

Research on the application of AIGC in enabling the reform of university English reading teaching in the construction of Hainan Free Trade Port

Weifeng DENG

Hainan Vocational University of Science and Technology, Haikou 571126, China

Abstract: The construction of Hainan Free Trade Port has entered a stage of high-quality development, and international exchanges are becoming increasingly frequent. University English reading, as the core means for students to obtain international information and enhance cross-cultural communication skills, directly undermines students' ability to adapt to international work in Free Trade Port contexts. Based on the development of the Hainan Free Trade Port, this paper proposes three reform strategies for AIGC-enabled college English reading teaching. Focusing on practical instruction, it strengthens the deep connection between reading instruction and the demands of the Free Trade Port, effectively improving students' English reading ability, cross-cultural understanding ability, and career adaptability. This provides practical reference for the reform of university English reading instruction in Hainan universities and helps in the cultivation of international talents for the Free Trade Port.

Keywords: Hainan Free Trade Port; AIGC; college English; reading teaching; teaching reform

1 Introduction

As a key strategic hub for China's opening-up, the Hainan Free Trade Port leverages unique policy advantages to drive high-quality development in cross-border trade, international tourism, cultural exchange, and cross-border services. This places urgent demands on the English reading competence of relevant professionals. They are required to possess not only fundamental English reading skills, but also the ability to efficiently interpret Hainan Free Trade Port-related policies, industry reports, business documents, and international information, extract key information accurately, and avoid cross-cultural misunderstandings. As a core component of cultivating students' reading proficiency, university English reading instruction directly influences the supply of international talents in the Hainan Free Trade Port. Currently, Hainan's university English reading instruction still presents notable shortcomings: The reading materials are predominantly general in content, lacking adaptability to the scenarios of the Free Trade Port; the teaching methods are mainly "teacher's explanation + students' intensive reading", with insufficient interactivity, making it difficult to stimulate students' interest in reading; teachers have limited energy and cannot provide personalized guidance for students' reading weaknesses; the evaluation methods focus on reading results, ignoring the reading process and ability improvement. The rapid rise of AIGC technology provides a possibility to break through the limitations of traditional reading teaching and achieve teaching empowerment.

2 AIGC empowers layered and targeted reading training to meet students' diverse learning needs

Based on AIGC technology, a layered and targeted reading training system is constructed. Considering the differences in students' English reading proficiency and the requirements of the Hainan Free Trade Port, "layered material selection, differentiated guidance, and hierarchical training" are achieved, solving the problem of "one-size-fits-all" teaching [1]. The first step is to conduct targeted diagnosis of students' reading proficiency with AIGC tools. By assigning graded short articles related to the Free Trade Zone, the system can analyze students' vocabulary reserves, syntactic comprehension, logical analysis and information extraction capabilities and further classify them into three levels: basic layer, improvement layer, and advanced layer. Personalized reading files are established. The second step is to generate differentiated reading materials for students at different levels. For the basic level, the content focuses on short articles about the basic scenarios of the Free Trade Zone, including English introductions of scenic areas, simple foreign-related notifications, and basic business emails, with moderate vocabulary difficulty and simple sentence structures. AIGC simultaneously generates vocabulary annotations and sentence analysis to help students solidify their reading foundation; for the improvement layer, medium-difficulty reading materials related to Free Trade Zone are provided, such as cross-border trade briefs, industry policy summaries, and foreign-related service guidelines [2]; for the advanced level, sophisticated free trade zone reading materials are provided, such as international business negotiation summaries, English interpretations of Free Trade Zone policies, and industry academic reports. AIGC sets targeted reading tasks to guide students in extracting key information and clarifying the article's logic; the advanced layer also provides in-depth analysis and cross-cultural comparison for students, enhancing their critical reading skills [3]. The third step is that AIGC continuously tracks students' reading data, recording reading duration, accuracy rate, error types, weak points, etc., automatically adjusting the training difficulty and material type, and sending personalized after-class reading tasks. At the same time, for students' reading errors, AIGC generates targeted analyses and reinforcement exercises to ensure that each student can improve their reading ability on the basis of their original level, adapting to the reading needs of different positions in the Free Trade Zone.

3 AIGC constructs a scenario-based reading system for Free Trade Port education, enhancing teaching practicality

Based on the core scenarios of the Hainan Free Trade Port, AIGC technology is utilized to construct a scenario-based reading teaching system. This approach enables accurate alignment of reading materials with the actual needs of the Free Trade Port, and enhances the practicality and targeted nature of reading teaching [4]. Firstly, the core reading scenarios of the Hainan Free Trade Port are clearly defined, including cross-border business, international tourism, foreign affairs communication, exhibition services, policy interpretation, etc. The AIGC tool will integrate and generate targeted reading materials, which cover English policy documents, industry information, business documents, scenic introductions, and foreign correspondence, ensuring the timeliness and practicality of the materials - such as generating the latest English summaries of Hainan Free Trade Port investment policies, English promotional documents for the international tourism island, English operation guidelines for cross-border e-commerce, etc., allowing students to understand the development dynamics of the Free Trade Port and accumulate relevant English expressions. Secondly, AIGC can be utilized to build an immersive scenario-based reading mode. By generating scenario-based reading contexts (such as simulating the reading of cross-border trade English briefs, interpreting English policy documents, and consulting international tourism-related information), combined with scene-related pictures and audio assistance, the system enables students to immerse themselves in the real reading scenarios, enhancing their reading interest and immersion. At the same time, AIGC designs

targeted tasks based on the reading scenarios. For instance, students are required to extract potential cooperation opportunities and outline transaction processes from cross-border trade documents and complete the English outline writing after reading the English introduction of the scenic area, achieving a deep integration of "reading + application". Additionally, by leveraging the intelligent search function of AIGC, relevant global English resources related to the Free Trade Port are integrated to establish a specialized reading library. The library is continuously updated in real time, allowing students to independently conduct independent reading and knowledge expansion, strengthening students' thinking and application abilities in Free Trade Port scenarios.

4 Optimizing reading teaching feedback and evaluation with AIGC to enhance teaching effectiveness

By leveraging AIGC technology to optimize the feedback and evaluation mechanism in university English reading teaching, we aim to achieve "real-time feedback, precise evaluation, and closed-loop improvement", thereby resolving the drawbacks of lagging traditional teaching feedback and one-sided evaluation [5]. In terms of reading teaching feedback, the AIGC real-time feedback model is adopted. After students complete reading exercises, the AIGC tool provides instant correction of answers, not only marking correct and incorrect responses, but also generating detailed explanations for error types (such as unfamiliar vocabulary, incorrect sentence structure understanding, logical analysis errors, cross-cultural misunderstandings, etc.) and providing related knowledge supplementation and reinforcement exercises to help students promptly correct mistakes and fill gaps. For questions encountered during reading, AIGC can respond in real time, offering vocabulary translation, syntactic analysis, contextual interpretation, etc., to solve students' immediate confusion and enhance reading efficiency. In terms of reading teaching evaluation, a diversified evaluation system is established with AIGC support, breaking the limitations of single final evaluation: Firstly, for process-based evaluation, AIGC can automatically record students' reading process data, including reading duration, material type, accuracy rate, improvement of error cases, extended reading performance, etc., and generate a detailed process evaluation report, comprehensively reflecting the trajectory of students' reading ability improvement. Secondly, for ability-oriented evaluation, AIGC can combine the reading needs of the Free Trade Port scenario, precisely assess students' capabilities in information extraction, logical analysis, cross-cultural understanding and application performance, rather than merely evaluating reading accuracy. Thirdly, for multi-party evaluation, AIGC generates standardized evaluation scales, guiding students to conduct self-evaluation and peer evaluation, combined with the subjective evaluation of teachers, ensuring the comprehensiveness and objectivity of the evaluation results [6]. At the same time, AIGC provides teaching improvement suggestions based on the evaluation results, formulates personalized improvement plans for students, and forms a "reading training - feedback correction - evaluation improvement" closed-loop teaching, effectively enhancing the effectiveness of reading teaching.

5 Conclusion

The development of Hainan Free Trade Port's internationalization has raised higher requirements for university English reading teaching. AIGC technology offers an efficient enabling path for the reform of reading teaching, effectively addressing many shortcomings in traditional teaching. In the future, we can further deepen the integration of AIGC and university English reading teaching. In response to the evolving demands of the industrial development of the Hainan Free Trade Port, we can optimize the reading materials and teaching models, strengthen the training of AIGC application capabilities of the teaching staff, and promote the continuous development of university English reading teaching reform, so as to better serve the internationalization construction and talent cultivation strategy of the Hainan Free Trade Port.

Acknowledgments

Project supported by the Education Department of Hainan Province, project number: Hnjg2026-183.

Conflicts of interest

The author declares no conflicts of interest regarding the publication of this paper.

References

- [1] Zhang J, Liu Y. On cultivation of critical reading skills in English teaching: application of taxonomy in college English intensive reading[J]. *Contemporary Education Frontiers*, 2026, 4(1): 51-55. DOI:10.18063/CEF.V4I1.1270.
- [2] Yuan J L, Yan H L. Integrating literature reading into unit topic teaching as a new approach to moral education in college English[J]. *Cultural and Religious Studies*, 2026, 14(01). DOI:10.17265/2328-2177/2026.01.006.
- [3] Jin J Y. Cultivating students' critical thinking ability in college English reading teaching[J]. *The Journal of Education Insights*, 2025, 3(4): DOI:10.37155/2972-4856-0304-9.
- [4] Han Z. Construction and evaluation of a blended teaching model for college English reading based on project-based learning[J]. *International Journal of Educational Teaching and Research*, 2025, 2(7): DOI:10.70767/IJETR.V2I7.728.
- [5] Cao N. Innovative research on English reading teaching in universities under the background of intercultural communication[J]. *International Education Forum*, 2025, 3(9): 145-151. DOI:10.26689/IEF.V3I9.12270.
- [6] Peng Y. An exploration of AI-driven multimodal teaching model construction for college English reading instruction[J]. *Applied Science and Innovative Research*, 2025, 9(4): DOI:10.22158/ASIR.V9N4P1.

About the author

Weifeng Deng, female, holds a Ph.D. and serves as an associate professor at Hainan Vocational University of Science and Technology, with primary research focus on English teaching. In recent years, she has mainly taught courses such as Practical English and College English.