

Intelligent Reading Model in Digital English Classroom: Promoting Reading Ability and Innovating Educational Technology

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Abstract: *In the wake of economic globalization and the burgeoning information age, the societal requisites for talent have undergone profound shifts. This era demands the nurturing of intellectual talents, encompassing innovation, critical analysis, and proficiency in cross-cultural communication skills. Consequently, the concept of intelligent education has crystallized, aspiring to foster an ethos of intelligent learning coupled with novel pedagogical approaches. This paradigm shift aligns with the challenges of contemporary talent development. As we delve into the digital era, the educational landscape is increasingly leaning towards digitalization and intelligent methodologies, especially in language education. The evolving educational curriculum standards have heightened the expectations for students' mastery in foreign language communication and holistic language application. Digital wisdom teaching emerges as a pioneering pedagogical approach, enticing educators and learners alike with its attributes of accessibility, ubiquity, and customization. This approach has revolutionized the paradigm of supplemental reading, albeit with its own set of challenges, including the abundance and variety of resources that sometimes result in clutter and a lack of structured guidance. This paper explores the implementation of the cross-cultural English reading community and the virtual reality-based English reading lesson. These innovative models not only offer a more immersive and interactive English learning experience but also foster the development of critical thinking, collaborative ethos, and cross-cultural communication competencies. These acquired skills and experiences are poised to be invaluable assets in the students' academic and professional track, equipping them to adeptly navigate the rapidly evolving societal and workplace demands.*

Keywords: *Digital learning; Intelligent reading; Informatization; English teaching*

1. Introduction

The advent of information technology has catalyzed profound transformations in the educational landscape, particularly in English language instruction, steering it towards a digital-centric approach. Since 2011, *Compulsory Education English Curriculum Standards* tells that in this modern digital era, traditional pedagogies are gradually giving way to more innovative and digitally-focused teaching methodologies. This transition extends beyond the mere integration of novel technological tools; it signifies a fundamental shift in pedagogical philosophies and approaches. The drive towards an informatized English teaching framework underscores a broader trend towards intelligent and adaptive teaching strategies to navigate the complexities of the digital age.

The objectives outlined in the *Educational Informatization 2.0*, initiated by the Ministry of Education in 2018, aim for comprehensive information-based teaching coverage for all educators and school-age students by 2022, coupled with the development of digital campuses encompassing all educational institutions. This directive places digitalization and intellectualization at the forefront of China's educational evolution. The rapid development of information technology and rapid social changes have put forward higher requirements for talents, and training intelligent talents with high intelligence and creativity has gradually become the starting point and landing point of wisdom classroom.^[4] English education, in particular, faces escalating demands in terms of students' foreign language communication and comprehensive language application skills, driven by continuously evolving curriculum standards.

Mastery of knowledge is acquired by learners in specific places with the help of others, relying on specific knowledge resources and using means of meaning construction.^[5] In recent years, digital reading has been rapidly penetrating the field of education as an innovative method. This approach has garnered

attention from teachers and students alike due to its convenience, universality, and personalization, consequently redefining extracurricular reading. However, this new reading environment, despite its richness and diversity of resources, is not without challenges, such as disorganized content and a lack of guidance. Therefore, it is crucial to develop a smart reading environment that empowers learners with more autonomy. Establishing a systematic guidance model and evaluation scheme is essential to address the issue of unstructured personal learning and to enhance the efficiency of reading instruction. In the digital age, the shift towards smart education is imperative. Education's pursuit is no longer merely about acquiring knowledge; it has evolved into a transition towards intelligent education. In this process, acquiring wisdom has emerged as the ultimate goal of education and learning, forming the foundation of national development. The digital age not only introduces new challenges for individuals to develop wisdom through learning but also offers more opportunities and possibilities for personal growth.

In the digital era, the essence of education transcends mere knowledge transfer, orienting towards the cultivation of wisdom, a cornerstone for national development. The integration of smart reading models in digital English classrooms epitomizes this shift, presenting novel opportunities and challenges for educators and learners alike. Consequently, there is an imperative to continue exploring and advocating these innovative methods. Such efforts will not only advance English reading proficiency and educational technology but also contribute to the cultivation of the intelligent talent required for future societal needs.

2. Background

2.1. Digital Learning

The paradigm shift from traditional classroom learning to digital-age reading learning primarily revolves around the transformation of “knowledge” into “wisdom”.^[6] In the current landscape, innovative concepts in learning activity design are continually emerging, grounded in activity theory as their foundational research and development basis. In the realm of information age education, the fusion of “digital education” and “smart education” represents the inevitable trajectory of educational progress. The integration of mobile communication devices, cloud-based educational platforms, cloud resources, cloud storage, and the potential impact of wearable devices and virtual laboratories, driven by virtual reality technology, is reshaping the traditional roles of teachers and students. This shift not only affects learning methods and evaluations but also challenges deep-rooted norms in teaching goals and orientations. Adapting to these environmental changes and leveraging technology’s efficiency and benefits in practical application pose significant challenges in education.

The incorporation of information technology into classrooms and the ensuing reform demand increasingly higher competencies from educators, signaling an urgent need for educational and teaching reform. Currently, there is a noticeable deficiency in fostering students’ autonomous abilities, often limited to classroom explanations and emphasis by teachers, with limited practice opportunities and scant extracurricular expansion. Traditional reading classes, characterized by limited information, delayed feedback, and singular methodologies, are insufficient in meeting the cultural, emotional, and differentiated teaching needs of students. The interactive, resource-rich, timely, and efficient nature of digital learning addresses these shortcomings.^[2] Realizing educational reform's core requires teaching reforms to penetrate classroom levels genuinely.

2.2. Intelligent Reading

Intelligent reading represents a brand new way of learning, characterized by learner-guided, learner-centered approaches, offers a holistic learning experience. Utilizing wireless network-based mobile computing, it overcomes temporal and spatial limitations, enabling learners to engage in individual or collaborative learning activities.^[1]

Intelligent reading presents the characteristics of multiple reading, extending beyond single texts to navigating through multiple texts simultaneously, a hallmark of hypertext’s non-linear, interconnected, and boundaryless. Digital reading, unlike traditional linear paper-based reading, allows exploration of multiple texts concurrently, adding variety and connectivity to the reading experience. It also introduces tactile reading, enriching the sensory dimensions of reading.

Intelligent reading also has the characteristics of enhancing reading. This means that digital text is integrated with augmented reality technology to form enhanced context. This augmented context, layered over traditional text information, incorporates real scenes, sounds, and special effects, enriching the

sensory experience and fostering active interaction.^[3] Readers can engage with others' comments, express opinions, and add information, deepening their understanding and broadening their reading experiences.

Finally, intelligent reading is a kind of social reading. At different stages of reading, learners use social media to access related information, supporting real-time communication, which encourages active interactions among learners, teachers, and the content, facilitating knowledge, information, idea, and emotion exchange.

In intelligent learning environments, learners are not confined by time, space, or environment. Traditional linear reading education cannot suffice for this new non-linear reading mode. Modern reading education must integrate a learning mode centered on hypermedia, positioning learners as the judges and creators of various information. This approach necessitates learners to actively engage their reading skills, critical thinking, and innovative thinking.

In light of the new English curriculum standards and the trends in educational and classroom reform, it is imperative to explore English reading teaching modes in smart classrooms. Optimizing existing reading modes and addressing classroom issues in pilot smart classroom schools requires studying the implementation process. Based on the theoretical foundation of smart classrooms and the actual teaching situation in pilot schools, targeted solutions are proposed to enhance the effectiveness of smart classroom implementations in English reading teaching and strengthen the positive impact of information product teaching on students' reading abilities.

3. The Teaching Approach of Intelligent Reading in the Digital Age

3.1. Creation of Cross-Cultural English Reading Community

Case 1: Take Unit 1 of *English 2019ed Book1(PEP) Festivals Around the World* as an example, this paper analyzes how to create a cross-cultural English reading community. The topic of this unit is festivals and some traditional activities in festivals, so that students can learn about Chinese and Western festivals and customs, so as to expand the social and cultural background and increase the knowledge of transnational culture.

Step 1: Choose the teaching content and platform

In this case, the teacher first selected the unit in the textbook, and the unit was titled *Festivals Around the World*. This article is not only interesting, but also full of cultural differences, which is suitable for guiding students to conduct cross-cultural English reading. Then the teacher choose the digital learning platform suitable for cross-cultural English reading. These platforms include online book review platforms and language learning forums. Both platforms have user-friendly interfaces capable of supporting multilingual reading and interactive functions. They provide a space for students to share, learn and interact.

Step 2: Community creation and rule-making

The teacher creates a specific community or topic group on the chosen digital learning platform called the Intercultural English Reading Community. The teacher then adds students to this community one by one, making sure that each student can access and participate in the community activities.

The teacher defines the goals and rules of the community. The goals of the community include stimulating students' interest in reading in English, getting them to think deeply about what they read, improving their reading skills, and promoting cross-cultural communication and understanding. At the same time, teachers set rules such as respecting the views of others, actively participating in discussions, and encouraging cross-cultural communication.

Step 3: Share reading experience and discuss content

Students are asked to start reading the selected article *Chinese New Year Celebration*. They shared their reading experience in the community, including interesting information they found in the article, what confused them, and their personal experiences related to the content of the article. This sharing helps students understand the text more deeply and also allows them to build stronger bonds in the community. Students begin to discuss the content of the article in the community. They ask questions, answer questions from other members, and share their understanding and opinions about the article. This discussion inspires deeper thinking and helps students understand the cultural differences in the essay and the meaning behind it.

Step 4: Cross-cultural interaction

One of the hallmarks of a community is its diversity. Students interact with community members from different countries or regions, sharing the celebrations and cultural traditions of their respective countries. This cross-cultural interaction helps students to understand the world more broadly, respect different cultural backgrounds, and develop their intercultural communication skills.

Step 5: Reflect and summarize

At the end of the discussion, students are encouraged to reflect on their learning experience in the community. They can take stock of their gains, changes in perspectives, and the importance of cross-cultural communication. This reflective process helps students deepen their understanding of what they have learned and provides opportunities for improvement.

In this case, by engagement in a cross-cultural English reading community presents students with continuous opportunities to read in English. Their active participation in sharing and discussing articles not only enhances their vocabulary and comprehension skills but also boosts their reading speed and fluency. His regular practice facilitates a deeper understanding of English texts, effectively diminishing language barriers and elevating their reading proficiency. The community discussions foster critical thinking, encouraging students to question, analyze, and logically reason through the content of the texts. This nurtures their ability to critically assess the credibility and relevance of information in complex texts.

At the same time, community activities emphasize the importance of cooperation and teamwork. Students must interact with other members of the community to discuss and share. They need to respect the views of others while expressing their own in order to facilitate meaningful discussion and interaction. This collaborative experience helps develop students' teamwork and social skills, which are of great value both in their future studies and in their careers. In addition, the members of the community come from different countries or regions, and students have the opportunity to communicate across cultures. They share the cultural celebrations and traditions of their respective countries and learn about the differences and similarities between different cultures. Such cross-cultural exchanges helped students to understand the world more broadly, respect diversity and improve their intercultural communication skills. This is very important for dealing with international affairs, cross-border cooperation and international socializing in the future. By participating in interesting and meaningful community activities, students develop a strong interest in English reading. They no longer see reading as a monotonous and tedious task, but as a pleasurable learning experience. This positive attitude towards learning will motivate them to continue reading and to volunteer to learn English reading in depth.

3.2. *Virtual Reality English Reading Class*

Case 2: In this case, the teacher chose Shakespeare's *Hamlet* to do the whole book reading, aiming to improve high school students' English reading ability and critical thinking by introducing virtual reality technology through the intelligent reading mode in digital English classroom. Students will enter different English reading scenes through virtual reality headset, interact with characters in the text, and have a deep understanding of the story plot and cultural background.

Preparation for the course:

Teachers lead students to the virtual simulation teaching laboratory, configure the virtual reality headset for each student, and make sure that students understand the basic operation, students need to read the relevant text of the course in the preview stage.

Step 1: Course introduction and virtual reality experience

At the beginning of the course, the teacher first gives a brief introduction to the content and objectives of the course. Teachers can share with students that this lesson will delve into Shakespeare's classic *Hamlet* and explain that the main goal of this course is to provide an immersive English reading experience through virtual reality technology to help students better understand complex texts and develop critical thinking.

Next, students put on virtual reality headsets and enter a virtual *Hamlet* scene or re-enactment of a historical event. In the virtual environment, students will place themselves in the plot of the play, interact with characters in the text, and explore this virtual literary world. They can walk into the castle and have conversations with Hamlet, Ophelia and other characters to feel the emotion and conflict of the play.

Step 2: Virtual Reality English reading

Students begin reading related texts in a virtual environment, which could be a scene from Hamlet or a description of a key scene. They can begin reading by browsing freely or triggering triggers in the virtual environment. This reading process is interactive and students are free to choose how and at what speed they read.

Students can not only read the text, but also have a dialogue with the characters in the virtual environment at any time. They can ask Hamlet questions about his inner feelings, discuss her emotional troubles with Ophelia, or discuss political intrigue with Polonius. This interaction provides a deeper understanding and emotional connection.

During the reading process, students may encounter some questions or puzzles. Hints and resources may be provided in the virtual environment to help students solve these problems. At the same time, students are encouraged to share their findings and perspectives with other classmates. They can discuss in chat rooms or forums in virtual environments to exchange understanding and doubts about the plot, which helps them think more deeply about the text.

Step 3: Group discussion

Students are divided into small groups, each consisting of 4 to 5 students. These groups will work together for the remainder of the lesson to discuss their reading experience and understanding of the play in virtual reality.

Group members will share their reading experiences in the virtual environment, including interactions with characters and problems solved. They can talk about how they felt in the virtual environment, whether there was a new understanding or perspective, and how they applied English reading strategies to understand complex texts.

Each group was asked to ask at least one critical question, which could be about the text's theme, the motivations of the characters, or the writer's writing choices. These questions will be discussed with the class in the next step.

Step 4: Class share and summarize

Each group will share their discussion and critical questions raised. This sharing process helps students learn about other groups' perspectives and issues and expand their understanding of the text. The class will work together to discuss critical issues raised by each group. This discussion can prompt broader reflection and analysis, leading students to explore aspects of the text in depth.

Finally, the teacher will summarize the students' perspectives and questions raised, emphasizing key English reading strategies and critical thinking. Teachers will also use data from the lab to analyze students' class engagement and evaluate their performance and interaction in virtual reality. Students will also receive feedback and summaries to help them further improve their English reading skills and critical thinking.

The implementation of virtual reality technology in reading allows students to immerse themselves in complex texts, interact with characters, and gain profound insights into narratives and themes. This interactive learning approach not only piques interest but also sharpens reading comprehension and analytical skills. By asking critical questions and participating in collaborative discussions in a virtual environment, students do not just passively accept the text, but actively participate in deep thinking about the text. Engaging in critical inquiry and collaborative discussions within a virtual setting promotes active engagement and deep contemplation of the texts, thereby enhancing critical thinking skills.

At the same time, students in the virtual environment can interact with the characters in the text, as well as share their opinions and problem-solving strategies with fellow students. This interaction promotes the establishment of a collaborative and learning community, where cooperation and knowledge sharing among students contribute to a common understanding of the text and the improvement of reading ability. And the engaging way of learning provided by virtual reality motivates students to learn. The immersive and engaging nature of virtual reality learning further motivates students, sparking interest in English reading and leading to better academic outcomes.

Finally, virtual reality enables students to explore and interact with texts in a more profound manner. This deeper engagement allows students to more fully grasp the emotions, plot, and motivations within the texts, leading to a richer understanding. Additionally, virtual reality technology tailors the learning experience to individual student feedback and interaction, catering to diverse learning needs and allowing each student to progress at their own pace.

4. Discussion

The implementation of cross-cultural English reading communities and virtual reality English reading courses has enriched students' learning experiences significantly. Not only do these initiatives enhance English reading abilities, but they also foster critical thinking, encourage collaboration and interaction, boost motivation, deepen textual understanding, and facilitate personalized learning. Such educational technology innovations introduce new possibilities to English classrooms, offering more engaging and effective ways of learning.

The intelligent reading model in digital English classroom is indispensable today. This educational approach not only improves students' English reading skills but also plays a significant role in cultivating critical thinking, enhancing collaborative abilities, and expanding cross-cultural communication skills. These key competencies and valuable experiences extend beyond the classroom, laying a solid foundation for students' future academic and professional endeavors.

Through these case studies, students are not merely passive recipients of English reading materials; they actively engage in the process. They learn to pose profound questions, analyze viewpoints within texts, and engage in reasoning and logical thinking. Such critical thinking is one of the key skills in modern society, essential for academic success and impactful in everyday life and career development. Thus, these case studies provide a platform for students to exercise and deepen their critical thinking, aiding them in a more profound analysis and interpretation of information. Moreover, collaboration and teamwork form a significant part of these case studies. Students are encouraged to share perspectives, discuss issues, and collaboratively resolve challenges within groups. This cooperative experience not only aids in a better understanding of English texts but also cultivates teamwork and social skills. In today's professional environment, the ability to collaborate effectively with others is crucial, and these experiences prepare students to adeptly handle future career challenges. Additionally, these case studies highlight the importance of cross-cultural communication. Students have the opportunity to interact with peers from diverse countries and cultural backgrounds, sharing their own national celebrations and traditions. Such cross-cultural interactions help students gain a broader understanding of the world, foster respect for diversity, and enhance cross-cultural communication skills. In an era of globalization, possessing cross-cultural sensitivity and communication abilities is vital for a successful career.

5. Conclusions

The intelligent reading model in digital English classrooms not only offers students an innovative way to learn but also provides teachers with more creative and attractive teaching tools. With the continual evolution of digital technology, we should delve deeper into exploring and promoting these innovative methods to enhance English reading skills and better meet students' educational needs. This has positive implications for the further development of educational technology and the holistic growth of students.

As the global economy integrates and the era of knowledge explosion arrives, society's demand for talent is shifting from knowledge-based to innovation-capable, wisdom-oriented individuals. The concept of intelligent education, along with new classroom models, aligns with modern society's talent cultivation requirements. In the digital age, education oriented towards wisdom has become an inevitable trend, transitioning from the mere pursuit of knowledge accumulation to the cultivation of wisdom. Gaining wisdom is not just the ultimate goal of education and learning but also a crucial pillar of national development. In today's information society, wisdom has become an indispensable basic competency and survival skill. The process of acquiring wisdom involves evolving from non-existence to existence, from acquisition to possession, and from application to creation. In this societal context, which seeks wisdom-oriented talent, the rapid development and widespread application of modern information technology have made this new form of education increasingly popular.

However, intelligent education is not just a trend but a necessity. It offers learners broader learning opportunities and richer experiences. In this educational model, we are not just acquiring knowledge but also cultivating innovative thinking, critical reasoning, and teamwork skills. Intelligent education places learners in an open, interactive, and cross-cultural learning environment, aiding in the development of comprehensive competencies, enabling them to stand out in increasingly complex social and professional settings.

Therefore, as digital technology continues to evolve and become ubiquitous, intelligent education will remain a key topic in the field of education. It offers students more diversified and personalized

learning methods and provides educators with richer teaching tools. In the future, we should continuously explore and promote this innovative educational model to foster individual wisdom, contributing to the progress and prosperity of society.

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