

Retraction

Retracted: Dilemma and Countermeasures of English Teaching Reform Based on Multiculturalism in the Context of Big Data and Wireless Communication

Security and Communication Networks

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Security and Communication Networks has retracted the article titled “Dilemma and Countermeasures of English Teaching Reform Based on Multiculturalism in the Context of Big Data and Wireless Communication” [1] due to concerns that the peer review process has been compromised.

Following an investigation conducted by the Hindawi Research Integrity team [2], significant concerns were identified with the peer reviewers assigned to this article; the investigation has concluded that the peer review process was compromised. We therefore can no longer trust the peer review process, and the article is being retracted with the agreement of the Chief Editor.

References

- [1] B. Fei and G. Huang, “Dilemma and Countermeasures of English Teaching Reform Based on Multiculturalism in the Context of Big Data and Wireless Communication,” *Security and Communication Networks*, vol. 2022, Article ID 8330047, 7 pages, 2022.
- [2] L. Ferguson, “Advancing Research Integrity Collaboratively and with Vigour,” 2022, <https://www.hindawi.com/post/advancing-research-integrity-collaboratively-and-vigour/>.

Research Article

Dilemma and Countermeasures of English Teaching Reform Based on Multiculturalism in the Context of Big Data and Wireless Communication

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The development of big data and wireless communication technology has expanded the channels for Western culture to enter China. Diversified teaching forms make us dizzy, which has a great impact on traditional English teaching. This paper aims to study the dilemma and countermeasures of English teaching reform based on multiculturalism under the background of big data and wireless communication. It analyzes the connotation of multiculturalism, the characteristics of the era of big data, the problems existing in college English teaching, and the necessity of college English teaching reform. On the basis of feasibility, in order to understand the current situation of English teaching in colleges and universities, this paper takes teachers and students of a college in this province as the research object, conducts a questionnaire survey on them, and finds out how to better use the background of big data and wireless communication through data analysis. Combined with the multicultural trend of the times to carry out English teaching, the study concluded that under the current technological background, our English teaching must adhere to the student-centered approach and take the improvement of teachers' quality as an important means.

1. Introduction

The development of computer science has created new opportunities for college English teaching. With the changes of the new era, facing new student groups, teaching reform is imminent [1, 2]. As the cradle of directly cultivating applied talents for the society, colleges and universities, in accordance with the requirements of the Ministry of Education, apply modern information technology to English teaching, which is an important direction for the reform of English curriculum teaching in colleges and universities in line with the development of the times [3, 4].

China's English education started relatively late, and for a long time, it has paid too much attention to the field of knowledge transfer. After entering the new century, the development of various information technologies has made us realize the importance of improving students' abilities, so

the teaching reform has attracted great attention from the society. In this way, we have conducted serious research and discussion on the future development of these issues, encouraging people to fully understand the development trend of English education in the future [5, 6]. Some scholars hope to find the basic principles of successful English education and study the problems existing in English teaching from the perspective of language education, so as to help teachers understand these problems. His research encourages front-line English teachers with underlying problems and helps them successfully solve specific educational problems [7, 8]. Some researchers have mainly studied how to use appropriate teaching methods when teaching English as a foreign language in the classroom. They discuss English teaching in the classroom, formulate teaching plans, design teaching procedures, apply teaching methods, and provide comprehensive teaching guidance for English teachers from the

perspective of foreign languages [9, 10]. There are also some researchers who rely on foreign language education to discuss the problems that may arise in the process of teaching English. From the perspective of communication, they have mastered comprehensive basic knowledge and skills of English, such as listening, speaking, reading, and writing, which make it easy and fun for teachers to learn English in teaching [11]. Some scholars mainly discuss the skills and measures that can facilitate the rapid transformation of young teachers with relatively little teaching experience into English education professionals. Introduce successful English teaching cases, comprehensively discuss and demonstrate, and clarify the good teaching methods that English teachers need to use in the actual teaching process, which is helpful for young English teachers to grow rapidly [12]. At the same time, in foreign countries, all countries regard a continuous and comprehensive foreign language education policy as an important condition to ensure the effectiveness of classroom foreign language education [13]. It can be seen that no matter which aspect of the reform is chosen, the ultimate goal is to improve the quality of teaching, while intercultural recognition focuses on the practical application of foreign languages and the direction of intercultural communication skills has not changed [14, 15]. Moreover, the comprehensive application of modern science and technology is one of the important foundations of the current foreign language education reform. It encourages foreign language learners to use a variety of information methods, greatly enlightening foreign language learners. There are also many changes in the evaluation of foreign language courses [16, 17], from emphasizing language elements to using language practice, from emphasizing writing to emphasizing speaking, from emphasizing results to emphasizing process, from emphasizing publicity to emphasizing individuality, etc.

On the basis of consulting a large number of relevant references, this paper combines the connotation of multiculturalism, the characteristics of the big data era, the problems existing in college English teaching, and the necessity and feasibility of college English teaching reform. Subjects carry out a questionnaire survey to understand the current situation of English teaching in colleges and universities and make suggestions for the reform of English teaching in colleges and universities.

2. Analysis of the Dilemma and Countermeasures of English Teaching Reform Based on Multiculturalism in the Context of Big Data and Wireless Communication

2.1. The Connotation of Multiculturalism

2.1.1. *Diversity of World Cultures.* There are complex cultures around the world and they are all different. The integration of the world economy has brought various cultures onto the world stage. These cultures have experienced long-term development, evolution, fusion and differentiation, and other complex processes and generally show new

characteristics of the times [18]. If China wants to survive and develop in the world, it must respect the diversity of cultures and fully understand the advantages and disadvantages of these cultures.

2.1.2. *The Coexistence of Diverse Cultures in China.* China is a multiethnic country with 56 ethnic groups, many of which have formed their own unique cultures. After years of development and integration, China as current multiethnic country has become a national life characteristic of a "big nation." This is the basis for all ethnic groups in China to achieve a harmonious life, and it is also the confidence that China can always adhere to the coexistence of multiculturalism in the fierce cultural conflict in the contemporary world [19].

2.2. Characteristics of the Big Data Era

- (1) The total amount of information is large and the information is mixed. Learning resources and bad information on the Internet coexist, and the total amount of information can form a geometric increase in a relatively short period of time.
- (2) The information is released conveniently and updated quickly. With the rapid development of information transmission speed, processing speed, and application level in the era of big data, the thinking mode of college students is updated faster and faster, and college English teaching is facing great challenges [20]. English college teachers need to develop new teaching methods according to new characteristics and new environment's educational model.

2.3. Problems Existing in College English Teaching

2.3.1. *Insufficient Teaching Knowledge.* At this stage, the teaching mode and teaching methods of ordinary Chinese universities are still backward, and the understanding and acceptance of new courses and traditional teaching channels by faculty and staff are not high. Therefore, we must actively change teachers' cognition and concept of teaching [21]. China's higher education is greatly influenced by exam-oriented education and business teaching, so the development of China's higher education often pays more attention to students' academic performance, and the English teaching atmosphere is small and the teaching methods are relatively old, which cannot effectively adapt to the knowledge of English by modern young college students' needs. If teachers do not have a deep understanding of the modernization and reform of English education, the effect of modernization and reform of China's higher education will be greatly reduced, and their interests and functions will not be fully exerted.

2.3.2. *The Teaching Mode Is Outdated.* Due to the current stage of Chinese and English teaching in ordinary colleges and universities, the power of teachers to use modern Internet

information technology to understand students is not enough, and the power of school teachers to apply modern Internet and online teaching platforms is also insufficient. Sex is in urgent need of further improvement. Many advanced information terminals have not played their due role at all in contemporary college English classrooms [22]. In the future, sharing teaching resources through the most advanced information technology and platform can effectively solve the time and space constraints of students on learning activities, thereby enhancing the suitability and effectiveness of English teaching in schools.

2.3.3. Poor Use of Data. In the reform of English school teachers under the background of big data analysis, teachers use big data analysis technology and big data management platform to analyze students' learning needs and establish a personalized teaching system. However, at this stage, English teachers in colleges and universities generally have a large gap from this ability requirement. First of all, the current English school teachers do not make full use of big data analysis technology to accurately analyze students' learning needs and interests and formulate targeted teaching action plans. The second is to cultivate teachers' online teaching ability according to urgent needs [23]. The school does not have modern teaching ability training activities for teachers. In the context of big data analysis, teachers have many deficiencies and challenges in reforming traditional English school education methods. Therefore, there is an urgent need to enhance teachers' data usage capabilities. [24–26].

2.4. The Necessity and Feasibility of College English Teaching Reform

2.4.1. The Need for Reform. After entering the new century, the voice of my country's higher education reform has been increasing. Although English education in colleges and universities in the last century has achieved brilliant results, it has been unable to meet the needs of our talent training in the context of the great changes of the times. After more than ten years of teaching reform, our English education in colleges and universities has gradually been brought into line with international standards, and the goal of talent training has been initially achieved. But on the whole, there are still many problems. For example, the teaching content is not close enough to students' majors, the choice of nonmajor students in foreign language learning and professional learning is unbalanced, the English education system in some colleges and universities is outdated, and they lack the courage to reform. The existence of these problems has seriously affected the sustainable development of English teaching, and it is imperative to deepen the reform.

2.4.2. Feasibility of Reform. As we all know, if we want to develop, we must reform; otherwise, we will be surpassed and eliminated.

Although there are many difficulties and obstacles in English education in colleges and universities in our

country, there are also many favorable factors. The first is the needs of the social environment. In the final analysis, our higher education is to cultivate talents for social development. After entering the new century, the demand for talents in our society has gradually changed from knowledge-based to ability-based and comprehensive, and this change in demand will inevitably promote the development of higher education reform. The second is the support of national policies. At present, China's education authorities have issued a large number of policies to support colleges and universities to promote the reform of English teaching. From the recruitment of talents to the renewal of equipment, the state has vigorously supported it, which has provided a strong backing for the reform of English education in colleges and universities.

3. Experiment

3.1. Survey Object. The subjects of this article are students and teachers in three classes of non-English majors in a university in the province. Among them, there are 46 students in class A, 51 students in class B, 49 students in class C, and 25 students in college English classrooms.

3.2. Investigation Method. Questionnaires are issued to answer anonymously, multiple-choice questions and open-ended questions are combined, and the topics cover a wide range of subjects. Among them, there are 3 surveys on the basic information of the respondents, 3 surveys on the installation of information terminals, 5 surveys on teachers' usage, 4 surveys on teachers' ability, and 5 surveys on student satisfaction. The questionnaire focuses on the investigation of English teaching in colleges and universities. 146 questionnaires were distributed to students, 125 questionnaires were recovered, and the recovery rate was 85.6%. Among them, there are 125 valid questionnaires, and the effective rate is 100%.

3.3. Reliability Test of the Questionnaire. The semireliability method divides the survey data into two and calculates the correlation coefficient analysis of the two halves to evaluate the reliability coefficient of the entire survey data scale. Split reliability is an internal consistency factor that measures the internal unity of the two halves of the score. This method is generally not suitable for fact-based research, but suitable for test reliability analysis on topics such as attitudes and opinions. Spieljan Brown's formula illustrates the relationship between test length changes and test reliability values:

$$\xi_i = \frac{i\xi_j}{1 + (i-1)\xi_j},$$

$$\xi_i = \frac{2\xi_j}{1 + \xi_j}.$$
(1)

4. Discussion

4.1. Students' Interest and Attitude towards English. As can be seen from Figure 1, only 14%, 12%, and 13% of the students in the three classes are interested in English; 18%, 20%, and 19% of the students are not interested; and 19%, 21%, and 17% of the students could not tell at all.

As can be seen from Figure 2, students' enthusiasm for English learning is not high. Teachers need to innovate teaching methods in the teaching process to correct students' learning attitude and improve their learning enthusiasm.

4.2. The Degree of Use of Informatization Teaching. It can be seen from Table 1 that the installation of information terminals in the classrooms of colleges and universities in China has become quite popular. The installation rate of both computer and projector is above 70%. The install rate is higher in office, with a 90% install rate on computers, and the Internet access rate of the device is also very high.

As can be seen from Figure 3, teachers often use information equipment to assist teaching, accounting for about 60% of the total. About 30% of the teachers use the frequency "frequently," and the teachers who use the frequency "Never" are the least.

4.3. Strategies for English Teaching Reform

4.3.1. Establishing a Student-Centered Teaching Model. This kind of teaching mode, relying on traditional teaching methods to implement, faces huge difficulties. However, with the development of big data and wireless communication technology, it has provided strong support for English teachers to build an efficient teaching system. Students use WeChat or other instant messaging software to pass the difficult questions in their learning to the teacher. The teacher can classify the students according to the similar questions of the students and then choose a scientific way to answer them. If there are many people with the same question, you can build a WeChat group or a Tencent classroom to explain. Teachers can answer one-on-one questions for smaller numbers of questions.

4.3.2. Strengthening the Training of English Teachers. The importance of teacher training lies in creating an enterprise that can actively adapt to the needs of economic and social development. Because English education is the direction of the development and reform of college English education, teachers' subject literacy is directly related to the quality of professional English teaching. Therefore, the task of establishing a team of teachers is very urgent, and it needs to be composed of teachers with high academic literacy, rich teaching experience, and strong academic strength. At present, most English courses are taken over by ordinary English teachers, or because English teachers are usually trained and employed, the quality of English subjects is facing great problems and must be improved in time.

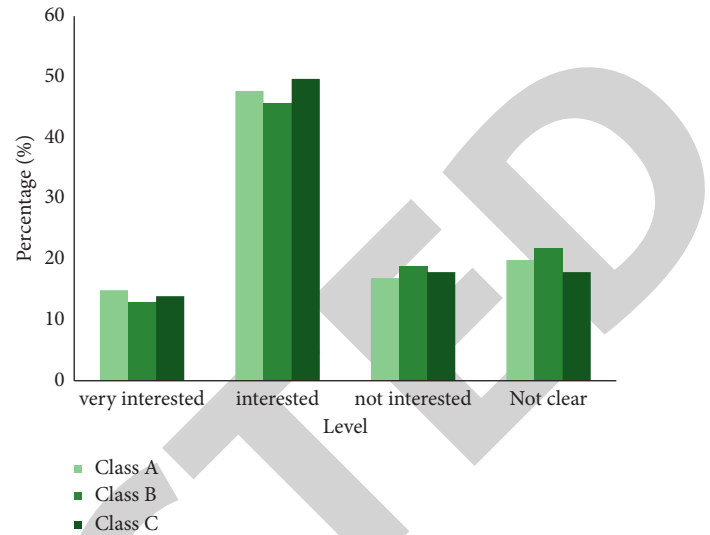


FIGURE 1: Students' interest in English.

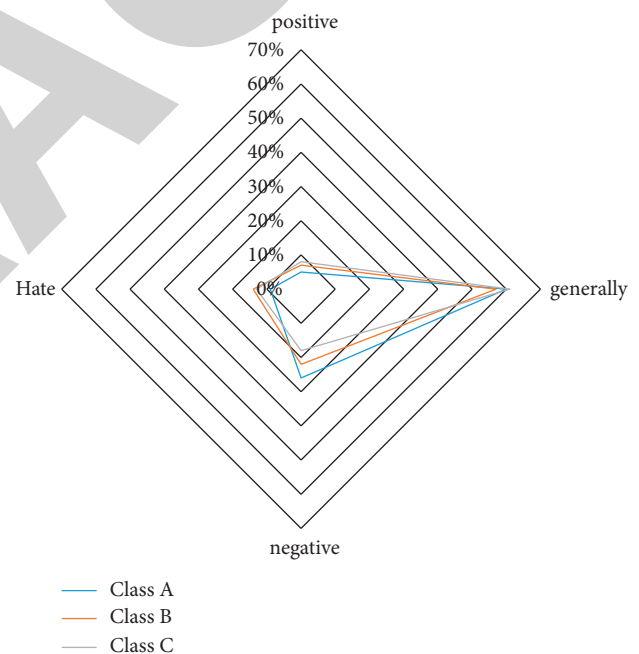


FIGURE 2: Student's learning attitude.

TABLE 1: Information technology equipment.

	Yes (%)	No (%)
Is there a computer in the classroom	75	25
Does the classroom have a TV, VCD, etc.	45	55
Is there a projector in the classroom	70	30
Is there a computer in the office	82	18
Can classroom computers access the internet?	63	37
Can the office computer go online?	90	10
Is there an electronic whiteboard in the classroom	63	37
Does the school have its own website	52	48

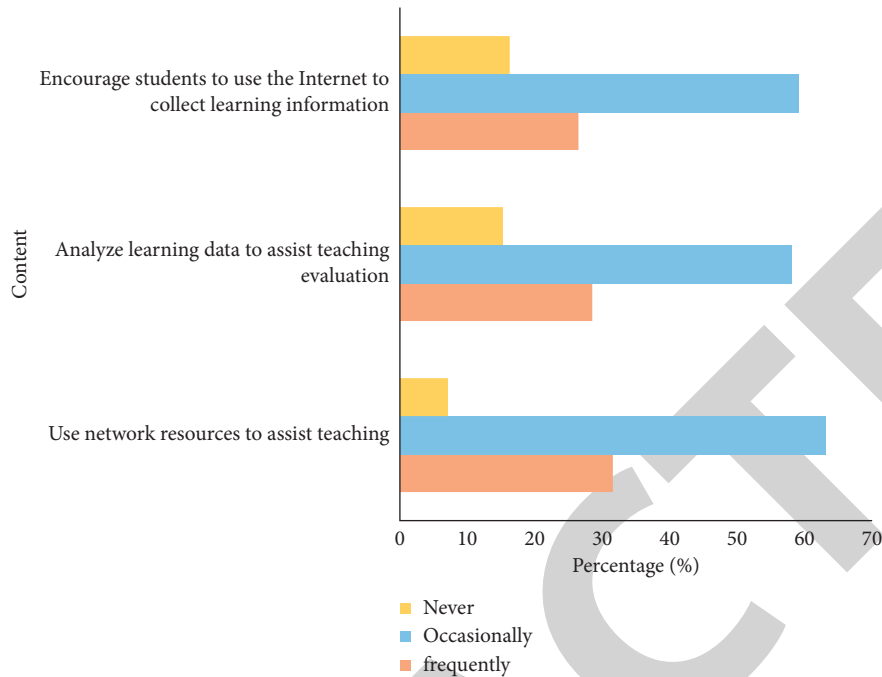


FIGURE 3: The use of information technology in English education.

(1) *Developing a Teacher Career Plan.* The development of English teacher career planning can promote teachers' autonomous learning, improve teaching ability, and make full use of existing teaching resources in schools. Schools and teachers can jointly formulate career plans to help teachers adapt to market competition and market demands. At the same time, it is also beneficial for students to pay attention to the development trend of related majors and guide students to set their own career paths.

(2) *Establishing a Standardized Teacher Appointment System and Continuing Education System.* Hiring an English teacher must follow a "going out" and "bringing in" approach. The school can develop a school-enterprise partnership and hire technical personnel with rich work experience in the company as part-time teachers. They are employed to teach in schools. Choose your professional English background carefully. Conditional colleges and universities can also invite domestic and foreign experts and scholars from various disciplines to give special lectures and train teachers. Selecting specially trained teachers is a better way to train teachers and gradually improve the professional quality of educational teams. It is also possible to set up an industry-university-research center to select teachers to participate in internships in specific occupations within the company. This enables teachers to acquire specialized technical knowledge and practice specialized skills relevant to their area of expertise. In addition, schools can create and provide multiple learning and communication platforms for teachers. In school organization education, teachers can listen to each other, open classrooms, and exchange meetings between schools, provide teachers with opportunities to learn and practice, and broaden the horizons of English teachers.

4.3.3. *Innovative Teaching Methods.* In traditional English teaching, because teachers are mostly in the dominant position in classroom teaching, and students are in a position of passive contact with knowledge, there are fewer opportunities for teachers and students to communicate and interact with each other, and teaching is inefficient and uninteresting. First of all, the reform of English education in colleges and universities under the background of big data analysis will more effectively make learners aware of their own learner dominance, thereby enhancing the power of autonomous learning, not only the imparting of professional knowledge but also the access to its realization information resources with the help of the network platform. Secondly, the combination of online teacher education and offline education can realize targeted education. In classroom educational activities, teachers can use the latest educational equipment to increase students' motivation and interest in learning. Finally, teachers and students can use the online communication platform to communicate in real time, reducing the sense of distance between teachers and students.

5. Conclusions

In the context of the vigorous development of big data and wireless communication technology, we are faced with a severe form of intensified multicultural conflict, which increases the urgency and necessity for us to promote the reform of English teaching in colleges and universities. Although the reform of English teaching in colleges and universities has been carried out for more than ten years, there has been a long-term disadvantage of lagging behind the needs of the times. Especially in the current era of rapid

development of big data and unlimited communication technology, many teachers cannot make full use of this technological convenience to improve teaching efficiency, so that the national policy support and capital investment have not been converted into corresponding teaching achievements. After in-depth research, the team found that although the technical backgrounds are different, the core of college English education has not changed. Enhance the ability of English teachers to learn and use information technology, so as to better promote the in-depth development of the reform.

Data Availability

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

Acknowledgments

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References

- [1] Z. Rezaee, J. Wang, and B. Cooper, "Relevance of big data to forensic accounting practice and education," *Managerial Auditing Journal*, vol. 34, no. 3, pp. 268–288, 2019.
- [2] 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. 9, pp. 125511–125521, 2019.
- [3] H. Anna, "Review of ben williamson (2017). Big data in education: the Digital future of learning, policy and practice," *Postdigital Science and Education*, vol. 1, no. 2, pp. 558–561, 2019.
- [4] A. Baker, "Reviewing big data and learning analytics in higher education: current theory and practice," *Journal of the Scholarship of Teaching and Learning for Christians in Higher Education*, vol. 8, no. 1, p. 8, 2018.
- [5] Y. Wang, L. A. Kung, and T. A. Byrd, "Big data analytics: understanding its capabilities and potential benefits for healthcare organizations," *Technological Forecasting and Social Change*, vol. 126, pp. 3–13, 2018.
- [6] S. M. Smith and T. E. Nichols, "Statistical challenges in "big data" Human Neuroimaging," *Neuron*, vol. 97, no. 2, pp. 263–268, 2018.
- [7] X. Wang, Y. Zhang, V. C. M. Leung, N. Guizani, and T. Jiang, "D2D big data: content Deliveries over wireless device-to-device sharing in large-Scale Mobile networks," *IEEE Wireless Communications*, vol. 25, no. 1, pp. 32–38, 2018.
- [8] Y. Chen and Y. Chi, "Harnessing Structures in big data via Guaranteed Low-Rank Matrix Estimation: Recent theory and Fast Algorithms via Convex and Nonconvex optimization," *IEEE Signal Processing Magazine*, vol. 35, no. 4, pp. 14–31, 2018.
- [9] A. R. Al-Ali, I. A. Zualkernan, M. Rashid, R. Gupta, and M. Alikarar, "A smart home energy management system using IoT and big data analytics approach," *IEEE Transactions on Consumer Electronics*, vol. 63, no. 4, pp. 426–434, 2017.
- [10] N. Zhang, P. Yang, J. Ren, D. Chen, L. Yu, and X. Shen, "Synergy of big data and 5G wireless networks: opportunities, Approaches, and challenges," *IEEE Wireless Communications*, vol. 25, no. 1, pp. 12–18, 2018.
- [11] M. Mohammadi and A. Al-Fuqaha, "Enabling cognitive smart Cities using big data and Machine learning: Approaches and challenges," *IEEE Communications Magazine*, vol. 56, no. 2, pp. 94–101, 2018.
- [12] M. Duan, K. Li, X. Liao, and K. Li, "A Parallel Multi-classification Algorithm for big data using an Extreme learning Machine," *IEEE Transactions on Neural Networks and Learning Systems*, vol. 29, no. 6, pp. 2337–2351, 2018.
- [13] H. Zheng, "The diversified paradigm of college English teaching reform in science and engineering colleges and universities," *Journal of North China University of Water Resources and Electric Power: Social Science Edition*, vol. 38, no. 1, p. 4, 2022.
- [14] J. Luo, "On the flipped classroom and its application in college English teaching," *Education in Science*, vol. 37, 2022.
- [15] S. Cheng, "The current situation of college English teaching and thinking about the reform of classroom teaching methods," *Vocational Time and Space*, vol. 61, no. 6, 2022.
- [16] L. Ma, "Research on the reform of English teaching mode in colleges and universities from the perspective of vocational ability training," *New Silk Road: Early Ten Days*, vol. 59, no. 3, p. 3, 2022.
- [17] H. Deng, "Research on the reform and innovation of English teaching in colleges and universities under the new media environment," *Industry and Technology Forum*, vol. 21, no. 3, p. 2, 2022.
- [18] C. Chen and M. Liu, "Research on employment-oriented college English curriculum teaching reform," *Industry and Technology Forum*, vol. 21, no. 5, p. 2, 2022.
- [19] Z. Luo, "An analysis of the reform of college English teaching in Hubei Local universities from the perspective of Internationalization," *Education Observation*, vol. 11, no. 1, p. 4, 2022.
- [20] X. Tong and X. Yang, "Reform and practice of college English Blended teaching system in Private colleges and universities," *Journal of Heilongjiang Teacher Development Institute*, vol. 41, no. 2, p. 3, 2022.
- [21] W. Miao, "Exploratory teaching reform and practice research of college English integrating elements of British and American Literature," *Journal of Changzhi University*, vol. 39, no. 1, p. 5, 2022.
- [22] L. Jing, "Exploring cognitive Linguistics and its Enlightenment to college English teaching reform . Reading and writing," *Late Ten Days*, vol. 46, no. 3, p. 3, 2022.
- [23] N. He and A. Jiang, "Research on the current situation and optimization strategies of college English teaching evaluation under the concept of education evaluation in the new era," *Examination and Evaluation: College English Teaching and Research Edition*, vol. 55, no. 1, p. 9, 2022.
- [24] H. Wang, "College English teaching under the conditions of coexistence of opportunities and challenges in the Internet era - Comment on "research on innovation of college English

teaching under the background of “Internet +,” *China Science and Technology Papers*, vol. 17, no. 2, p. 1, 2022.

- [25] L. Man, “Research on the reform and future development of college English teaching in the era of science and technology information--Comment on “the reform and Exploration of college English teaching in the background of Informatio-nization”,” *People’s Yangtze River*, vol. 53, no. 1, p. 2, 2022.
- [26] L. Qin, C. An, and Y. Zhang, “Reform and practice of college English teaching system under the background of competition and education integration,” *Journal of Honghe University*, vol. 20, no. 1, p. 5, 2022.

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