



Research on the Application of Digital Technology in College English Teaching

Tonghui Song ^{a*}, Ronaldo A. Juanatas ^b, Huiliang Huang ^c

Technology University Of The Philippines CIE, Manila, Philippines

^{a*} songtonghui@126.com, ^b ronaldo_juanatas@tup.edu.ph,
^c liang55888@qq.com

Abstract. With China stepping into a new era of combining information technology with higher education and leading the development of education, emerging information technologies such as artificial intelligence, learning analysis methods, Internet, virtual reality society and cloud computing support and promote the reform and development of higher education. In the information age of digital technology, colleges and universities should update their educational concepts, make use of the vigorous development of modern digital information technology, satisfy students' humanized, intelligent and interactive classroom teaching, enhance their critical thinking, interactive collaboration and practical skills, and help them establish the belief of lifelong learning.

Keywords: Digitalization; Intelligent technology; College English teaching

1 INTRODUCTION

In recent years, the rapid development of technologies such as big data, artificial intelligence, virtual reality and block chain has triggered a new round of scientific and technological revolution and industrial transformation on a global scale, and the digital economy has become a new engine for high-quality development. The integration of digital technology into all fields of higher education has brought about far-reaching educational changes and reshaped the traditional educational ecology. Digital transformation has become the core topic in the reform, development and practice of higher education in the world and China. As an important part of China's higher education, college English plays an indispensable role in adapting to the new requirements of the new era for the development of higher education and cultivating all kinds of new talents that meet the needs of national economic and social development ^[1]. College English Teaching Guide (2020 edition) (hereinafter referred to as the Guide) emphasizes that "in the era of informationization and intelligence, multimedia technology, big data, virtual reality technology, artificial intelligence technology and other modern information technologies have become an important means of foreign language education and teaching", and encourages teachers to "make full use of the online teaching platform to provide students with online and offline independent learning paths and high-quality

and abundant independent learning resources that combine classroom teaching with modern information technology, so as to promote students from passive learning to self-learning. Modern educational tools have greatly overturned the traditional teaching mode, awakened learners' exploration spirit, made the classroom atmosphere full of fun, cultivated good creativity and greatly promoted the progress of learning. Through modern educational means, we have successfully integrated all parts of foreign language courses, making the learning process more orderly and effective [2]. In this way, students will be more interested in exploring and practicing, and it will be easier for them to master new knowledge and cultivate their own cultural accomplishment. Through in-depth study of the advantages of modern science and technology, a comprehensive and forward-looking way of educational reform will bring great benefits to the current educational development [3].

2 THE DEVELOPMENT PROCESS OF FOREIGN LANGUAGE EDUCATION INFORMATIZATION

(1) Foreign language audio-visual teaching stage

With the popularization of behaviorism language learning view, foreign language teaching is no longer limited to learners' subjective ability, but pays more attention to learners' subjective experience and learning process. In order to better cultivate learners' language ability, the government has vigorously promoted e-teaching, and introduced diversified learning tools such as "blackboard+chalk" and "projector+slide", so that learners can better feel and understand the language, and can better use what they have learned to achieve autonomous learning and communication. By introducing advanced technology and methods, we can greatly improve learners' language ability and effectively enhance their practical ability.

(2) Computer Network Assisted Teaching Stage

With the passage of time, the thought of positivism has gradually replaced behaviorism. This thought emphasizes that people's knowledge comes not only from external stimuli, but also from personal inner activities. It breaks the traditional teacher-centered model, allows students to participate more in classroom activities, makes the classroom more dominant, and the topics of "teaching-oriented" and "learning-oriented" are better defined. Many colleges and universities have successfully built a multimedia foreign language classroom covering the whole campus. This classroom supports students' daily communication through the Internet, giving them access to the most cutting-edge foreign language courses, and at the same time, they can get professional guidance from teachers to further enhance their independent foreign language learning skills. By adopting the method of constructivism, we are committed to helping foreign language learners improve their abilities. Through interactive cooperation, we have created a diversified college English course and provided a wealth of learning tools.

(3) The integration stage of information technology and foreign language education

"Internet plus" and "Digital Intelligence+"School Education Digitalization 2.0 Action Plan (2018) is a milestone in the current basic education reform. The theory of second language acquisition of modern social cognition put forward by it points out

that it is only on the basis of comprehensive investigation of individuals, backgrounds and specific status quo that it is possible to cultivate good oral expression skills. By integrating information with foreign language teaching materials, we can improve the effect of foreign language teaching. The new constructivism theory emphasizes that we should let learners dominate our knowledge construction and thinking, and should not regard them as the only subject. Western extreme constructivism emphasizes the importance of the classroom, but it ignores the role of teachers in the classroom. However, whether it is blended teaching or artificial intelligence learning, the lecturers should still strive to improve the teaching content so that they can get a better English learning experience. Neo-constructivism pays attention to the organic combination of subjective opinions and objective stimuli, and promotes the development of foreign language cultural education on the basis of "student-teacher orientation". In this process, with the development of digital technology, people can use their own perception and thinking to understand and master English, thus building a multi-faceted and intelligent English autonomous learning system. With the development of science and technology, the integration of IT and foreign language education has entered a new stage. This integration is not only based on a large number of open course resources, but also based on digital mining and machine learning analysis technology^[4]. The mixed learning of digital intelligence and foreign language education has become an important part in this process.

3 THE APPLICATION OF DIGITAL TECHNOLOGY IN COLLEGE ENGLISH CLASS

3.1 Digitalization and its development

3.1.1 Digitization

Digitalization refers to the process of transforming traditional manual mode, paper documents and manual calculation into digital form. Through digitalization, we can store, process, analyze and apply information more effectively, which greatly improves work efficiency, accuracy and convenience. Digitalization usually includes converting data into digital format, digitizing information, digitizing business processes, etc. With the progress of science and technology, digitalization has become a key factor in today's world, which profoundly affects our daily life and contributes to social progress.

3.1.2 Development of digitalization

The history of digitalization can be traced back to the 1960s. Early computers began to adopt binary computing technology for the first time. Mainly designed for military and scientific purposes, but they laid the foundation for the later digital development. The appearance of Internet in 1990s brought great changes to the development of digitalization. After 2000, with the rapid growth of mobile devices and the continuous emergence of cloud computing, it has greatly changed our lives, allowing us to easily collect, disseminate and share all kinds of information, and greatly broadened the scope of digital technology, but also provided us with many new possibilities and challenges. By using smart phones, we can access data quickly, analyze and solve problems in any

situation, and use cloud computing to expand our storage space. Through the use of advanced information technology, we can fully control the world and spread new knowledge rapidly in our daily life. With the development of technology, many new methods have been applied, such as greatly improving work efficiency, simplifying operation process and making more detailed data analysis and decision. We should actively explore the opportunities brought by digitalization, such as using big data technology to make better decisions and improve social welfare [5].

3.2 The use of digital technology can significantly improve the effect of college English classroom.

The big data analysis conference in 2020 shows that digital technology is rapidly infiltrating into the field of education, covering a wide range of scientific and technological fields. From the initial intelligent machine learning to today's machine learning, adaptive learning, intelligent teaching, deep understanding, learning behavior research and emotional calculation, we can see its close combination with education, and tens of millions of learners are using big data analysis technology to complete their individualized teaching [6].

3.2.1 Digital intelligence

The application of advanced intelligence of digital technology in college English classroom has made great progress, which is shown in the following aspects:

(1) Intelligent teaching assistant system.

Intelligent teaching assistant system is a system that uses artificial intelligence technology to assist teaching. It can provide all kinds of teaching resources and tools to help teachers teach better and improve teaching quality and efficiency. The teaching assistant system usually includes the following aspects: the intelligent teaching assistant system can provide various teaching resources, such as courseware, exercises and experiments, which can be classified according to different disciplines, grades and grades, so that teachers can choose and use them according to their needs. Intelligent teaching assistant system can use artificial intelligence technology to intelligently correct students' homework and exams, reduce teachers' burden, and improve the efficiency and accuracy of correction. Intelligent teaching assistant system can provide students with learning management functions, including students' grades, learning progress, examination records, etc., which is convenient for teachers to better understand students' learning situation and make targeted teaching plans. Intelligent teaching assistant system can provide teacher training functions, including teaching strategies, teaching methods, teaching experience, etc., to help teachers continuously improve their teaching ability and level. Intelligent teaching assistant system is an effective teaching tool, which can help teachers to teach better and improve teaching quality and efficiency. With the help of powerful digital intelligence technology, it provides users with more convenient and efficient services.

(2) Machine translation system

At present, the world-leading mechanical compilation software (CAT tool) adopts the neural network machine translation (NMT) method, among which the servomechanical translation methods of Google, MS and other companies have made remarkable progress, and their translation effects can reach 30% improvement, far exceeding the traditional mechanical translation methods [7]. In SMT era, due to the development of language processing system, the language model of mechanical compilation changes rapidly. However, due to the appearance of NMT, the development of language processing system has slowed down, and the language model of language processing model has become more and more complicated. For language learners, we can help them acquire language knowledge by using modern language processing system. For example, modern language processing systems can help them understand the language by analyzing the semantics, grammar and cultural background of the language, thus helping them to express the language correctly. Through careful selection and practice, we can not only enhance our English reading and understanding ability.

Intelligent management system.

Artificial Intelligence Used in Teaching Management Through the application of artificial intelligence technology, we can not only carry out various forms of process teaching evaluation, but also carry out effective testing, evaluation and control, which makes the evaluation methods richer and more targeted, and at the same time makes the conclusions more accurate, so as to give students complete learning guidance and help them to carry out effective learning management and achieve the goal of standardization and personalization. Through Superstar Learning Link, teachers can not only create a virtual class group, but also share their learning resources, including "off-site" learning methods, "off-site (cheating)" learning methods, "one-click rolling" learning methods and other related learning resources. Moreover, teachers can complete their tasks more conveniently and master the learning content better through the network. The platform can not only provide effective classroom management, but also monitor students' performance, homework completion level, online time and other important information in real time, so that teachers can guide students more accurately. Students can use the learning diagnosis system of FLTRP such as "Welearn" to get more rewards and encouragement according to their own learning performance, so as to achieve the goal of self-development. "Welearn" can not only provide complete learning records, but also provide strong support for blended teaching. "Juku Correction Network" has brought a brand-new and efficient online intelligent composition correction system for teachers. It allows teachers to easily build their own groups and publish their own courses. At the same time, it can also customize stricter examination requirements and higher quality for teachers according to different national CET-4 and CET-6, professional CET-4 and IELTS, so that teachers can complete their own courses more quickly and students can upload their excellent ones more conveniently. "Correction Network" uses advanced big data technology to provide comprehensive guidance for students' composition, covering pronunciation, font, collocation and punctuation, and also provides more practical explanation and translation for some important Chinese characters. There are a large number of students in college English classes, and the teaching tasks

of college teachers are heavy. It is difficult to correct all students' compositions carefully to punctuation, let alone one-on-one guidance. The correction software with artificial intelligence is a powerful and effective supplement to English writing teaching.

Virtual teaching.

Virtual teaching is a way of teaching by using computer technology and Internet. It can be conducted at different times and places, and it can provide interactive and personalized learning experience. By using holographic projection and VR science and technology, we can turn the curriculum into a real situation, so that readers have a feeling of being in ancient times, modern times and contemporary times, so as to achieve the purpose of letting them deeply understand the important and difficult contents, arouse their teaching enthusiasm and help them grasp the important and difficult contents best. Virtual teaching can provide teachers and students with a variety of virtual environments, so that they can simulate real English listening and speaking classroom situations, which can not only make learning more interesting, but also enhance their interaction. The advantages of virtual teaching include convenience, high interactivity, saving time and cost, etc. It is mainly used in education, training and online learning.

3.2.2 Big Data Application

In 2014, "Big Data" was regarded as an important milestone, which indicated that China entered a new era of teaching methods driven by information technology, people-oriented and wisdom. In 2015, the implementation and promotion of "internet plus" and the promulgation of "Digital 2.0 Action Plan for Higher Education" have brought more possibilities for educational reform in China and promoted the progress of science teaching in China. With the most advanced IT, such as artificial intelligence, learning data mining, big data, virtual reality community and cloud computing, they not only promote the reform and rise of teaching methods, but also greatly improve the quality of classroom teaching^[8]. In the context of the wide application of big data, teaching is gradually showing the remarkable characteristics of being scientific, accurate, intelligent and personalized. Big data has not only promoted profound changes and innovations in education, but also led teaching into a new era driven by data. Through diversified data acquisition technology, teaching is steadily moving towards data-driven direction. Experts pointed out that with the continuous accumulation of teaching data, the teaching system will gradually realize intelligence and even intelligence. With the support of technology, efficient classroom teaching mode can accurately implement teaching, strengthen the interaction between teachers and students through real-time visual presentation, and then significantly improve the teaching effect.

As one of the core responsibilities of teachers, the accuracy of academic diagnosis is very important for providing personalized teaching. The application of big data technology enables teachers to comprehensively record students' learning process and accurately evaluate and locate them, thus greatly reducing teachers' ineffective efforts^[9]. Take "Intelligent Management System" as an example, its built-in intelligent platform can collect students' homework, extracurricular study and examination data, accurately count the wrong question rate, and generate detailed diagnosis reports. This enables teachers to quickly understand students' mastery of different knowledge sectors, grasp students' learning characteristics, difficulties encountered and interests, so as to flexibly

adjust the follow-up teaching content, reduce repeated teaching of mastered knowledge points, and finally achieve more efficient and targeted teaching.

4 CONCLUSION

With the rapid progress of science and technology, the application of "digital technology" is becoming more and more popular. In this process, the introduction of technologies and solutions from companies such as Baidu, Tencent and iFLYTEK has made the use of "digital technology" more convenient and effective. In addition, with the development of technology, more and more intelligent products have appeared. Nowadays, digital classrooms, intelligent translators, man-machine dialogue software and intelligent composition correction software systems have brought convenience to people's lives.

With the development of digital technology, our school needs to reshape the traditional teaching concept, enhance students' personality, wisdom and social participation by using the most advanced technology, so as to enhance their ability of analysis, problem solving, creation and coordination, and establish a spirit of sustainable development for them. With the development of science and technology, digital technology has brought great challenges to our education. Therefore, we need to actively embrace this emerging field and apply the latest digital technology through unremitting efforts.

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