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Advantages and Challenges of Generative Artificial Intelligence Empowered Oral English Teaching

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Abstract

With the rapid development of Generative Artificial Intelligence (Generative AI) technology, its application in the field of education has brought innovative opportunities for oral English teaching. This paper systematically analyzes the core advantages of Generative AI in enhancing the effectiveness of oral English teaching from the dimensions of personalized teaching, situational creation, feedback mechanisms, resource expansion, and stimulation of learners' motivation. It also designs a basic "human-AI collaboration" teaching process covering pre-class, in-class, and post-class stages. Meanwhile, the paper discusses the problems and challenges existing in the application of Generative AI in oral English teaching, thereby providing further insights and reflections for the research on Generative AI empowered oral English teaching.

Keywords

Generative Artificial Intelligence, Oral English Teaching, Core Advantages, Problems and Challenges

1. Introduction

Against the globalization Background, oral English proficiency has become a core competence for learners in cross-cultural communication. However, the traditional teaching model has long been plagued by multiple dilemmas: Large-class teaching results in insufficient individual practice opportunities, with learners' average speaking time accounting for an rather low proportion of class time; The lack of real language contexts leads to a significant gap between the idealized dialogues in textbooks and actual communication scenarios; Due to insufficient daily practice and pressure from face-to-face environment, many learners suffer from "speaking anxiety"; Oral feedback is delayed and homogenized, making it difficult to meet learners' personalized needs.

In the new era of rapid AI development, Generative AI, with its powerful capabilities in natural language processing, situational generation, and real-time interaction, provides a new possibility to address these dilemmas. However, how to organically integrate this technology into the teaching

process and achieve the optimal effect of "human-AI collaboration" remains an essential issue to be explored.

2. Core Advantages of Generative AI Empowered Oral English Teaching

2.1 Accurate Realization of Personalized Teaching

(1) Adaptive adjustment of learning duration and pace: Learners can arrange oral English learning and practice according to their own time and progress, either in concentrated sessions or fragmented periods. Generative AI records data such as learning duration and practice frequency through algorithms, and intelligently reminds learners of learning and review nodes. This avoids the problem that advanced learners cannot learn enough while students with low English proficiency cannot keep up, which is caused by the "one-size-fits-all" approach in traditional classrooms.

(2) Dynamic diagnosis and path optimization: By analyzing learners' speech data, error patterns, and other information, Generative AI accurately identifies weak points such as pronunciation defects, grammatical errors and automatically generates targeted practice plans. For example, for learners who struggle with tense usage, it pushes situational dialogues containing time markers; for those with inaccurate pronunciation, it provides specialized training on minimal pairs.

(3) Differentiated provision of teaching content: The difficulty of input is automatically adjusted according to learners' language proficiency. In situational practice, for instance, students with weak foundation are provided with simplified sentence structures and high-frequency vocabulary, while advanced learners are given complex contexts and academic expressions, realizing the "i+1" principle of comprehensible input.

2.2 Efficient Creation of Realistic Contexts

(1) Instant generation of diverse scenarios: Generative AI can simulate diverse scenarios such as daily communication, academic seminars, and workplace negotiations. The role responses and dialogue logic in these scenarios are more in line with real communication, allowing learners to complete tasks independently or interactively through speech.

(2) In-depth integration of cultural contexts: Cultural details and backgrounds are naturally embedded in scenarios, helping learners understand the social and cultural connotations behind the language and avoid pragmatic failures.

(3) Multimodal interactive experience: Generative AI can combine multimodal information such as text, speech, and images, including displaying examples of body language, environmental sound effects and so on. This will enhance learners' sensory experience, improve their ability to perceive contexts, and make learners feel immersed in the scene.

2.3 Vast Expansion of Teaching Resources

(1) Rapid generation and on-demand deployment: Generative AI can instantly generate dialogue scripts, news clips, speech samples, and other materials based on teaching themes, supporting the design of diversified oral tasks. Compared with traditional methods, this greatly reduces the time cost of creating

teaching materials. Meanwhile, it can integrate knowledge from fields such as science and technology, culture, art, and integrate interdisciplinary content on demand.

(2) Dynamic updating and iteration: Generative AI can automatically update expression paradigms based on the latest corpora, ensuring that learners can access newly emerged words, like social media buzzwords, cutting-edge academic terms and their usages, thus makes up for the outdated content of textbook .

2.4 Innovative Upgrade of Feedback Mechanisms

(1) Real-time, comprehensive, and dynamic feedback: Within seconds of a learner's oral output, Generative AI can complete evaluations covering multiple dimensions, including pronunciation accuracy, grammatical correctness, sentence fluency, vocabulary appropriateness, and pragmatic rationality. The feedback is specific and provides guidance for improvement, which is superior to the general or limited feedback in traditional classrooms due to time constraints.

(2) Tracking of process and growth-oriented evaluation: A dynamic learning profile is established to track the error correction and allow learners to perceive their progress visually. For example, comparing data such as speech recognition accuracy and sentence complexity across different stages.

2.5 Effective Stimulation of Learning Motivation

(1) Low-pressure and interesting learning environment: When interacting with AI, learners do not need to worry about negative face-to-face evaluations, which effectively alleviates "speaking anxiety" and is particularly friendly to introverted learners. Additionally, mechanisms such as points and level-bases games can be used to increase the fun of practice and stimulate learners' motivation for continuous participation.

(2) Process and achievement-based evaluation feedback: Learning progress is displayed through data visualization, such as the curve of oral fluency and ranking changes over a week or a month. This strengthens learners' self-confidence and motivate them to further practice.

3. Basic Teaching Process of Generative AI Empowered Oral English Teaching

3.1 Pre-Class Stage

(1) Intelligent diagnosis: The core of the pre-class stage is to create an accurate learner profile through Generative AI, laying a personalized foundation for in-class teaching. Teachers can push AI assessment tasks to learners in advance, covering vocabulary application, pronunciation diagnosis, and grammatical structure evaluation in line with the oral proficiency indicators specified in the semester's teaching syllabus. A diagnostic report is then generated.

(2) Intelligent resource recommendation: Based on the diagnostic results, the AI system builds a dynamic resource library and realizes intelligent push. For example, for learners with prominent pronunciation problems, it pushes micro-courses on phonetics along with supporting minimal pairs practice; for those weak in grammar, it provides explanations of grammatical points and micro-dialogue scripts containing target sentence patterns; for learners with insufficient vocabulary, it pushes thematic

word clouds and collocation examples. Teachers can view the overall distribution of learners' performance through the admin backend and adjust the key and difficult points of in-class teaching in advance.

3.2 In-Class Stage

(1) Task-driven learning: Teachers can design a hierarchical task chain. Learners first conduct dialogues with AI, which marks language errors in real time and records logical gaps; Based on the common problems summarized by AI and corpus data, teachers explain appropriate expressions and supplement interpretations of cultural differences; Learners complete advanced tasks in groups, with AI providing real-time corpus support, while teachers offer guidance on team collaboration and logical construction.

(2) Real-time assistance: Learners can call on AI at any time, either providing word definitions and generating example sentences for different contexts or offering reference expressions for specific communication scenarios. In this process, teachers focus on thinking guidance, cultural interpretation, and social coordination.

3.3 Post-Class Stage

(1) Hierarchical homework system: Based on in-class performance data, AI generates a hierarchical homework system. Basic-level homework focuses on error correction and basic expression, transforming typical errors encountered in class into correction or reconstruction tasks; Advanced-level homework emphasizes in-depth output, requiring learners to complete high-level output tasks based on in-class themes, such as thematic discussions, debate speeches, essay writing, and cross-cultural practice.

(2) Personalized consolidation and expansion: Teachers can track learners' homework completion through the AI backend. Send personalized tutoring reminders to learners who fail to meet the standards; Display excellent homework for learners to learn from each other; Push cutting-edge dialogue content to advanced learners to facilitate the improvement of their oral proficiency. This cultivates the accuracy of proficiency improvement and helps learner's internalization and the ability of transfer and application.

4. Problems and Challenges of Generative AI Empowered Oral English Teaching

4.1 Lack of Emotional Interaction

Over-reliance on Generative AI may weaken teacher-student interaction and learners' real social skills. Although Generative AI can provide real-time feedback and correction, it is unable to perceive learners' emotional states and lacks genuine emotional responses. In human oral communication, non-verbal signals like body language and facial expressions are equally as important as speech information. However, current Generative AI models can only process speech data and cannot interpret expressive intentions based on learners' gestures, eye contact, or other cues. Therefore, the auxiliary role of AI should be clearly defined, and sufficient interpersonal communication sessions, like face-to-face communication between teachers and students , group discussions, etc. should be retained. In particular,

the abnormal phenomenon of being proficient in human-AI dialogue but clumsy in interpersonal communication must be avoided.

4.2 Limitations of Technological Application

At present, most Generative AI models only interpret explicit information in dynamic contexts of oral communication, making it difficult to capture implicit emotional tendencies and cultural connotations. As a result, the generated content and evaluations may have biases or errors. Additionally, standardized training data limits AI systems' ability to adapt to atypical speech features. For learners with dialect accents or speech impairments, like stuttering or abnormal vocalization, the accuracy of speech recognition decreases, and misjudgments may even occur. In the dynamic generation of oral dialogues, AI has limitations in contextual relevance, for instance, when learners suddenly switch topics or use elliptical expressions, the model may experience comprehension gaps, leading to logically disconnected responses. Therefore, the accuracy of teaching materials and evaluations automatically generated by Generative AI requires further verification.

4.3 Challenges to Teachers' Roles and Competences

With the assistance of Generative AI, oral English teachers should transform from traditional "knowledge transmitters" to "learning designers" and "social coordinators". Generative AI can already undertake mechanical teaching tasks such as demonstrating basic sentence patterns and correcting pronunciation. This can free teachers from repetitive training and turn to designing personalized learning paths that integrate AI tools. When learners encounter communication barriers or deep-seated social elements in real-language communication such as humor, conflicts, and value collisions, teachers are still needed to provide empathetic communication and guided interpretation. Furthermore, teachers need to possess high information literacy. They should be proficient in using Generative AI oral tools, analyze AI learning data, and extract key points for personalized teaching from massive data rather than be overwhelmed by it.

4.4 Ethical Norms and Security Risks

The speech data generated during AI oral practice contains learners' personal voiceprint features, and such data may be at risk of privacy leakage. However, current educational data protection regulations still lack clear definitions of such biological information. AI platforms should ensure that data storage and use comply with norms, and properly address issues related to data privacy and intellectual property rights.

5. Conclusion

Generative AI has injected new vitality into oral English teaching. Its advantages in personalized learning, situational creation, resource expansion, and feedback *mechanisms* provide breakthrough solutions for oral English teaching, effectively compensating for the shortcomings of traditional oral teaching. English teachers should proactively seize the opportunities brought by technological changes, balance technological efficiency with teaching principles in practice, and achieve the optimal teaching

effect of "human-AI collaboration". However, any new technology has limitations. With the further development of Generative AI in the future, its application in oral English teaching will become more accurate and compliant with norms, providing stronger support and guarantee for the coordinated development of learners' oral proficiency and comprehensive literacy.

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