# Research and Analysis of Factors Influencing the Passing Rate of CET-4 in Local Universities

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## Abstract

With the rapid development of social information and economic globalization, English has become widely prevalent worldwide. As a "global language," English significantly influences language teaching policies and practices globally, particularly in China, where a national College English Test Band-4 has been established. Since its inception, the College English Test Band-4 has evolved into one of the most crucial assessments for evaluating college students' foreign language proficiency. Recently, a growing number of local university students in China are grappling with the challenge of failing to pass this exam. Therefore, this study examines the influencing factors on the passing rate of the College English Test Band-4, based on surveys conducted among undergraduate students in 2020 and 2021 at Hulunbuir College. The paper employs cross-analysis and regression tests to analyze the factors affecting the passing rate of CET-4 among local undergraduate college students, drawing relevant conclusions. Additionally, the study proposes suggestions for English learning strategies tailored to the needs of local undergraduate college students. Factors such as gender, English scores in the college entrance examination, and daily English learning methods are identified as having a significant impact on the passing rate of CET-4.

## Introduction

College English Test Band 4 (CET-4), is a national English exam administered by the Ministry of Higher Education of China. It is understood that since the implementation of the CET-4 in 1987 in China, it has now developed into one of the national exams with the largest number of participants, and has become an important standard for

evaluating college students' English proficiency to affect their employment prospects. At the same time, research in the field of CET-4 has also received widespread attention from many scholars. In terms of research on English teaching and learning methods, Ma Juanjuan believes that updating college English teaching mode, improving students' enthusiasm for English learning and the practicality of textbooks are effective measures to improve the passing rate of CET-4 (Juanjuan, 2019, p.176). In a survey of college students in the western region of China, Bai Lan points out that implementing stratified teaching and guidance in English teaching in backward universities in the western region enhances students' confidence in learning English; Following education laws, strengthening knowledge accumulation, and enhancing language sensitivity can improve the passing rate of CET-4 of college students in underdeveloped areas (Özgül & Üğüten, 2018. p.3; Lan, 2012, p.143). Gao Juan suggests that students transfer flexibly the methods learned in the classroom to reading extracurricular articles to improve learning efficiency and create an English learning atmosphere (Juan, 2015, p.429; Özgül & Üğüten, 2018, p.3). In the analysis of the influencing factors of the CET-4 passing rate, male students should become the main focus group for universities to improve the CET-4 passing rate (Weibin, 2022, p.75; Jieting, 2015, p.68). Teachers should try to cultivate students' interest in learning English and stimulate their intrinsic motivation (Jianguo, 2008, p.155). Early participating with the most complete English knowledge is an effective way to improve the CET-4 passing rate (Xinxi, 2019, p.108).

Previous studies have shown that many universities have conducted corresponding research and analysis based on their teaching characteristics and student status, with significant differences in research samples and research objects. The research methods are mostly qualitative analysis, and gradually shifting towards a combination of qualitative and quantitative analysis, providing some effective conclusions and measures suitable for each school. However, due to the differences in educational levels, regional economic and cultural conditions, and research samples among different schools, there is no recognized research method or conclusion.

Therefore, conducting survey to trace any differences in college students' English levels in specific regions could be provided basic data and crucial reference for the improvement of English teaching in universities. The CET-4 score is one of the standards for measuring the foreign language proficiency of contemporary college students, but the English foundation of undergraduate students in ethnic minority areas is relatively weak, that might be also resulted in relatively low CET-4 passing rate. In this paper, we surveyed Hulunbuir College, the only undergraduate school in Hulunbuir, Inner Mongolia, as the research object. Questionnaires are designed from the perspectives of speciality, gender, methods of learning English, and exam preparation, and corresponding survey research is conducted. Combining qualitative and quantitative analysis, effective solutions and methods are provided for the English learning and teaching of local undergraduate college students.

**Materials and Methods**

In this study, undergraduate students majoring in English and non-English from Hulunbuir College in grade 2020 and grade 2021 were participated in questionnaire

survey. According to the Rule of thumb of sampling, 20% of the total sample was selected, 943 questionnaires were distributed and 920 were collected. After removing invalid data, 898 valid samples were obtained, with a sample recovery rate of 97.6% and an effective rate of 95.2%. Our questionnaire survey mainly focused on students' basic information, including statistical variables such as whether their speciality is exposed to English, English scores in college entrance examination, CET-4 exam scores, participant frequency, purpose of participating CET-4, and preparation time. According to the survey results, the sample data from grade 2021 is 454, accounting for 48.7% of the total sample; The sample data from grade 2020 is 489, accounting for 51.3% of the total sample. The specific sample data of undergraduate students from 15 departments in the two grades of 2020 and 2021 is shown in Figure 1. Gender: 327 male students, accounting for 36.4%, and 571 female students, accounting for 63.6%. Place of residence: 485 students are from urban areas, accounting for 54%, and 413 students are from agricultural and pastoral areas, accounting for 46%. Specialty category: 107 English majors, accounting for 11.9%, and 791 non English majors, accounting for 88.1%. Exposure to English: 694 students have opportunity to contact with English, accounting for 77.3%, and 204 students do not, accounting for 22.7%.

Figure 1
Sample Distribution
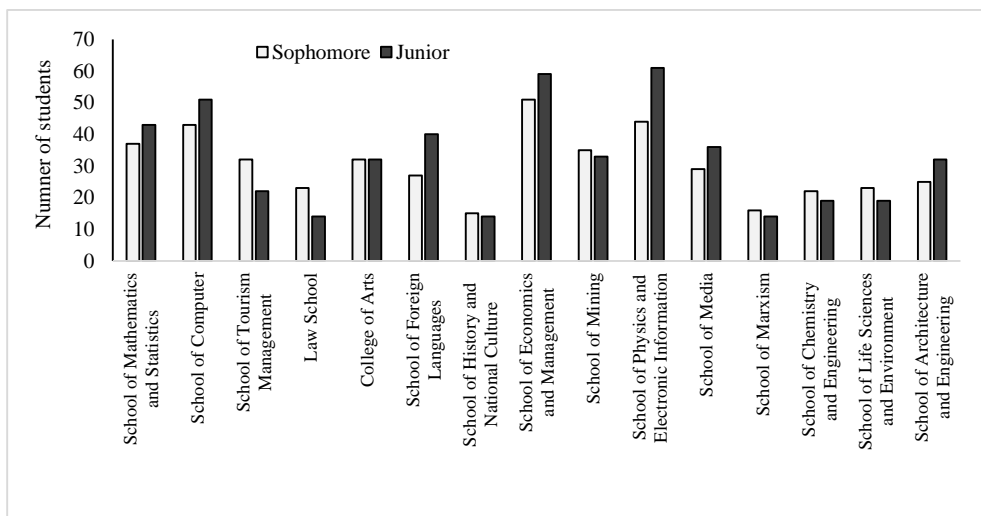


*Theoretical hypothesis*: The passing rate of CET-4 for female students is higher than that for male students.
2) The passing rate of CET-4 for students in grade 2020 is higher than that of students in grade 2021.
3) Daily learning English (such as listening to English songs and watching English movies) is more helpful in passing CET-4.

4)The passing rate of CET-4 of students living in urban areas is higher than that of students living in agricultural and pastoral areas.

5)There is a positive correlation between English scores in the college entrance examination and CET-4 scores.

*Statistical analysis:* We used following statistical test to check our hypothesis, such as chi-square (x2), Pearson correlation and Multiple linear regression. We set significant level at $\alpha = 0.05$.

**Results and Discussion**

In language learning, people habitually believe that female performs better than male, just as people believe that male performs better in science than female. Is that true in CET-4? And it is also widely accepted that students from urban areas have more opportunities to learn English or their English is no doubt better than those who are from rural areas (Lan, 2012, p.141).

Cross analysis of main results of research data

*Students' own qualities*: According to the survey results in Table 1, the number of students who have taken the CET-4 exam in all survey samples is 493; Among them, males account for 36.4%, females account for 63.6%. From the perspective of CET-4 passing rate, 24 male students passed CET-4, accounting for 15.7%; 340 female students have taken the CET-4 exam, and 92 of them have passed, accounting for 27.1%. It indicates that the CET-4 passing rate of female students is 11.4% higher than that of male students, and there is a significant difference in the passing rate of CET-4 between male and female students ($x^2 = 7.58$, p = 0.006).

Table1

Analysis of CET-4 passing rates for students of different genders

| Gender | Passed or not | | Total | $\chi^2$ | p |
|--------|-----|-----|-------|----------|---|
| | Yes | No | | | |
| Male | 24 | 129 | 153 | | |
| Female | 92 | 248 | 340 | 7.585 | 0.006** |
| Total | 116 | 377 | 493 | | |

*p < 0.05, ** p < 0.001

According to the survey results in Table 2, Among participated students, 121 students in grade 2021 participated in CET-4, and 28 of them passed CET-4, with a passing rate of 23.1%; 372 students in grade 2020 participated in CET-4, and 88 passed CET-4, with a passing rate of 23.7% ($x^2 = 0.013$, p = 0.908) which indicates similar CET-4 passing rate of students in grade 2020 and 2021.

Table2

Analysis results of CET-4 passing rates among students of different grades

| | Passed or not | | Total | $x^2$ | p |
|--|-----|-----|-------|-------|---|
| | Yes | No | | | |

| Grade 2021 | 28 | 93 | 121 | 0.013 | 0.908 |
|---|---|---|---|---|---|
| Grade 2020 | 88 | 284 | 372 | | |
| Total | 116 | 377 | 493 | | |

A total 493 students have participated in CET-4, among them, 274 students from urban areas have participated in CET-4, and 68 students have passed CET-4, accounting for 24.8%; 219 students from agricultural and pastoral areas have participated in CET-4, and 48 have passed CET-4, accounting for 21.9%. There was no statistically significant difference in the passing rate of the CET-4 between college students and their place of residence ($x^2 = 0.569$, p = 0.451) (Table 3).

Table 3
Analysis of CET-4 passing rate of students living in urban rural areas

| Place of Residence | Passed or not | | Total | $\chi^2$ | p |
|---|---|---|---|---|---|
| | Yes | No | | | |
| Urban areas | 68 | 206 | 274 | | |
| Rural areas | 48 | 171 | 219 | 0.569 | 0.451 |
| Total | 116 | 377 | 493 | | |

Among total students, 70 English majors have participated in CET-4, and 47 have passed CET-4, accounting for 67.1%; 423 non-English majors have participated in CET-4, and 69 have passed CET-4, accounting for 16.3%. This indicates that the CET-4 passing rate for English majors is much higher than that for non-English majors ($x^2 = 86.24$, p = 0.001) (Table 4).

Table 4
Analysis of the passing rate of CET-4 between English majors and non-English majors

| | Passed or not | | Total | $\chi^2$ | p |
|---|---|---|---|---|---|
| | Yes | No | | | |
| English major | 47 | 23 | 70 | | |
| Non-English Major | 69 | 354 | 423 | 86.24 | 0.000** |
| Total | 116 | 377 | 493 | | |

*p < 0.05, ** p < 0.001

Figure 2 showed that the CET-4 passing rate significantly increases with the improvement of the college entrance examination score. The CET-4 passing rate of the student group with a college entrance examination score of 100 reaches 45%, the highest value among all score ranges. On the contrary, the CET-4 passing rate of the student group with a college entrance examination score of 60 or below is relatively low, only 9%. The English proficiency of students during their high school period is one of the main factors affecting their CET-4 passing rate. To this end, we conducted a correlation analysis between students' college entrance examination scores and CET-4 scores, and explored the correlation between college entrance examination scores and CET-4 scores (Table 5).

Figure 2

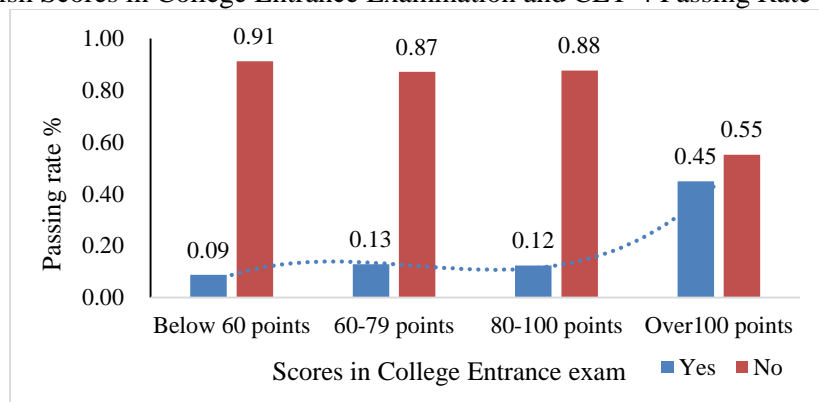English Scores in College Entrance Examination and CET-4 Passing Rate



Table 5

Analysis of the Correlation Between English Scores in College Entrance Examination and CET-4 Scores

| Scores Type | Pearson correlation | t | P |
|---|---|---|---|
| English Scores in College Entrance Examination | 0.506** | 4.128 | 0.000** |

*p < 0.05, ** p < 0.001

The results in Table 5 indicate that  there is a positive correlation between the college entrance examination scores and the CET-4 scores, with a correlation coefficient of 0.506. This indicates that high school English teaching is very important, and the foundation of high school English is more solid, which will be beneficial for college English learning.

Table 6

The Distribution Table of The Most Difficult Part of CET-4

|  | Frequency | Effective percentage |
|---|---|---|
| Listening comprehension | 210 | 42.6 |
| Reading comprehension | 78 | 15.8 |
| Writing | 81 | 16.4 |
| Cloze&Translation | 124 | 25.2 |
| Total | 493 | 100 |

The CET-4 exam consists of listening, reading, writing, cloze test, and translation. We tried to disclose the difficult part of the CET-4 exam for students (Table 6). The difficulty points are ranging from listening (42.6%) and reading (15.8%) among all participants. Our findings indicate that students in particular school express learning difficulties in the listening, followed by cloze and translation. Therefore, in foreign language education and teaching at the school, teaching methods in the listening and

reading comprehension should be strengthened to improve students' learning efficiency.

Table 7
Frequency Distribution of the purpose of participating CET-4 exam

|  | Frequency | Effective percentage |
|---|---|---|
| Speciality requirements | 93 | 13.27 |
| To obtain a certificate | 418 | 59.63 |
| Interests and hobbies | 94 | 13.41 |
| Other | 96 | 13.69 |
| Total | 701 | 100 |

According to the survey results in Table 7, due to the professional talent training program and graduation requirements, 59.63% of students participate in the CET-4 exam for the purpose of obtaining the certificate, while the proportion of students who participate in CET-4 for other speciality requirements, interests, and hobbies is basically equal. From this, it can be concluded that the main purpose of local undergraduate college students applying for the CET-4 exam is to obtain certificates, while the number of students taking the exam for the purpose of speciality requirements and interests is relatively small.

*Learning methods and effort degree*: According to figure 3, the CET-4 passing rate of college students who study English for an average of more than 3 hours per day is as high as 39%, while the CET-4 passing rate of students who study less than 1 hour per day is only 20%. Overall, the CET-4 passing rate shows an increasing trend with the increase of daily study time. However, there was no significant difference in the length of time students spent preparing for CET-4 on their passing rate. Therefore, students should not blindly pursue English learning duration, but should focus on learning methods and strategies to improve learning effectiveness.

Figure 3
The impact of the length of English learning time on the passing rate of CET-4
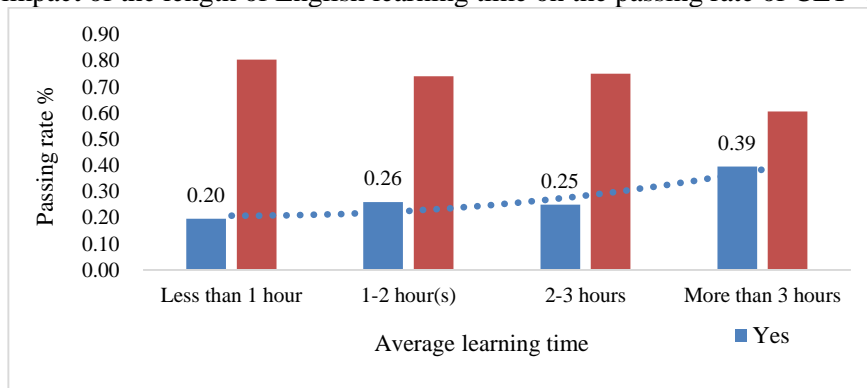
According to Table 8, the overall passing rate of CET-4 among college students is 24%. From the perspective of exam preparation methods, the passing rate of students registered in tutoring classes is slightly higher than that of other methods, but there is no significant difference overall ($x^2 = 0.380$, p = 0.944).

In daily English learning, accumulating knowledge through reading English can be helpful for the success rate of CET-4; Memorizing vocabulary and doing a large number of exercises are also one of the main methods. Overall, choosing effective learning methods while emphasizing daily accumulation is an important means of acquiring knowledge.

Table 8
Students' different preparation methods and passing rate of CET-4

| Preparation methods | Passed or not | | | | Total | $x^2$ | $p$ |
|---|---|---|---|---|---|---|---|
| | Yes | | No | | | | |
| Registered in tutoring class | 10 | 0.25 | 30 | 0.75 | 40 | | |
| Prepared for the exam on their own | 89 | 0.24 | 287 | 0.76 | 376 | | |
| Without preparation | 14 | 0.23 | 46 | 0.77 | 60 | 0.380 | 0.944 |
| Other | 3 | 0.18 | 14 | 0.82 | 17 | | |
| Overall | 116 | 0.24 | 377 | 0.76 | 493 | | |

According to the analysis of learning methods of students from different specialty groups, there is a significant difference between the English majors and the non-English majors ($x^2 = 19.11$, p = 0.0001). It is seen that the passing rate of CET-4 of English majors is much higher than that of non-English majors (Table 4). Therefore, it can be believed that the learning methods of English majors are more effective and reliable. That is to say, strengthening vocabulary memory, doing lots of exercises, listening to English songs, watching movies, and reading English books have a significant impact on the passing rate of CET- 4.

Table 9
Chi-squared test on learning methods of students of different

| English Learning Methods | Speciality | | $x^2$ | P |
|---|---|---|---|---|
| | English majors | Non-English majors | | |
| Memorizing English vocabulary lists and doing a large number of exercises | 57 | 326 | | |
| Listening to English songs or watching English movies and reading English | 35 | 143 | 19.112 | 0.001** |
| Through APP software | 23 | 222 | | |
| Registered in English tutoring institutions | 6 | 32 | | |
| Other | 2 | 81 | | |

*p < 0.05, ** p < 0.001

*Analysis of influencing factors of CET-4:* The passing rate of CET-4 is often associated with multiple factors, and the optimal combination of multiple independent variables jointly estimates the effect of the dependent variable, which is usually better than the estimation effect of a single variable and more in line with reality.

In order to more accurately reveal the influencing factors of CET-4 passing rate among college students, we assign values to the surveyed variables and uses multiple linear regression methods for testing (Table 10). Using multiple linear regression method to test the collected data (Table 10), and standardized partial regression coefficient Bata to test the significant variable method to test the data. The partial regression coefficient is standardized because the degree of variation and mean of the independent variable sometimes differ greatly. The standardized partial regression coefficient is used to compare the magnitude of the effect of the independent variable on the dependent variable. The larger the absolute value of its value, the greater the effect on the dependent variable.

Table 10
Multiple linear regression test table

| Model | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|
| | Beta | SE | Beta | t | Sig. |
| （Constant） | 1.364 | 0.323 | 0.000 | 4.220 | 0.000 |
| Gender | -0.028 | 0.040 | -0.031 | -0.702 | 0.483 |
| Grade | -0.093 | 0.043 | -0.094 | -2.173 | 0.030 |
| Place of residence | -0.003 | 0.035 | -0.003 | -0.082 | 0.935 |
| Speciality | 0.399 | 0.056 | 0.328 | 7.084 | 0.000 |
| Exposure to English | -0.031 | 0.041 | -0.032 | -0.759 | 0.448 |
| English scores in college entrance exam | -0.090 | 0.020 | -0.211 | -4.493 | 0.000 |
| Participating frequency | 0.047 | 0.034 | 0.059 | 1.370 | 0.171 |
| The most difficult part in CET-4 | 0.024 | 0.014 | 0.071 | 1.698 | 0.090 |
| English learning time | -0.015 | 0.021 | -0.032 | -0.695 | 0.488 |
| Preparation time | -0.032 | 0.020 | -0.072 | -1.606 | 0.109 |
| Memorizing English vocabulary lists and doing a large number of exercises | 0.061 | 0.045 | 0.060 | 1.358 | 0.175 |
| Listening to English songs or watching English movies and reading English | 0.015 | 0.037 | 0.017 | 0.398 | 0.691 |
| Through APP software | -0.064 | 0.036 | -0.075 | -1.747 | 0.081 |
| Registered in English tutoring class | -0.040 | 0.066 | -0.025 | -0.604 | 0.546 |
| Other | 0.020 | 0.052 | 0.018 | 0.391 | 0.696 |
| Speciality requirements | 0.051 | 0.047 | 0.047 | 1.084 | 0.279 |
| To obtain a certificate | -0.031 | 0.054 | -0.026 | -0.584 | 0.559 |
| Interests and hobbies | 0.031 | 0.047 | 0.029 | 0.668 | 0.505 |

| Other | 0.010 | 0.047 | 0.010 | 0.220 | 0.826 |

According to Table 10, in the self factor indicators of college students, speciality, English score of college entrance examination, grade, and preparation time all have a significant impact on the passing rate of CET- 4, with a speciality (Beta=0.328) corresponding to a difference of 70.84 percentage points in the highest and lowest passing rates. The English score of the college entrance examination (Beta=0.211) corresponds to a difference of 44.93 percentage points between the highest and lowest passing rates; Grade (Beta=0.094), corresponding to a difference of 21.73 percentage points between the highest and lowest passing rates; The preparation time (Beta=0.072) corresponds to a difference of 16.06 percentage points between the highest and lowest passing rates.

From the perspective of English learning methods, the results in Table 10 show that the most significant impact is the difference in the highest and lowest passing rates corresponding to learning English through the APP software (Beta=0.075), which is 17.47 percentage points. This means that college students learning English through the APP can help them pass the CET-4.

From the perspective of the purpose of participating the CET-4, the results in Table 10 show that the most significant impact is the difference in the highest and lowest passing rates corresponding to the speciality requirements (Beta=0.047), which is 10.84 percentage points. This indicates that schools require students to pass CET-4, which is more stimulating for students to pass the exam and helps to stimulate their enthusiasm to participate in the CET-4.

## Conclusion

Based on the above research and analysis, we have demonstrated the theoretical hypothesis proposed in this article and come to the following conclusion: the CET-4 passing rate of 79.3% for female students in local undergraduate colleges is much higher than that of 20.7% for male students; From the perspective of students' place of residences, the CET-4 passing rate of college students from urban areas is higher than that of college students from agricultural and pastoral areas; There is a significant positive correlation between college entrance examination scores and CET-4 scores, and the English basic level of high school is one of the main factors influencing the CET-4 passing rate of college students; There are also significant differences in the learning methods of college English. In daily English learning, listening to English songs or watching English movies, and reading English are the main effective learning methods currently used by college students; According to the analysis of the difficulties in the CET-4 exam, the difficulty part is 42.6% in the listening comprehension, 25.2% in the cloze and translation, 16.4% in the writing, and 15.8% in the reading comprehension; The analysis of the influencing factors on the passing rate of the CET-4 exam shows that speciality, high school English foundation, years of study, and preparation time all have a significant impact.

## Suggestions

This article provides the following five suggestions by analyzing the influencing factors of the passing rate of CET-4 among local undergraduate college students:

It is proposed during the initial enrollment stage of the first year, to strengthen English teaching for freshmen, and the school should not set limit for the number of students taking the CET-4. At the same time, corresponding courses for the CET-4 can be offered to help students find suitable ways to learn English, guide students to prepare for the exam, and improve their English proficiency, thereby improve the passing rate of CET- 4.

The school should set a strict requirement for students to pass CET-4, and set the school score line for the CET-4.

The school should encourage males to participate more in extracurricular English learning activities, communicate more with good English learners, cultivate interest in learning English, and encourage them to love English. And school can also use classroom teaching to divide students into different levels for teaching.

Students should have sufficient preparation time, and the average daily English learning time should not be less than two hours. They should also find suitable methods to prepare for the exam applying APP software to effectively improve their English CET-4 scores.

The school is expected to arrange English morning reading for listening practice; to accumulate English vocabulary in daily life, it is recommended that compulsory English courses should be offered for learning English grammar and problem-solving skills; during students' sophomore and junior years, English courses should be continuously offered; in terms of writing, it is important to watch English movies or listen to English songs to accumulate vocabulary and phrases, and to consolidate and practice more.

## References

Jianguo, Sh. (2008). A Study on the Relationship between College Students' English Learning Motivation and CET-4 Scores. *Journal of Suzhou University. 23 (06), 155-157.*

Jieting, Y., Zhiqiang., G. (2015). Quantitative Analysis of the Influence of Gender Factors on CET-4 Scores. *Overseas English 2015(03), 68-69.*

Juan, G., (2015). Analysis and Practice of Key Factors in Improving the Passing Rate of CET-4 and CET-6. *Modern Economic Information.* 2015 *(22), 429-429.*

Juanjuan, M., (2019). On the Influencing Factors and Strategies of the Passing Rate of CET-4. J*ournal of Jiamusi Vocational College. 2019 (08), 176-177.*

Lan, B., (2012). Analysis of the Influencing Factors of CET- 4 Scores in Western Regions and Ways for Improvement. J*ournal of Hunan University of Humanities and Technology. 2012 (05), 141-144.*

Özgül Balc., Selma Durak Üğüten., (2018). The Relationship between EFL Learners' Language Learning Strategy Use and Achievement. *International Education Studies.* (11)2. 1-12. doi: https://doi.org/10.5539/ies.v11n2p1.

Weibin, W., Qi wei, L. (2022). A Study on the Influencing Factors of CET-4 Scores from the Perspective of Big data. *Journal of North China University of Technology* . *27(02), 75-79.*

Xinxi, L., (2019). Analysis of Influencing Factors and Strategies on Passing Rate of CET-4. *English Square*. 2019*(04), 108-109.*