



Exploring the Path of Digital Intelligence Empowerment in University English Teaching Reform

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Abstract. With the widespread introduction of artificial intelligence (AI) in the field of education, digital empowerment is driving the transformation and upgrading of traditional teaching methods, presenting new opportunities and challenges for smart university English teaching. Against this backdrop, this article explores the changes AI brings to university English teaching and offers related insights. By leveraging technologies such as big data for intelligent analysis of knowledge points and uncovering ideological and political elements within teaching content, the traditional boundaries of time and space are transcended, fostering a deep integration of digital technology with real teaching scenarios. This integration aims to restructure and reorganize teaching activities, ultimately improving the quality of university English teaching and enhancing students' English proficiency and higher-order abilities.

Keywords: Artificial Intelligence; University English; Teaching Model

1 Introduction

In recent years, artificial intelligence technology has achieved significant breakthroughs. We witness the rapid development of image recognition, voice recognition, language translation, which are closely related to language services. Digital technology has brought profound changes to higher education and reshaped the traditional educational system. Digital transformation has become a core topic in the reform, development and practice of contemporary higher education worldwide (Wu Yan, 2023)^[1].

The "College English Teaching Guidelines" (2020 Edition)^[2] emphasizes that "in the era of information and intelligence, multimedia technology, as well as modern information technologies such as big data, virtual reality technology and artificial intelligence technology, have become important means of foreign language teaching." It encourages teachers to "fully utilize online teaching platforms to provide students with a combination of online and offline teaching and diversified self-learning resources, prompting students to transform from passive learning to active learning." However, the current application of digital technology in college English teaching is still in the basic stage, with insufficient abilities of digital technology application among teachers and students. This paper is based on the actual situation of college English teaching in

China and focuses on exploring practical paths for the digital transformation of college English teaching. It aims to provide a reference for further improving the quality and efficiency of college English teaching.

2 The Significance of Applying AI Technology in English Teaching

Chen Huimin et al. (2024)^[3] pointed out that large language models are based on massive data through self-supervised learning, possessing strong capabilities to adapt to and complete tasks in multiple scenarios. These models are based on deep learning, utilizing neural networks and vast amounts of textual data to train machines to learn the vocabulary, syntax, semantics, discourse, and other aspects of human language. Currently, AI technologies such as text recognition, image recognition, speech recognition, machine translation, speech synthesis, and natural language understanding have been practically applied in English teaching. The application of AI technology in English teaching effectively changes students' language input and output methods, strengthens interactive communication between teachers and students and among students, encourages students to actively acquire English knowledge, and enhances the personalization of students' English abilities and proficiency. The foreign scholars focus on the study that Advanced AI technologies have been identified as potential ways for learners and teachers to apply generative AI (GAI) (Hong 2023^[4]; Kohnke et al. 2023^[5]) and the ethical norms for applying GAI (Nguyen et al. 2023)^[6]. In China's foreign language education field, discussions on generative AI are also increasing, involving the impact of ChatGPT on foreign language teaching practices, teaching models and teaching methods (Hu Zhuanglin 2023^[7]; Qin Ying 2023^[8]; Yang Gang, Gu Shimin 2023^[9]), its role in promoting autonomous learning (Zhang Zhenyu, Hong Huaqing 2023)^[10], and its impact on the role of teachers (Yu Yinlei, Rao Hui 2023)^[11]. These studies reveal the potential value of generative AI in the education field, the practical challenges it faces, and the possible future impacts, providing important insights for effectively applying this technology in education. However, academia still needs to systematically analyze the principles, paths, and main directions of applying large language models in foreign language teaching based on the characteristics and functions of these models.

3 Teaching Design

3.1 Teaching Content

This unit is selected from *New Horizon College English Reading and Writing*, with the theme "Heroes of Our Time." The unit begins by introducing a Chinese hero—Yuan Longping, a renowned rice scientist who is truly a food hero. Yuan Longping dedicated his entire life to the development of hybrid rice, making significant contributions to the nation and the world. The author does not simply chronicle his life in a linear fashion; instead, the depiction of the memorial service at the end of the text echoes the descrip-

tion of a harvest dream at the beginning. Through extensive use of numerical descriptions and predictions of Yuan Longping's achievements, combined with storytelling and data citation, the article becomes more vivid and moving, leaving a deep impression on readers. Students are also guided to discuss the definition of the term "hero" in the new era. In the past, "heroes" were synonymous with great leaders; today, "heroes" can also refer to ordinary people like us who possess extraordinary courage and selfless dedication, and who are willing to take responsibility and act immediately in the face of danger.

3.2 Design Concept

Following a "student-centered" teaching philosophy and adhering to an education goal-oriented approach, the teaching team has created the SMART university English smart teaching paradigm: S (Student-center), M (Multi-learning), A (Assessment), R (Rich-resources), and T (Three main classroom system). This paradigm aims to provide students with a personalized, practical, and diverse learning experience. The unit is designed based on the SMART teaching paradigm, and the classroom teaching process is organized according to the BOPPPS teaching method, which stands for Bridge-in (B), Objective (O), Pre-assessment (P), Participatory learning (P), Post-assessment (P), and Summary (S). The primary teaching focus is on developing language application skills while integrating educational objectives, both explicitly and implicitly, into the teaching process. Diverse teaching activities are designed to stimulate students' interest in independent and collaborative inquiry. A comprehensive evaluation system is established to guide students in completing self-reflection reports, summarizing and reviewing what they have learned, and assisting teachers in summarizing teaching highlights and identifying areas for improvement.

3.3 Teaching Procedures

After solving the problem of "what to teach?", we need to address the question of "How to teach?" This paper adopts BOPPPS method with the help of AI tools to facilitate effective classroom interaction. The teaching procedures based on BOPPPS is as shown in Table 1.

Table 1. AI-assisted teaching procedures

	Steps	Contents
Before Class		Watch Video: "What makes a hero." Offline Preparation: Students preview Text A, considering the qualities and connotations of heroes in modern society, and post their thoughts on Unipus
In-Class	Bridge-in	Teacher checks students' preparation by asking about the main idea of the text.
	Objectives	1. Master key vocabulary and phrases related to the theme of the text. 2. Apply scanning techniques to distinguish the role of data citations in the text. 3. Use the "QEC" writing method and data citations to tell a hero's story and understand the spirit of heroism.

	4. Evaluate oral expression using a rating scale.
Pre-assessment	<p>1. Group Discussion: Watch the video, introducing the topic of this unit by exploring the qualities of heroes in contemporary society. Students, using their pre-class preparation, discuss the following questions: Who deserves to be called a hero? Why? What qualities do you think make a hero?</p> <p>2. Vocabulary Reinforcement: Students summarize key vocabulary describing heroic qualities from the video and reinforce memory through a puzzle game.</p>
Participatory Learning	<p>1. Text Structure Analysis: In groups, students organize the text's structure, using their pre-class preparation to divide the text logically.</p> <p>2. Reading Skill Training: Introduce and practice scanning techniques. The teacher designs questions based on Text A, guiding students to scan the text and answer questions by locating data within the paragraphs. Using an example from Text A, students analyze a data-supported paragraph to understand its structure.</p> <p>3. Writing Skill Training: Guide students to identify and pair advanced vocabulary from a model essay. Create a word cloud of the vocabulary and submit it on Unipus. Explain the "QEC" (Question-Example-Conclusion) writing method:</p> <ol style="list-style-type: none"> (1) Narrow the focus and concentrate on key words in the topic; (2) Flexibly use examples from movies and TV shows; (3) Cite famous quotes or theories to support arguments; (4) Make good use of available model essays.
Post-assessment	<p>1. Watch Video: A video integrating ideological-political education, explaining how traditional Chinese thought and culture have shaped numerous contemporary heroes.</p> <p>2. AI-Assisted Research: Guide students to use AI tools to research exemplary figures in the railway industry, read about their lives and achievements. Based on the video and supplementary reading materials, students create a mind map, which is then presented by group representatives.</p> <p>3. Peer Evaluation: Students vote on the best mind map and oral presentation via an online intelligent platform. The teacher summarizes the highlights and areas for improvement, laying the groundwork for the homework assignment.</p>
Summary	Review the lessons and confirm the achievement of course objectives: 1. Mastery of key vocabulary and phrases related to the text's theme. 2. Mastery of scanning techniques and understanding the significance of statistics in paragraphs. 3. Ability to tell China's story and comprehend the spirit of heroism. 4. Use of a rating scale to evaluate oral expression.
After Class	<p>Homework: Write a report on "Heroes of Our Time" using the key vocabulary and data citations. Apply the "QEC" writing method and submit the report on the iWrite platform.</p> <p>2. Create a video to introduce a hero on AI video-making platform 3. Complete a self-evaluation form and participate in peer voting to select the best report.</p>

3.4 Diverse Evaluation Methods

The evaluation should go beyond language proficiency and include assessments from the perspectives of ideology, values, and attitudes (Zhang Jingyuan, Wang Na, 2020)^[12], forming a multi-dimensional assessment of language, culture, and values.

Therefore, the evaluation of students' works, which tell Chinese stories through digital storytelling, should focus on language expression and cross-cultural strategies.

Secondly, since ideological- political education is subtle in form, its effectiveness should primarily be evaluated formatively, spanning the entire learning process of using English to tell Chinese stories digitally. Evaluation should gather information from teachers, students and audiences, emphasizing diagnostic and formative assessments to achieve "learning through evaluation". At the end of the course, feedback is obtained through joint reflections by teachers and students, teacher observations, student interviews and student surveys. This feedback is used to iteratively optimize course design, improve teaching effectiveness and genuinely enhance students' English digital storytelling abilities.

In addition, we rely on the evaluation functions of online platforms, combined with teachers' evaluations, to record and measure students' performance both in and out of class. AI's big data learning process tracking technology is utilized to conduct comprehensive, multi-dimensional tracking of students' learning progress. This includes collecting and extracting reliable data, objectively recording, analyzing and storing students' learning behavior data, such as online classroom participation and extracurricular activities. Based on this process data, learning behavior profiles are established, resulting in visual and dynamic analysis reports. These reports, combined with qualitative analysis, are used for competency assessment and to validate learning outcomes. Teachers can then diagnose issues identified in the visual reports by conducting further analysis and reasoning. Finally, timely feedback is provided to promote learning through evaluation.

4 Conclusions

Applying AI technology in college English teaching, deeply exploring its potential, and guiding students to change their learning methods to enhance their practical English learning experience. Beyond teaching basic language skills, university English courses should leverage digital intelligence technologies and disciplinary strengths to update digitalized teaching resources and evaluation models, thereby creating a new ecosystem for smart teaching classrooms. In the practice of promoting smart teaching in university English courses, it is essential to comprehensively apply modern information technology to reshape the structure, processes, and other aspects of educational governance, fully advancing the digital and intelligent transformation of education. This will help build a harmonious, developmental, and sustainable classroom environment.

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