Research on the Reform Path of College English Teaching in the Era of Artificial Intelligence

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Abstract: The development of a new round of artificial intelligence (AI) science and technology provided good technical support and condition guarantee for college English teaching, but it also brought new challenges. It is necessary and inevitable for English teaching to experience reform and innovation. China's AI digital teaching transformation is in the exploratory stage, and AI teaching mode has become the focus of future teaching development. Herein we propose a research method of integrating AI tools in college English teaching to adapt to the personalized learning of the new generation of college students, make the teaching process efficiently integrate the tide of the development of AI, promote the development of education evaluation system more accurately, and provide theoretical and data references for college English teaching reform.

Keywords: College English; Artificial intelligence; English teaching

1. Introduction

Since the birth of artificial intelligence, it has quickly garnered people's attention. From factory sites to high-tech enterprises, from farmland to universities, from express delivery to sophisticated weapons, and from work to life, artificial intelligence seems to occupy every corner around us overnight. The wave of the globalization of artificial intelligence began in Western countries with developed science and technology and economic strength. English is a compulsory course for Chinese college students and is also the most frequently used language for communication in the world, so the impact on English teaching and education is more direct and intense. In general, the grammar and use of English are more in line with the original intention of artificial intelligence development. At present, Chinese university education has begun to attach importance to the development of artificial intelligence from various professional fields, and they want to leverage its initial and dividend period of development, open up the latest development strategy for the profession and direction, and become the leader of the industry. As an important part of university education in China, English teaching has obviously been deeply affected. From the organizational structure of basic courses and content, the teaching methods and communication channels of teachers and students, to the future layout of high-end talents, all need to adapt to the catalysis and promotion of artificial intelligence technology. Teachers, especially older teachers with

rich experience, need to learn the current information technology, actively use information tools and network platforms, and even take the initiative to create new artificial intelligence-related teaching methods and models, to contribute to students' learning in the new era, develop new ideas for university education, and provide new exploration and references [1]. It can be found that the reform path mainly includes the following aspects.

2. Human-machine cooperative intelligent teaching resources

The advent of artificial intelligence technology has enabled the creation and utilization of college English digital teaching resources, which are supplemented by traditional English teaching materials such as textbooks and reference books [2].

On the one hand, schools can develop more high-quality online English courses, such as inviting experts or excellent teachers in the field of English education to give video lectures to explain English learning to students and handouts, covering English key vocabulary, grammar analysis, explanation of example sentences, exercises, etc. On the other hand, teachers can use artificial intelligence technology to generate high-quality pictures and charts with rich interactive elements and combine them with English text, audio, and other teaching materials. Online libraries, MOOCs, TED Talks, and other platforms are used to build English course databases and embed them in mobile learning applications.

3. Data-driven intelligent learning and teaching processes

The essence of artificial intelligence is data-driven supported by multivariate data [3]. Data-driven human-machine collaborative preview not only helps English learners solve basic language problems encountered in pre-class preview, but also encourages English learners to think deeply, explore, and complete challenging and inspiring tasks. It stimulates English learners' reading breadth and depth to efficiently finish the pre-class preview. At the same time, artificial intelligence supports multi-dimensional comprehensive analysis based on college English teaching syllabus, teaching purpose, and teaching content, combined with the different data of learning characteristics such as knowledge background, cognitive level, learning expectation, and learning interest uploaded by each English learner. It then makes personalized preview plans according to learners' levels and pushes them to each learner in stages. Each learner can conduct personalized previews and optimize learning methods, improving learners' ability to think and explore knowledge and personal comprehensive literacy, and efficiently and quickly improve preview efficiency. Human-machine collaborative lesson preparation can continuously collect real-time data, stage data, and prediction data completed by learners for teachers, carry out accurate, objective, and large-scale multiple analyses, conduct comprehensive assessments of English learners with different abilities from different stages and degrees, and help teachers fully understand the preview situation of each learner [4]. According to the preview situation, massive information and teaching resources are collected to provide support for teachers' lessons.

According to the analysis results of artificial intelligence, teachers adjust and integrate teaching resources in combination with the content and difficulty of college English courses, design targeted teaching plans and overall teaching implementation strategies, match with the teaching design extracted by artificial intelligence, and complete the teaching preparation activities.

4. Human-machine cooperative intelligent teaching means and classroom teaching design

Artificial intelligence-based human-machine collaborative precision intelligent teaching realizes artificial

intelligence-enabled college English teaching [5]. Artificial intelligence updates and adjusts college English classroom teaching design in real time. It monitors and intervenes with English learners using real-time multi-modal technology such as image and voice recognition and expression picture processing, carries out accurate chemical situation analysis and management for each English learner, updates and adjusts the teaching plan and teaching design in real time, sets the next teaching path and predicts the teaching results, and improves the timeliness of classroom teaching [6]. Teaching activities are a complex process, but artificial intelligence is relatively rigid and has mechanical thinking, which lacks the integrity of teachers' thinking and cannot maintain a multidimensional close relationship with the surrounding environment. Therefore, human-computer cooperation is required to complete the teaching.

In the artificial intelligence-enabled human-machine collaborative classroom teaching of college English, teachers mainly focus on building a diversified teaching environment required by new classroom teaching, and decide whether the systematic correlation between various teaching elements is reasonable in combination with the learning situation data constantly fed back by artificial intelligence in the classroom teaching process. During collaborative teaching, different modes including personalized teaching modes and studying modes were designed to promote classroom teaching and organize teaching activities based on the analysis of learners' actual learning situation [7]. In classroom teaching, emphasis should be placed on overcoming major difficulties and error-prone points, and a large number of continuous language output practical activities should be designed; for example, in English teaching, teachers can introduce virtual teaching assistants based on artificial intelligence technology, which can simulate the behavior of human teachers, conduct personalized interaction with students, and help students improve their English application ability. It is possible to create and apply virtual English teaching tools by using network resources and new tools of artificial intelligence, combining with large databases of English language and speech, and superimposing local characteristics of different accents in various countries. It is released in the computer terminal and can directly communicate with students; through data collection, intelligent identification, and real-time feedback and error correction, teachers can understand and recognize students' spoken English, and assist students in completing oral English training and assessment, so as to complete the learning process of correct pronunciation for students [8]. Virtual teaching assistants can also assist English teachers in classroom management, such as automatically recording students' attendance, monitoring students' classroom performance and behavior, answering students' questions, publishing, collecting, and correcting students' English homework, etc., which can effectively reduce teachers' work burden and enable them to devote themselves to classroom teaching, thus improving the efficiency of English teaching. The use of artificial intelligence technology to build an intelligent recommendation learning system can conduct analyses of students' learning behavior, performance data, interests, and other information, thus teachers can use virtual teaching assistants to evaluate the quality of English teaching. For example, after the introduction of big data technology, virtual teaching assistants can collect learning data such as students' academic performance and classroom performance, generate learning reports, and conduct a comprehensive assessment of teachers' teaching process, so that teachers can have a comprehensive understanding of students' conditions, find weak links in teaching, and make scientific and reasonable teaching decisions.

5. Accurate evaluation system of human-machine collaborative personality

A personalized precision human-machine collaborative evaluation system, which combines artificial intelligence to strengthen the process evaluation of college English teaching with teachers' assessment of filling

learning attitude and emotion, forms a personalized precision evaluation system, so as to promote the long-term learning mechanism of college English learners. In the process of human-computer collaborative evaluation, artificial intelligence gives an objective and comprehensive assessment of the entire college English teaching process from both students and teachers, forming a tripartite data set of individual learner data, overall class learning data, and teacher teaching data, which are respectively evaluated by teachers and learners. It also forms a personalized comprehensive quality evaluation report of learners' learning process, providing more accurate learning data reference for teachers' next teaching and increasing the scientific nature of teachers' teaching decisions. Human-machine collaborative evaluation changes the singleness of traditional college English performance evaluation, forms a personalized and accurate evaluation system, and realizes a diversified and comprehensive evaluation of learners' data in all aspects.

6. Consideration and suggestions

In the English teaching process of artificial intelligence application, knowledge transfer and language skill improvement are the basis, and intelligent learning and communication mode and form are auxiliary. However, we should also see that teachers, computers, networks, and students are all indispensable links in the education and teaching environment. The essence of human-computer cooperative intelligent education in college English is human education, which should not only stay in the imparting and acquisition of knowledge, but also adhere to the principle of educating people, paying attention to the all-round development of learners' morality, intelligence, physical, aesthetic, and labor, and avoid educational alienation.

Secondly, artificial intelligence lacks teachers' emotional, social, and creative educational behaviors, which are irreplaceable in the humanistic care of education, and the dominant position of teachers in the process of education is also unshakable. While adhering to artificial intelligence-enabled education, college English human-computer collaborative intelligent education prevents technology from overtaking education.

Third, while artificial intelligence improves learning efficiency, it lacks inspiration. At present, the development of artificial intelligence is still in the initial stage, and intelligent assistance cannot fully match the high-energy and efficient all-round automation that people expect. As for the object of university education, college students should not completely rely on cold machines and data. Under the guidance of teachers, more attention should be given to cultivating the thinking ability and creative thinking of human beings, and strengthening learners' independent output practice and practice without the assistance of artificial intelligence, from human practice to machine practice and back to human practice. In this way, the improvement and transformation of the thinking and ability of the educated can be completed at a higher level, and the continuous progress of the application of intelligent technology can be driven, and a good cycle can be carried out on this basis.

Fourth, the more powerful function of artificial intelligence is to collect and integrate data and complete the induction of an extremely large amount of data under the control of humans, which is really the supreme weapon to improve the education evaluation system. Processing chips and software can extract thinking patterns and abilities from various data of teachers and students to evaluate different qualities of teaching and learning. It can improve the realistic evaluation system of man-machine collaborative education and clarify the specific connotation of intelligent elements in the evaluation process and its weight in the overall evaluation system.

7. Conclusion

Digital education is an important part of the construction of digital China and is also a critical platform to open up a new track for education development, shape new advantages in education development, and provide more

high-quality education. Information and intelligence are the only means and development trend of college English teaching. Instead of passively accepting it, it is better to take the initiative to change and catch up with the dividend period of intelligent English teaching in the early stage of development to embrace the era of intelligence, seize opportunities, respond to challenges, and enrich the connotation of talent training. The use of artificial intelligence in teaching resources and teaching methods is only the tip of the iceberg, and recognition and active integration are the connotation and driving force of college education informatization. In the near future, with active initiative and continuous optimization of the intelligence of education and teaching through practice, college English education can adapt to the development process of the information age and keep moving forward.

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