

# The Influence of Multi-Dimensional Factors of Classroom Environment on English Performance

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Most Chinese learners of English learn this language mainly through formal, teacher-centered English classes. Therefore, the classroom environment will undoubtedly have indirect or direct impacts on their English learning outcomes. By adopting the China college English classroom environment assessment scale devised by Sun Yunmei, this paper not only investigated how students perceive their English classroom environment, and but also determined the correlation between factors of the China college English classroom environment assessment scale and students' English learning outcomes in a university in northwest China. There are nine factors in the China college English classroom environment assessment scale: student's collaboration, teacher's support, student participation, task orientation, student cooperation, equality, student responsibility, teacher leadership and teacher-led innovation. SPSS22.0 was used to analyze the data as it provides descriptive statistical analysis and Pearson correlation analysis. For this study, 20 classrooms were observed and 40 students and 20 teachers were interviewed. The research results showed that a positive classroom environment can improve students' English proficiency. All nine factors of the China college English classroom environment assessment scale show some correlation with students' English performances. Among them, classroom participation, student responsibility and student cooperation, have a higher correlation with student English learning outcomes, while teacher innovation and teacher leadership have a lower correlation.

Keywords: classroom environment, multidimensional factors, evaluation scale, English performance

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## 1. INTRODUCTION

In the mid-1930s, Western scholars conducted extensive research on classroom environment at various levels from different perspectives, producing valuable insights. In his book, "Educational Environment and Its Effects", Walberg H. J. not only systematically analyzed the influence of the psychosocial environment of schools and classes on students' learning, but also expounded on the content of the psychological environment of classes and the research scope and methods of the psychological environment (Walberg, 1968). Research on classroom environment in China began

with Professor Li Bingde. In his book, "Teaching Theory", he specifically, systematically and in detail explained the concept, content, and function of the class environment and the basic principles underlying ways to regulate the classroom environment, which encouraged further research on the classroom environment in China. Other educational psychologists have also studied the classroom environment from the perspectives of psychology and sociology. One of these researchers, Qu Zhiyong, pointed out that a classroom environment comprised the physical environment, social environment and psychological environment (Qu, 2002). Hou Xiuli, from the School of Foreign Languages of Nanjing Normal University, investigated the psychological environment of college English classroom teaching, and found that

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**Table 1** Content description of 9 factors in the China College English classroom environment assessment scale.

Name of 9 Factors	Content Description of 9 factors
Student's collaboration	I can get along well with my classmates.
Teacher's support	The teacher pays attention to the students' feelings in class.
Class participation,	During the class discussion, I actively participate in various class activities.
Task orientation	I understand the specific tasks assigned by the teacher in class.
Student's cooperation	I complete the activities arranged by the teacher together with my classmates.
Equality	Everyone in the class has equal opportunities to answer questions.
Student's responsibility	I am aware of my language mistakes.
Teacher's leadership	The teacher is full of enthusiasm in his lectures.
Teacher's innovation	My teacher often uses different teaching methods in his class.

students with low scores are far more susceptible to their psychological environment than are those with high scores (Hou, 2006). Sun Yunmei, from the Huazhong University of Science and Technology, conducted a study on the psychosocial environment of foreign language learners in several universities of China. The research results showed that there were significant differences in terms of three factors -teacher's support, student's participation and peer's cooperation- of the China college English classroom environment assessment scale (Sun, 2010). Zhao Qinghong, from the School of Foreign Languages of Huazhong University of Science and Technology, investigated the relationship between the classroom environment and students' classroom behavior in college English classes. The results showed that the classroom environment was significantly correlated with students' classroom behavior. How students perceive their classroom environment was closely related to their behaviors in the classroom. There were significant differences between students' classroom environment perceptions and their classroom behaviors (Zhao & Xu, 2012). Li Guangfeng, from the School of Foreign Languages, Shanxi University, studied the relationship between the college English classroom environment and students' autonomous learning ability, finding a significant correlation between college English classroom environment and students' autonomous learning ability, and a mismatch between classroom environment perception and autonomous learning ability (Li, 2015). Ren Qingmei, from the School of Foreign Languages at Jinan University conducted a research on the construction of an effective classroom environment for college English. It was found that the regression coefficients of the four factors were highly significant (Ren, 2018).

There is no doubt that most Chinese learners of English study this language mainly in a classroom environment that is teacher-centered and complex, and these factors affect their learning. A positive classroom environment can improve students' academic performance (Waldrup & Fisher,

2003). Students' English learning can also be affected by changing the classroom environment (Cherasim et al., 2012). Therefore, it is particularly important to empirically study the various factors in the China college English classroom environment scale, and how these influence students' learning outcomes.

## 2. STUDY ON THE RELATIONSHIP BETWEEN CLASSROOM ENVIRONMENT AND ENGLISH PERFORMANCES

### 2.1 Research Purpose

In combination with fruitful results of the study on classroom environment at home and abroad, this study investigated English classroom environment of a university in Northwest China, aiming at investigating the current situation of college English classroom environment and finding the problems existing in the college English classroom environment after the college English curriculum guide issued. Meanwhile, the study also aimed to analyze how these nine factors in China college English classroom environment scale impact on students' English performances and tried to provide experimental data for scholars and researchers and encourage the reform of English teaching practices. This study mainly involves three kinds of students' English test performances, namely: (1) their English test performances in the diagnostic test which all the freshmen are required to participate in (The test is similar to College English Test Band-4 exam and unified scoring criteria are taken), (2) their English test performances in the final exam (unified test and unified criteria are taken), and (3) their first English test performances in College English Test Band-4 exam (unified test and unified criteria are taken).

**Table 2** Mean values of 9 factors in the China College English classroom environment assessment scale

	N	Minimum	maximum	mean	standard deviation
Students' collaboration	348	2.25	5.00	4.0698	.55165
Teacher's support	348	1.13	5.00	3.6258	.74216
Class participation	348	1.63	5.00	3.4808	.64967
Task orientation	348	1.88	5.00	4.0191	.51821
Student's cooperation	348	1.63	5.00	3.9771	.59848
Equality	348	2.38	5.00	4.0215	.60379
Student's responsibility	348	2.25	5.00	3.8132	.52676
Teacher's leadership	348	2.38	5.00	4.0830	.57888
Teacher's innovation	348	1.83	5.00	3.9302	.66897

note: The maximum value is the maximum value of the variable; the minimum value is the minimum value of the variable; mean value:  $\bar{X} = \frac{\sum x_i}{n}$ , N represents the size of the sample,  $x_i$  is the value of the variable; standard deviation:  $S = \frac{\sqrt{\sum x_i^2 - \frac{(\sum x_i)^2}{n}}}{n}$ , N represents the size of the sample,  $x_i$  is the value of the variable, and  $\bar{X} = \frac{\sum x_i}{n}$  is the sample mean.

## 2.2 Research Subjects

The research subjects of this paper are 350 sophomores undertaking different majors (liberal arts, science, engineering, agriculture and art) and 20 teachers at a university in northwest China. All the subjects had completed four semesters of English tuition in the first and second years of university and each of the 20 teachers interviewed had at least fifteen years' teaching experiences; hence, all the study participants have a good understanding of the English classroom environment in a university.

## 2.3 Research Method

The China college English classroom environment assessment scale adopted in this paper was designed by Sun Yunmei from Huazhong University of Science and Technology, and includes nine factors and 70 questions. The study participants were required to answer these 70 questions pertaining to the nine factors by using the Li Kete's Five Scaling Method, which respectively are (1) never, (2) rarely occurs, (3) occasionally, (4) frequent occurrence and (5) always. The nine factors are: student collaboration, teacher support, classroom participation, task orientation, student cooperation, equality, student responsibility, teacher leadership and teacher innovation. The data of was processed using SSPSS22.0,

and Pearson correlation analysis was conducted to determine the correlation between the nine factors and the students' English performances. For the data collection, the study participants (teachers and students) were interviewed and the classes were observed in order to obtain richer data. A total of 350 questionnaires were distributed and 348 (99.42%) were returned. Table 1 lists the nine factors in the China college English classroom environment assessment scale.

## 3. INVESTIGATING AND ANALYZING HOW 9 FACTORS IN THE CHINA COLLEGE ENGLISH CLASSROOM ENVIRONMENT ASSESSMENT SCALE INFLUENCES STUDENTS' ENGLISH LEARNING PERFORMANCES

### 3.1 Descriptive Statistical Results (see Table 2)

Based on the China college English classroom environment scale, the study investigated the college English classroom environment of this university by using the questionnaire, interviewing teachers and students, and observing classes. It can be seen from the research results that the mean

**Table 3** Correlation between different genders, majors and 9 factors in the China College English classroom environment assessment scale.

Pearson correlation	major	gender
Students' collaboration	-.075	.093
Teacher's support	-.184 **	-.085
Class participation	-.141 **	-.108*
Task orientation	-.168 **	.131*
Student's cooperation	-.184 **	.159 **
Equality	-.302 **	.008
Student's responsibility	-.202 **	-.010
Teacher's leadership	-.219 **	.062
Teacher's innovation	-.094	-.009
major	1	.116*
Gender	.116*	1

\*\*The correlation was significant at the level of .01 (bilateral).

\*Significant correlation at the 0.05 level (bilateral). (N = 348)

value of nine factors in the China college English classroom environment scale is 3.48 to 4.08, which indicates that overall level of the college English classroom environment in this university is good. Moreover, the analysis results of this study are consistent with those obtained by Li Zhiqin (2018) and Lin Qingying (2019). However, the mean values of two factors - teacher leadership and student cooperation- were comparatively higher, while the mean values of classroom participation and teacher support were comparatively lower, even lower than 4, and the mean value of other factors remained between 3.62 and 4.01. The results indicate that the classroom participation and teacher support factors should be taken into serious consideration when assigning tasks to students, designing teaching practice, and implementing future reforms for the teaching and learning of English in Chinese universities.

### 3.2 Correlation Between Different Genders, Majors and 9 Factors in the China College English Classroom Environment Assessment Scale (See Table 3)

As shown in Table 3, two factors in the China college English classroom environment assessment scale, that is, task orientation and student's cooperation have a closer correlation with gender, while equality and teacher innovation have the lowest correlation with gender. The correlation between different majors and the two factors including equality and teacher's leadership is comparatively higher, while the correlation between different majors and the factors of student cooperation and teacher innovation is comparatively lower.

### 3.3 Correlation Between Students' English Performances and 9 Factors in the China College English Classroom Environment Assessment Scale (See Table 4)

As indicated in Table 4, the nine factors in the China college English classroom environment assessment scale have

a certain correlation with students' English performances. Three factors in this scale -classroom participation, student responsibility and student cooperation- are highly correlated with students' English learning outcomes, while the teacher leadership and teacher innovation factors have low correlation. This study also found that all nine factors on the assessment scale are related to students' English achievements to a certain extent, which is supported by the research results obtained by Faircloth B. S. et al. (2005). Meanwhile, the existing research in general has drawn the conclusion that task orientation plays a positive role in improving students' English performance (Osterman, 2000), and also Liu Lihong's research conclusion (Liu, 2015) has been supported by this study. Therefore, it can be concluded that better participation in class activities, students' knowing their responsibilities, and stronger collaboration among students, are three critical factors that can improve students' learning outcomes in an English language classroom.

## 4. DISCUSSION

### 4.1 Positive Classroom Environment has a Positive Impact on Improving Students' English Performances

The data analysis results show that the correlation between students' English performance and the teacher innovation and teacher support factors is relatively low. Owing to the large class sizes, teachers cannot recognise, attend to and meet the specific learning needs of every student in an English language classroom.

The data obtained from interviews with 40 students and 20 teachers indicate that the more teacher-centered is the classroom, the more students will rely on their teacher. Moreover, students in such classrooms are less motivated and less likely to take initiatives and be self-directed. Influenced by the English learning habits formed in high school, most of the students still focus on doing tests when learning English at university. Although this is not the main focus of English language learning in tertiary education, it is difficult for

**Table 4** Pearson correlation between students' English performances and 9 factors in the China College English classroom environment assessment scale.

Pearson correlation	English diagnostic test performance	CET Band 4 performance	Final English exam performance	Students' collaboration	Teacher's support	Class participation	Task orientation	Student's cooperation	Equality	Student's responsibility	Teacher's leadership	Teacher's innovation
English diagnostic test performance	1	.750**	.875**	.197**	.170**	.223**	.152*	.153**	.141**	.207**	.084	.042
CET Band 4 performance	.750**	1	.750**	.172**	.190**	.228**	.150**	.168**	.106*	.213**	.097	.104
Final English exam performance	.875**	.750**	1	.173**	.147**	.160**	.122*	.102	.095	.202**	.034	.005

\*\*Significant correlation at .01 level (bilateral). \*Significant correlation at the 0.05 level (bilateral). (N = 348)

**Table 5** Descriptive Statistics.

	Male1/Female2	Case Numbers	Mean Value	Standard Deviation	Standard Deviation Mean Value
Score of College English Test Band-4	Male	172	450.77	74.929	5.664
	Female	176	469.92	78.424	5.862

students to change their learning habits within a short period of time. short time. Consequently, it is difficult for college English teachers to effectively organize classroom teaching in accordance with the requirements of the new curriculum for university English. In the English classroom environment, attempts should be made to increase interactions between teachers and students, and among students themselves. Spoon-feeding students at university does not meet their learning needs and does not foster independent learning. Teachers should make attempts to fully engage and motivate students, engendering enthusiasm for learning and improving the quality of teaching and learning. By increasing classroom interactions, students will be more interested in learning English and at the same time they will develop autonomous learning skills which will help to improve their academic performance. Given China's economic development and increasing international trade, it is imperative that today's university students acquire a good understanding of the English language and are able to use it confidently.

## 4.2 Gender Differences Affect English Performances

The study results show that, in terms of English language acquisition, girls perform better than boys. Most girls are very interested in language learning because they have more advantages and are gifted in language learning. The mean value of 172 male students is 450.77 and the mean value of 176 female students is 469.92. It can be obviously seen that the mean value of female students is higher than that of male students. According to the results of the Independent Samples T-Test, the T statistic is -2.349 and the significance probability of Sig. value is 0.019, which is significant at the level of 0.05. It can be considered that there is a gender difference in the score of College English Test Band-4. Meanwhile, according to the writer's teaching experiences, the female students demonstrate more enthusiasm for English learning and do well in English classes. Generally speaking, they appear to learn English more easily and effectively than boys, and most girls participate actively in English classes. Some of them even have clear learning objectives, active motivation and are willing to help and cooperate with each other in classroom learning. Teachers should do more to foster this enthusiasm, and show the value of English, particularly its practical application. According to psychological research, male and female students often have their own unique value orientation and behave differently when learning English. This requires English teachers to adapt their practices to the students' different perceptions of the classroom environment. Teachers should give positive and specific guidance to boys

and create conditions conducive to the improvement of their English learning outcomes.

## 5. RESULTS

At present, most English classes in Chinese universities are large, usually with close-to-sixty students. As a result, teachers do not have enough time or opportunity to talk with each student in class, and cannot pay full attention to students' learning capabilities. Moreover, these students come from different places and there are great differences in their level of English proficiency, particularly evident when comparing the skills of students from urban and coastal areas with those from rural or underdeveloped areas. Many students still cannot communicate with others in English, and are often reluctant to speak English in front of others. In the classroom environment, all of the nine aforementioned factors scale can influence students' learning outcomes to some degree. Therefore, based on the results obtained from this study, the author proposes the following suggestions for college English teaching and learning.

### 5.1 Encourage Students to Participate Actively in Various Activities in Class by Including Cooperative Learning Tasks

First of all, we suggest that English teachers improve their teaching methods by devising and trialing different teaching methods, interacting more with students, and determining the students' learning needs. This will demonstrate the teacher's support and student will have a more favourable impression of the English language classroom which, in turn, will improve their learning outcomes. Secondly, we suggest that teachers should put more time, effort and commitment into developing a classroom environment that is more pleasant for themselves and their students, and more conducive to learning. At the same time, teachers should give priority to students' difficulties and needs in English learning, especially paying more attention to those students who have special and different leaning needs. Lessons should be designed so that there is a balance between group and individual learning activities. All these measures will assist students to acquire the language and have the confidence to use it. The more students benefit from classroom learning, the more actively they will participate in classroom activities, and the more they will realize the value of classroom learning., We suggest that teachers may share their personal experiences and stories with students and encourage them to participate more in class

**Table 6** Independent Samples T-Test of Genders and College English Test Band-4.  
t-test for Equality of Means

Levene's Test for Equality of Variances		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Deviation Difference	95% Confidence Interval of the Difference	Lower	Upper
Score of College English Test Band-4	Equal variances assumed	1.742	.188	-2.349	352	.019	-19.156	8.155		-35.195	-3.117
	Equal variances not assumed			-2.350	351.815	.019	-19.156	8.151		-35.187	-3.125

activities. Finally, teachers should acknowledge students' individual efforts, which may help to encourage team work. In college English teaching, teachers should effectively organize students to study cooperatively in groups. Learning tasks may be assigned to each member, so they can learn to help each other, cooperate with other members and share their ideas with each other so as to effectively complete group tasks.

When the group finishes the assigned tasks, each member in the group should be encouraged to give a presentation about his/her achievement, and individual contribution to the team work should be acknowledged. If individual efforts are ignored, team members may feel undervalued and be reluctant to participate in other group activities in class. Therefore, teachers should assess individual efforts as well as the overall performance of the group.

## 5.2 Improve and Refine the Classroom Teaching Design

Based on the research results of this study, teachers should take into account the two factors in the China college English assessment scale, that is, classroom participation and teacher support when they design teaching and learning tasks to encourage students to actively participate in class activities and cooperate well with teachers. If the teacher's support is evident, this may encourage students to have a more positive attitude to classroom learning. Experienced teachers can control their emotions very well, and know that negative emotions conveyed to students can create an unfavourable classroom environment and discourages students from learning. Conversely, a positive and engaging classroom will give the students confidence to interact more with their teachers. A positive classroom atmosphere is essential to sustain students' enthusiasm for learning.

Moreover, every student should be treated equally and given every opportunity and encouragement to participate and engage fully in classroom activities, including the answering of questions (Jian & Wang, 2013). If possible, teachers should give students individual attention and encouragement and promote equality by giving everyone the opportunity to speak and express opinions. Teachers should often talk with students patiently and kindly and demonstrate that they care about their students' academic progress, needs and problems. Furthermore, positive relationships among students should be encouraged and maintained. The role of the classroom teacher needs to change; teaching and learning should become less teacher-centered and more student-centered, so that teachers become facilitators of learning, giving advice and collaborating with students. This will ensure a closer and more productive teacher-student relationship. When designing teaching and learning tasks, teachers should take into consideration the gender differences and their students' different levels of English proficiency. Factors such as different disciplines (liberal arts, science, engineering, agriculture and arts) should also be taken into account. Specifically, boys should be encouraged to enter English speech competitions and take part in debates to showcase their personal language skills, and girls should be

given more encouragement in order to boost their confidence. The questionnaire and interview data show that students' academic performance may be influenced by their level of participation in classroom activities, and their interest and attitude towards learning content. Therefore, teachers could attempt to meet students' different learning needs and stimulate their learning interest and enthusiasm by adjusting learning tasks and changing the classroom environment, as this can improve students' English learning outcomes and develop their critical thinking and cooperation/interpersonal skills.

## 5.3 Reform the Traditional Classroom Teaching Mode and Create a New Classroom Environment

According to the constructivism learning theory, students themselves play a very important role in the process of acquiring knowledge. At present, the traditional classroom environment. most students tend to acquire English passively. Therefore, there is an urgent need to reform the traditional teaching mode so that students become active participants in their learning and become the real constructors of language. According to "The College English Curriculum Teaching Requirements Guide", college English teachers should keep pace with the times and recognise the importance of introducing computer technology in their English teaching practice. In the process of designing and implementing classroom teaching practice, information technology should be used rationally. Teachers are encouraged to make use of online resources to reform and develop teaching and learning content. The traditional teacher-centered method should make way for a student-focused approach. By combining online and offline teaching methods, English teaching and learning does not have to be constrained by time and place to a certain extent. Technology can help students to engage more actively in English learning, and to make significant improvement in their autonomous learning ability.

Under the background of information age, the traditional college English teaching mode is relatively single, which cannot meet the individual needs of students who have different levels of English competency. The online and offline mixed teaching mode combines the advantages of the two teaching modes and combines the traditional classroom teaching approach with students' online learning. It not only retains the face-to-face teaching and communication between teachers and students in the traditional classroom setting, but also meets students' individual needs. The blended teaching mode offers a seamless connection between online learning and offline learning. This teaching mode overcomes the constraints of time and space, which can help students learn and complete English-related tasks more efficiently. At the same time, classroom interactions can be strengthened and the classroom environment will be more stimulating. Students' enthusiasm for learning, together with their proficiency in the English language, will be enhanced.

Hence, it is evident that a good English classroom environment in a university can meet students' individual learning



needs by offering teaching and learning content that caters for these needs, thereby stimulating students' motivation to learn. Moreover, a well-designed curriculum will encourage students to develop good learning habits and independent learning ability, leading to improved proficiency in English. Therefore, it is essential that foreign language teachers create an engaging and enriching classroom environment.

## REFERENCES

1. Cherasim, L.R., Mairén, C. & Butnaru, S. (2012). Prediction of school performance: the role of motivational orientation and class environment. *Procedia-Social and Behavioral Sciences*, (46), 3931–3935.
2. Faircloth, B.S. & Hamm, J.V. (2005). Sense of belonging among high school students representing 4 ethnic groups. *Journal of Youth and Adolescence*, 34(4), 293–309.
3. Hou, X.L. (2006). A survey of the psychological environment of college English classroom teaching. *Foreign Language and Foreign Language Teaching*, (5), 28–30.
4. Jian, Y. & Wang, Y.P. (2013). College oral English classroom environment under the mixed class model – an empirical study based on the theory of classroom environment. *Chinese University Teaching*, (6), 84–88.
5. Li, G.F. (2015). The influence of classroom environment on college English autonomous learning. *Foreign Language and Foreign Language Teaching*, (1), 62–68.
6. Li, Z.Q., Liao, H. & Meng, L.Y. (2018). Study on the relationship between environmental perception and self-efficacy in college English classroom of medical students. *Medical Education and Practice*, (2), 131–133.
7. Lin, Q.Y. (2019). A study on the correlation between English classroom environment, class sense of belonging and English proficiency in college - a case study of English major in school of foreign languages, Minjiang University. *Journal of Chengdu Normal University*, (3), 28–31.
8. Liu, L.H. (2015). Research on the relationship between college English classroom environment and students' learning outcomes. *Shanxi University*.
9. Osterman, K.F. (2000). Students need for belonging in the school community. *Review of Educational Research*, 70(3), 323–362.
10. Qu, Z.Y. (2002). Development of classroom environment studies abroad. *Foreign Language Education Research*, (7), 21–22.
11. Ren, Q.M. (2018). Influence mechanism of effective classroom environment construction and evaluation of college English. *Foreign Language Teaching and Research*, (9), 703–800.
12. Sun, Y.M. (2010). Investigation and research on comprehensive English classroom environment in universities. *Foreign Language and Foreign Language Teaching*, (6), 438–444.
13. Walberg, H.J. (1968). Classroom climate and individual learning journal of educational. *Journal of Educational Psychology*, (6), 414–419.
14. Waldrup, B.G. & Fisher, D.L. (2003). Identifying exemplary science teachers through their classroom interactions with students. *Learning Environments Research*, (6), 157–174.
15. Zhao, Q.H. & Xu, J.F. (2012). Research on the relationship between classroom environment and students' classroom behavior in college English. *Foreign Language and Foreign Language Teaching*, (4), 66–69.

