Research Article

Meta-Analytical Approach to the Impact of Corpus-Driven Teaching on Foreign Language Acquisition

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Corpus linguistics is an emerging discipline in contemporary linguistics. Corpus refers to a large number of real used languages, which are collected, classified, stored, coded, or marked by computer to form a huge electronic resource library for users to learn or conduct research. Nowadays, corpus is gradually applied to English teaching, but corpus is mostly used in undergraduate teaching, and it is still in its infancy in higher vocational English teaching. Starting from this realistic background, in this work, a meta-analysis was conducted to analyze corpus-driven instruction on foreign language acquisition. The introduction of meta-analysis and the related introduction of chaotic communication system were carried out, and the hardware architecture of the system was designed. In the experiment, the error corpus was collected and sorted out and used as a sample. The comparative experiment method was adopted, which meant that two or more experimental groups were set up, and the relationship between various factors and experimental objects was explored through the comparative analysis of the results. Experimental results showed that judging from the average correct rate, the correct rate of the questionnaires for international students generally increased with the level of the international students. It also showed from another aspect that the higher the level of international students, the less the impact of the English translation of words on their acquisition process. The subject of meta-analysis of the impact of corpus-driven teaching on foreign language acquisition has been well completed.

1. Introduction

China's higher vocational education is still in its infancy, and has a certain distance from the current social, economic, and technological development. Compared with the United States, Germany, the United Kingdom, and other countries, the gap is even more obvious. However, due to the importance, ubiquity, and high frequency of use of English, front-line English teachers in higher professional universities need to think deeply about the teaching of advanced professional English. English teaching faces a complex new international form. Higher vocational education requires that the talents cultivated are three-dimensional and compound. Students should not only understand theory but also be able to practice. Students should not only be able to master English, but also be able to communicate in English. In recent years, due to the expansion of college enrollment and the course entrance examinations of higher vocational colleges, the admission level of students is uneven, and many new situations have followed, such as aversion to learning and poor foundation.

In the decades since the middle of the last century, corpora have developed rapidly at home and abroad. The corpus has three characteristics: 1. The corpus stores the language materials that have actually appeared in the actual use of the language, so the example sentence database should not usually be regarded as a corpus; 2. The corpus is the basic resource for carrying language knowledge, but it is not equal to language knowledge; 3. Real corpus needs to be processed (analyzed and processed) before it can become a useful resource. Some people use it to collect data; others directly use the corpus as their research direction. Corpus linguistics is an application-based discipline. Without application, the corpus has no source and development motivation. English teaching is an important field of corpus application. In fact, the application of corpus in English teaching has been

regarded as an important research direction of corpus by many foreign scholars. In such an international environment, under the new form of domestic education reform, the application of research subjects in higher vocational English teaching reform has been put on the agenda. The innovations of this paper are: (1) The introduction of chaotic communication system, which is an important theoretical concept in corpus research. (2) The moderating effect of relevant factors on deep acting and foreign language learning intention is analyzed. (3) CMA 3.0 professional software is used to process and analyze the data. The software can directly import, calculate, and output data, with convenient operation and powerful functions. The meta-analysis method of corpus-driven teaching adopted in this paper is more intelligent, and a system can also be produced in the later stage to digitize the impact of foreign language learning, which is convenient for teaching and learning.

2. Related Work

Corpus linguistics is a new discipline in contemporary linguistics. Alex et al. studied text awareness using DocuScope. For students' written decision-making, Alex et al. believed that using corpus-driven tools could better improve the work efficiency. But this research content did not cause much repercussion [1]. Boettger et al. extended Orr's work by providing an overview of ongoing activities on statistical driven solutions in TPC research. A quick metadata search on Technical and Professional Communication (TPC) journals and conference proceedings found that a growing number of essays related to common terminology in digital technology were published. However, the TPC field was just a beginning to embrace the power of a data-driven approach [2]. Chareonkul used a corpora-driven methodology to study the schema-means screen of the present perfect tense using a corpus of English. These meanings were discovered with unique co-occurrence grid [3]. Lackov provided a frequency list of the studied words in a text corpus and classified them morphologically. The main research interests focused on the collocation and coherence of frequently occurring words [4].

Language is the bridge of human communication. Singh and Seet research focused on whether early learning of different languages affected long-term English acquisition. In this study, the effect of foreign language nursing on the final acquisition of English and on the memory traces of Hokkien people was investigated, the knowledge of English phonetics, semantics, and grammar in the Hokkien group and the pure English group were compared. The memory of Hokkien tones, phonology, and vocabulary was also compared between the two groups. However, Chinese and English are essentially agglutinative and isolating languages, and the significance of such research is not particularly obvious [5]. Manegre examined whether foreign language accession was achieved by exchanging message when students enrolled in web authoring assignments in English as a common language. It also examines whether students with high-level language skills related to foreign languages share this information with their peers throughout the writing process [6]. Bao and Liu conducted a study to investigate the impact of the emotional component of L2 learning on linguistic teaching and learning. Bao and Liu believed that emotional factors had positive and negative effects on foreign language teaching and were a crucial factor in language learning [7].

3. Meta-Analytical Approach to the Impact of Foreign Language Acquisition

3.1. Meta-Analytical Method. Meta-analysis is a method that uses quantitative methods to synthesize previous empirical studies for quantitative literature review [8]. Its application types mainly include experimental research, related research, mortality, and recurrence rate issues. In the past, it was widely used in the medical field, and then gradually applied to the field of psychology and management. It is a better method to integrate previous research and conduct literature review, and its results are more convincing than single research and ordinary literature review [9].

Generally speaking, the operation process of meta-analysis is complicated, but the repeatability is high [10]. Therefore, the operation of meta-analysis needs to be strict according to the standard process. Even if there are less than 10 documents that meet the standards, the meta-analysis can be carried out. The overview is more convincing. However, meta-analysis is not an actual study after all [11], but an integration of previous studies. Therefore, the applicability of the study results may also consider the influence of factors such as study design and study participants. For example, the results of cross-sectional studies may be different from those of the follow-up studies. Therefore, whether the cross-sectional research results can be directly applied to follow-up research also needs to be verified by empirical research [12].

In this study, CMA 3.0 professional software was used for data processing and analysis. The software can directly import, calculate, and output data, with convenient operation and powerful functions. The resulting effect size in this study is the correlation coefficient r, which refers to either the individual correlation coefficient or the processed average correlation coefficient. When the meta-analysis software calculates relevant statistics such as r, 95% confidence level, $p$value, and reports other statistical results of the meta-analysis, it only needs to input the correlation coefficient and sample size of each study. Through meta-analysis, this paper integrated the research results of the relationship between corpus-driven teaching and foreign language acquisition, and discussed the moderating effects of sample characteristics and scales on the two.

3.2. Algorithm Optimization. The bounded optimized issue is formulated as formula (1):

$$Q: \min_x F(x) = (f_m(x)),$$
$$\text{s.p. } g_j(x_1) \geq a_j,$$
$$h_k(x) = b_k, \tag{1}$$
$$x \in X \subset R.$$

Total number of settlements in the destination dimension that satisfy the constraints are known as a viable solution.

The uncertain mathematical methods are as follows.

The multiobjective optimization problems with constrained intervals are shown as the formulas (2)–(5):

$$Q: \min_a F(a,q) = (f_m(a,q)). \tag{2}$$

Defining X,

$$\text{s.p. } g_j(x_1, u) \geq a_j = [a_j, \overline{a_j}]. \tag{3}$$

Defining x,

$$h_m(x, v) \geq b_m = [b_m, \overline{b_m}]. \tag{4}$$

Defining x_1,

$$x \in X \subset R^q. \tag{5}$$

Defining u,

$$u \subset R^p. \tag{6}$$

Furthermore,

$$f_1(x) = \min_v f_1(x, v),$$

$$\overline{f_2(x)} = \max_v f_1(x, v),$$

$$g_2(x) = \min_v g_2(x, v),$$

$$\overline{g_2(x)} = \max_v g_v(x, v), \tag{7}$$

$$h_3(x) = \min_v h_3(x, v),$$

$$\overline{h_3(x)} = \max_v h_3(x, v).$$

Taylor expansion at u. Taylor expansion is an important content in mathematical analysis, and it is also an indispensable mathematical tool for studying function limit and estimation error. It embodies the essence of calculus "approximation method" and has unique advantages in approximate calculation. Using Taylor expansion can transform nonlinear problems into linear problems with high accuracy, so it has important applications in all aspects of calculus.

$$\min_x F(x, u) = (f_1(x), \overline{f_1(x)}). \tag{8}$$

Processed:

$$f_i(x) = f_i(x, u^c) - \sum_{i=1}^p \left| \frac{\partial f_i(x, u^c)}{\partial u_l} \right| u_l^r. \tag{9}$$

The same with the constraint function is applied:

$$g_j(x, u) = [g_j(x), \overline{g_j(x)}], \tag{10}$$

where:

$$\overline{p_j(x)} = p_j(x, u^c) + \sum_{i=1}^p \left| \frac{\partial p_j(x, u^c)}{\partial u_l} \right| u_l^r,$$

$$j_k(x) = j_k(x, u^c) - \sum_{i=1}^p \left| \frac{\partial j_k(x, u^c)}{\partial u_l} \right| u_l^r. \tag{11}$$

The use of Taylor series expansions can reduce the calculation effort effectively [13]. The time-frequency method is analyzed below.

In the context of conversions, there are

$$p(t, f) = M_1(f) + M_2(f) + 2R[mnM_{12}(f)]. \tag{12}$$

The signature $x(t)$ is

$$D(f) = \int_{-\infty}^{+\infty} h\left(t + \frac{\tau}{2}\right) h^*\left(t - \frac{\tau}{2}\right) \exp(-j2\pi f\tau) d\tau. \tag{13}$$

Since the window function is not included in the formula, there are few restrictions between the two parameters. If

$$h(1) = h_1(1) + h_2(1). \tag{14}$$

So,

$$D(f) = D_1(f) + D_2(f) + 2\text{Re}\{D_{12}(f)\},$$

$$D_{12}(f) = \int_{-\infty}^{+\infty} h_1\left(T + \frac{\tau}{2}\right) h_2^*\left(T - \frac{\tau}{2}\right) \exp(-j2\pi f\tau) d\tau. \tag{15}$$

3.3. System Flow. To make the system complete the necessary hardware conform to access the script demands of multifaceted number collection and machining and data mining operations in the electronic text library [14], the hardware architecture of the system was designed [15, 16]. Therefore, in order to complete the support of the above overall hardware design and realize the corresponding computer capability, there is a need to choose a suitable microprocessor as the core part of the computing equipment of the passive communication system [17]. In order to ensure that an extensive data that has been gleaned can be uploaded to the cloud in time, the computer edge system must have high data performance to prevent a huge quantity of data gathered by connecting extreme devices and the cloud. Finally, for specific scenarios can be used, various data processing and analysis algorithms must provide a variable software environment for edge devices so that users can develop or transplant programs separately [18]. The system framework is shown in Figure 1.

3.4. Corpus Paid Platform. Along with the advancement of the community, to meet the special research purposes of some researchers, the society's demand for small corpora for special purposes is increasing. The construction of such a more targeted and relatively small-scale corpus will become a research hotspot in the academic world. In fact, the rapid growth of PC skills is constantly integrated into people's
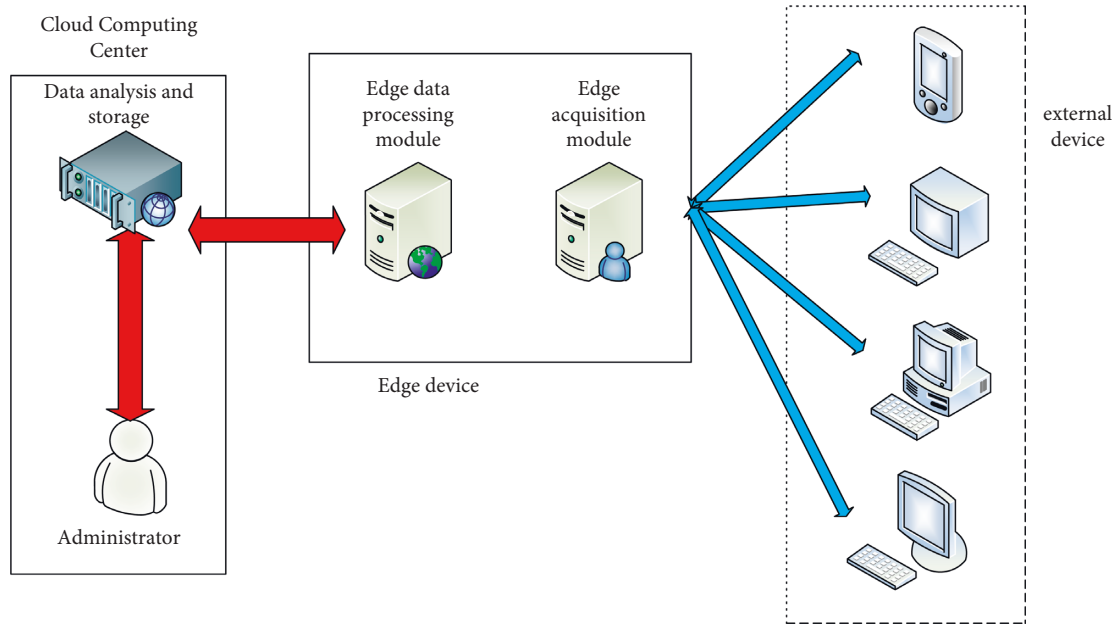
Figure 1: System framework diagram.

lives, coupled with the existing research results of corpus nationally and internationally and the extensive attention to corpus construction all over the world. Especially in the era of big data, people are more and more dependent on data processing and processing [19]. At present, corpus is widely used in the field of linguistics. It is a new means of modern language research. The corpus is used in language teaching, dialect research, dictionary compilation, phonetics, vocabulary, grammar, and other language problems. It also shows that the corpus research method is a new research method and has played an important role in language research. These make the construction and research of corpus become a new direction of research by many scholars [20]. The schematic model of the corpus platform is illustrated in Figure 2.

4. Meta-Analytical Experiment on the Impact of Foreign Language Acquisition

The basic framework of the experiment is as follows: firstly, the error corpus is collected and organized, then the correlation experiment of different trait scales and acquisition levels is carried out, and finally the simulation analysis of the algorithm performance is carried out.

4.1. Collection and Arrangement of Biased Corpus. The experiment collected a sample of 120 international students from three foreign language classes in a certain institution, which were divided into elementary, intermediate, and advanced classes according to their grades. In the composition data collected in this paper, it is considered that Germany and Austria use German as the official language. In theory, the native language of candidates in these two countries should be German. The current HSK dynamic corpus divides errors into: omission due to lack of components, addition due to redundant components, substitution due to improper usage, and wrong order due to wrong word order. This paper will also take the above method here as a classification method by biased performance.

Verbs can be divided into monosyllabic verbs, disyllabic verbs, and polysyllabic verbs according to their syllable characteristics. A syllable contains a vowel phoneme, called a monosyllabic word, such as a, at, hi, meet, and three. According to the syllable characteristics, the collected verb errors can be clearly divided in form. The error distribution is shown in Table 1.

It can be seen from the above table that a total of 129 cases of verb errors can be classified according to syllable characteristics. Among them, substitution errors occur most frequently in disyllabic verbs, with 53 cases, while omission errors occur in monosyllabic verbs with a relatively high probability. There are 20 cases of omission, the addition errors are relatively few, and the monosyllabic verbs are more than the two-syllable verbs.

Verbs can be divided into mental activity verbs, directional verbs, relational verbs, auxiliary verbs, etc., according to their semantic characteristics. This article divides them according to the specific errors shown in the corpus. Therefore, only 42 cases of errors can be classified from the following verb types, as shown in Figure 3.

Among the 42 cases of errors classified according to semantic features, only the substitution errors appeared in the verbs of mental activity, and the substitution errors of these types of verbs were the largest in the verbs of the mental activity; the errors of the tendency verbs were generally less, errors are the main ones; there were more omission errors of relative verbs, but they were similar to addition errors; auxiliary verbs were dominated by addition errors, and auxiliary verbs had the largest proportion of addition errors in these types of verbs.
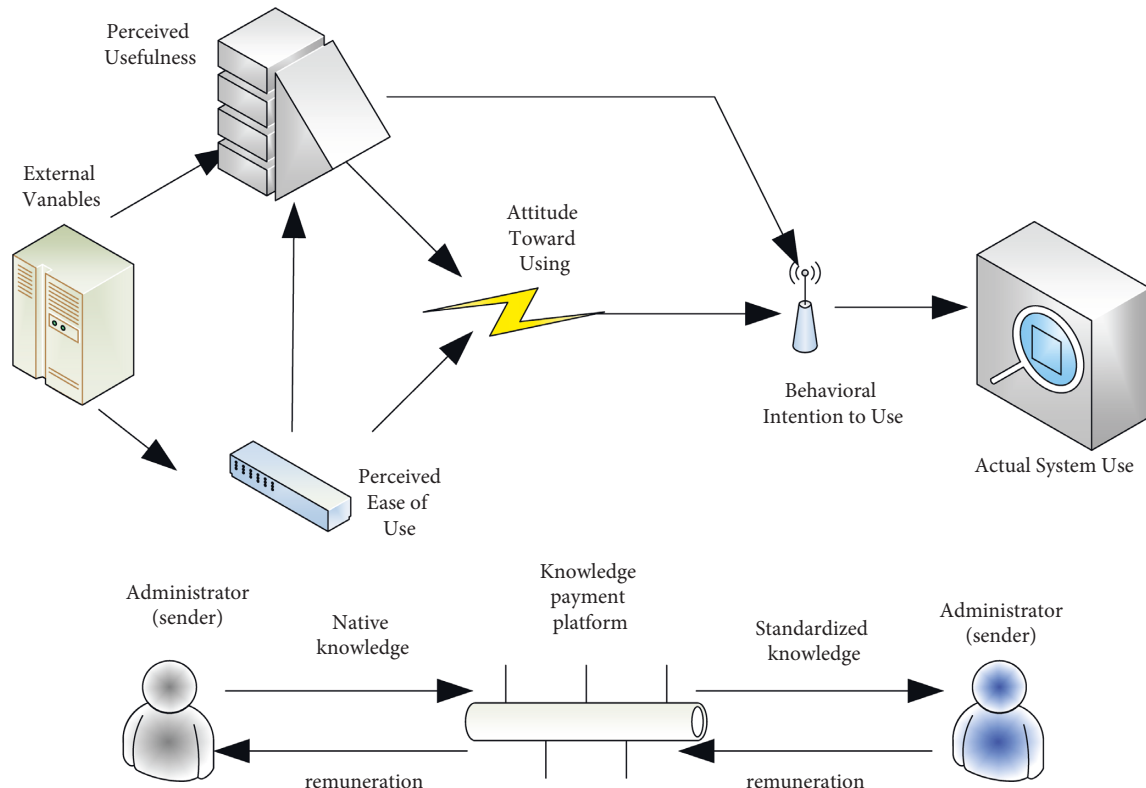
Figure 2: Model diagram of the corpus payment platform.

Table 1: Deviated verbs - by syllable feature.

	Replace	Add	Omission	Total
Monosyllabic - verb	13	14	20	47
Disyllabic - verb	53	5	8	66
Polysyllabic - verb	3	—	—	3
Monosyllabic and disyllabic mixing	13	—	—	13
Total	82	19	28	129

Statistical analysis was carried out on the questionnaire results of the elementary, intermediate, and advanced classes by using excel sheet, and it made the correct number of questions and the correct rate of the questionnaire, statistics of the results of each student's questionnaire. There were four data items in the analysis results: mean, variance, standard deviation, and coefficient of variation. The first three data were calculated by using the corresponding functions in excel, and the coefficient of variation was the result obtained by dividing the standard deviation by the mean. The relevant statistics are as follows.

Figure 4 is the data results of the elementary class, the intermediate class, and the advanced class.

The comparison between the beginner class and the advanced class is shown in Figure 5.

Judging from the average correct rate, the correct rate of the questionnaires for international students generally increased with the level of the international students. It also showed from another aspect that the higher the level of international students, the less the impact of the English translation of words on their acquisition process.

4.2. Correlation between Different Trait Scales and Acquired Levels in the Experiment.

By analyzing the data, the correlation coefficients between different trait scales and acquired levels are obtained, as shown in Table 2.

The data in the table has shown that in the study using NEO-PI-R, the coefficients of trait scale and acquisition level were 0298, 0.331, 0.330, −0.073, and 0.203, respectively. Among them, the relationship between R9 of rough memory and acquisition level was −0.073, which was a low negative correlation. The rest of the items were positively correlated. It is shown that the trait scale has a good predictive effect on the level of language acquisition.

Due to the heterogeneity of the studies, a sensitivity analysis on different trait scales and acquisition levels was then conducted and compared according to the number of effect model literature. In the fixed effect model and the random effect model, different analysis results were obtained by using different effect models to process the data. The random effect model is a generalization of the classic linear model, that is, the regression coefficient of the original (fixed effect model) is regarded as a random variable, which is generally assumed to be from a normal distribution, as shown in Table 3.

Among them, the correlation coefficients between R6 and the acquired level were 0.275 and 2.78, the correlation coefficients between R7 and the acquired level were 0.286 and 2.87, and the correlation coefficients between R8 and the acquired level were 0.275 and 3.87, respectively. The correlation coefficients between R9 and the acquired level were −0.045 and 0.2, respectively, and the correlation coefficients
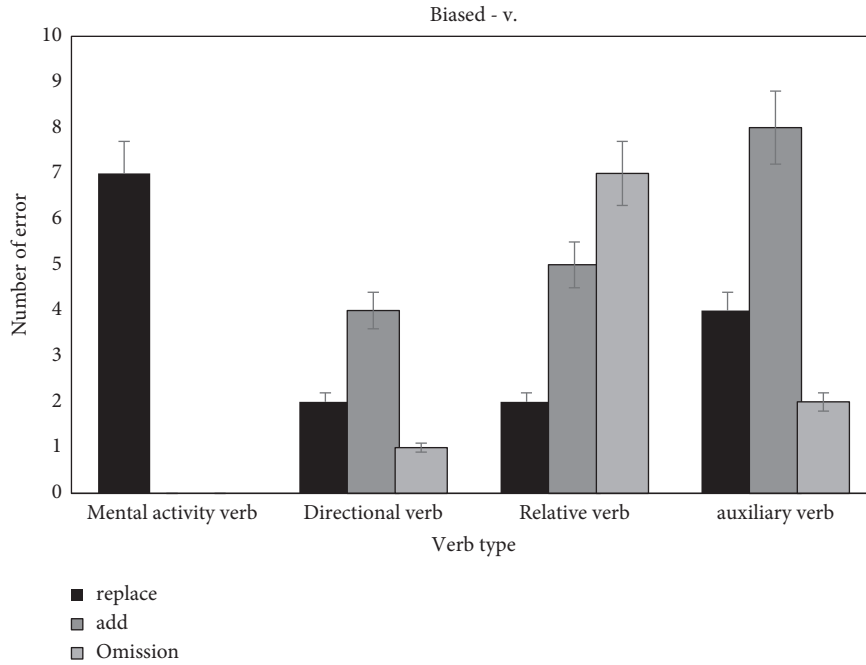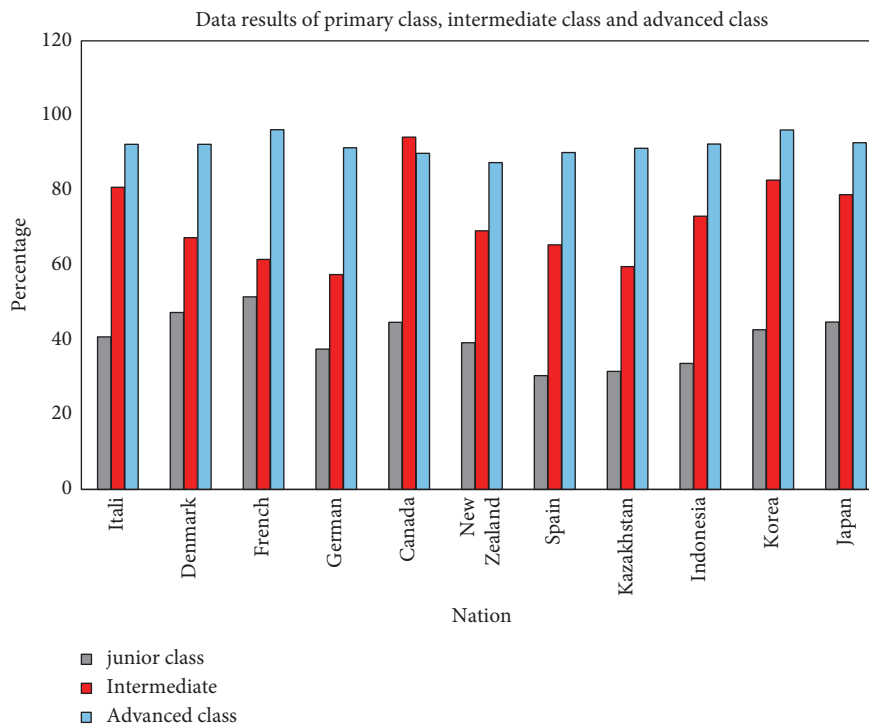
Figure 3: Deviating verbs - by semantic feature.

Figure 4: Data results for beginner, intermediate, and advanced classes.

between R10 and the acquired level were 0.196 and 2.50, respectively. The $p$values were not very different. It is worth mentioning that the random effect model of R9 shows a negative correlation of −0.045, because the rough memory method can master a large number of language vocabulary in a short time, but it will be quickly forgotten along with the memory curve without review. It can be seen that the

difference between the results of the fixed-effect model and the random effects model is very large, and the random effects model is better in terms of accuracy. However, due to the heterogeneity of effect sizes in this study, the random effect model should be used to test the overall effect, and the random effect model should also be used when testing the moderating effect.
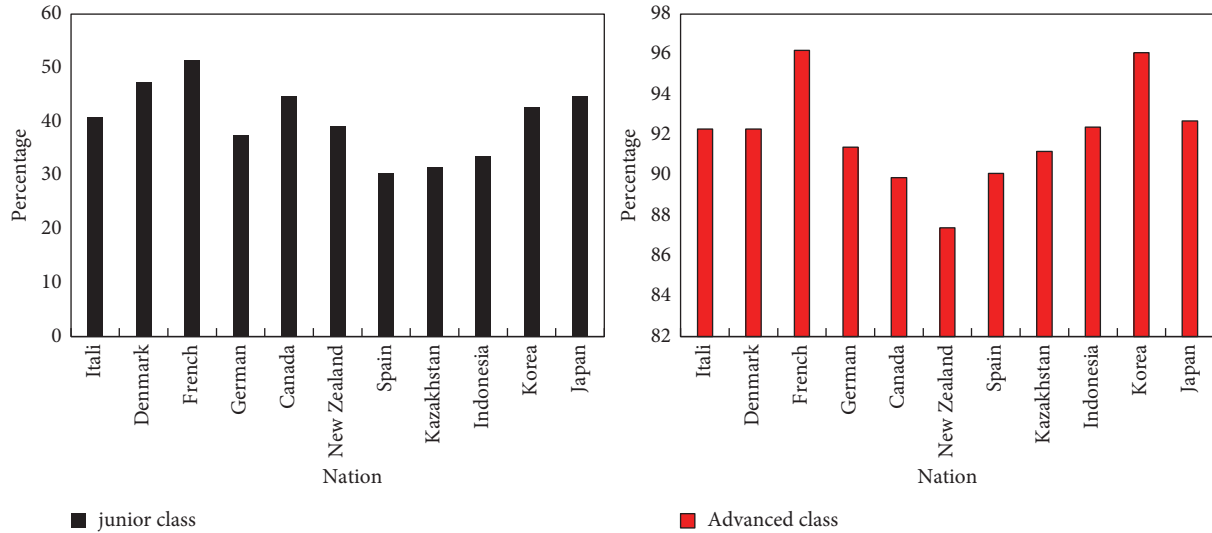
FIGURE 5: Comparison of beginner class and advanced class.

TABLE 2: Correlation coefficients between different trait scales and acquired levels.

Model	Q between groups	NEO-PI-R	16PF	Other
R6	4.979	0.298	0.101	0.215
R7	23.316***	0.331	0.402	0.215
R8	87.663***	0.330	0.042	0.186
R9	5.043	−0.073	0.059	0.103
R10	7.131***	0.203	0.029	0.258

TABLE 3: Comparison of results for different effect models.

Model	Effect value	
	Random effect model	Fixed effect model
R6	0.275	2.87 _ _
R7	0.286	2.87 _ _
R8	0.275	3.87 _ _
R9	−0.045	0.2 _ _
R10	0.196	2.0 _ _

Sensitivity analyses were performed using the cut-and-fill method to ensure the rigour of the results of this study as shown in Table 4.

The data analysis was carried out again, and the conclusions were as shown in the above table, and there was no significant difference. Sensitivity analysis showed that the correlation coefficient did not change substantially after trimming out asymmetric small sample studies, so the data analysis results were robust.

Table 5 is the results of the influence and moderating effect of related factors on language acquisition. The moderating effects of the proportion of male subjects, language learning intention, and deep-playing strategy scales on the relationship between the two were, respectively, verified. The result is as follows.

Through the adjustment analysis of the measurement tools of deep acting strategies, and it was found that different deep-playing strategies measurement scales had no

significant moderating effects on the relationship between deep-playing and foreign language learning intentions (QB = 4.740, $p > 0.05$), assuming that H42 was not verified. Different deep-playing strategies measurement scales had no obvious moderating effect on the proportion of male subjects and foreign language learning intention. (QB = 2.6 4 1, $p > 0.05$), assuming that H 2 2 was not verified.

4.3. Simulation of Algorithm Performance.

There were two cases where the primary user uses the transmit power level with the same probability and the primary user uses the transmit power level with different probabilities. The false detection probability performance of the proposed spectrum sensing algorithm was given, and the detection performance based on soft combining and several detection algorithms based on hard combining were compared. Figure 6 shows the performance comparison of spectrum sensing algorithms under different combining methods when the primary user uses each energy level with equal probability. Since this problem is generally modeled by graph theory, its core idea is to optimally allocate the set of sensing channels to satisfy the constraint relationship of the competition graph (also known as the interference graph) between nodes.

It can be seen from the figure that the effect of the algorithm using soft merging is relatively stable. The soft combining method essentially uses the channel state information of different users to weight the received signal energy, highlighting the weight of the detection samples provided by users with good channel conditions in the total samples, while other hard combining methods cannot fully utilize the channel state information of the user. On the other hand, the soft merging method can reduce the error generated by the hard merging method when the information is discretized after merging (such as the round-up operation after the mean value merging).

In general scenarios, the performance of the algorithm configured by the primary user using each transmit power with different probabilities is shown in Figure 7.

TABLE 4: Sensitivity analysis.

Model	Effect value			
	Random effect model		Fixed effect model	
Before and after subtraction and supplement	Before reduction and supplement	Subtraction and supplement hou	Before reduction and supplement	Subtraction and supplement hou
R6	0.275	0.309	0.287	0.319
R7	0.286	0.215	0.287	0.218
R8	0.275	0.269	0.387	0.299
R9	−0.045	−0.085	0.002	−0.069
R10	0.196	0.203	0.250	0.220

TABLE 5: Analysis of the moderating effect of related factors on deep acting and foreign language learning intention.

| Adjustment variable	Homogeneous assays			Name category	Independent sample	N	Effect value and confidence interval			Two-tailed test	
	Between Q group	df	p				Point estimation	Lower limit	Upper limit	Z value	p value
Proportion of male subjects	41.156	4	0.000	1	3	790	−0.177	−0.248	−0.104	−4.697	<0.001
				2	8	2533	−0.493	−0.659	−0.281	−4.213	<0.001
				3	3	801	−0.505	−0.578	−0.425	−10.572	<0.001
				4	3	909	−0.060	−0.320	0.208	−0.437	>0.05
				X	4	1541	−0.192	−0.401	0.036	−1.651	>0.05
Cognitive structure of turnover scale	16.852	4	0.002	TQ	5	1203	−0.536	−0.712	−0.296	−3.996	<0.001
				TQ&IQ	6	1580	−0.366	−0.618	−0.045	−2.221	<0.05
				TQ&IS	4	1818	−0.350	−0.451	−0.240	−5.940	<0.001
				TQ,IQ&IS	5	1599	−0.103	−0.214	−0.011	−1.778	>0.05
				X	1	595	−0.200	−0.276	−0.122	−4.933	<0.001
Emotional labor strategy scale	4.740	3	0.192	D	4	1191	−0.508	−0.757	−0.131	−2.565	<0.05
				G	9	3147	−0.396	−0.542	−0.226	−4.352	<0.001
				W	4	1107	−0.263	−0.419	−0.091	−2.965	<0.05
				X	4	1350	−0.108	−0.372	0.172	−0.753	>0.05
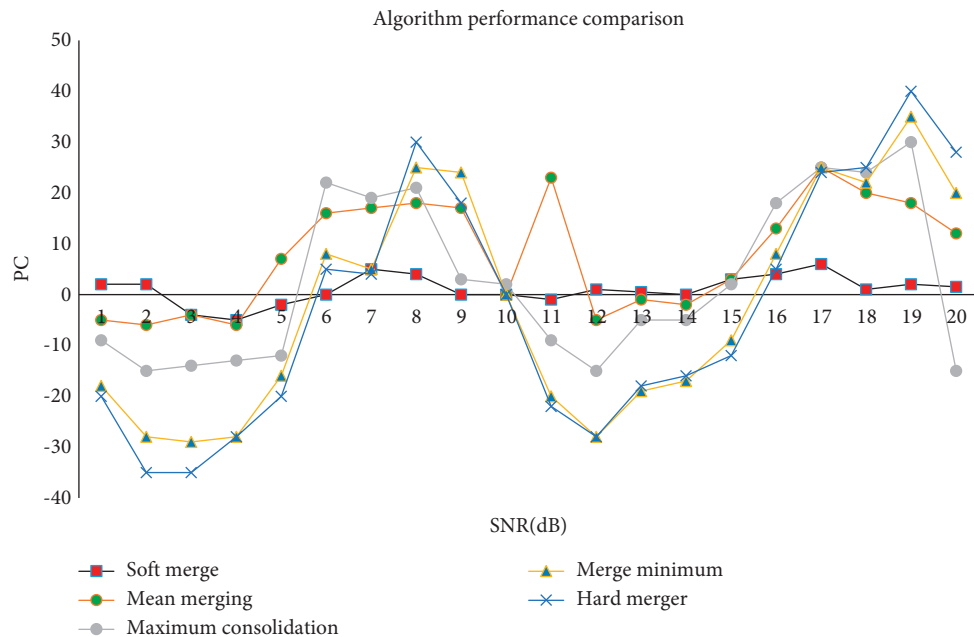
FIGURE 6: Performance comparison of spectrum sensing algorithms under different combining methods when the primary user uses each energy level with equal probability.
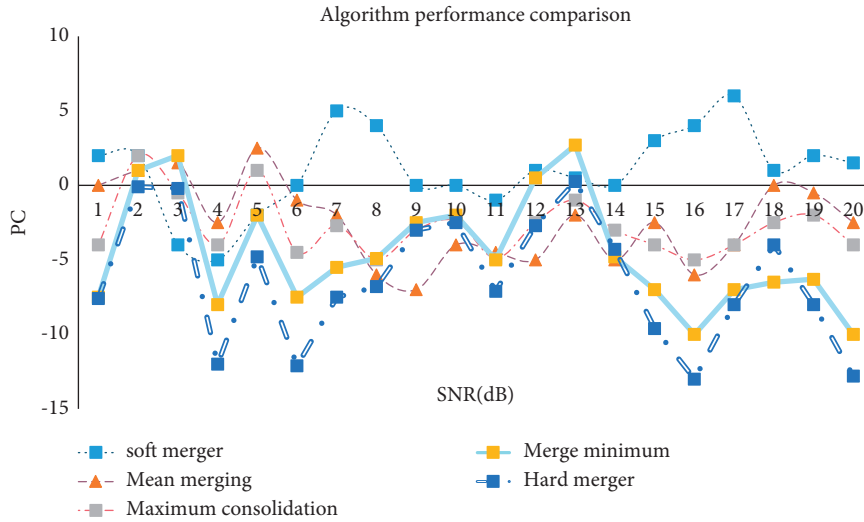
FIGURE 7: The performance of the algorithm configured by the primary user using each transmit power with different probabilities in a general scenario.

It can be seen from the figure that the curves in Figures 6 and 7 have similar trends, but the performance of Figure 7 is better in terms of false detection probability, mainly because when the primary user is idle, the detection of this user for the secondary scene and the primary user using other transmissions, the power level is more precise. However, the algorithm based on maximum merging in Figures 6 and 7 are slightly better than the algorithm based on minimum merging, mainly because the proposed algorithm adopts energy detection.

The rotated component matrix is as shown in Figure 8.

It can be seen from the figure that both components 1 and 4 reach the maximum value of over 1000, while the maximum value of components 3, 6, and 10 is only about 900, but it is relatively stable.

Descriptive statistics of each variable for the algorithm system used in this paper are shown in Figure 9.

As shown in the figure, the standard deviation and variance are high, while the kurtosis is low and relatively stable, which meets the research needs.

5. Discussion

5.1. Validity Details. Effectiveness measurement is mainly used to test whether the samples' precision can effectively represent the association between different covariates. In general, the greater the validity of a test, the better the results will accurately capture the level of acceptance of the data being measured. In this paper, we will examine two aspects of effectiveness: construct validity and content validity. Contextual legitimacy has been called use legitimacy or peculiar validity. Whether the key demographic data in the interrogation questionnaire cover all the aspects that the researches want to study should be analyzed. Usually, the scores of the single subject are used to capture all the pertinent elements of the subject's overall score. If the relevant factor is not statistically valid, it indicates that the interpretive force of the element is low and should be
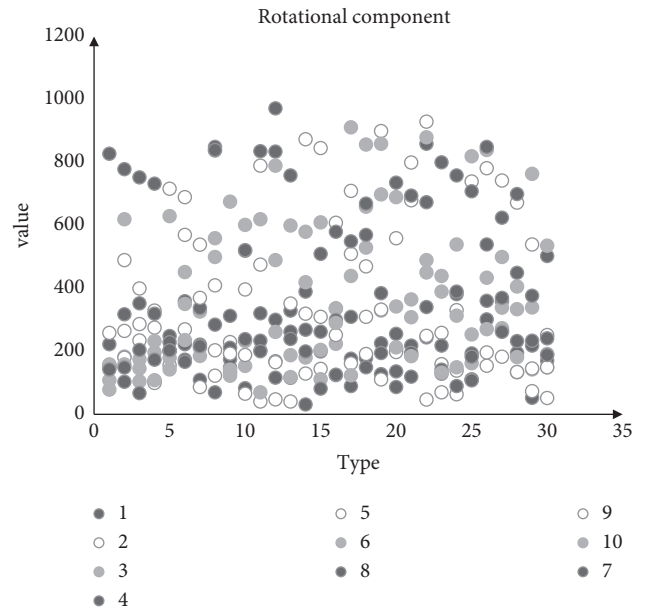

FIGURE 8: Rotated component matrix scatter plot.

removed. Since most of the underlying covariates for this paper are referenced, it cites the most developed measure, incorporating both expert evaluation and in-depth user interaction, to produce the final scale through analytic analysis, which in this case is effective.

5.2. Intelligent Spectrum Access Technology in Passive Communication and Computing. By applying mobile edge computing technology and sinking computing power to mobile edge nodes, localized computing services can be provided for users, which greatly reduce the communication delays, relieves central computing pressure, and significantly increases network robustness. In addition, third-party application integration can be provided, providing unlimited
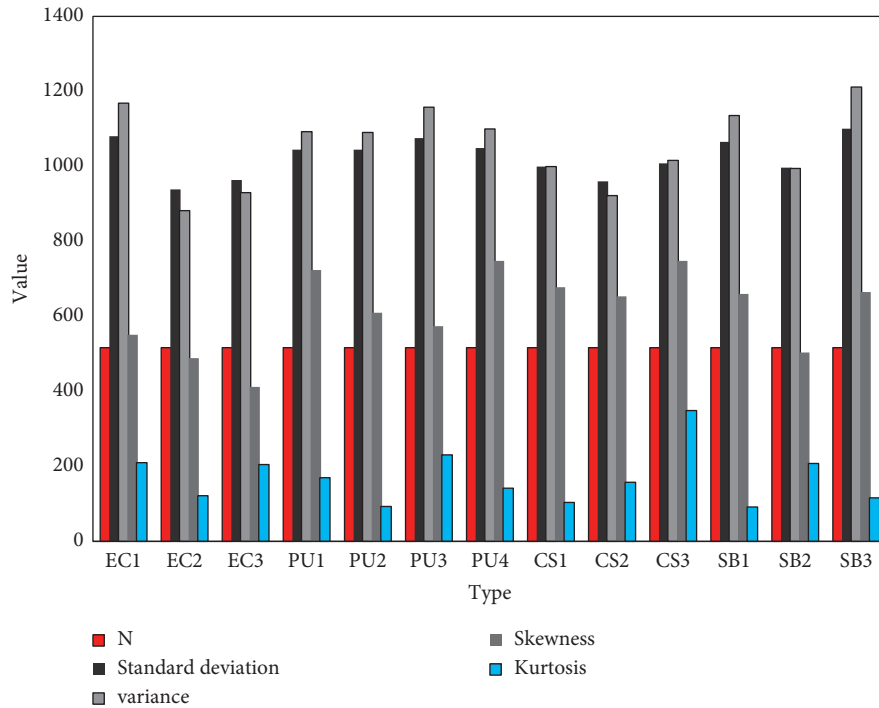
FIGURE 9: Descriptive statistics for each variable.

possibilities for service innovation at the mobile edge portal. In mobile edge computing systems, computing offload scheduling is undoubtedly the most critical issue affecting system performance, and it has received extensive attention recently. Modern scholars chose to offload computing tasks to minimize the average energy, and proposed a delay optimization algorithm for single-user MEC systems using Markov decision process. The trade-off between energy and delay of single-user MEC systems was analyzed. Then, the results were extended to a multi-user system. And based on game theory, a distributed computing offloading algorithm is proposed, which is then applied in multi-cellular MEC using continuous convex approximation to jointly optimize communication and computing resources. However, the above existing work assumes that the MEC server has sufficiently powerful computing power, and the offloaded computing tasks are executed immediately upon reaching the server. In practice, the number of offload tasks can be quite large when multiple users are considered. Therefore, these tasks cannot be completed by MEC controller in a brief period of time, especially when considering the system delay performance, and the queuing delay cannot be ignored. On the other hand, most existing works are based on data queues for random resource allocation.

Some scholars only operate on user data queues or computing task queues. However, a queue cannot reflect the two characteristics of data, namely, storage size and calculation size. Furthermore, since these queue lengths belong to state-dependent controlled random sequences, most of the existing work on latency performance does not analyze the steady-state distribution of state-dependent queues, and there is no known closed-form steady-state distribution.

Limited storage space and computing power make analysis more complex. Therefore, the theoretical research on the mobile edge computing system is still not deep enough, and the performance of this complex network needs to be further studied and optimized.

6. Conclusions

Foreign language studies is an indispensable discipline and a useful tool for enhancing national influence and opening to the outside world. Under such a guiding theory and background significance, this paper selected the results of the questionnaires for the elementary, intermediate, and advanced classes for statistical analysis, and made the correct number of questions and the correct rate of the questionnaire, statistics of the results of each student's questionnaire. The error corpus was collected and organized, and the correlation coefficients of different trait scales and acquisition levels were listed. Results, comparison, and sensitivity analysis of different effect models were carried out. Finally, the simulation analysis of the performance of the algorithm was carried out, and the curves of the soft merging, hard merging, mean merging, maximum merging, and minimum merging algorithms under different test conditions were compared. The experimental results showed that the effect of the algorithm using soft merging was relatively stable. When the primary user was idle, the detection of the secondary scene by this user was more accurate than that of the primary user using other transmit power levels. The subject of meta-analysis of the impact of corpus on foreign language acquisition has been well completed. Subsequent research should expand the sample size of students in elementary,

intermediate, and advanced classes, and take into account the differences between the students' native language and the language they are learning, so that the research results are more reliable.

Data Availability

No data were used to support this study.

Conflicts of Interest

The author declares that there are no conflicts of interest regarding the publication of this article.

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