

Research Article

The Application of Diversified Blended Models in Teaching British and American Culture Based on Big Data Analysis

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Language is a symbol reflecting ideas and is an important medium for people to realize information transfer and communication. Culture is all the material and spiritual wealth created during the historical development of human society. Language and culture are inseparable. When we learn a language, we must also understand the cultural content it contains. Learning English requires an understanding of the culture of British and American countries, and thus teachers must necessarily teach culture in the English classroom. At present, the software and hardware of Internet technology in our country have been developed in-depth, and the total amount of big data has been in the trend of growth, and China has officially entered the era of big data. This paper takes the reform of teaching mode of British and American culture courses as the main research object and explores how to build a diversified and blended teaching mode based on the existing teaching mode and integrating various online teaching resources under the premise of various technologies in the background of “big data.” In order to accelerate the integration and optimization of such course resources, promote the development of theoretical teaching and practical teaching of such courses and improve students’ professional ability.

1. Introduction

With the in-depth development of the Internet of Things, computer networks, mobile self-media, and other technologies, the total amount of global data has shown explosive growth according to the set, and human society has entered the era of accelerated development of big data. The concept and value of big data have been gradually accepted by the public; workers are also fully aware of the typical application and extensive prospects of big data in the field of education [1]. At present, many colleges and universities are actively exploring various forms of curriculum practice teaching reform programs according to the actual needs of teaching work, drawing on the existing advanced teaching models, and adjusting teaching and training programs in real-time [2–5].

Once upon a time, students could only ask their teachers for advice if they had knowledge or problems they did not understand, but with the advent of the big data era, many problems students can solve by looking up relevant

information through the Internet. The blended teaching mode is a new teaching mode adapted to the era of big data. This teaching mode not only retains the traditional class teaching but also makes full use of the advantages of the network information platform and rich network resources. The application of blended teaching mode makes a major breakthrough in British and American culture education, which not only improves students’ learning initiative but also enhances their comprehensive learning ability and lays a solid foundation for their future study and work [6].

A qualified teacher of English culture needs to have a solid knowledge of culture in addition to background knowledge of the culture of English-speaking countries. A good teacher should not only have a broad knowledge of culture but also make it an important task to develop students’ cultural sensitivity and self-awareness. Good teachers should be able to familiarize themselves with “the deep and hidden culture of the national psychology, values, and ways of thinking of the target language” [7, 8] and develop their own cultural literacy in English. In addition to professional

competence, qualified and excellent teachers should have high intercultural communication skills, be able to actively explore cultural teaching, and pay attention to the cultivation of students' intercultural awareness and intercultural communication skills [9].

This paper aims at the problems such as the low flexibility and inactive classroom atmosphere in the traditional cramming English culture teaching, face the theoretical, technical, and application challenges, and address the fundamental issues of how to analyze and model big data on teaching and learning, how to build a diversified blended model based on big data analysis, and study its application in teaching British and American culture in order to give full play to the leading role of teachers and yet stimulate students' learning autonomy in many ways.

2. Concept Explanation

2.1. Big Data. Big data era is a new era of mass production, dissemination, and utilization of data with the rapid development of Internet technology. Big data are a huge collection of data, and the scale of data contained in the collection is huge, far beyond the scope of the traditional sense. The processing power of traditional computers cannot meet the needs of the big data era, and traditional tools and software cannot be used to store, analyze and manage big data. In order to solve this problem, computer scientists apply cloud computing to human data computing. Cloud computing technology can effectively solve the problem of storing human data and can calculate, analyze, and predict human data [10]. This can enable us to do effective use of big data and to dig deeper into the hidden data.

The arrival of the big data era provides people with opportunities and capabilities to conduct in-depth research in more fields. People use cloud computing technology to analyze, process, integrate, and mine big data, so as to obtain new knowledge and explore the laws of the real world. This has brought influence and changes to the teaching of British and American culture.

In the field of educational learning, five major applications of big data technologies include [11]: prediction: awareness of the likelihood of anticipated facts. For example, to have the ability to know when a student has intentionally answered incorrectly despite the fact that he or she is in fact capable. Clustering: discovering data points that are naturally clustered together. This is useful for grouping students with the same learning profile and interests together. Modeling: using learning models developed through big data analysis. Associations: discover relationships between variables and decode them for future use. This is useful for exploring the reliability of students' ability to answer questions correctly after asking for help. Decision-making: create a visual reference for decision-making in instructional management. For clarity, Figure 1 counts six areas, where big data and education intersect.

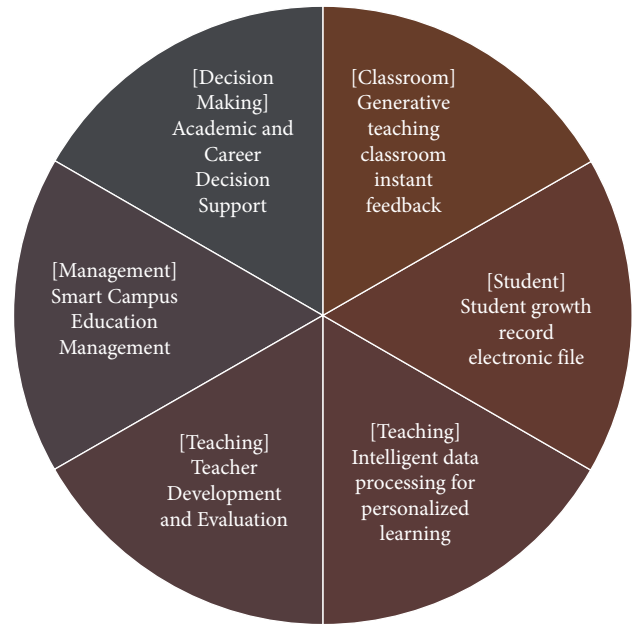


FIGURE 1: Six areas where big data and education intersect.

2.2. Diversified Blended Teaching Mode. Diversified blended teaching refers to a diversified and multiplatform teaching method that combines the advantages of traditional classroom teaching with information technology [12]. Blended teaching optimizes the selection and combination of all teaching elements to play the leading role of teachers to guide, inspire, and monitor the teaching process, while fully reflecting the initiative, enthusiasm, and creativity of students as the subjects of the learning process [13]. The key to the blended teaching model is the use of appropriate technological means for content presentation and transmission for specific teaching contents and learners.

In terms of form, blended instruction includes a mix of both offline and online learning, a mix of teacher-led activities and active student participation, a mix of student-led learning and collaborative group learning, a mix of multiple teaching resources, a mix of multiple learning environments, and other different dimensions. It should be noted that multiple blended teaching should combine teaching objectives and students' characteristics. For example, a classroom with mastery of knowledge as the main teaching goal can adopt the traditional classroom teaching mode based on teacher activities to highlight systematic lectures and training, while when the teaching goal is to strengthen practical skills development, teachers should adopt more information-based teaching mode to highlight students' independent learning and active exploration [14, 15]. In a word, blended teaching is neither a teaching model that simply emphasizes the application of an online learning environment and ignores the importance of classroom teaching nor a teaching model that unilaterally

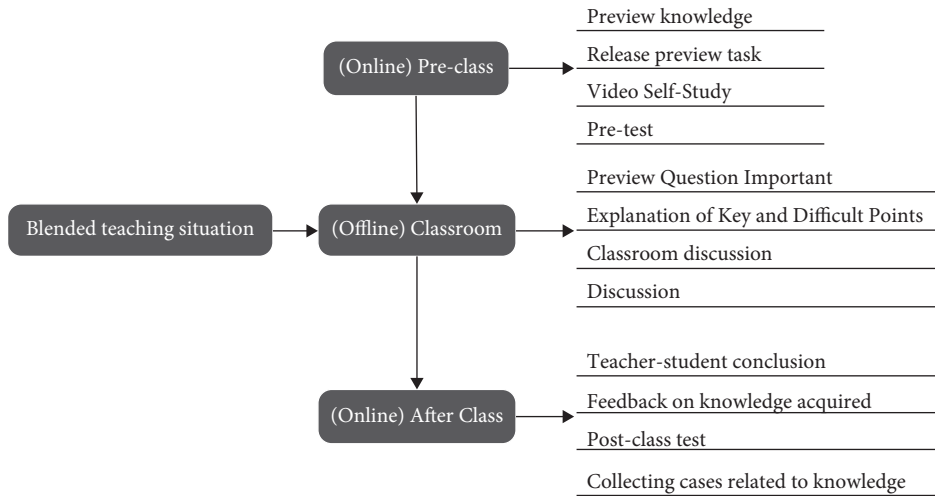


FIGURE 2: The flow of the diversified blended teaching model.

focuses on students and ignores the leading role of teachers; blended teaching both faces the advantages of traditional classroom and fully reflects the characteristics of the information age. The process of blended teaching model is shown in Figure 2.

2.3. Definition of Culture

2.3.1. Culture. Ancient and modern interpretations of the concept of culture are inseparable from those of nature and human society. Culture is an evolution of the concepts of astronomy and humanities, referring to the composition of natural celestial bodies and their laws, and the composition of human society and its laws, respectively. Culture is an evolution of the concepts of astronomy and humanities, referring, respectively, to the composition of natural celestial bodies and their laws and the composition of human society and its laws. The original meaning of culture is to teach and educate with literature, which is an abbreviation of human culture, and “the cultivation of human temperament and the education of moral character” are all part of cultural education. Culture is explained in the dictionary in a narrow sense as the ideology of society and the institutions and organizations that correspond to it, and in a broad sense as the sum of all the material and spiritual wealth created in the course of human social and historical practice [16]. Whatever is good for human development in material and spiritual terms is called culture. Culture is present throughout life activity; it is an innate, humanistic phenomenon. In general, culture is the sum of what people think, say (verbal and nonverbal), do, and feel [17].

In English, “culture” is an evolution of the Latin “cultus/cultura,” which means “to dwell, to cultivate, to practice, to pay attention to, and to fear the spirits” [18]. It also has a derivative meaning for the cultivation of human temperament and moral character. Samuel Pufendorf first introduced culture as an independent concept, arguing that “culture is the sum of what is created by human activity and depends on man and society for its existence.” Louis Kroeber

and Clyde Kluckhohn, after compiling more than 300 definitions of culture from experts in several fields of study, grouped culture into six categories, including “descriptive, historical, normative, psychological, structural, and genetic.” Meanwhile, an integrity definition of culture was made, that is, culture is a kind of “external and internal behavior patterns,” and culture enables us to obtain and convey information using symbols.

Throughout the different definitions of culture by scholars, both material and spiritual dimensions are inseparable from the analysis. The concept of culture used in this study refers to the material and spiritual wealth created by human society in the course of its historical development.

2.3.2. Cultural Infiltration. Culture is a valuable asset created during the historical development of human society. “Infiltration” refers to the flow of water between the pores of the soil, within the cracks of hydraulic buildings, and between intersections, and also refers to the operations of the army to secretly infiltrate into the enemy’s interior and rear by taking advantage of gaps in the enemy’s deployment. It can also be used as a metaphor for the gradual entry of a force into other areas. In present-day terms, cultural infiltration is the use of media, multinational corporations, etc., by more developed countries or regions to promote their own culture to other countries, thus achieving both economic benefits and assimilation into other countries. The interpretation of culture as a medium for the powerful forces to instill values in the weaker countries is a passive and unconscious process of accepting foreign culture. Cultural infiltration is the infiltration of cultural factors into language teaching, which can be done through the operation of lexical mining, grammatical prompting, and translation comparison.

The cultural infiltration explored in this study refers to the active and conscious understanding or introduction of foreign cultures in order to enhance cross-cultural awareness and achieve the ability to communicate appropriately

and effectively across cultures. From the learner's perspective, cultural penetration refers to the language learner's active and conscious action to learn about foreign cultures. From the teacher's perspective, cultural penetration refers to the teacher's activities in teaching culture in the classroom.

3. Review of Research on Teaching British and American Culture

3.1. Research on Teaching British and American Culture Abroad

3.1.1. Teaching Awareness. Between the 1940s and the 1960s, academic research on the culture of the target language and the culture of the native language gradually shifted to the study of the teaching of cultural penetration in foreign language teaching. Fries Charles theoretically discussed the connection between language teaching and culture teaching, and the importance and necessity of culture teaching in foreign language teaching. He argued that cultural learning and language learning are inseparable and that the process of learning a language is also the process of forming students' cultural awareness, and that cultural factors should be infused into language learning. By enhancing students' knowledge of the culture of the target language, they can effectively master and use the target language [19]. Lado stated that by studying the linguistic differences and learning barriers between learners' native language and the target language, concluded that appropriate comparative analysis of native language and target language culture in language teaching can help achieve effective second language teaching. Brooks Atkinson conducted a study on the practical aspects of culture teaching, and he emphasized that culture teaching should always be carried out throughout the whole process of foreign language teaching, and teachers should choose different cultural contents at different teaching stages [20].

From the 1970s to the beginning of the 21st century, research on culture teaching and learning gradually flourished. The discussion of culture teaching in this period focused on the positive effects of culture teaching on language learning. Chastain Kevin discussed the reasons for conducting culture teaching in terms of the need for cultural understanding, the realization of intercultural communication, and personal interest [21]. Louise Damen argued that "culture, although excluded from the curriculum, cannot really be ignored by teachers in language teaching, it is hidden in foreign language learning and should be one of the basic skills for mastering a foreign language." Byram argued that "one acquires culture as one acquires language" [22]. Klippel John stated that cultural knowledge plays a supporting role in teaching culture and that mastering the cultural knowledge behind a language is the beginning of learning a language. Eugene Nida introduced culture into the translation of the English language. Kim discussed the current situation of culture teaching in English classrooms in urban and rural elementary schools in Korea from the perspective of teachers and students. From the study, it was concluded that teachers and students recognize the role of

English culture in English education, but in practice, teachers still fail to adequately teach culture and students do not receive adequate cultural education [23]. Leshem conducted a period of observation in an Israeli junior high school English classroom to study the distance between the cultural background of teachers and students and the culture of the target language. The classroom observations concluded that there is a general problem of implicit cultural dynamics in English language teaching, i.e., the extent to which learners' knowledge of the target language culture affects the effectiveness of teachers' language instruction [24].

3.1.2. Teaching Strategies. From the 1980s to the 1990s, the idea of teaching cultural penetration in the classroom was generally recognized, and foreign scholars' research on teaching cultural penetration lies in exploring specific and feasible cultural penetration strategies. Hans argued that in foreign language teaching, the content of cultural introduction should focus on people in the target language country, such as their lifestyles, behavioral habits, and ways of thinking [25]. Thomas James pointed out that pragmatic language failures and communicative language failures are the root causes of cross-cultural pragmatic failures. Seelye introduced culture capsules, culture clusters, and culture assimilators. Seelye introduced classroom culture introduction methods such as culture capsules, culture clusters, and culture assimilators, and discussed how to measure the effect of culture learning [26]. Byram Mike, after studying audiovisual and auditory methods, suggested that grammar and cultural introduction should also be linked together in ELT [27].

At the beginning of the 21st century, cultural infusion strategies began to focus on design from the perspective of teachers and learners. Patrick Moran advocated teaching culture through experiential language instruction that reinforces cultural connotations, student interventions, expected or achieved outcomes, learning content, and the intrinsic connections between teachers and students. Frank has investigated how teachers can integrate cultural knowledge into the English classroom in the English classroom. He suggested that teachers can promote learners' cross-cultural understanding by organizing activities that increase cultural awareness, such as assigning networking tasks, role-playing, and cultural observation [28].

3.2. Research on Teaching British and American Culture in China

3.2.1. Teaching Awareness. From the end of the 20th century to the beginning of the 21st century, improving learners' intercultural communication skills is one of the insurmountable topics of cultural penetration studied by domestic scholars. Cao believed that culture teaching in English language teaching is composed of both cultural knowledge and cultural understanding. Cultivating students' intercultural communication skills requires a

combination of the strengths of both cultural knowledge and cultural understanding, with emphasis on both the learning of cultural knowledge and the cultivation of cultural understanding. Tan Ling proposed that English teaching in colleges and universities should implement a joint approach of language teaching and cultural background knowledge transfer from the perspectives of the connotation of intercultural awareness, the importance, and necessity of strengthening intercultural awareness, and gives suggestions on the ways to enhance intercultural awareness. Gao Dongjun, from the perspective of the relationship between language and culture, explained the role of learning the culture behind language in enhancing students' language application and intercultural communication skills and calls for teachers to introduce English culture in their teaching. Lv believed that "the real purpose of English teaching is to achieve accurate, appropriate and effective communication," and that this goal needs to be achieved by paying attention to the cultivation of students' intercultural communication skills so that they can become intercultural communication talents with a high level of intercultural literacy.

Cultural penetration in the classroom has been recognized by most researchers, and research has begun to focus on the cultural teaching experiences of teachers and learners. Xiao Bin discussed the necessity of cultivating students' intercultural awareness of the dialectical relationship between language, culture, and teaching, and suggested that vocabulary teaching and organizing cultural activities can be used in English teaching to cultivate students' cultural awareness. Shi Rui researched cultural teaching in the higher-level English classroom and concluded that cultural input while teaching English is the key to solving students' linguistic errors. Language and culture run through the English classroom, and classroom teaching should increase cultural input in English to improve students' practical English application skills. Li suggested that cultural differences determine language differences and it is important to include an introduction to the background of cultural knowledge of the language in teaching. Cultural teaching should go hand in hand with language teaching. Cultural teaching is helpful to help students understand the culture behind the language, improve their perception of the cultural differences between Chinese and Western cultures, and enhance their intercultural communication skills. Yu Zhihao and He Huibin studied the issue of developing Anglo-American cultural awareness in a special group of ethnic minority students. They talked about the dilemmas faced by cultivating the British-American cultural literacy of minority students from the issue of supplementing cultural knowledge to constructing students' humanistic spirit and suggested that students should be guided to transform their perspectives and concepts in the teaching process and learn British-American cultural knowledge with a developmental perspective. From the meaning of intercultural awareness, Lu Kaifeng analyzed the significance and necessity of intercultural awareness in English learning. He suggested that teachers should make full use of multimedia technology to infuse intercultural

awareness into classroom teaching. Zeng Lili reflected on the status quo of teachers' old teaching concepts and single way of evaluating teaching effects in English teaching and advocates that teachers should study teaching concepts and adopt diversified teaching modes and evaluation methods in culture teaching.

3.2.2. Pedagogical Strategies. Starting from 2010, the research on teaching strategies of cultural penetration has been characterized by the development of theoretical teaching strategies and teaching-aid technology. Wu Xianyun proposed that strengthening the learning of British and American culture and enhancing the awareness of cross-cultural communication meet the needs of English teaching reform. Teachers should make full use of existing multimedia aids, such as using pictures, audio, and video in teaching, to increase students' active participation in class. Based on the theory of multiple intelligences, Lu Tian suggested that teachers need to adopt diversified teaching designs in classroom teaching to provide more development opportunities for cultivating students' intercultural communication skills. Du Haiyan proposed that teachers can stimulate students' interest in cultural learning through the comparison method, test correction, and the creation of cross-cultural situations in response to the negative perceptions of students in the process of cultural teaching. Sun Lei introduced idioms as "concise phrases or short sentences that have been used by language users for a long time," through which English learners can learn the language and Western culture and improve their intercultural communication skills. Li believed that teaching culture can be carried out by comparing cultural differences, using online media, expanding cultural resources in English textbooks, and organizing English-related activities. Mao Mingming believed that cultural penetration is an important part of high school English reading teaching, through which students' reading speed and comprehension can be improved, and is an important way to develop students' cross-cultural awareness and cross-cultural communication skills. Guan Jiangang researched the strategies of teaching English culture in high school and proposed three forms to cultivate students' cross-cultural awareness, such as innovating English teaching theories, creating English teaching contexts, and organizing extracurricular activities.

4. Construction of Blended Teaching Model Based on Big Data Analysis

In order to accelerate the integration and optimization of the resources of these courses, promote the development of theoretical and practical teaching of these courses, and improve the ability of students in related majors to solve practical problems, we explore and practice in the British and American culture courses that have been offered in our university. The blended teaching model constructed in this paper contains the following three parts: the analysis model of teaching behavior based on educational big data, the construction of a blended teaching platform for British and

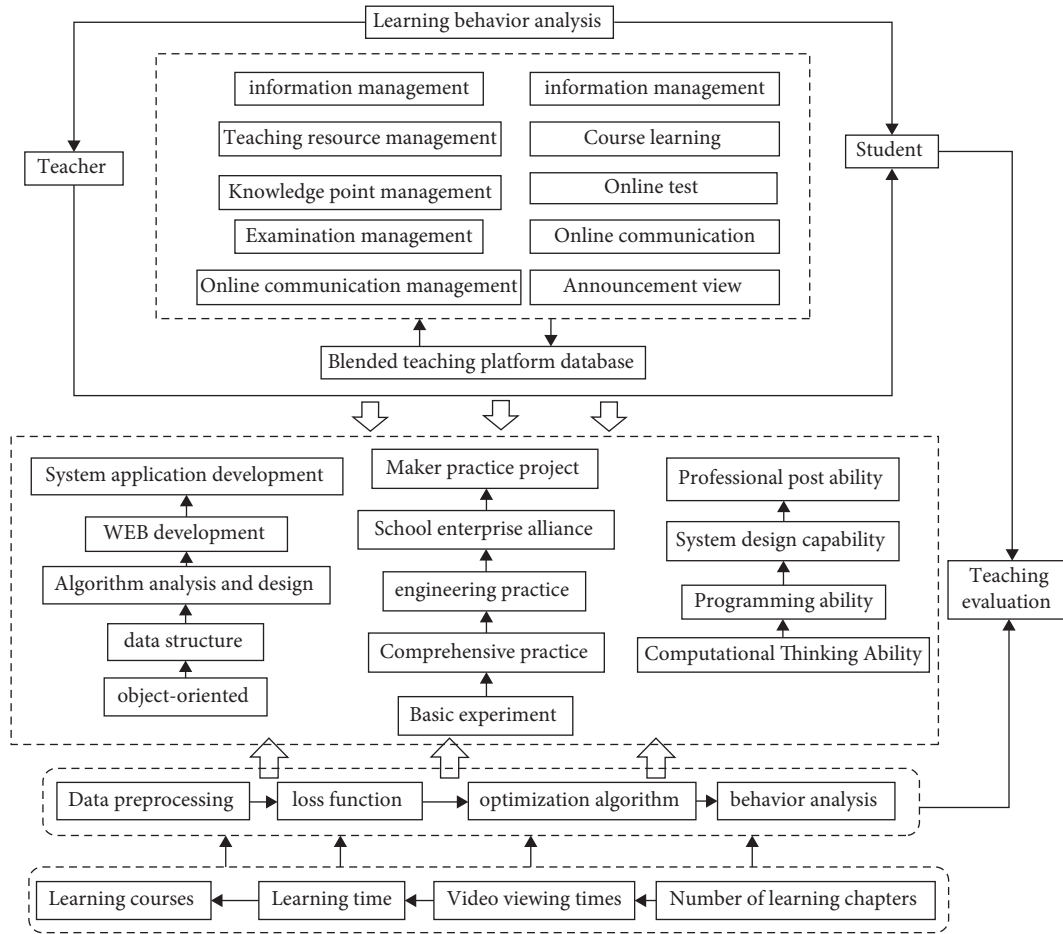


FIGURE 3: The overall structure of the diversified blended teaching model.

American culture courses, and the construction of a blended teaching model based on big data background. The overall structure diagram is shown in Figure 3.

4.1. Teaching Behavior Analysis Model Based on Education Big Data. Under the teaching environment of “Internet+,” the teaching process will generate a large amount of teaching-related data. How to make full use of these teaching big data and analyze students’ learning behaviors based on their related information and learning records is the first theoretical problem that needs to be solved in this paper. In view of the lack of abundant teaching data for British and American culture courses, this paper adopts the open data set of MOOC platform to analyze and establish the learning behavior analysis model. The existing learning behavior records include course code, course name, registration time, start time, end time, course days, number of students enrolled, number of students who passed the exam to obtain the certificate, pass rate, and other record information. In this paper, learners’ age, gender, educational background, learning time, number of learning events, number of sampling statistics learning, number of watching videos, number of learning chapters, and number of posting on learning forums are selected as the basis of learning effect

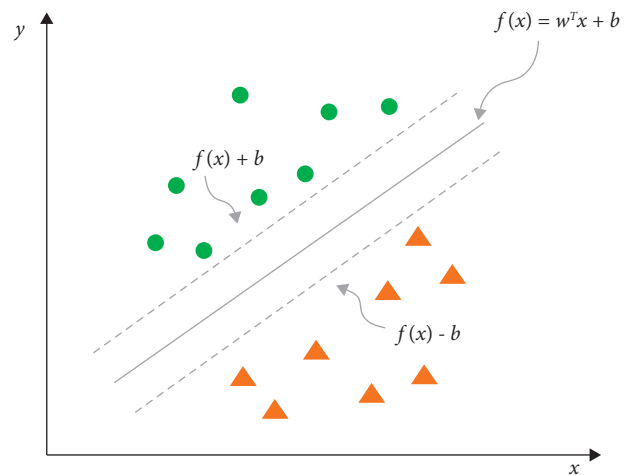


FIGURE 4: Mathematical model of support vector machine regression algorithm.

evaluation, and the support vector machine regression (SVR) algorithm is used to predict the learning behavior. The mathematical model of the support vector machine regression algorithm is shown in Figure 4, in which $f(x)$ denotes the learning effect, x denotes the relevant evaluation basis affecting the learning effect, w denotes the weight

obtained by regression, and b denotes the deviation, then its regression model expression is given as follows:

$$f(x) = w_1x_1 + w_2x_2 + \cdots + w_nx_n + b. \quad (1)$$

4.2. The Construction of Blended Teaching Platform Based on Learning Analysis. The theory of blended teaching shows that in the teaching process, the teacher's leading role should be played; at the same time, the main role of students should be reflected, and the students' learning initiative should be fully stimulated. In the blended network teaching mode, in order to reflect the teacher's leading role in monitoring the learning process, the teacher needs to upload all relevant teaching materials, teaching videos, and other tutorial materials in advance; while students can complete classroom teaching, after-class homework and discussion, and communication independently through the network teaching platform according to the teaching arrangement given by the teacher. On the other hand, teachers and students will generate a large amount of teaching-related data in the process of completing teaching through the online platform. For example, the number of times of login, login time, students' learning content, learning hours, homework times, homework time, test times, test time, test scores, and many other teaching-related data, how to collect, analyze, count and visualize these data, and establish learning analysis and prediction model according to the relevant course characteristics, so as to implement real-time monitoring of students' learning process and learning effect, and provide a dynamic reference for teachers. It provides a visual reference for teachers' dynamic management and provides relevant management data for teaching managers.

Based on the abovementioned analysis, the blended teaching platform based on learning analysis built in this project contains the following contents: (1) teacher module: the teacher function module contains personal information management, teaching resource management, teaching announcement management, teaching knowledge point management, test question management, and other parts; (2) student module: the student function module contains personal information management, course learning, online communication, announcement viewing and other functions; (3) learning analysis module: the learning analysis module contains functions such as learning data collection, online communication analysis, online learning analysis, and learning test analysis. The system function diagram of this platform is shown in Figure 5.

4.3. Construction of Blended Teaching Mode Based on Big Data Analysis. The blended teaching mode based on big data analysis is constructed in this paper, taking the British and American culture course of our university as the research object, using the blended teaching platform based on learning analysis as the teaching means, and taking various engineering practice projects of our university as the carrier, collecting the practical teaching links such as course experiment, course design, professional practical training and

graduation design, and adopting the basic teaching principle of combining online/offline to realize the integration and optimization of teaching resources, guidance and supervision of teaching process, and overall improvement of teaching quality. It adopts the basic teaching principles of online/offline combination to realize the integration and optimization of teaching resources, supervision of teaching process, and overall improvement of teaching quality.

The project collects teaching data online and adopts a big data analysis model to analyze, visualize and give feedback on teaching data, providing data basis for teachers' teaching process, students' learning planning, and teaching evaluation. The teaching mode constructed in this paper contains the following core contents: (1) project-oriented blended teaching mode: for the characteristics of theoretical courses and practical projects of programming courses, the blended teaching mode oriented to creative practice projects, joint school-enterprise projects, engineering practice projects, comprehensive practice projects, and basic experiment projects is constructed. Based on the blended teaching platform that has been built, various forms of online/offline blended teaching are carried out to effectively improve students' programming levels. (2) Data analysis-oriented multiple blended evaluation mode: based on the blended teaching platform, the platform teaching data are collected in real-time, and the teacher-student two-way evaluation mechanism is implemented. Based on the two-way evaluation results, combined with the platform teaching data, a reasonable teacher-student teaching evaluation model is established to build a foundation for reasonable tracking and evaluation of teaching quality.

4.4. Upgrading and Reengineering of the System under Big Data. The research on big data in education has developed a cone mesh educational system structure, which includes more directions of educational data mining and also a basic system architecture with new resources, and originally, relatively independent resource systems have been opened up to form a system framework with multiple elements. The cone mesh structure requires more management systems, there must be more teaching elements, and many related elements must also have their own independent small modules, and after integration, the overall teaching system framework is formed. Traditional classroom teaching and network distance learning resource system include many teaching resource database building systems, which can form a recursive system structure. The teaching and learning system under education big data can form independent minisystems by studying the correlation relationship, which can add more elements to the teaching and learning system.

The concept of educational big data includes more sources of educational data with multiple types of data. Traditional educational data does not have a large amount of information, but this educational big data contains a large amount of information. The data can bring together more pedagogical elements, which can be relatively independent or can be built into a simpler pedagogical system structure so

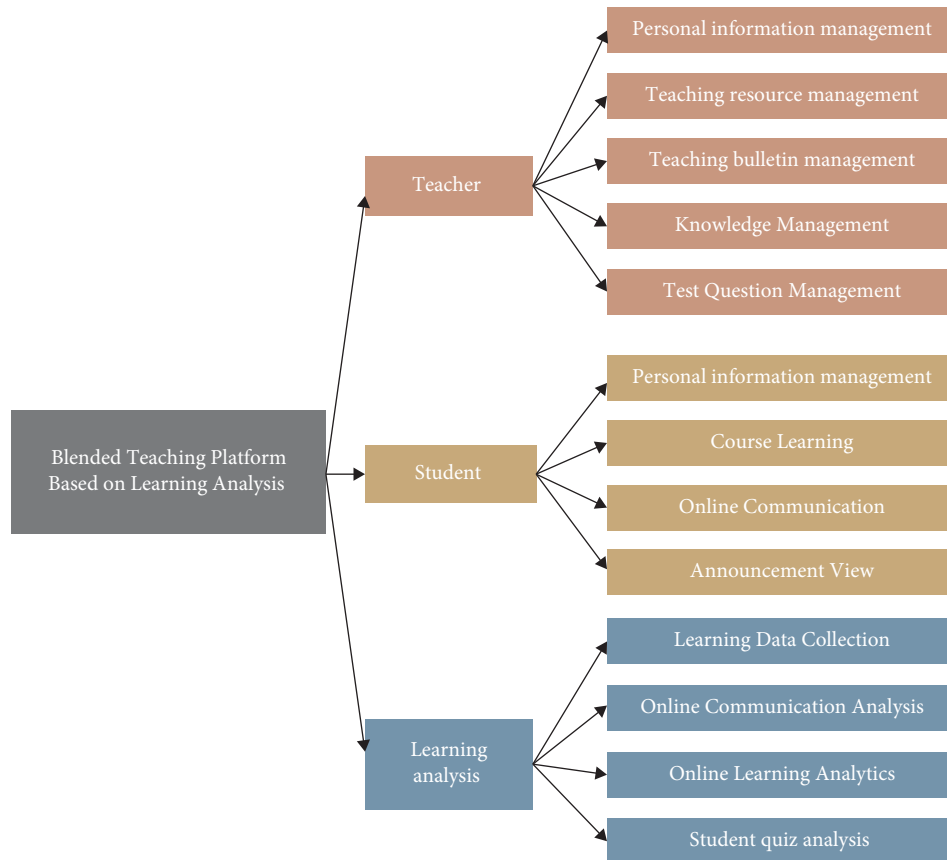


FIGURE 5: The system function diagram of this platform.

that it can better meet the standards related to the documentation of learning resources and can better meet the needs of scalability. In the beginning, the simplified system does not have much big data or perfect functions. In the subsequent use, the data need to be improved continuously, and the structure and functions of the system must also be improved, but the current data of the new teaching system structure has certain limitations, and the functions of the simplified system are relatively limited and must be upgraded only after manual intervention. The construction of the simplified system structure needs to learn the principles of design configuration before it can have perfect functions. The teaching support system can be better constructed in conjunction with the teaching content and can improve the system's functions to make it faster and more relevant.

With the development of artificial intelligence technology, data construction has become a new research trend. Building a simple teaching system includes rules and teaching cases, the system does not involve other cases, but it cannot be limited to the relationship between the data, but also can focus on upgrading the teaching system, education big data research constructs a cone mesh structure, this model has better internal modules and system as a whole, the platform is more good openness, avoiding some unreasonable construction. The study of educational big data can be more clear educational objectives, and clarify the design of teaching and learning, combined with the relationship

between the elements, can have more problem-solving ideas. Education big data integrates the teaching system, realizes the deduction problem, and can send the problem to the teacher actively, the teacher can study according to the learning environment, build advanced teaching logic thinking, promote the formation of advanced teaching architecture, can make the university have more scientific teaching system management.

5. Conclusion

This paper takes the reform of teaching mode of British and American culture courses in our university as the main research object and explores how to analyze teaching data and predict teaching behavior under the technical premise of "big data" background; how to build a blended teaching platform with data analysis function based on existing multiple online teaching resources; and explore and practice in the British and American culture courses that have been offered in our university. In addition, we will explore and practice in the British and American culture courses offered by our university to build a blended teaching model based on data analysis. The teaching method of multivariate mixed mode based on big data analysis is to teach British and American cultures to students. Unlike traditional instillation teaching, through the analysis of data, teachers can better follow the principle of students' subjective initiative in learning and conduct cultural teaching in a heuristic-

induced way. For example, in the knowledge question-and-answer session, teachers give representative keywords by constantly asking questions, and guide students to correct themselves and find answers themselves. At the same time, teachers consider the differences in knowledge acceptance among students, strictly control the process of cultural teaching, and ensure the implementation of effective cultural teaching activities. We will accelerate the integration and optimization of the resources of these courses, promote the development of theoretical and practical teaching of these courses, and improve the ability of students in related majors to solve practical problems.

Data Availability

The dataset can be accessed upon request.

Conflicts of Interest

The author declares that there are no conflicts of interest.

References

- [1] Y. Wang, "Big opportunities and big concerns of big data in education," *TechTrends*, vol. 60, no. 4, pp. 381–384, 2016.
- [2] X. Jia, "Research on the Role of Big Data Technology in the Reform of English Teaching in universities," *Wireless Communications and Mobile Computing*, vol. 2021, Article ID 9510216, 13 pages, 2021.
- [3] X. Li, X. Fan, X. Qu et al., "Curriculum reform in big data education at applied technical colleges and universities in China," *IEEE Access*, vol. 7, pp. 125511–125521, 2019.
- [4] S. Diao, "The reform of teaching management mode based on artificial intelligence in the era of big data," *Journal of Physics: conference Series. IOP Publishing*, vol. 1533, no. 4, Article ID 042050, 2020.
- [5] B. Williamson, "The hidden architecture of higher education: building a big data infrastructure for the "smarter university"," *International Journal of Educational Technology in Higher Education*, vol. 15, no. 1, pp. 1–26, 2018.
- [6] I. Harumi, "A new framework of culture teaching for teaching English as a global language," *RELC Journal*, vol. 33, no. 2, pp. 36–57, 2002.
- [7] M. Saville-Troike, "Teaching English as a Second culture," *ON TESOL*, vol. 74, 1975.
- [8] S. L. McKay, "Teaching English as an international language: the role of culture in Asian contexts," *Journal of Asia TEFL*, vol. 1, no. 1, 2004.
- [9] K. Kitao and S. K. Kitao, *English Teaching: Theory, Research and Practice*, Chiyoda-ku, Tokyo, 1995.
- [10] M. I. Malik, S. H. Wani, and A. Rashid, "Cloud computing-technologies," *International Journal of Advanced Research in Computer Science*, vol. 9, no. 2, 2018.
- [11] C. Fischer, Z. A. Pardos, R. S. Baker et al., "Mining big data in education: affordances and challenges," *Review of Research in Education*, vol. 44, no. 1, pp. 130–160, 2020.
- [12] S. Z. B. Tahir and N. Mufidah, "Multi-blended learning model for remote area schools in pandemic Covid-19 situation," *Journal of Teaching and Education for Scholars*, vol. 1, no. 1, pp. 38–46, 2022.
- [13] M. Jiang and X. Wu, "Exploration and practice of college English multi-blended teaching model based on OBE concept [J]," *Open Journal of Modern Linguistics*, vol. 12, no. 4, pp. 367–379, 2022.
- [14] M. C. B. Umanailo, "Designing English Teaching Model at the Remote Area Schools of Maluku in Covid-19 Pandemic Situation," in *Proceedings of the 11th Annual International Conference on Industrial Engineering and Operations Management*, Singapore, March 2021.
- [15] S. Q. Jiang, L. I. Hui, and H. U. An-Jun, "A study on blended teaching design of comprehensive English course in higher vocational colleges based on production-oriented approach," *Journal of Qingdao Ocean Shipping Mariners College*, vol. 40, no. 3, pp. 71–74, 2019.
- [16] "Teachers' education," *Ciência & Educação (Bauru)*, vol. 22, 2016.
- [17] T. Dympna and E. Wallace, "Ensuring Effective Intercultural Communication in the Emergency department," *Emergency Nurse*, vol. 30, 2022.
- [18] T. Clemmensen, "The Cultural Usability (CULTUSAB) Project: Studies of Cultural Models in Psychological Usability Evaluation Methods," in *Proceedings of the International Conference on Usability and Internationalization*, Springer, Berlin Heidelberg, July 2007.
- [19] C. Fries, *Teaching and Learning English as a Foreign Language*, University of Michigan Press, Michigan, 1945.
- [20] R. Lado, *Linguistic across Cultures*, University of Michigan Press, Ann Arbor, 1957.
- [21] K. Chastain, *Developing Second Language Skills*, Rand McNally College Publishing Company, USA, 1976.
- [22] M. Byram, *Culture Studies in Foreign Language Education*, Multilingual Matters, Clevedon, 1989.
- [23] E. Y. Kim, *A Study of Culture Teaching in English Classes in Korea and Rural Elementary Schools in the Republic of Korea*, Mc Gill University, Canada, 2005.
- [24] S. Leshem, "Unravelling cultural dynamics in TEFL: culture tapestries in three Israeli schools[J]," *Teachers and Teaching: Theory and Practice*, vol. 12, no. 06, pp. 639–656, 2006.
- [25] S. Hans, *Fundamental Concepts of Language Teaching*, Oxford University Press, London, 1983.
- [26] N. Seelye, *Teaching Culture: Strategies for Intercultural Communication*, National Textbook Company, Lincolnwood Illinois, 1993.
- [27] C. Byram, *Teaching and Learning Language and Culture*, Multilingual Matters, Cleve don, Avon, 1994.
- [28] J. Frank, "Raising cultural awareness in the English language classroom," *English Teaching Forum*, vol. 51, no. 4, p. 2, 2013.