

On College English Teaching Reform Strategies Based on Large Data Technology

Li Ji^{1*}, Chen Huaxi²

School of Foreign Language, Bengbu University, Bengbu, Anhui, 233030, China

School of Science, Bengbu University, Bengbu, Anhui, 233000, China

*corresponding author's email: bbchx7@163.com

Abstract—Large data technology is the model based on cloud computing data processing and application, which employs integration and sharing of data to form intellectual resources and knowledge service capabilities. Hence, big data technology is capable of expanding the time and space of education, which has a profound impact on higher education and also puts forward new requirements for college English teaching. In the context of large data technology, the article focuses on such reform strategies as college English education concept, role of teacher, teaching mode, student learning needs, personalized self-learning and other factors for the purpose of improving the quality of college English teaching by virtue of large data technology.

Keywords- Large Data; Technology; College English; Teaching; Reform

I. INTRODUCTION

College English is one of the important general education courses in institutions of higher learning which undertakes the important task of improving students' English application ability and cultivating students' comprehensive quality. As the main element of foreign language education in institutions of higher learning, college English is a compulsory public foundation course for non-English majors in undergraduate education. It plays an irreplaceable role in personnel training. College foreign language education is an important part of higher education in China, and it is of great significance to promote the coordinated development of college students' knowledge, ability and comprehensive quality. The Outline of the National Medium and Long Term Education Reform and Development Plan (2010-2020) states: "quality improvement is the core task of higher education development." Improving the quality of higher education requires universities should provide quality foreign language education for college students. On the one hand, college English courses are offered to cater to the national strategic needs, and to serve the country's reform and opening up and economic and social development. On the other hand, the course should meet the needs of students' professional study, international exchange, further study, employment and other aspects. College English courses have practical significance and long-term impact on the future development of college students. English learning helps students to establish a global vision, cultivate international awareness, improve humanities literacy, and provide a basic tool for knowledge innovation, potential development and comprehensive development [1]. What's more, that will help to prepare for the challenges and opportunities of the era of globalization.

Large data is a collection of data consisting of a large number of complex and various types of data. Large data

technology is the model based on cloud computing data processing and application, which employs integration and sharing of data to form intellectual resources and knowledge service capabilities [2]. It makes the vast amount of data generated during the production and life process available, which was once difficult to find, collect, and use. And currently, due to large data technology, the vast amount of data begins to enter the researcher's field of vision. Besides, it is easy to collect, classify, analyse the vast amount of data, thus making great and profound contributions to the progress and development of human society, whose value of the index has grown exponentially. Compared with the data obtained by the traditional way, large data is greatly informative, and its distribution is unstructured; the accessibility is strong; and the analysis is intelligent. Since large data is directly oriented to ordinary users, everyone can be a data user, which changes the tradition that the data is open only to professional technicians. Large data expands the time and space of education and has a great impact on higher education. The combination of traditional education methods and modern big data education technology is more conducive to improving teaching level and improving teaching quality. College English teaching in the context of large data will no longer rely solely on ideas and experiences, but on empirical teaching with data and justification. Large data technology can be applied to develop English learner individual and group learning programs, analyze their learning behaviors and tendencies, guide and monitor the learning process, identify weak links, predict learning needs, and enrich learning evaluation methods. There is no doubt that the quality of college English teaching affects the quality of higher education. Therefore, in order to ensure the improvement of the quality of college English teaching, promote the realization of the goal of higher education personnel training, continuously meet the needs of serving the country's economic development, improve the teaching effect of college English and students' English application ability, and improve the learning effect of English language, it is imperative to explore the reform strategies of college English education based on large data.

II. PROBLEMS HIGHLIGHTED IN COLLEGE ENGLISH TEACHING IN THE CONTEXT OF LARGE DATA

Large data has infiltrated into all aspects of people's life and learning, and it is also having profound impacts and influences on college English teaching. Under this background, the problems in this field are also becoming more prominent. The main ones are as follows: although college English teachers can already realize the advantages of large data, the advantages and functions of large data technology have not formed a close chain with college

English teaching. The role of the core link of English teachers is not so obvious; in the era of large data, the deep integration of information technology and English teaching generates such key elements involved in the transformation as the role of teachers, student roles, learning materials, learning environment, teacher functions, individualized development and change of students, new teaching design and evaluation, which in fact result in great challenges to relevant institutions of higher learning. As for the above elements, related teachers haven't had the comprehensive and in-depth understanding. Many teachers have begun to think about how to achieve the reform and development of college English teaching in the context of large data, but there is insufficient empirical exploration. The evaluation system lacks pertinence in the subject; the rate of the large data technology in the evaluation process is insufficient; the evaluation subject is not diversified, and the evaluation method is relatively simple; the participation of students in practice is low, which leads to the unbalanced development of students' acceptance skills and productive skills, and the students' actual pragmatic competence is not desirably achieved [3]. The expected level does not adapt well to the needs of society. Based on the above situation, it is highly urgent to employ large data technology to optimize the teaching of college English courses.

III. SPECIFIC REFORM STRATEGIES

A. Transform the concept of college English education and the role of teachers

College English teaching in the era of large data must first change the concept of education and the role of teachers. In the traditional college English classroom, a teacher-centered teaching model based on experience is commonly adopted. Teachers play a central role in the teaching process, teaching language skills and arranging language tasks. Students passively accept knowledge and complete assignments, which makes it difficult to get targeted feedback in the teaching process. As for students, they can not correct and improve their language practice in time. Such a teaching model is not targeted and cannot mobilize students' interest and enthusiasm, so it is difficult to achieve the desired teaching effect. In the age of informationization and large data, learning is regarded as a self-organizing behavior of students. Students are the center of learning activities and the main body of the teaching process. Teachers should provide more guidance, support and services for learners. With the rapid development of network technology, network resources are available, and in a sense, students can have more access to learning resources than teachers. At this point, the teacher's major role should not be the transmitter of knowledge resources, but should be the integrator of independent learning resources. The teacher's role is to adhere to the "student-centered" educational philosophy, integrate the excellent learning resources of the network, make full use of diverse resources and teaching methods, stimulate students to think constantly, cultivate students' interest in English learning, guide students to learn independently, and provide students with necessary learning

support and assessment feedback in a timely manner. As far as college English teaching is concerned, the role of teachers is chiefly to be an integrator of English learning resources; a digger of students' language learning and practice data; a designer of data-driven precision teaching; and a professional assessor of students' English proficiency.

B. Actively create a new type of college English language teaching model supported by large data

Create an English autonomous learning platform and space supported by large data technology. Under the support of large data technology, classroom English learning and extracurricular self-learning are interconnected, which expands the space of English personalized learning. Teachers can employ large data technology to fulfill the collaborative and connection of offline and online independent learning, and analyze students' online learning. The operation data is targeted to the students to make breakthroughs in offline knowledge, helping students to understand the key knowledge points that have not been mastered by online self-study.

Integrate online and offline English learning resources. The English learning resources containing English textbooks and exercises can be digitized and fragmented to adapt to the students' English learning needs; online structured and unstructured English learning resources can be integrated and combined to be automatically pushed on the basis of learning preferences and needs. College English teaching subjects cover various majors including science and engineering, literature history, management, art, etc. Large data technology can properly understand the English learning needs and preferences of students with different professional backgrounds by tracking the time and frequency of English learning materials used by different English learners. The learner's choice behavior optimizes the allocation of English learning resources and maximizes the release of excellent English online learning resources.

Optimize English teaching design. English curriculum design is an extremely critical part. Teachers can use large data technology to master the learning ability, study habits and emotional attitudes of different students, provide students with an optimized and complete curriculum knowledge system, and make full use of multimedia to present the key points of English learning.

C. Adopt large data technology to judge students' English learning needs and promote independent learning in English

How to meet the needs of students' personalized English learning in the context of large data is a question worth considering. Firstly, in the era of large data, personalized learning requires information and communication technology as a support. Ubiquitous learning requires the technology and conditions of education, while student-driven learning requires adequately available educational resources. Secondly, with the advent of the era of large data, students have more and more access to information. A large amount of information and knowledge outside the classroom can be received by students at any time. These contents sometimes are more appealing than classroom teaching

content. Therefore, in the era of large data, college English teachers should strive to create conditions for students' individualized learning needs by integrating traditional teaching and information technology, maximally satisfy students' individualized learning needs, and fully mobilize students' initiative and creativity in learning; English teachers should use large data to analyze students' English learning needs in depth, choose different teaching methods according to students' cognitive ability, appropriate teaching style, learning style, socio-economic background and personal characteristics. What's more, teachers should combine teaching and students' extracurricular activities which makes the teaching activities challenging, so that more university learners can actively participate in the study, and provide powerful support for students' English self-learning. The specific ways are as follows:

Combination of independent choice and related recommendation. large data technology has spawned innovative teaching modes such as flipping classrooms. Teachers can take advantage of the large data teaching and analysis system to master students' English learning resources, study habits, learning rhythm, and preferences, so as to connect massive media teaching with fragmented learning. It's also advisable to help students associate with appropriate and personalized English learning methods and content to improve the efficiency of students' self-learning.

Ubiquitous learning combined with real-time interaction. Large data technology can provide students with integrated, personalized, customized and socialized English learning resources to meet the English learning needs of students, and the ubiquitous network can be employed to achieve independent learning of English knowledge content [4]. At the same time, social network software can be used so that real-time interaction, discussion and feedback between teachers and students can help to enhance students' innovative thinking and independent learning ability in English learning

Combination of English knowledge cognition and emotion. Large data technology can explore and analyse students' cognitive behaviors, emotions and attitudes in English learning, paying proper attention to students' English cognition and emotions in English autonomous learning, and making them better adapt and cultivate students' English self-learning habits, and improve the ability of English exploration.

D. Use large data to reflect on college English teaching, explore the nature and laws of teaching, and improve teachers' teaching and research ability

Large data can provide important data reference for the development of college English teachers, which are reflected in two aspects: the data reference of teaching and the data reference of scientific research. From the perspective of teaching, large data can help college English teachers to collect information on student learning and self-teaching, to find shortcomings in students' English learning and their own English teaching defects, and to find teaching innovation through horizontal class comparison and vertical time node comparison. At the same time, from the details of

large data, one can analyze the learner's personality, learning style, cognitive orientation, learning strategies, and motivation types. Besides, one can also analyze the teacher's teaching philosophy, cognitive style, habitual teaching behavior, tendency of interaction with students, the style of feedback, the breadth of knowledge, the charm of the teacher, and the evaluation from the student. English teachers need to master basic knowledge such as large data analysis, and be good at using large data for scientific research to study the correlation between various factors in college English teaching. For instance, the relationship between reading difficulties and learners' learning styles in English reading training and the study of the new features and new skills of English teaching theory under large data should be paid proper attention. In this process, teachers can understand the relationship between educational large data and various factors in the teaching process, discover the causal relationship between teaching factors, and explore the nature and laws of English teaching. Teachers can provide important reference for their own teaching innovation based on large data. The advantages can be as follows: use large data to find the blank point of teaching method application; use large data to find the focus of teaching methods, and use large data to try new areas of teaching content. In short, large data can provide innovative basis and reference for college English teaching activities, so that college English teachers have quantitative analysis tools, and the teaching analysis is raised from perceptual analysis to rational analysis. From the perspective of scientific research, college English is an important branch of the field of education. The mainstream and traditional research methods are qualitative research and normative research. Quantitative research and empirical research are still in their infancy. Compared with the actual effects of innovation, quantitative research and empirical research are more innovative, and they are also the mainstream methods of Western academic research [5]. Large data is the basis for conducting quantitative research and empirical research. Without data, these studies are impossible to make. The extensive collection and application of large data provides support for the development of university English research and provides support for the development of innovative activities. The improvement of scientific research ability can effectively benefit the teaching in return.

E. Improve the English learning evaluation system with large data

Teaching evaluation can be divided into summative teaching evaluation and formative evaluation, or result evaluation and process evaluation [6]. The summative evaluation is the final judgment of the content acquired by the learner at a certain stage to understand the level that the student has reached and the position in the group. Specifically, the final evaluation in the college English teaching activities refers to the learner's final exam scores. Formative evaluation is to understand the development of learners in the learning process, mainly including attendance, classroom participation, homework completion and quizzes. The two evaluation methods provide English teachers and

learners with a level of understanding of learning from different levels, so they should not be neglected. Traditional college English classroom and computer English-assisted college English teaching can correctly recognize the significance of formative evaluation. However, due to technical limitations, it is impossible to obtain rich learning process information to provide timely and correct assessment for learners so the means of summative evaluation is heavily relied upon. In previous practice, summative evaluations and rough formative teaching evaluations are difficult to truly reflect the learning situation and learning achievements of English learners. The introduction of large data technology will increase the weight value of formative evaluation and enhance the status of formative learning evaluation in English learning [7]. English teachers can obtain learning behavior information at each stage of the learner preparation stage containing classroom learning process and after-class completion of the corresponding learning tasks, so that a detailed and accurate formative assessment report can be made for each learner, giving students a natural objective and scientific evaluation of English learning. Learners can take advantage of the help of college English teachers to reflect on the learning process data, summarize learning experiences and lessons, and re-plan or adjust college English.

IV. CONCLUSIONS

College English teaching and reform is the focus of college English project, which is of great significance to improve the overall quality of the course. In the era of large data, the deep integration of information technology and English teaching will result in systematic changes to English teachers and classroom teaching, in particular, that will be beneficial in the following fields: the role of teachers, student roles, learning materials, learning environment, teacher functions, individualized development and changes of students. With the corresponding solutions provided by large data technology, the in-depth reform of college English teaching is an important means to improve the quality and level of college English teaching. It also helps to create a variety of teaching activities, promote independent learning, enhance the internal driving force of learners, and establish a scientific evaluation mechanism to achieve scientific improvement in college English teaching and evaluation.

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