preliminary practice study conducted within an undergraduate Business English program demonstrated the model's efficacy in enhancing students' writing accuracy, genre awareness, and learning motivation. The study also revealed challenges, including prompt engineering proficiency and the need for AI literacy training. The paper concludes that the AIGC-empowered Precision Teaching model offers a viable and innovative pathway for achieving student-centered, data-informed, and practically oriented reform in Business English Writing education, while also highlighting imperative considerations for academic integrity and pedagogical adaptation.

Keywords: *AIGC; Business English Writing; Precision Teaching; Teaching Reform; Large Language Models (LLMs); Personalized Learning*

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1. Introduction

Business English Writing, as a core component of English for Specific Purposes (ESP), aims to equip students with the pragmatic skills necessary to produce effective written communication in international professional contexts (Nickerson, 2019). The desired learning outcomes extend beyond linguistic accuracy to encompass genre knowledge, rhetorical appropriateness, cultural sensitivity, and strategic clarity. However, the teaching of Business English Writing in many tertiary institutions faces significant practical challenges.

A primary obstacle is the "one-size-fits-all" instructional approach. In a typical classroom with diverse student proficiency levels, it is exceedingly difficult for instructors to provide individualized feedback and support to each learner. The intensive workload associated with reviewing and correcting drafts for large classes often results in delayed and sometimes superficial feedback, which diminishes its formative value (Hyland & Hyland, 2019). Secondly, there is often a disconnect between classroom exercises and authentic workplace demands. While textbooks provide structured templates, they frequently fail to replicate the dynamic, complex, and unpredictable nature of real-world business communication. This gap can leave students underprepared for the exigencies of their future careers. Lastly, traditional assessment methods, often summative and product-oriented, do not adequately capture or foster the developmental process of writing skills.

The rapid advancement of Artificial Intelligence Generated Content (AIGC), particularly the proliferation of powerful large language models (LLMs) like GPT-4, has begun to disrupt educational paradigms. These technologies offer unprecedented capabilities in natural language understanding, generation, and evaluation. For Business English Writing, AIGC tools can instantly generate text samples, provide corrective feedback on grammar and style, simulate business scenarios, and adapt content to different proficiency levels. This potential aligns perfectly with the principles of Precision Teaching, an educational philosophy that emphasizes defining learning objectives clearly, measuring performance frequently, and using data to inform instructional decisions to ensure mastery (Lindsley, 1992).

While existing research has started exploring the use of AI in language education (e.g., Chen et al., 2020; Ducar & Schocket, 2018), most studies focus on general English writing or automated feedback systems. There is a conspicuous lack of comprehensive pedagogical models that systematically integrate AIGC into the *entire teaching cycle* of a Business English Writing course, from diagnosis and instruction to evaluation. This paper seeks to fill this gap by addressing the following research questions:

1. How can an AIGC-empowered Precision Teaching model be conceptually constructed for a Business English Writing course?
2. What are the practical implications and perceived outcomes of implementing this model in a classroom setting?
3. What challenges and future directions emerge from this integration?

This paper will first review the relevant literature on Precision Teaching and AIGC in education. It will then detail the construction of the proposed teaching model, followed by a report on its preliminary practice and evaluation. Finally, the discussion will center on the model's implications, limitations, and the evolving roles of teachers and students in the AIGC era.

2. Literature Review

2.1 Precision Teaching and Its Relevance to Business English Writing Precision Teaching (PT) originated in the 1970s as a method to measure learning behavior with fluency as a key metric. Its core tenet is that teaching decisions should be based on continuous, direct measurement of student performance (Lindsley, 1992). In modern interpretations, PT has evolved to leverage technology for data collection and analysis, promoting individualized learning paths. The application of PT principles in language learning involves breaking down complex skills (e.g., writing a persuasive email) into smaller, measurable components (e.g., using persuasive language, structuring arguments logically, employing appropriate salutations). By frequently measuring performance on these components, instructors can identify specific areas of difficulty for each student and tailor instruction accordingly.

For Business English Writing, which is inherently pragmatic and skill-based, PT offers a robust framework for ensuring competency. The genre-based nature of business writing (emails, reports, proposals, etc.) makes it particularly amenable to the precise definition of learning aims and the measurement of their achievement. However, the traditional implementation of PT has been labor-intensive, requiring teachers to create and score numerous assessments manually. AIGC now provides the technological leverage to make PT truly scalable and practical in complex domains like writing.

2.2 AIGC in Language Education: Potentials and Pitfalls AIGC refers to content created or significantly enhanced by AI algorithms. In language education, research has primarily focused on Automated Writing Evaluation (AWE) systems like Grammarly or Pigai, which provide feedback on surface-level features such as grammar, spelling, and vocabulary (Ducar & Schocket, 2018). While useful, these systems are often limited in their ability to assess higher-order concerns like argumentation, coherence, and genre conformity.

The advent of more advanced LLMs like GPT-4 represents a quantum leap. These models can not only correct errors but also generate high-quality text, rewrite sentences in different styles, answer content-related questions, and role-play scenarios. This expands their application from mere editing tools to versatile learning partners. For instance, students can ask an LLM to generate an outline for a sales proposal, critique a draft memo, or simulate a negotiation dialogue via email.

Current studies indicate promising benefits, including increased writing output, engagement, and accessibility of feedback (Zawacki-Richter et al., 2019). However, significant pitfalls remain. Key concerns include the potential for over-reliance and deskilling, where students bypass critical thinking steps; the propagation of biases present in the training data; and profound challenges to academic integrity, as AI-generated text can be difficult to distinguish from human work (Perkins et al., 2023).

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Furthermore, most applications have been ad-hoc, lacking a solid pedagogical foundation. This underscores the need for a structured model that strategically embeds AIGC within a sound teaching framework like Precision Teaching, maximizing its benefits while mitigating its risks through thoughtful instructional design.

3. Constructing the AIGC-Empowered Precision Teaching Model

The proposed model integrates AIGC throughout the entire teaching and learning process, creating a dynamic, data-informed, and personalized ecosystem. It consists of three interrelated stages, supported by a redefined role for teachers and underpinned by specific AIGC toolkits. The model is visualized in Figure 1 below.

The AIGC-Empowered Precision Teaching Model for Business English Writing：

- **Central Concept:** A continuous cycle revolving around the student's learning path.
- **Stage 1: Precise Diagnostic Analysis (AIGC-Powered):** Inputs: Student's initial writing sample, self-assessment. Process: Analyzed by AIGC tools for lexical complexity, grammatical accuracy, genre compliance, etc. Output: A personalized "Skill Gap Profile" for each student.
- **Stage 2: Personalized Learning Cycle (AIGC-Facilitated):** This is the core loop. It involves: a) **Precise Input & Task Generation:** AIGC generates or recommends learning materials and scenarios based on the Skill Gap Profile. b) **Scaffolded Writing & AIGC Feedback:** Student drafts a text, receiving instant, formative feedback from AIGC on multiple dimensions. c) **Peer/Teacher Review & Revision:** Focused human intervention on higher-order concerns. The cycle repeats until a mastery threshold is met.
- **Stage 3: Multidimensional Holistic Evaluation (AIGC-Assisted):** Evaluation is based on a portfolio containing drafts, AIGC feedback logs, revision histories, and final products, assessed by both AIGC (for efficiency) and the teacher (for holistic judgment).
- **Surrounding the cycle:** The "Teacher's Role" (Designer, Facilitator, Mentor) and the "AIGC Toolkit" (Generative AI, AWE, Analytics) support the entire process.

3.1 Stage 1: AIGC-Powered Precise Diagnostic Analysis

At the beginning of the course or a new module (e.g., on writing persuasive emails), students complete an initial writing task. This draft is processed not only by the teacher but also by a suite of AIGC tools.

- **AIGC Application:** Tools like GPT-4 (via carefully crafted prompts) or specialized AWE systems can analyze the text to generate a detailed diagnostic report. This report goes beyond error counts to profile the student's strengths and weaknesses across dimensions such as: *linguistic accuracy* (grammar, syntax), *pragmatic appropriateness* (formality, tone), *genre knowledge* (structure, conventions), *lexical resource*, and *strategic effectiveness* (clarity of purpose, persuasiveness).
- **Outcome:** Each student receives a personalized **"Skill Gap Profile"**, which serves as a baseline. This data-driven profile allows the teacher and the student to set specific, measurable learning objectives, initiating the precision teaching cycle.

3.2 Stage 2: AIGC-Facilitated Personalized Learning Cycle

This is the core iterative process where most learning occurs. It is a feedback loop tailored to each student's Skill Gap Profile.

- **Precise Input and Task Generation:** Based on the diagnostic profile, AIGC can recommend or generate tailored learning resources. For a student struggling with formal tone, it can provide contrasting examples of formal vs. informal sentences. Furthermore, teachers can use AIGC to create a bank of highly authentic and varied writing prompts. For example, a prompt could be: "Generate a scenario where a student, acting as a marketing intern at a Chinese tech company, must write a follow-up email to a potential client in Germany after a virtual meeting."
- **Scaffolded Writing and Instant AIGC Feedback:** Students compose their drafts within an environment that integrates AIGC tools. As they write, they can request real-time feedback on specific aspects ("check the tone of this paragraph," "suggest more concise alternatives for this sentence"). This formative, immediate feedback is crucial for learning. The AIGC acts as a 24/7 writing assistant, addressing lower-order concerns and allowing the teacher to focus on more complex issues.
- **Peer/Teacher Intervention and Revision:** After receiving AIGC feedback, students revise their work. The revised draft is then subjected to peer review or teacher feedback, which focuses on aspects that AIGC may struggle to evaluate perfectly, such as the creativity of an argument, the cultural nuance of a phrase, or the overall business logic. This step ensures the development of critical thinking and retains the essential human element of communication.

3.3 Stage 3: AIGC-Assisted Multidimensional Holistic Evaluation

The assessment philosophy shifts from a single final-product grade to a holistic evaluation of the entire learning process.

- **Process-Oriented Portfolio:** Students compile a portfolio containing their initial draft, logs of AIGC feedback interactions, revised versions, and a final reflection. This portfolio provides tangible evidence of growth and engagement.
- **AIGC's Role in Evaluation:** AIGC can assist in the evaluation by quickly analyzing the portfolio for quantitative metrics (e.g., reduction in grammatical errors, improvement in lexical diversity) and even providing a preliminary assessment based on rubrics provided by the teacher.
- **Teacher's Final Judgment:** The teacher makes the final grading decision by synthesizing the AIGC-generated data, the quality of the final product, and, most importantly, the student's reflective meta-cognition about their learning journey. This approach assesses not just the *what* (the final text) but the *how* (the process) and *why* (the strategic choices) of writing.

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3.4 The Evolving Roles of Teachers and Students

In this model, the roles of teachers and students undergo a significant transformation.

The Teacher as a Designer and Facilitator: The teacher's primary role shifts from knowledge transmitter and primary evaluator to instructional designer, curator of AIGC tools, and facilitator of learning activities. They design prompts for AIGC, create meaningful projects, guide discussions on the ethical use of AI, and provide expert mentorship on complex communicative challenges.

- **The Student as an Active Director and Critical User:** Students become active directors of their own learning. They learn to formulate effective queries (prompt engineering) to interact with AIGC, critically evaluate the feedback provided by the AI, and make informed decisions about which suggestions to adopt. This fosters metacognitive skills, digital literacy, and a deeper understanding of writing as a strategic and iterative process.

4. Preliminary Practice and Evaluation

A preliminary implementation of the model was conducted in a 16-week undergraduate *Business English Writing* course with 40 second-year students.

4.1 Methodology

- **Participants:** 40 Business English majors, randomly divided into an experimental group (EG, n=20) that learned under the AIGC-PT model and a control group (CG, n=20) that received traditional instruction (teacher-centered lecture, textbook exercises, and teacher-led feedback).
- **Tools:** The EG used a combination of ChatGPT (GPT-4) for generative tasks and scenario simulation, and Grammarly for basic grammar and plagiarism checks. Specific prompts were designed and provided by the teacher to guide student interaction with ChatGPT.
- **Procedure:** Both groups covered the same modules (emails, reports, proposals). The EG followed the 3-stage model, building portfolios. The CG followed the standard curriculum. A pre-test and post-test (writing a complex business proposal) were administered to both groups. The EG also completed a post-course questionnaire and participated in a focus group interview to gauge their perceptions.

4.2 Findings and Analysis

- **Quantitative Results:** Independent-samples t-tests were conducted on the pre-test and post-test scores. While no significant difference was found in the pre-test ($p > .05$), the EG showed a statistically significant improvement ($p < .01$) in the post-test compared to the CG. The EG's writing exhibited higher scores in linguistic accuracy, genre structure, and task fulfillment according to a detailed analytic rubric.
- **Qualitative Feedback:** The questionnaire and interviews revealed highly positive perceptions from the EG students. Key themes emerged:

1. **Increased Engagement and Reduced Anxiety:** The immediacy of AIGC feedback lowered the psychological barrier to writing. Students felt more willing to experiment and revise.
2. **Enhanced Perception of Authenticity:** The AIGC-generated scenarios were perceived as more realistic and engaging than textbook exercises.
3. **Development of Critical Evaluation Skills:** Students reported initially accepting all AI suggestions but gradually learning to critique them. For example, one student noted, "Sometimes ChatGPT's suggestion was too verbose. I learned to ask it to 'make it more concise and direct,' which is better for business."

- **Identified Challenges:**

1. **Prompt Engineering Dependency:** The quality of interaction with AIGC was heavily dependent on the student's ability to formulate good prompts, indicating a need for explicit training.
2. **Risk of Superficial Learning:** A few students admitted to copying AI-generated sentences without fully understanding them, highlighting the need for strong pedagogical guidance and reflective components.

5. Discussion

The positive outcomes of the preliminary practice suggest that the AIGC-empowered Precision Teaching model is a promising avenue for reform. The model successfully adresses the core problems of personalization, authenticity, and feedback timeliness. The significant improvement in the EG's post-test performance, particularly in genre awareness, can be attributed to the targeted, iterative practice facilitated by AIGC.

This study aligns with and extends the literature on PT and technology-enhanced language learning. It demonstrates that AIGC is not just a tool for automation but a catalyst for a pedagogical paradigm shift towards more student-centered, data-informed, and mastery-oriented learning. The model's emphasis on the "human-in-the-loop"—where the teacher's expertise guides the overall process and intervenes at critical junctures—is crucial for mitigating the risks of AIGC, such as deskilling and ethical misuse.

However, the challenges identified are non-trivial. Integrating AIGC necessitates the development of **AI literacy** for both teachers and students. This includes understanding the capabilities and limitations of LLMs, mastering prompt engineering, and cultivating a critical stance towards AI-generated content. Furthermore, institutions must develop clear policies regarding academic integrity in the age of AIGC, moving beyond punitive measures towards fostering a culture of ethical and transparent use.

6. Conclusion and Future Directions

This paper has conceptualized and provided preliminary evidence for an AIGC-empowered Precision Teaching model for Business English Writing. By leveraging AIGC for diagnosis, personalized practice, and evaluation support, the model offers a systematic approach to achieving precision, personalization, and practicality in the classroom. It repositions the teacher as a strategic designer and mentor and empowers the student to become an active, critical director of their own learning journey.

The implementation of this model is not without its demands. It requires investment in faculty development, curriculum redesign, and a thoughtful approach to ethics. Future research should focus on longitudinal studies with larger sample sizes to validate the long-term effects of the model. It should also explore the development of standardized AI literacy curricula for business

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communication students and the creation of more sophisticated, domain-specific AIGC tools tailored for educational contexts. As AIGC continues to evolve, so too must our pedagogical models. The proposed framework represents a step towards harnessing the power of AI not to replace teachers, but to augment their ability to nurture competent, confident, and critical business communicators for the future.

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