

Research Article

Analysis of the Correlation between Academic Performance and Learning Motivation in English Course under a Corpus-Data-Driven Blended Teaching Model

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To explore the correlation between academic performance and learning motivation in English course under a corpus-data-driven blended teaching model, this study set research objects as 62 year-2020-enrolled undergraduate students majoring in English from a university in Jinan City, Shandong Province, eastern China. According to their previous frequencies of using information technology to learn English, these 62 students were divided into two groups: practice group with high frequency and control group with low frequency, with 31 students in each group. The two groups of students were taught 3 English lessons per week for a total of 15 weeks by the exact same teachers using a corpus-data-driven blended teaching model. The students' English academic performances were assessed by well-organized final tests, and their English learning motivations were measured by a motivation scale and questionnaires. The results show that the correlation coefficients between the average score of motivation questionnaires, intrinsic motivation factors, extrinsic motivation factors, and the average score of academic performances in practice group were 0.894, 0.682, and 0.724, respectively, while those in control group were 0.749, 0.836, and 0.904. In all the above correlation analyses, the significance level is 0.01, and all coefficient values are higher than critical value. Hence, there is a positive correlation between learning motivation and academic performance of the two groups of subjects. It is found that the corpus-data-driven blended teaching model has a significant impact on college students' English academic performance and learning motivation, and it has a positive effect on the improvement of their English academic performance and the cultivation of learning motivation. In general, the key to this teaching model lies in reasoning and acquisition by analyzing the language provided by the corpus, and the whole process of data-driven learning is student-centered. Students are exposed to a large number of authentic language knowledge and cultural information, which promotes the sensitivity to relevant points. The results of this paper provide a reference for further research on the analysis of the correlation between academic performance and learning motivation in English course under the corpus-data-driven blended teaching model.

1. Introduction

Based on computer technology and big data, corpus is a large-scale electronic text database built by scientifically sampling and processing language data. The corpus-based research method changes the traditional paradigm and provides researchers with a wide range of rich language materials [1]. Based on the educational ideas and thoughts of constructivism and humanism, the basic principle of data-

driven English teaching and learning is to carry out a discovery, exploratory, and student-centered model by guiding students to observe, summarize, and generalize a large number of language phenomena in the corpus and actively discover grammatical rules, meaning expressions, and pragmatic features [2]. According to the needs of teaching design, the corpus data-driven hybrid teaching mode adds practice questions, question banks, technical materials, and background materials changes the hybrid teaching mode

enhances the effect of online learning and makes the ground teaching and face-to-face teaching connect and integrate more effectively. The concept and practice of teaching community are constantly extending and expanding, such as inquiry community, practice community, and knowledge construction community [3]. Compared with traditional classrooms or pure online courses, in the context of blended teaching, teachers are more likely to develop a strong sense of community and stimulate collaborative reflection and critical dialogue to promote knowledge construction and in-depth teaching [4].

Learning motivation is one of the main factors leading to the individual differences of language learners, and it is also an important variable that affects the learning effect of language learners. It is of practical value and practical significance to improve the quality of English teaching and the English learning level of learners to conduct empirical research and analysis on the correlation between learning motivation and English academic performance to explore their internal relationship and function [5]. Extrinsic motivation is mainly related to factors outside the classroom, mainly including integral motivation and instrumental motivation. Intrinsic motivation refers to the interest and pleasure in learning English, including physical conditions, methods, teacher, and success [6]. Learners exhibit different motivations for the target language, the users of the target language, the cultural and social values of the target language, and especially the use of the target language [7]. English teaching models or methods are positively correlated with English academic performance, indicating that readers' beliefs about effectiveness are closely related to English academic performance. The multimodal data of students' learning process is instantly stored in educational big data, including learning behavior, cognition, physiology, psychological emotion, etc. Learning motivation for foreign language learning is either active motivation, passive motivation, or a neutral motivation [8].

To explore the correlation between academic performance and learning motivation in English course under a corpus-data-driven blended teaching model, this study set research objects as 62 year-2020-enrolled undergraduate students majoring in English from a university in Jinan City, Shandong Province, eastern China. According to their previous frequencies of using information technology to learn English, these 62 students were divided into two groups and were taught 3 English lessons per week for a total of 15 weeks by the exact same teachers using a corpus-data-driven blended teaching model. The detailed chapter arrangement is as follows: Section 2 describes the basic principles of the corpus-data-driven blended English teaching model and introduces in detail the object sampling, syllabus design, assessment and questionnaire design, English learning motivation test, and data processing and statistics in this research; Section 3 analyses the impact of the corpus-data-driven blended teaching model on English academic performance and learning motivation, respectively; Section 4 discusses the correlation between English academic performance and learning motivation under the corpus-data-driven blended teaching model, explores the

evolutionary dynamics and characteristics of correlation between academic performance and motivation, and finally illustrate the multidimensional correlation between participants, participant interaction patterns, and learning communities.

2. Principles and Methods

2.1. Corpus-Data-Driven Blended English Teaching Model. The introduction of the data-driven blended teaching model timely applies the concept of constructivism to the English course. Using this method, the corpus introduces various real situations into the classroom. The teachers guide the students to combine knowledge points, skill training, and interests, and then let students explore, discover, and complete the set tasks on their own. Teachers' encouragement and learning motivation of interest can stimulate students' initiative and creativity. After one semester of study, the three types of motivation and the intensity of motivation in the blended teaching group have all improved. Among them, the integration motivation has increased significantly and replaced the instrumental motivation as the most important motivation type of learners. To better complete the task, students will use their existing knowledge to actively search for and screen useful materials, use teaching materials, corpora, online translation, and other means, and they will use cooperative groups to complete tasks and gain a high sense of achievement. Under the data-driven blended teaching model, students are no longer passively taught by teachers. The main role of students is gradually revealed, and students' personalities are displayed and developed. Students learn actively so that students become the main body of the classroom, and the classroom changes from the teacher's one-word classroom to a multidimensional classroom with multiple interactions.

2.2. Object Sampling. This paper selects 62 year-2020-enrolled undergraduate students majoring in English from a university in Jinan City, Shandong Province, eastern China, as the research object to conduct the analysis of the correlation between English academic performance and learning motivation under the basic corpus-data-driven blended teaching model. Before the study, some data statistics and analysis were carried out on the frequency of online teaching and learning of practical students to reduce the influence of experimental variables as much as possible. The 62 students were divided into two groups: students with internet learning experience and high frequency of online learning were classified as the practice group, with a total of 31 students, including 14 males and 17 females. Those with less or no internet learning experience and lower frequency of online learning were included in the control group, with a total of 31 students, including 15 males and 16 females.

2.3. Syllabus Design. The teaching design is 3 lessons per week for a total of 15 weeks, and the learning time of each unit is 10 hours, including the introduction of unit topics, the construction of knowledge network covering the field,

the integration of theory with practice, the solution of practical problems in cases, and the integration of listening, speaking, reading, writing, and translating competencies throughout the tasks. The setting of teaching tasks needs to be improved according to the staged evaluation and summary of students' learning effect. The teaching time needs to be reasonably planned. Since the corpus retrieval process varies from person to person, how to control, allocate, and efficiently use the teaching time is a problem that teachers need to consider. In the process of classroom practice, students need to use the classroom activity sheet. The teacher marks the assigned tasks and the corresponding time in the classroom activity sheet, which can help students control the allocation of classroom time and adjust the classroom progress in time.

Teachers publish topic discussion posts according to the progress of the course, and students express their own opinions and questions and demonstrate the opinions expressed by others in the form of replies. Teachers carry out online collaborative learning activities around multiple discussion topics, and each topic takes an average of one week to form a relatively independent and contextual learning community. In the classroom teaching session, two classes are taught independently, with a difference of one day, and the teaching method is the same. It takes the forms of intra-group discussions, group reports, self-evaluation and mutual evaluation, and teachers' key lectures and comments. Collaborative groups remain stable after being randomly generated in the class. Collaborative groups participate in group discussions and report on the topic of discussion through role division and online and offline discussions and negotiations, collaborate to complete project tasks and work presentations, and gradually form a group learning community.

2.4. Assessment and Questionnaire Design. The English learning achievement test mainly tests students' mastery of the content they have learned. The test questions are written by researchers according to the English course syllabus and teaching objectives and refer to the test question banks of major websites and other authoritative test banks. To ensure the content validity of the test questions, three professional teachers with more than ten years of teaching experience were invited to evaluate the test questions. After appropriate modifications, they were tested in another class of 30 students. A correct answer is counted as 1 point, and a wrong answer or no answer is given 0 points. SPSS was used to analyze the test results. The difficulty coefficient of the test questions ranges from 0.29 to 0.87, and the discrimination is 0.33 to 0.92. According to the test results, some questions were deleted, and 50 multiple-choice questions were finally determined as the academic performance test.

The questions in the questionnaire design involve 13 subitems in three dimensions: efficacy beliefs, achievement values and goals, and social factors. Some questions are reverse-designed, with a total of 45 questions. The questionnaires were completed by the two groups of students, respectively, to grasp their general attitudes toward learning motivational

factors that affect English learning. The students' answers were then converted into numerical grades for comparison with English grades and used in correlation studies.

2.5. Learning Motivation Test. The most widely used measure of English learning motivation internationally is the Attitude/Motivation Test Battery written by Gardner [9]. Based on the framework of Gardner scale, Li and Liu designed the *English Learning Motivation Scale of Chinese Undergraduates* in 2017 [10] and formed a final scale with ideal reliability and validity through empirical research. The scale is assessed on a five-point Likert scale, with scales from 1 to 5 indicating "strongly disagree," "basically disagree," "not sure", "basically agree," and "strongly agree." The subjects choose the corresponding score according to their own situation. The coefficient of Cronbach's Alpha calculated by SPSS was 0.89, and the results indicated that the scale had good reliability. This paper uses this scale to test students' English motivation.

2.6. Data Processing and Statistics. The collected data are analyzed using SPSS 22.0. Descriptive statistics were used to organize and calculate the data, and statistical methods, such as independent sample *t*-test, regression analysis, and correlation analysis, were used to carry out statistical analysis on the difference and correlation of relevant variables. Descriptive analysis is used for the analysis of qualitative data, i.e., semistructured interviews. The basic goal of this type of analysis is to summarize and explain the findings.

3. Findings and Analysis

3.1. Impact of Corpus-Data-Driven Blended Teaching on English Academic Performance. The results of the analysis showed that the correlation was significant at the 0.01 level, and the correlation coefficients of all three variables with the corresponding students' English scores were 0.846, 0.902, and 0.761, respectively, thus indicating a high degree of correlation between these motivational variables and English scores. Similarly, the correlation coefficients between the total score of the subject's motivation questionnaire, the score of intrinsic motivation factor, and the score of extrinsic motivation factor and academic performance in the practice group were 0.883, 0.769, and 0.618, respectively, while those in the control group were 0.749, 0.836, and 0.904, respectively. As shown in Table 1, the correlation coefficients between the total score of learning motivation questionnaire, the score of the intrinsic motivation factor and the score of the extrinsic motivation factor, and the academic performance of the subjects in the control group were 0.894, 0.682, and 0.724, respectively. In all the above correlation coefficient analyses, the significance level is 0.01, and all coefficient values are higher than the critical value. Hence, there is a positive correlation between learning motivation and academic performance of the two groups of subjects. It can be seen that, on the whole, students' motivation in English learning is low, their intrinsic motivation is low, their extrinsic motivation is slightly higher, their extrinsic motivation is higher than their intrinsic motivation,

TABLE 1: One-way variance of English academic performance of practice and control group.

Time	Group	Sum of squares	df	Mean square	F	Sig.
<i>Before this study</i>	Practice	104.382	4	16.393	0.984	0.038
	Control	1893.303	82	323.193		
	Total	1997.685	86			
<i>After this study</i>	Practice	271.659	3	103.383	11.473	0.165
	Control	2837.039	77	205.375		
	Total	3108.698	81			

Note: *df*: degrees of freedom; *F*: *F* value; Sig.: significance.

and students are more driven by extrinsic motivation. The standard deviation of the overall motivation strength and the intrinsic and extrinsic motivation is less than 1.25, and there is little difference in the extrinsic motivation of the tested students.

Collecting students' English academic performance data and conducting research is helpful for teachers to deeply understand and analyze the problems encountered by students in their studies and to conduct further follow-up investigations on students' actual abilities. Therefore, the blended teaching model can use the corpus as an online teaching resource and apply it to students' after-class learning tracking and knowledge consolidation [11]. Teachers can arrange corresponding tasks after the class, and it makes each student submit English homework in this course into a corresponding corpus. Teachers can regularly consult and check the corpus of English grades made by a student or a group of students during a certain period of time for horizontal and vertical comparisons. By judging which translation problems of students occur less frequently and whether they have been solved or still exist, teachers can make corresponding judgments on whether students' translation level has improved and can also evaluate their own teaching effects (Figure 1). Teachers should adjust their teaching content and strategies in a timely manner, give feedback to students' problems online or offline in a timely manner, and help students solve problems. In addition, teachers can also guide students to build a corresponding small corpus according to their own learning needs after class. They make a vertical comparison of students' English homework in a period of time or make a horizontal comparison with the corresponding reference corpus to judge whether students' translation ability has improved.

Instrumental motivation, self-efficacy, and achievement motivation were significantly correlated with English academic performance. Among them, instrumental motivation and self-efficacy were positively correlated with listening scores, while achievement motivation was negatively correlated with English scores. Blended learning is an integration of computer network and teaching under the guidance of teacher-student dualism. It organically applies computer network to the traditional teaching process, emphasizing not only the self-construction of learners' knowledge but also the guiding role of teachers with the synergy of learning partners. In a practical sense, blended learning is not only a mixture of learning methods but also a mixture of teaching resources, modes, methods, objectives, media, and work. Blended teaching is not a negation of the

traditional teaching model, however, on the premise of retaining the advantages of the traditional teaching model, it integrates the teaching concept of the new model of modern online teaching. The initiative of students' learning can not only reflect the main body of their learning and stimulate their innovation and exploration ability but also allow teachers to focus more on curriculum design, organization, guidance, and update while getting rid of the constraints of traditional teaching processes.

3.2. Impact of Corpus-Data-Driven Blended Teaching on English Learning Motivation. Before the implementation of the corpus-data-driven blended teaching model, the two groups of students had the same ability in all aspects and did not show much interest in the English translation course. However, during the implementation of the experiment, the students in the practice group gradually changed from passive to active. As shown in Table 2, from the third week, in the usual homework assignments, compared with the control group, the excellent rate of the practice group was 3.9% higher and the good rate was 5.7% higher, however, the pass rates of the practice group and the control group were roughly the same. The corpus-data-driven teaching model has a certain positive effect, and it can promote students' interest in learning, however, it cannot deny the teaching effect of the traditional teaching model. If there is no strong leader in the divided group, the progress of the whole group will not be obvious because the leader not only assigns tasks mechanically but also masters the talents and specialties of each group member to make each member only make the best use of it and promote the progress of each member. Before implementing the corpus-data-driven teaching model of English courses, students must master the translation technology because it is used in processing data. The English foundation of each student may be different. Hence, when dividing the group, it must be allocated according to the characteristics of the members, and the overall strength of the group should not be too weak. Otherwise, it will not be conducive to the development of the group.

In actual English teaching, teachers should provide students with rich language application data. Therefore, whether it is complete texts, high-frequency vocabulary expansion, and indexing contexts, they have huge data and vocabulary traditional teaching methods that are unmatched. However, this model adopts platforms or tools, such as intelligent marking and marking, assigns homework in layers, corrects students' homework exercises in real time,

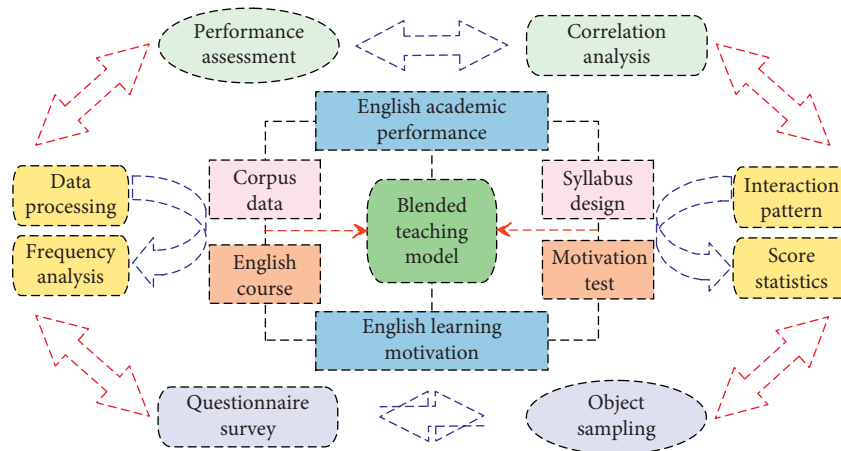


FIGURE 1: Impact of corpus-data-driven blended teaching on English academic performance.

TABLE 2: One-way variance of English learning motivation of practice and control group.

Time	Group	Sum of squares	df	Mean square	F	Sig.
<i>Before this study</i>	Practice	199.293	3	22.739	0.183	0.036
	Control	7389.393	88	573.392		
	Total	7588.686	91			
<i>After this study</i>	Practice	396.032	2	17.383	1.232	0.445
	Control	8543.853	93	397.372		
	Total	8939.885	95			

Note: *df*: degrees of freedom; *F*: *F* value; Sig.: Significance.

and accurately collects wrong questions. Education big data analysis technology is based on teaching needs and student characteristics, targeting different students. For personal teaching corpus, it has the characteristics of high flexibility and can be put into application in the process of construction, and the requirements are not strict [12]. Therefore, building a personal teaching corpus has a very high operability. In practice, relevant teachers are required to fully consider the construction purpose, scale, sampling standard, storage method, and format of the corpus. In this process, students should focus on clarifying and controlling the purpose of building the database to reasonably determine the scale and type of corpus construction and the selection and arrangement of corpus. Since the personal corpus is mainly used in English vocabulary teaching, it is important to ensure that the corpus contained in it is closely related to the teaching content. Figure 2 shows the impact of corpus-data-driven blended teaching on English learning motivation.

From the perspective of self-determination theory, teachers' ability needs are not met, and teachers' endogenous motivation and courage to try this model will also be reduced. The corpus-data-driven blended teaching model relies on the use of teaching platforms. After teachers participate in the targeted training of the platform-operating company organized by the school, they also need to train students on how to use it on the student side. Proficient use of the platform by both teaching and learning is a prerequisite for running a blended teaching model. The construction of online resources requires independent construction in the absence of suitable shared resources.

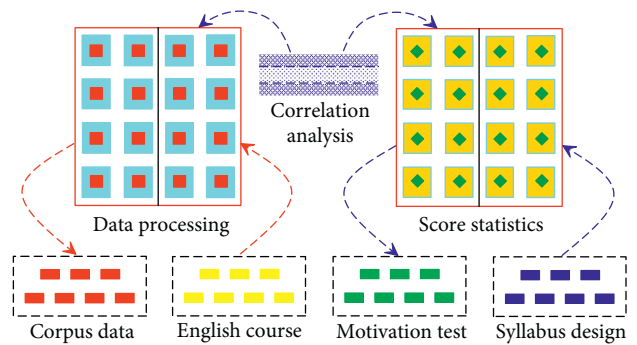


FIGURE 2: Impact of corpus-data-driven blended teaching on English learning motivation.

The blended teaching model organically integrates face-to-face teaching and online teaching, and its teaching community can be regarded as a hybrid inquiry community or a hybrid teaching community, which has the characteristics of spatial multidimensionality, temporal dynamics, and identity interembedding. The self-determination theory holds that the positive and effective action of individual behavior depends on whether the needs for autonomy, ability, and belonging are satisfied. Among them, ability needs refer to the individual's belief that one's own behavior can reach a certain level, that one is competent for the activity, and internal motivation will be reduced when the satisfaction of ability needs is hindered. Belonging needs refer to the needs from the surrounding environment or others. By understanding, supporting, and experiencing a

sense of belonging and providing a supportive message, an individual's need for belonging will be met [13].

4. Discussion

4.1. Correlation between English Academic Performance and Learning Motivation under the Corpus-Data-Driven Blended Teaching Model. Compared with instrumental motivation, intrinsic interest in the target language and target language culture is the most important motivation for English learning, and it has the greatest impact on learning engagement. Therefore, improving students' immersive motivation is the primary task of stimulating learning enthusiasm. The results at the end of the semester showed that blended teaching significantly promoted the development of students' immersive motivation, and also promoted the development of students' situational motivation and instrumental motivation [14]. The survey results at the beginning of the semester show that English learners are mainly driven by instrumental motivation. As shown in Figure 3, the three motivations of learners are generally at an upper-middle level, and their learning motivation is very strong. With the completion of the task, the students' practical application level of English is gradually improved, the ability to analyze and solve problems is exercised, and the increase of sense of satisfaction and achievement is more conducive to students' deep exploration of their own learning potential, forming a virtuous circle of sustainable development. Inclusion motivation is highly correlated with intrinsic motivation, and is an important factor in promoting language learning effect and learning motivation development. Finally, six influencing factors were extracted through factor analysis. This research contributes to the construction and development of the theory of English teaching model, and it plays a certain reference role in the integration of information technology and English course.

The overall level of learning motivation is positively correlated with academic performance, that is to say, students with strong learning motivation also have better academic performance, which supports the hypothesis that learning motivation directly affects academic performance. Effectiveness beliefs are positively correlated with English academic performance, indicating that readers' beliefs about effectiveness are closely related to English academic performance. The stronger the self-efficacy, the more actively participating in reading activities, and the higher the academic performance, which also confirms the hypothesis that belief and value purpose play an important role in reading performance [15]. That is to say, the higher the students' goals and value goals are set, the better their academic performance. In terms of social factors, the correlation between social motivation and academic performance is not high, and it does not reach a statistically significant level. The reason is that the subjects are college students and college students have matured in their thinking and personality development, and they have strong self-recognition ability. Hence, reading to meet external expectations or becoming a member of a community through reading is not enough to directly affect their English grades. There are differences in

English learning motivation between males and females, and there are also differences in academic performance, i.e., females' English learning motivation is stronger than males, and females' academic performance is better than males. Learning motivation directly affects academic performance.

Blended teaching is the blending of multiple teaching resources, teaching methods, learning methods, and learning environments. From the student's point of view, it is the integration of online learning and classroom learning. Online self-study before class combines classroom listening, discussion and exchange, group reporting, and extracurricular expansion. Higher requirements, such as how to design appropriate scenarios and novel solutions, select and push appropriate network resources, conduct classroom lectures and answer questions for common problems reflected in online learning, organize group discussions and exchanges, and make systematic knowledge. For online learning, teachers or teaching administrators can use the online learning platform to create corresponding evaluation activities [16]. For example, the English learning motivation test makes objective judgments on students' participation and academic performance through online assignments, online quizzes, online discussions, etc. For traditional classroom teaching, evaluation is based on students' classroom performance, participation, and final assessment scores. By designing multiple evaluation methods, students' enthusiasm for learning can be promoted, and the results are helpful for teachers to judge the effect of the blended teaching design.

4.2. Evolutionary Dynamics and Characteristics of the Correlation between English Academic Performance and Learning Motivation. According to the correlation coefficient statistics, the correlation between English academic performance and learning motivation is obvious. Visual type is highly correlated with the basic creation of stimulating learning environment, interest control motivation, and environmental control motivation. This type is highly correlated with metacognitive control motivation and environmental control motivation. The analytical type is highly correlated with metacognitive control motivation, encouraging positive reflective self-evaluative motivation is strongly correlated with emotion control motivation, and flush is strongly correlated with affective control motivation. Field-dependence is highly correlated with creating basic motivating environment motivation and environmental control motivation. Openness is correlated with maintaining and protecting learning motivation, and encouraging positive reflective self-evaluative motivation is strongly correlated (Figure 4). In the face of students with different English academic performance inclinations, the same learning motivation may not apply to all students. Hence, the learning motivation should be different. The investigation of learners' English academic performance tendency can make the implementation of learning motivation more pertinent. Environmental control motivations are highly correlated with academic performance, indicating that teachers should create specific ideas for learners that are in line with current

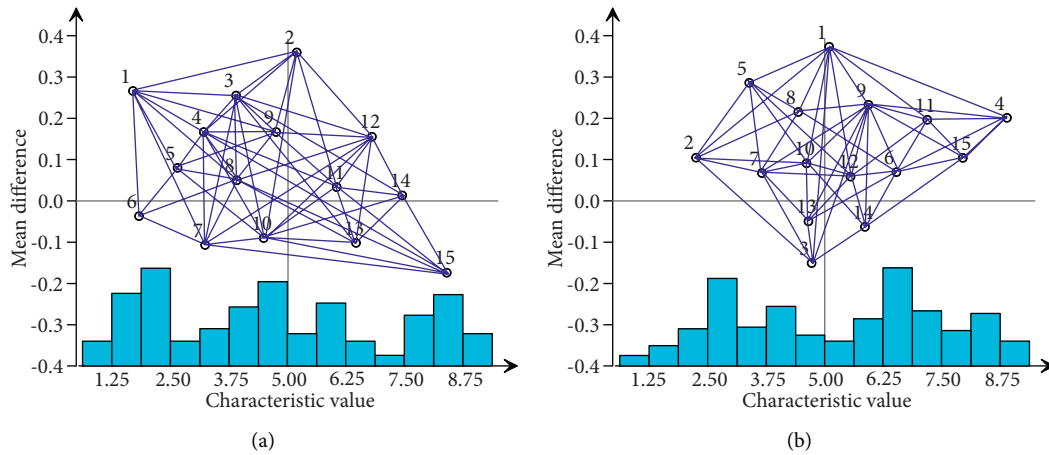


FIGURE 3: Relationship between mean difference and characteristic value of English academic performance and learning motivation in practice (a) and control (b) groups.

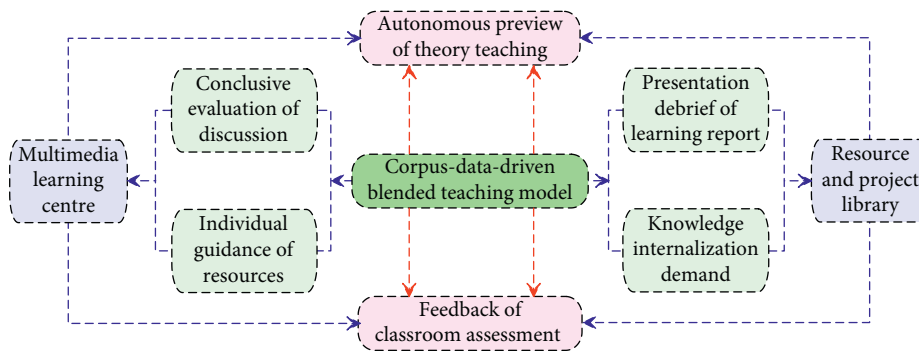


FIGURE 4: Analytical framework of evolutionary dynamics and characteristics of the correlation between English academic performance and learning motivation.

teaching through pictures, videos, live interpretation, and group cooperation. In addition, learners of this style should be encouraged to actively create a similar language environment for themselves in ordinary language learning and pay attention to protecting and maintaining this motivation [17].

As shown in Figure 5, in terms of teaching evaluation design, different from the traditional transcript formulation scheme, this model comprehensively evaluates the performance of engineering literacy, independent learning, collaborative learning, etc., compares and analyzes the knowledge structure and performance of individuals and the whole, and conducts diversified evaluations of teachers and students. As far as the current situation is concerned, students' acquisition of English language information generally relies on the content of textbooks and the language output of teachers, resulting in limited contact between students and real language. It also provides a better space for the application of corpus-data-driven learning models. The actual situation is that, regardless of the strength of learning motivation to learn a foreign language, linguists use the reason and learning motivation for foreign language learning as a criterion for distinguishing learning motivation of foreign language learners. After dynamic analysis and diagnosis, it forms a learning assessment report, describing

the outline of students' knowledge structure and the levels in the entire assessment system [18]. Recommend learning resources, self-adaptive wrong question guidance, assist students in personalized learning, and self-testing. In the teaching implementation stage, the model is based on teaching design, and teachers can carry out blended teaching orderly, and some routine mechanical labor is automatically completed by machines. According to the functions provided by educational big data and data mining analysis technology, teachers can accurately identify individual students, master the learning status of the class, and clarify the commonality and personality of existing problems.

Through the questionnaire survey, it is known that students generally believe that the process evaluation can more truly reflect the learning effect. In the traditional teaching model, the assessment and evaluation of students' English learning effectiveness is simply based on a certain test score or final assessment score. After the corpus-data-driven blended teaching is implemented, the process learning data is included in the assessment indicators as an important assessment basis. Combined with the final assessment results, a comprehensive assessment of students' English learning effect is carried out so that students will no longer be affected by a certain learning effect evaluation [19]. The formulation of process assessment and evaluation

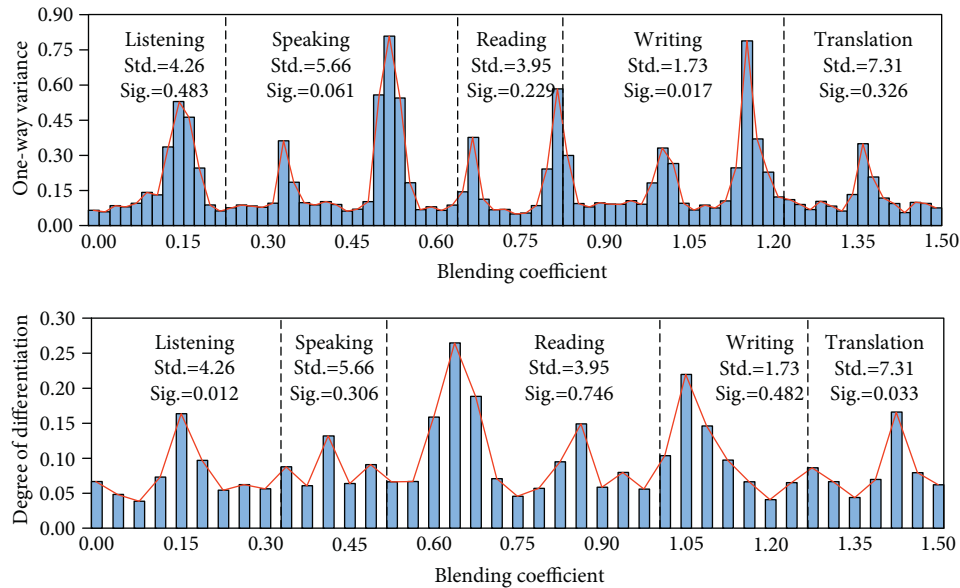


FIGURE 5: Evolutionary dynamics and characteristics of the correlation between English academic performance and learning motivation.

indicators is conducive to guiding students to make correct attributions. According to the attribution theory, there are stable factors and unstable factors, internal factors, and external factors, which affect students' learning achievement. Students' self-attribution of their learning success or failure and efficiency greatly affects their learning motivation. Therefore, whether students can make correct attributions is also an important factor affecting effective teaching. In the blended teaching model, the online teaching stage focuses on the learning of English language knowledge. Students can independently plan the learning progress and content according to the existing knowledge structure and establish the connection between the new knowledge and the existing cognitive structure. Compared with traditional classroom teaching, blended teaching is easier to achieve meaningful learning.

4.3. Multidimensional Correlation between Participants, Participant Interaction Patterns, and Learning Communities. Integrative motivation is the core content of the second language motivation self-system theory. It is the strongest, indicating that students not only have self-expectations to learn English well but also have an interest in English learning and an open international perspective in the process of learning. The examination-oriented education also makes students think that it is their responsibility or obligation to learn English well. Hence, there is a motivation to meet external expectations or avoid exam failure. At the same time, affected by the learning environment, such as teachers, classmates, or courses, students will also have learning motivation. Figure 6 shows the multidimensional correlation between participants, participant interaction patterns, and learning communities in the practice and control group. The stronger the integral motivation and instrumental motivation, the easier it is to achieve good academic performance. Intrinsic motivation has little

correlation with students' academic performance, indicating that the outside world has little influence on students' academic performance. It may be that the inherent and self-internalized motivation is more simulative. Hence, students with strong integral motivation will have higher expectations for their own English learning, thereby promoting them to study hard to obtain a higher English level. In the field of English learning research and education, researchers recognize that learners play a decisive role in learning outcomes. The process of human acquisition of English is much more complex than that of native language acquisition. Hence, there are greater individual differences among English learners [20].

In the process of implementing this teaching model, teachers guide students to use corpus to discover various pieces of knowledge of language use by themselves, rather than instilling knowledge into students. Teachers require students to use the retrieval and statistical functions of the corpus to analyze and study the real English corpus in the corpus to master the laws of language use [21]. Students can use the corpus data to perform word frequency analysis, i.e., the words retrieved from the corpus are arranged in a table according to the frequency of occurrence. They can also be used for context co-occurrence analysis: that a certain word or a certain phrase form is used in each corpus. All the contexts are listed, and the length of the context extension can be set as needed so that the meaning and usage of the word can be deeply understood through the context (Figure 7). The corpus-based college English data-driven teaching model can help teachers to better design teaching and play the leading role of teachers as guides, facilitators, and supervisors in classroom teaching. This model can make students be under the supervision, guidance, and help of teachers after the class. According to their own characteristics and unit themes, they will search for relevant information on the corpus, select the learning content, and conduct autonomous learning.

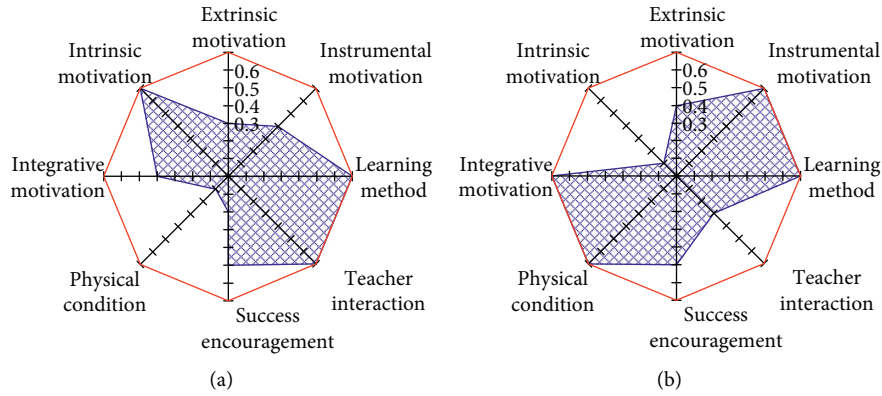


FIGURE 6: Multidimensional correlation between participants, participant interaction patterns, and learning communities in practice (a) and control (b) groups.

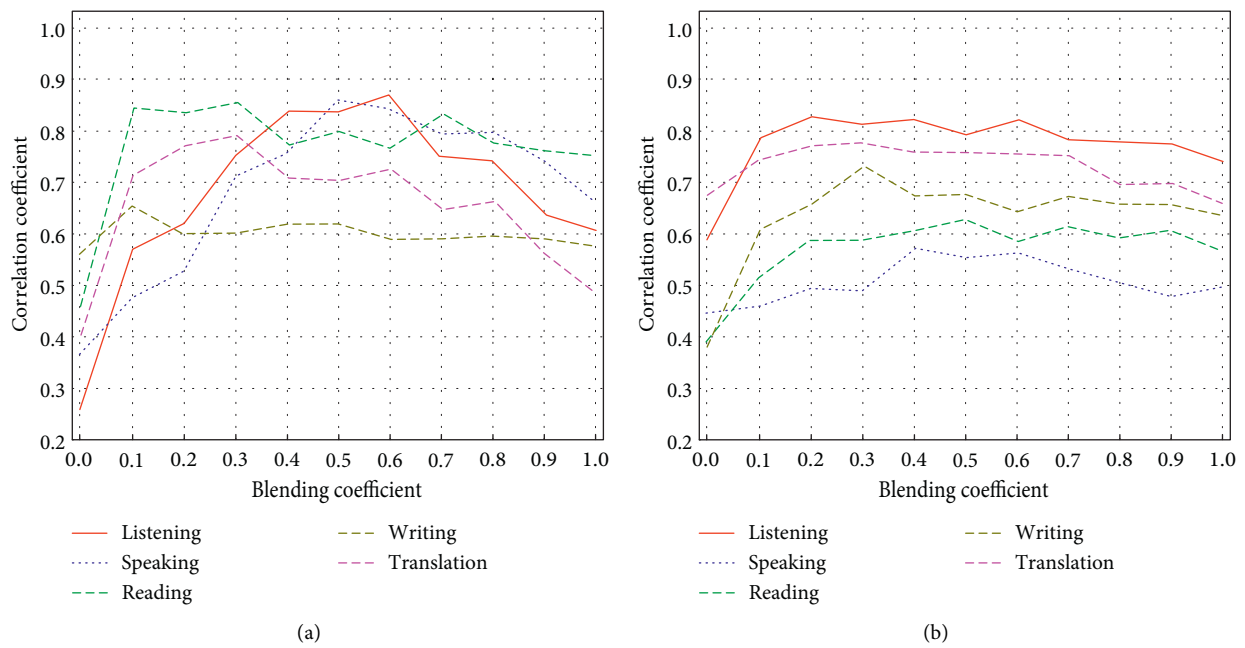


FIGURE 7: Relationship between correlation coefficient and blending coefficient of five typical English lessons in practice (a) and control (b) groups.

From the analysis of the learning effect dimension, some students' study time is not proportional to the test scores, which is manifested as long study time and low score or the opposite. Learning is a complex internal psychology and thinking process, which is only a part of the external appearance, and the expressions of students cannot be quantified. Teachers are still in the stage of subjective and superficial judgment, resulting in lag, common sense, experience, and ambiguity in teaching evaluation. In the blended teaching practice, the online learning rumination ratio, assignments, tests, and other periodic dynamic data can make the face-to-face teaching design more targeted and directional. With the help of instant data, such as in-class quizzes and discussions, the achievement of teaching effects is continuously assessed so that classroom teaching is relaxed and detailed [22]. At the same time, through the analysis of hierarchical data, the teaching object, content,

process, and measurement can be grasped from the microscopic to the macroscopic. From the individual to the class, the data-driven blended model is to adjust the teaching strategy. By analyzing, supervising, predicting, reminding, and evaluating the learning effect of the learners, the students are profiled. It is to provide the basis for the online teaching of the next stage and dynamically adjust the online teaching resources to provide high-level, comprehensible additional resources or tasks for good students and strengthen supervision for students.

5. Conclusions

This paper selects 62 year-2020-enrolled undergraduate students majoring in English from a university in Jinan City, Shandong Province, eastern China, as the research object to conduct the analysis of the correlation between English

academic performance and learning motivation under the basic corpus-data-driven blended teaching model. The research results show that the corpus-data-driven blended teaching model has a significant impact on college students' English academic performance and learning motivation and has a positive effect on the improvement of students' English academic performance and the cultivation of learning motivation. Blended teaching has obviously promoted the development of students' integrative motivation, and it also promoted the development of students' situational motivation and instrumental motivation to a certain extent. From the analysis of the learning effect dimension, some students' study time is not proportional to the test scores, which is manifested as long study time and low score or the opposite. Before implementing the corpus-data-driven teaching model of English courses, students must master the translation technology because translation technology is used in the process of processing data. The stronger the integral motivation and instrumental motivation, the easier it is to achieve good academic performance. Intrinsic motivation has little correlation with students' academic performance, indicating that the outside world has little influence on students' academic performance. In general, the key to this method lies in reasoning and acquisition by analyzing the language provided by the corpus, and the whole process of data-driven learning is student-centered. Students are exposed to a large number of pieces of authentic language knowledge and cultural information, which improves the sensitivity to relevant knowledge points. The results of this paper provide a reference for further research on the analysis of the correlation between academic performance and learning motivation in English course under the corpus-data-driven blended teaching model.

Data Availability

The data used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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