

Practical Deviations in Intelligent Technology-Assisted Teaching: Bottlenecks and Reflections on the Development of Educational Informatization

-- Reflections on the deviations between AI feedback and teacher feedback in senior high school English continuation writing

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Abstract: In the context of informatization, intelligent technologies (such as AI and big data) have gradually permeated senior high school English continuation writing teaching. However, significant deviations between their feedback and teacher feedback affect teaching effectiveness. This study compares the differences in content, methods, and effects of the two types of feedback to analyze the problems and root causes in the practice of intelligent technology-assisted teaching. The research shows that the deep integration of intelligent technology and education needs to balance technological advantages and humanistic care to promote students' all-round development and educational equity. In the future, the education sector needs multi-stakeholder collaboration to address new challenges in intelligent technology-assisted teaching.

Keywords: Intelligent Technology-assisted Teaching, Educational Informatization, AI Feedback, Teacher Feedback, Senior High School English Continuation Writing.

1. Introduction

1.1. Research Background

In the era of rapid development of digital technology, educational informatization has become a key trend in global education. In February 2019, the Central Committee of the Communist Party of China and the State Council issued *China's Education Modernization 2035*, which pointed out that educational modernization is a high-level state of educational development, involving comprehensive transformations in educational concepts, development methods, and institutional systems. It emphasizes accelerating educational reform in the information age through innovations in educational organization and teaching methods to promote education modernization through informatization [1]. Nowadays, intelligent technologies such as artificial intelligence (AI), big data, and cloud computing have gradually penetrated all aspects of teaching, bringing new opportunities for educational reform.

In senior high school English teaching, continuation writing, a comprehensive language testing activity integrating reading and writing, focuses on the connotation of the English language, assesses students' comprehension and expression abilities, and reflects the college entrance examination's orientation towards cultivating students' English proficiency [2]. However, the introduction of intelligent technology-assisted teaching, especially AI feedback systems expected to improve teaching efficiency and students' writing skills, has exposed obvious deviations from teacher feedback in practice, revealing various problems in intelligent technology-assisted teaching.

1.2. Research Significance

Theoretically, this study helps deepen the understanding of the operational mechanism of intelligent technology-assisted

teaching in practice, analyze the causes of deviations between AI feedback and teacher feedback, enrich the theoretical research on educational informatization, and provide theoretical support for the deep integration of intelligent technology and education.

Practically, by revealing the practical deviations of intelligent technology-assisted teaching, it provides references for educators, technology developers, and educational managers to improve teaching strategies, optimize intelligent technology products, and improve educational informatization policies, thereby promoting the scientific application of intelligent technology in education and enhancing teaching quality.

2. Literature References

2.1. Research Status of Intelligent Technology-Assisted Teaching

Scholars at home and abroad have conducted extensive research on intelligent technology-assisted teaching. Internationally, research on intelligent technology-assisted teaching started early, and the application of AI in language teaching can be roughly divided into several stages: the early exploration stage (before the 2000s), with the rise of Computer-Assisted Language Learning (CALL) laying the foundation; the basic application stage (2000s to mid-2010s), driven by the popularity of the Internet and mobile devices, with personalized platforms like Duolingo emerging; the promotion stage (mid-2010s to 2021), focusing on generative AI and intelligent chatbots; and the large-scale promotion stage (since 2022), where generative AI technologies such as ChatGPT have gained widespread attention and been widely applied in language teaching, showing great potential in writing, speaking practice, and personalized learning [3–4].

Domestically, with the advancement of educational informatization, research on intelligent technology-assisted

teaching has become increasingly rich, with special attention paid to its impact on English writing teaching. Liu Wen pointed out that AI can analyze students' performance and customize learning materials for different levels to improve reading and writing abilities [5]. Han Tong noted that teachers can use AI platforms like iWrite2.0 to design blended teaching models tailored to class conditions [6]. Zhang Jing et al. explored the application of AI in college entrance examination English writing tasks, attempting to build a new collaborative evaluation model involving teachers, students, and large models to improve the efficiency and accuracy of student writing assessment [7]. In general, scholars agree that intelligent technology can improve teaching efficiency and realize personalized learning but also point out problems such as insufficient technical adaptability and low acceptance among teachers and students in practice.

2.2. Research Progress in English Continuation Writing Teaching

To improve foreign language application abilities, Professor Wang Chuming formally proposed the concept of continuation writing in English writing teaching in 2001 [8]. Its theoretical significance was emphasized after the proposal of the "Learning-Using-Companionship" principle in 2009, and related research has since received increasing attention [9]. Chen Yao (2017) pointed out that selecting interesting narrative materials with appropriate difficulty can stimulate learners' motivation and enhance the synergy in continuation writing [10]. Zhao Fang (2019) noted that familiar topics can strengthen such synergy [11]. Xu Dan (2023) suggested that teachers should guide students to deeply analyze texts and focus on synergy in themes, plots, and emotions to improve continuation writing abilities [12]. Jing Chunying (2024) proposed that under the background of college entrance examination reform, teachers should update teaching concepts to enhance students' continuation writing skills [13]. However, research on the differences and impacts between AI evaluation and teacher evaluation remains insufficient.

3. Practical Deviations between AI feedback and Teacher Feedback in Senior High School English Continuation Writing

3.1. Deviations in Feedback Content

In terms of language knowledge evaluation, AI feedback excels in identifying grammatical errors (such as tense inconsistency) and improving vocabulary richness, especially in introducing advanced vocabulary [14]. However, it is insufficient in evaluating language fluency and appropriateness, struggling to judge whether words and sentence patterns fit the context. In contrast, teacher feedback focuses on the diversity and rationality of sentence structures, the accuracy and vividness of word choices, and naturalness of expression, with targeted guidance based on genre requirements and context. Nevertheless, teacher evaluation, often based on unified college entrance examination standards, rarely considers students' individual differences in learning foundations, thinking styles, and cognitive levels [15].

In evaluating content coherence and logic, AI mainly relies on keyword matching and sentence structure similarity, failing to deeply understand themes or judge whether the

continuation naturally connects with the previous text. Teachers, with their literary literacy and teaching experience, grasp the overall context, focusing on whether students reasonably continue the original theme and plot, use appropriate transitions, and guide critical thinking to improve logical abilities.

3.2. Deviations in Feedback Methods

AI feedback has the advantage of immediacy—students receive evaluations quickly after submission. However, it lacks interactivity, as it provides fixed evaluations based on preset programs, unable to answer students' questions or adjust feedback according to their responses [16]. Teacher feedback, though relatively delayed, is highly interactive: teachers communicate face-to-face, listen to students' ideas and confusion, provide personalized guidance, and adjust feedback strategies timely, promoting emotional communication.

In terms of emotional care, AI feedback, based on objective data, lacks emotional support and may dampen students' enthusiasm. Teacher feedback, on the other hand, combines problem-pointing with encouragement, enhancing students' confidence and motivating active participation in learning.

3.3. Deviations in Feedback Effects

In the short term, AI feedback helps students quickly correct grammatical and spelling errors, standardizing language expression to some extent. However, long-term reliance on AI may lead students to overfocus on surface language errors, neglecting in-depth thinking about content and logic, which is unfavorable for overall improvement of writing abilities.

Teacher feedback focuses on cultivating comprehensive writing abilities. Through guidance, students not only improve language application but also learn to conceive articles, organize content, and enhance logical thinking, forming good writing habits and fundamentally improving their abilities.

4. Analysis of Causes for Practical Deviations

4.1. Technical Limitations

Current natural language processing technology has limitations in understanding semantics and context. AI struggles to accurately grasp complex semantic relationships and cultural connotations in continuation writing, failing to interpret deep meanings and emotional tones like human teachers—for example, it often misinterprets metaphors or puns [17].

Moreover, AI feedback systems are designed with algorithms based on large corpora and fixed rules, lacking flexibility. They can only evaluate according to preset models, unable to consider students' individual writing styles or innovative thinking, making it difficult to meet diverse teaching needs.

4.2. Teacher-Related Factors

Some teachers have insufficient understanding of intelligent technology-assisted teaching, regarding it merely as a tool and failing to recognize the importance of deep integration with education. Meanwhile, some lack the ability to apply intelligent technologies, unable to guide students to treat AI feedback correctly or combine it with their own

teaching experience [18].

Influenced by traditional teaching concepts, some teachers are accustomed to teacher-centered models and resist intelligent technology-assisted teaching, fearing it will replace their role and weaken their dominance, thus hindering exploration of integration methods.

4.3. Issues in Educational Concepts

In the development of educational informatization, some schools and teachers overpursue teaching efficiency, relying excessively on the immediacy and standardized evaluation of AI feedback, while neglecting the essence of education—such as cultivating students' emotions, attitudes, and values, as emphasized in the *Overall Plan for Deepening the Reform of Educational Evaluation in the New Era* [17].

Additionally, the positioning of intelligent technology-assisted teaching is unclear. Some view it as a panacea for educational problems, while others are skeptical. This ambiguity prevents giving full play to its advantages and avoiding its problems.

5. Strategies to Break through Bottlenecks in Educational Information

5.1. Technical Optimization and Innovation

Increase investment in research and development of natural language processing technology, introducing advanced technologies like deep learning to improve AI's ability to understand complex semantics and cultural connotations, enabling it to better recognize rhetorical devices and enhance evaluation accuracy.

Optimize algorithm design to make it more flexible and diverse. Develop personalized evaluation algorithms based on different teaching scenarios and student needs, considering individual differences and innovative thinking, and establish dynamic update mechanisms to continuously improve AI feedback quality.

5.2. Transformation of Teacher Roles and Ability Improvement

Teachers should establish correct concepts of educational informatization, recognizing that intelligent technology-assisted teaching is an inevitable trend to improve teaching quality. They should actively integrate it with traditional teaching methods to maximize effectiveness, such as achieving personalized teaching and optimizing teacher-student interaction through AI tools [18].

Strengthen training for teachers to improve their technical literacy and application abilities. Through workshops and training, help them master methods of using AI feedback systems in teaching design and evaluation, and encourage participation in practical exploration to accumulate experience.

5.3. Innovation in Educational Concepts

Adhere to student-centered educational concepts, return to the essence of education, and focus not only on knowledge and skills but also on cultivating students' emotions, values, innovative thinking, and practical abilities. Use intelligent technology reasonably to create diverse learning environments and promote all-round development.

Clarify the positioning of intelligent technology-assisted teaching as a tool to assist teaching rather than replace

teachers. Recognize its advantages—such as making course content more personalized and adjusting teaching strategies based on students' weaknesses [19]—while leveraging teachers' professional experience to achieve deep integration with education.

5.4. Improvement of Educational Informatization Policies and Resource Allocation

Governments and educational departments should formulate sound policies, increase investment in educational informatization, and tilt towards underdeveloped regions and weak schools to narrow technical gaps and promote educational equity. Establish evaluation and supervision mechanisms to ensure the scientific application of intelligent technology in education.

Integrate resources to build diverse intelligent educational resource libraries, encouraging schools, enterprises, and social institutions to participate in development and sharing, while strengthening screening and review to ensure resource quality and applicability.

6. Conclusion

Intelligent technology-assisted teaching is of great significance in the process of educational informatization, but there are many deviations in practice. Taking the deviations between AI feedback and teacher feedback in senior high school English continuation writing as an example, these deviations affect teaching quality, student development, and educational equity in terms of feedback content, methods, and effects. Only by achieving deep integration of intelligent technology and education, giving full play to its advantages while overcoming limitations, can we promote the healthy development of educational informatization, improve educational quality comprehensively, and realize students' all-round development and educational equity.

In the era of big data, developing new language teaching models using modern technical means and exploring diversified practice paths of curriculum standards are future trends in language education in the digital age. However, this requires joint efforts from educators, technology developers, and educational managers to continuously explore and address new problems and challenges in intelligent technology-assisted teaching.

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