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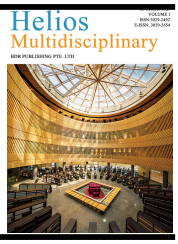

Artificial Intelligence-Driven High School English Reading Instruction

Jiayi Li*

Department of Foreign Languages, Xinzhou Normal University,Xinzhou034000,China

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ABSTRACT

This study examines the integration of Artificial Intelligence (AI) technology in high school English reading instruction, analyzing its advantages over traditional teaching methods. Amidst the test-oriented education system, high school English reading instruction encounters numerous challenges, including a narrow reading scope for students and a lack of diversity in teaching approaches by educators. The integration of AI, especially Natural Language Processing (NLP), revolutionizes English reading comprehension teaching. It analyzes materials deeply for personalized instruction, offering customized paths, intelligent tutoring, and recommendations to boost teaching efficiency and student motivation. AI also enhances assessment accuracy and efficiency via intelligent evaluation and feedback. Moreover, it enriches teaching resources and interaction modes, increasing student interest and engagement. The study posits that the application of AI technology in high school English reading instruction has broad prospects and is expected to significantly improve educational quality and talent cultivation.

1. Introduction

In the contemporary educational landscape, the advent of Artificial Intelligence (AI) has heralded a new era of technologically mediated learning experiences. The swift progression of AI technology has not only disrupted traditional educational models but also introduced a plethora of innovative tools and methodologies designed to enhance the learning process[1]. As a critical component of the high school curriculum, English reading courses are instrumental in cultivating students' linguistic competencies and their ability to think critically and engage with complex texts. However, the evolving nature of modern society and the diverse needs of learners have outpaced the efficacy of conventional teaching approaches, necessitating a reevaluation of instructional strategies.

The integration of AI in educational contexts presents an opportunity to address these challenges and reshape the high school English reading curriculum. AI's prowess in data analytics, adaptive learning, and personalized instruction has the potential to transform the way students interact with reading materials and how educators facilitate these interactions[2]. By leveraging AI's capabilities, educators can curate tailored learning experiences that cater to the individual

* *Corresponding author：Jiayi Li*
Email address: 18003437619@163.com
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strengths, weaknesses, and interests of each student, thereby enhancing engagement and fostering a deeper understanding of the subject matter.

Moreover, the confluence of AI technology with multi-modal theory opens up new avenues for pedagogical innovation in English reading instruction. Multi-modal theory posits that meaning is constructed through various modes of representation, such as text, images, audio, and gestures[10]. By incorporating AI-driven tools that can analyze and synthesize information across these diverse modalities, educators can create dynamic and interactive learning environments that stimulate multiple senses and cognitive pathways. This approach not only enriches the learning experience but also prepares students for a world that increasingly values multi-modal literacy and digital fluency.

2. Current State of High School English Reading Instruction

High school English reading instruction is a core component of the English curriculum, playing a vital role in the development of students' comprehensive English abilities, including listening, speaking, reading, writing, and translation. Consequently, high school English teachers are tasked with continuously innovating teaching strategies based on the specific characteristics of the English discipline to enhance students' overall language application skills. At present, high school English reading instruction is facing a series of challenges.

2.1 Students Read for the Sake of Answering Questions

The predominant focus on exam performance has led many students to engage with reading material purely for the purpose of answering questions, a practice that underscores the flaws within the exam-oriented education system. This approach to reading is characterized by an intensive scrutiny of texts, not for comprehension or appreciation, but for the extraction of information necessary to succeed on tests. Consequently, students may develop a narrow and utilitarian relationship with reading, where the joy of exploration and the development of a broader literacy skillset are sacrificed at the altar of test preparation.

This method of reading, while effective for short-term recall and exam performance, is detrimental to the comprehensive improvement of students' reading abilities. It fails to encourage a deep, critical engagement with texts, which is essential for the cultivation of higher-order thinking skills. Moreover, the emphasis on textbook content as the sole source of reading material limits students' exposure to the richness and variety of language use across different genres and contexts. This restriction hinders the acquisition of a well-rounded linguistic repertoire and impedes the expansion of students' cultural and intellectual horizons.

The confinement to textbooks also results in a missed opportunity to explore the aesthetic and emotional dimensions of language, which are crucial for fostering a lifelong love for reading. Students are thus deprived of the chance to encounter the diverse voices, narratives, and perspectives that can enrich their understanding of the world and stimulate their creativity. The lack of access to a wide array of reading materials, such as novels, newspapers, and digital content, further exacerbates this issue, as it prevents students from experiencing the transformative power of literature and the joy of learning through reading.

In summary, the exam-centric approach to reading in high school English education presents significant drawbacks. It narrows the educational goals to mere test performance, undermines the development of critical reading skills, and limits students' exposure to the vast world of ideas and experiences that reading can provide. This approach fails to prepare students for the complexities of real-world language use and the demands of lifelong learning.

2.2 Teachers Teach for the Sake of Grades

The high school English reading landscape is frequently marred by an approach where teachers prioritize exam outcomes over the cultivation of a genuine passion for learning. This pedagogical inclination results in a diminished educational experience, where students' autonomy is undermined, and their active engagement with the material is stifled. The student-centered learning paradigm, which is pivotal for fostering deep and meaningful understanding, is often eclipsed by a teacher-centric model. This model relegates students to passive recipients of information, devoid of the chance for interactive exploration and the absence of immediate feedback, which are critical for literacy development.

The depth of reading instruction suffers as teachers frequently fail to design activities that cater to the heterogeneous needs and capabilities of their students. This lack of customization is detrimental to a comprehensive grasp of complex texts. There is an undue focus on the minutiae of vocabulary and grammar, which detracts from the broader understanding of a text's essence, its structure, and the cultural and emotional subtleties it conveys. As a result, students may depart from the classroom with a disjointed comprehension of the material, having learned specific lexical items and grammatical structures but without a holistic understanding of the text's overarching message or the intellectual and emotional enrichment that deep reading can provide.

Moreover, some teachers' adherence to an exam-oriented education model perpetuates a focus on rote learning and problem-solving techniques, which is detrimental to the development of critical reading skills. This method neglects the importance of equipping students with the analytical and interpretive skills necessary for dissecting and understanding texts. Such skills are not only crucial for academic success but also for personal development and the ability to navigate the complexities of the real world. The overemphasis on exam preparation and test scores results in a myopic educational strategy that fails to prepare students for the diverse demands of higher education and the global workforce, where critical thinking and nuanced comprehension are highly valued. This approach, therefore, not only limits students' academic potential but also hinders their personal growth and ability to engage with the world in a meaningful and informed manner.

3. The Application of AI Technology in High School English Reading Instruction

With the rapid evolution of Artificial Intelligence (AI) technology, the field of education is undergoing transformative changes unlike any seen before. AI, known as Artificial Intelligence, is an emerging scientific discipline dedicated to the study, development, and application of theories, methods, technologies, and systems designed to simulate, augment, and expand human intelligence. High school English reading instruction, a critical component in the development of students' linguistic competencies and cultural literacy, has also witnessed the profound integration of AI technology. Leveraging its robust data processing capabilities, pattern recognition, and learning optimization, AI has provided unprecedented support and innovation for English reading instruction. This has significantly enriched teaching methodologies, enhanced teaching efficiency, and fostered the development of personalized learning for students.

3.1 Core Technology in English Reading Comprehension: Natural Language Processing (NLP)

Natural Language Processing (NLP) is a cornerstone technology in the application of Artificial Intelligence (AI) to English reading comprehension. NLP refers to the computational techniques employed to interact with human language data, enabling machines to perform a range of language-related tasks. In the context of AI-assisted English reading comprehension, NLP plays a transformative role by equipping computers with the ability to parse, understand, and generate human language. This capability allows for the automated extraction of pivotal information from English texts, the dissection of semantic relationships, and the decoding of the underlying gist and authors' intentions.

The integration of NLP in AI-driven educational tools significantly amplifies the efficiency with which information is processed and understood. By leveraging NLP, AI systems can dissect textual data to identify key thematic sentences, pivotal terms, and the logical scaffolding that underpins the text. This functionality is particularly beneficial for students, empowering them to swiftly apprehend the central themes and arguments presented within a text. Furthermore, NLP extends beyond structural analysis to include sentiment analysis, which is crucial for capturing the emotional subtext of written works. Through sentiment analysis, AI can help students discern the emotional nuances embedded in the text, thereby enriching their understanding and interpretation of the material. This multifaceted application of NLP within AI not only streamlines the reading comprehension process but also enhances the depth and breadth of student engagement with the text. As a result, NLP stands as a critical component in the advancement of AI in educational practices, particularly in the domain of English reading comprehension.

3.2 Personalized Recommendation Systems: Precise Matching to Stimulate Reading Interest

In the domain of AI-assisted education, personalized recommendation systems represent a significant application that harnesses the power of big data analytics and machine learning to create a tailored learning experience for students. These systems are designed to offer reading materials that are meticulously aligned with individual students' profiles, taking into account a variety of factors such as study habits, learning intensity, progress tracking, and academic outcomes. By employing sophisticated algorithms, the AI system is capable of parsing through multi-dimensional datasets that encompass a student's reading history, expressed preferences, and ongoing educational journey, thus providing a dynamic and responsive reading list that evolves with the student's growth.

The precision of these recommendations is rooted in the system's ability to conduct real-time assessments of students' knowledge acquisition and retention. This capability allows for the intelligent suggestion of reading materials that are not only appropriate for their current level of proficiency but also aligned with their specific interests. Such customization is pivotal in stimulating students' interest and motivation in reading, as it transforms the reading experience from a passive task to an active exploration of topics that genuinely engage them.

For instance, students with a penchant for science fiction are likely to be more invested in their reading if they are presented with English novels that incorporate futuristic themes and technological advancements. This approach not only satisfies their curiosity and passion for the genre but also serves as an effective tool for enhancing their English language skills. By integrating such personalized recommendations into AI teaching applications, educators can foster a more dynamic and engaging learning environment that caters to the diverse interests and abilities of their students, ultimately optimizing the educational outcomes and promoting a lifelong love for reading and learning.

3.3 Intelligent Tutoring and Assessment: Immediate Guidance and Targeted Feedback

In the context of AI-assisted English reading instruction, intelligent tutoring and assessment systems play a critical role in enhancing the educational experience. These AI-driven systems provide immediate and precise assistance to students, addressing their specific challenges in real-time. By leveraging advanced algorithms, these platforms can discern areas of student confusion and offer targeted support, such as elucidating complex vocabulary, dissecting grammatical structures, and advising on effective reading strategies. This capability is pivotal in empowering students to overcome obstacles they encounter during the reading process, thereby improving their comprehension and analytical skills.

Moreover, intelligent assessment components within these systems enable continuous monitoring and evaluation of students' progress. Through the analysis of performance data, these

systems can identify areas where students may be struggling and provide personalized recommendations for improvement. The immediacy of this feedback is crucial, as it allows students to adjust their learning strategies on the fly, enhancing the efficiency and effectiveness of their study habits.

The adaptability of these AI systems extends to catering to various learning styles, further personalizing the educational experience. For visually oriented learners, the system can offer graphical representations and visual aids to aid in understanding complex textual information. Auditory learners can benefit from text-to-speech functionalities that convert written content into audio formats, facilitating a deeper comprehension through auditory engagement. This multi-modal approach to learning ensures that students with different cognitive preferences are accommodated, promoting a more inclusive and effective learning environment.

The integration of intelligent tutoring and assessment in AI teaching applications is a testament to the technology's potential to revolutionize education.By providing immediate guidance and targeted feedback, these systems not only support students in their academic pursuits but also contribute to the development of their multiple intelligence, preparing them for a diverse range of future challenges. As AI continues to evolve, its applications in teaching will undoubtedly become more sophisticated, offering increasingly nuanced support to educators and learners alike.

3.4 Intelligent Question Generation and Immediate Feedback: Dynamic Adjustments to Foster Deep Learning

The application of Artificial Intelligence (AI) in educational spheres extends to the realm of intelligent question generation, a feature that is revolutionizing the way students engage with reading comprehension exercises. This technology is capable of dynamically crafting questions that are specifically calibrated to match the evolving proficiency and pace of individual learners. By providing instantaneous feedback, AI systems facilitate a pedagogical environment where students receive direct responses to their answers, allowing for the immediate identification and rectification of mistakes.

Such a system is designed to pose questions that are neither too facile nor excessively daunting, thus maintaining an optimal level of challenge that is conducive to deep learning. It includes a spectrum of question formats, from main idea to detailed comprehension and inferential reasoning, offering a comprehensive assessment of students' abilities to interpret and analyze text. The immediacy of feedback is a cornerstone of this system, as it accelerates the learning process by enabling students to swiftly gauge their understanding, refine their thought processes, and solidify their knowledge retention.

Furthermore, these AI systems are adept at tracking educational trajectories, which enables them to anticipate and prepare for forthcoming learning requirements. This proactive approach ensures that educational content is consistently aligned with students' developing competencies, allowing for a seamless progression in the acquisition of reading comprehension skills. The documentation of student progress through these systems is also invaluable, offering transparent reports that empower students and parents with insights into academic advancements and challenges. This feedback loop is instrumental in shaping informed educational strategies for future learning endeavors, reinforcing the pivotal role of AI in contemporary teaching methodologies.

3.5 Application in Classroom Instruction: Integrating Innovation to Enhance Teaching Efficiency

The incorporation of Artificial Intelligence (AI) into classroom instruction represents a significant leap forward in educational technology, particularly for English language educators. AI's advanced speech recognition capabilities allow for the real-time assessment of students' reading progress and comprehension, facilitating teachers to make data-driven instructional adjustments.

This enables educators to swiftly address specific areas of student difficulty, providing tailored explanations and guidance to enhance understanding.

Intelligent tutoring systems act as valuable adjuncts in the classroom, offering personalized learning materials and immediate support, which in turn alleviates the instructional burden on teachers and augments teaching efficiency. The seamless integration of AI technologies not only makes teaching more adaptable and productive but also enriches the educational experience through enhanced teacher-student and student-student interactions, cultivating a dynamic learning atmosphere.

AI-driven tools, such as intelligent lesson plan generators and interactive online platforms, empower educators with a plethora of resources to devise compelling and engaging educational activities. These tools are pivotal in igniting student interest and fostering a deeper engagement with the subject matter. Moreover, AI's remote teaching capabilities dismantle geographical constraints, ensuring that students in remote locales have access to high-caliber educational content, thus democratizing access to quality education.

The application of AI in classroom instruction is not merely a technological advancement but a transformative approach to teaching that holds the potential to revolutionize educational practices. By streamlining instructional processes and providing personalized educational experiences, AI is redefining the boundaries of traditional classroom teaching, offering a more inclusive, efficient, and effective model for the modern educational landscape.

4. Advantages of AI Technology in High School English Reading Instruction & Traditional Teaching Methods

4.1 Personalized Teaching to Address the Neglect of Individual Differences in Traditional Teaching

Traditional high school English reading instruction has often been criticized for its uniform teaching strategies, which fail to account for the diverse reading habits, interest preferences, and proficiency levels among students. This one-size-fits-all methodology is ill-equipped to address the unique educational requirements of individual learners. In contrast, the advent of Artificial Intelligence (AI) technology has paved the way for a more nuanced and personalized approach to teaching.

By leveraging the capabilities of big data analytics and machine learning, AI can discern subtle student reading levels, habits, and interests with precision. With these insights, AI systems are able to curate a bespoke educational journey for each student, complete with tailored reading materials, targeted exercises, and personalized learning trajectories. This individualized pedagogical strategy not only aligns with the specific needs of each learner but also has been shown to bolster student engagement and enthusiasm for learning.

Moreover, AI's real-time tracking and analytic functionalities enable dynamic adjustments to the content and complexity of teaching materials. This ensures that students are consistently challenged at a level that is both stimulating and accessible, fostering an environment conducive to the improvement of their reading abilities and general literacy. The AI-driven approach to education is thus not only responsive to individual differences but also instrumental in empowering students to reach their full potential, reflecting a significant advancement in the application of AI in teaching practices.

4.2 Intelligent Assessment and Feedback: Overcoming the In Time liness of Traditional Evaluation and Feedback

Within the framework of traditional high school English reading instruction, the evaluation process often hinges on static measures such as homework and exams, which are not only inefficient but also inadequate in capturing the dynamic nature of students' competencies. These

methods are limited in their ability to provide a holistic view of students' capabilities and are further constrained by the time and resources available to educators for delivering feedback. The advent of AI technology presents an opportunity to transcend these limitations and revolutionize the assessment landscape.

AI-driven assessment, underpinned by Natural Language Processing (NLP) and sophisticated machine learning algorithms, facilitates the real-time and nuanced evaluation of students' comprehension and expression in reading. This approach transcends conventional metrics by offering detailed, actionable feedback that is aligned with student learning process. The immediacy of AI feedback allows students to rectify errors swiftly and enrich their grasp of textual analysis and interpretation.

Furthermore, AI systems can continuously monitor and analyze students' performance, offering insights that are invaluable for educators. These data-driven recommendations assist teachers in making informed instructional adjustments, thereby personalizing the learning experience and enhancing pedagogical strategies. The intelligent assessment and feedback system, therefore, not only supports the academic growth of students but also augments the efficacy of teaching by streamlining the evaluative process and infusing it with precision and responsiveness. This integration of AI in educational assessment signifies a pivotal shift towards a more interactive, adaptive, and student-centered approach to learning.

4.3 Enriching Educational Resources and Interactive Formats to Enhance Students' Learning Interest and Engagement

The traditional approach to high school English reading instruction, often limited to textbooks, has been found to be inadequate in fostering a diverse and engaging learning environment. This method frequently prioritizes rote learning and exam preparation at the expense of nurturing genuine interest in the subject and developing autonomous learning skills among students. However, with the advent of Artificial Intelligence (AI) technology, there is a significant potential to transform the educational landscape by enriching both the resources and formats of interaction available to students.

AI, supported by expansive internet resources and big data analytic, can offer a wealth of English reading materials and learning tools that extend beyond the confines of the classroom. By leveraging these technologies, AI systems can curate a personalized selection of literature, scientific articles, news reports, and other educational content that aligns with each student's unique interests and learning requirements. This customization not only piques students' curiosity and enthusiasm for learning but also enhances their linguistic competencies and cross-cultural communication skills.

Moreover, AI-driven immersive technologies such as Virtual Reality (VR) and Augmented Reality (AR) provide students with interactive and experiential learning opportunities that were previously unattainable. These technologies can simulate real-world scenarios, allowing students to engage with the English language in a practical and meaningful way, thus deepening their understanding and retention of the material.

In addition to these benefits, AI platforms facilitate global interactions, enabling students to connect and collaborate with peers from different cultures through online forums and social media.

This exchange broadens students' worldviews and enhances their ability to communicate across cultural boundaries, a skill increasingly vital in today's globalized society. The integration of AI in education, therefore, marks a significant step towards creating a more dynamic, inclusive, and effective learning environment that prepares students for the challenges of the 21st century.

5. Challenges and Limitations of Applying AI Technology in High School English Reading Instruction

5.1 Challenges of Applying AI Technology in High School English Reading Instruction

5.1.1 Challenges of Technological Adaptability and Integration

The primary challenge in integrating AI technology into high school English reading instruction lies in its adaptability and integration. This concerns not only the compatibility of hardware equipment but also the seamless interfacing and efficient operation of software systems. For instance, AI teaching platforms need to be compatible with the school's IT infrastructure to ensure the stability and real-time nature of data transmission. Moreover, AI systems must achieve deep integration with existing teaching resource libraries and learning management systems, allowing teachers to easily access and utilize the analytical data provided by AI to optimize their teaching strategies.

Another crucial aspect is ensuring the stability and reliability of AI technology across various network environments, particularly in remote or poorly connected areas. Guaranteeing the continuity and quality of AI-assisted teaching in such regions is an issue that requires urgent attention.

5.1.2 Matchmaking of Educational Content with AI Algorithms

AI algorithms must exhibit a high degree of flexibility and adaptability when processing English reading materials to address texts of varying topics, styles, and difficulty levels. However, current AI technology still requires enhancement in comprehending complex linguistic structures, recognizing implicit meanings, and understanding cultural contexts. For instance, when dealing with texts rich in symbolism and metaphor, such as fables and poetry, AI may struggle to accurately interpret the underlying messages, thereby affecting the cultivation of students' deep comprehension of the texts.

Therefore, the development of more precise and comprehensive natural language processing algorithms, along with the construction of training datasets that encompass a broad range of reading materials, is key to enhancing the compatibility between AI and educational content.

5.1.3 Meeting the Personalized Needs of Students

While AI technology can offer personalized learning paths and recommendations, precisely capturing and responding to each student's unique learning style, interest preferences, and cognitive differences remains a significant challenge. This requires AI systems to possess not only robust data analysis capabilities but also to integrate multidisciplinary theories from psychology and education to construct more intelligent personalized learning models.

Furthermore, fostering collaboration and communication among students on the basis of personalized learning, and preventing social isolation that may arise from an overreliance on AI, are issues that warrant thoughtful consideration.

5.1.4 The Transformation of the Teacher's Role and Training

The integration of AI technology has prompted a shift in the traditional role of teachers from knowledge disseminators to designers, facilitators, and evaluators of students' learning journeys. This transformation demands that teachers possess enhanced information technology literacy, data analysis skills, and a profound understanding of AI educational tools.

Thus, offering structured teacher training programs, encompassing the fundamentals of AI technology, instructional design methods, and data interpretation techniques, is crucial for facilitating a smooth transition in the teacher's role. Concurrently, establishing communication platforms among teachers to share AI teaching experiences and best practices is an effective way to enhance the overall capabilities of educators.

5.2 Limitations of AI Technology

5.2.1 Limitations in Language Comprehension

Despite significant advancements in the field of natural language processing, AI technology still falls short in grasping the nuances of human language, such as irony, sarcasm, and cultural innuendos, which are complex linguistic phenomena. This limitation may lead to misinterpretations of the intent behind texts during reading comprehension tasks, impacting students' ability to achieve a comprehensive and accurate understanding of the material.

To surmount this limitation, it is essential to continue refining AI language models, particularly by enhancing their understanding and adaptability in the context of diverse linguistic and cultural backgrounds.

5.2.2 Lack of Emotional Understanding and Interaction

AI lacks emotional intelligence and cannot perceive, understand, or respond to students' emotional states as humans do. Emotional factors such as mood fluctuations and motivation during the learning process significantly impact the effectiveness of learning. The non-emotional nature of AI may lead to a lack of necessary emotional support and encouragement for students when they encounter difficulties or setbacks in their studies.

Therefore, integrating the latest research findings from affective computing and human-computer interaction into AI education systems to enhance their emotional understanding and interactive capabilities is an important direction for improving the AI education experience.

5.2.3 Data Privacy and Security Risks

The application of AI technology in education relies on the collection and analysis of vast amounts of student data. However, numerous privacy and security risks are associated with the collection, storage, transmission, and use of such data, including the risks of data breaches, misuse, or unauthorized access. These risks not only compromise students' personal privacy rights but may also pose a threat to the security of the entire educational system.

Therefore, establishing stringent data protection mechanisms, including measures such as data encryption, access control, and anonymization processes, as well as enhancing the oversight and transparency of student data usage, is crucial for ensuring the security of AI applications in education.

5.2.4 Pace of Technological Advancement and Iteration

The rapid evolution of AI technology signifies a continuous emergence of new algorithms, models, and applications, yet it also engenders issues related to the pace of technological updates and iterations. Educators and students are required to engage in ongoing learning and adaptation to maintain contemporary educational competencies and learning skills. However, the demand for continuous learning may clash with the constraints of limited time and resources.

Thus, the development of AI educational tools that are intuitive to use and simple to upgrade, coupled with the provision of ongoing technical support and training materials, is of significant importance in alleviating the burden imposed by technological updates and fostering the widespread adoption of AI technology in the educational field.

6. Conclusion

The integration of AI technology in high school English reading instruction has the potential to comprehensively enhance teaching quality and outcomes. It not only equips educators with a more abundant and diverse array of educational resources and channels but also offers a variety of information dissemination pathways, real-time and effective teaching feedback, and interactive teaching models. This enables the full realization of students' initiative and enthusiasm for learning, and strengthens their cross-cultural communication awareness and skills, thereby improving the

overall quality of talent cultivation. However, it is essential to recognize the challenges and deficiencies in the implementation of AI technology in high school English reading instruction. Some teachers' information literacy and technological application abilities are relatively lagging, which affects the effectiveness of teaching.

Additionally, the integration and sharing of AI teaching resources need to be improved, and issues of data security and privacy protection urgently need to be addressed. Nevertheless, the prospects for the application of AI technology in high school English reading instruction are vast. As technology continuously innovates and advances, AI will increasingly permeate every aspect of basic education, providing robust support for interdisciplinary teaching. It is anticipated that future research will continue to delve deeper into the exploration of AI technology, promoting its extensive application in the field of education.

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References

[1]. Bax, S. (2016). The applied linguistics of English teaching: Realizing synergy between research, theory, and practice. Cambridge University Press.
[2]. Chapelle, C. A. (Ed.). (2017). The encyclopedia of applied linguistics. Wiley Blackwell.
[3]. Chun, D. M. (2018). Multimodal composition in digital environments: Multimodality and electroacies. Routledge.
[4]. Davies, G., & Graff, M. (Eds.). (2005). Artificial intelligence and the future of learning: New possibilities for education. Pedia Press.
[5]. Dudeney, G., & Hirsch, S. (2018). Teaching secondary English in the digital age: Effective practices for the wider reading classroom. Routledge.
[6]. Guo, S. L. (2018). Exploratory community theory model: Research paradigm of online and blended learning. Open Education Research, 24(1), 29–40.
[7]. Hao, W. J. (2022). Application of multimodal teaching models in junior high school English reading instruction [Doctoral dissertation, Xinjiang Normal University].
[8]. Huang, R., & Yuen, A. (Eds.). (2018). Rethinking language teaching and learning in the digital age. Springer.
[9]. Kirkpatrick, M., & Xu, Z. (Eds.). (2018). English language teaching and learning in the digital age: Lessons from China. Routledge.
[10]. Kress, G., & Van Leeuwen, T. (2001). Multimodal discourse: The modes and media of contemporary communication. Edward Arnold.
[11]. Larson, J. (2019). AI and the future of education: Embracing technology to create a more inclusive world. Rowman & Littlefield.
[12]. Li, J., & Liu, L. (2021). Technology-enabled higher education: Large-scale education and personalized training—Logical inevitability and practical mechanisms. Chinese Journal of Audio-Visual Education, 8, 55–62.
[13]. Li, Y. H. (2018). Construction of student learning process evaluation index system under the electronic textbook bag environment [Doctoral dissertation, Northeast Normal University].
[14]. Ling, M. (2019). Teaching design research on educational robot-assisted oral English teaching [Doctoral dissertation, Central China Normal University].
[15]. Liu, X., & Liu, G. P. (2024). A decade of smart education research in China: Focus, dilemma, and breakthrough. Adult Education, 2, 30–36.
[16]. Lu, Y. (2023). The impact of artificial intelligence on English teaching and the exploration of reform paths. TV and University Science and Engineering, 3, 54–58.
[17]. Ma, X. W. (2024). Innovative research on college English multimodal informatized teaching in the era of artificial intelligence. Journal of Hubei Open Vocational College, 37(11), 910+13.
[18]. Ma, Y., Bai, M., & Zhou, Z. (2017). Exploring the development path of artificial intelligence education application in China in the era of smart education—Interpretation and enlightenment of the American report "Planning for the future, meeting the era of artificial intelligence." Research in Audiovisual Education, 38(3), 123–128.
[19]. Ministry of Education. (2019, February 23). The Central Committee of the Communist Party of China and the State Council issue "China Education Modernization 2035" [Electronic bulletin].

Retrieved January 5, 2024, from http://www.moe.gov.cn/jyb_xwfb/s6052/moe_838/201902/t20190223_370857.html
[20]. Ouyang, F., Chen, Z., Cheng, M., Tang, Z., & Su, C. Y. (2021). Exploring the effect of three scaffoldings on the collaborative problem-solving processes in China's higher education. International Journal of Educational Technology in Higher Education, 18(1), 1–22.
[21]. Park, S. J., Han, J. H., Kang, B. H., & Shin, K. C. (2011). Teaching Assistant Robot, ROBOSEM, in English class and practical issues for its diffusion. International Journal of Educational Technology, 8, 8–11.
[22]. Thomas, M. (Ed.). (2012). Contemporary computer-assisted language learning. Continuum.
[23]. Thomas, M., & Reinders, H. (2015). Teaching English with technology: Practical ideas for the classroom. Pearson.
[24]. Wang, Q. M. (2024). Clarifying goals, finding fulcrums, and achieving new successes: Integrated collaboration to create the "three business cards" of the National Open University. Online Learning, 6, 26–30.
[25]. Warschauer, M., & Matuchniak, T. (Eds.). (2010). Proceedings of the 3rd international conference on technology, knowledge and society. Baywood Publishing Company.
[26]. Wu, J. (2017). The effect of three scaffoldings on the collaborative problem-solving processes in China's higher education. International Journal of Educational Technology in Higher Education, 18(1), 1–22.
[27]. Yang, H. (2024). Exploration of the cultivation path of critical thinking ability in the basic stage of English major based on multimodality. Foreign Language Audio-Visual Teaching, 1, 93–100+125.
[28]. Zhang, X. Y., & Qi, J. H. (2019). A study on the mixed language teaching model based on the RCoI scale—Taking the "College English" course at Shenzhen University as an example. Modern Educational Technology, 29(9), 66–72.
[29]. Zhang, Y. (2018). A study on the construction of smart classrooms in middle school English [Doctoral dissertation, Chongqing Normal University].
[30]. Zhang, Y. (2019). Research on artificial intelligence promoting the transformation of college English teaching. Education Modernization, 6(58), 46–47.
[31]. Yu, S. (2018). The future role of artificial intelligence teachers. Open Education Research, 24(1), 16–28.