An Analysis of the Correlation between the Classroom Learning Environment and Student Performance of High School Students

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Abstract. The classroom environment has a direct constraint on the teaching process and plays a crucial role in improving learners' English grades. All teaching activities should be carried out in a certain environment, and the classroom is the main place for teaching activities. The classroom environment is an important factor affecting students' grades. In fact, domestic and foreign scholars research results indicate that in the same specific environment, the classroom environment has the most direct and close connection with learning of students. In a positive and comfortable classroom learning environment, the student's academic performance will be greatly improved. Therefore, there is a close relationship between the students' learning outcomes and classroom environment, and a positive classroom environment can enhance students' learning outcomes. Based on the research results of the former, the author aims to optimize task settings, improve students' application strategies, and propose relevant teaching suggestions in order to create a harmonious classroom environment and improve students' academic performance.

Keywords: High school students' classroom environment, academic performance relevance.

1. Introduction

The classroom is an important place for conducting teaching activities, and the quality of education and teaching is directly influenced by the classroom environment [1]. The literature indicates that domestic and foreign scholars have conducted a large amount of research on classroom environment and learning engagement, but most of the research is limited to college students, with few choosing high school students as the research subjects. Therefore, the author takes high school students as the research object to explore the relationship between classroom environment perception and English grades, which has reference significance for achieving effective classroom teaching and improving student performance.

2. Literature review

The term "classroom environment" typically refers to the collection of numerous physical, social, and psychological elements that influence the growth, caliber, and efficacy of instructional activities and are present during the classroom teaching process. In a broad sense, classroom environment can include physical environment, social environment, and psychological environment in terms of content composition. The key elements and conditions of teacher-student interaction and student-student interaction in the classroom are added together to form the social environment. The social environment is the sum of the fundamental components and conditions of teacher-student interaction and student-student interaction in the classroom. It typically involves interactions and relationships between teachers and students, interactions and relationships amongst classmates, classroom goal orientation, rules and order, etc.; The psychological environment describes the personality traits, mental health, and psychological climate of the students and teachers in the classroom. [2].

Due to the vast number of students in face-to-face instruction, teachers cannot always pay attention to each student's learning status. As a result, only a small number of pupils receive feedback on their conduct and make appropriate modifications [3]. Among the 10 classmates I interviewed, one of the questions was "What kind of help and support does the teacher have for your learning in the classroom?

Do they often help you answer and clarify questions?" Most students answered that the teacher will help students answer questions and pay attention to students' emotional problems. When students lack a state of learning, teachers also provide emotional support. However, two students also stated that their doubts sometimes do not receive timely feedback, leading to a decrease in interest in learning, psychological aversion to learning, and a decrease in grades. So in teaching activities, it is necessary to adjust the teaching mode and add teaching assistants to help students answer questions. In addition, study groups can be set up, with students with strong abilities as team leaders. When students have doubts, they can quickly find the team leader for help.

During the interview, when asked about collaboration in learning, all 10 students responded that they enjoyed working with classmates and believed that collaborative learning was beneficial for improving efficiency of learning. Due to the focus on each participant actively participating in learning activities and each member having great enthusiasm, the learning task is shared by everyone in group collaborative learning, allowing for brainstorming, the expression of opinions, and ultimately a better and more effective completion of the learning task. Creating a positive learning atmosphere and mutual assistance among classmates can lead to more significant progress in academic performance.

The main priority for high school pupils is academic accomplishment. Previously, student engagement was defined as the quality and quantity of students' psychological, cognitive, emotional, and behavioral responses to academic and social activities both inside and outside of the classroom that result in successful learning outcomes [4]. Students' performance in class and in other learning activities may be intrinsically motivated by their own performance, which encourages them to put out effort. They participate actively in class discussions, use technology to improve learning, voice their ideas, and are ready to pick up new skills. Sincere children worked very hard in school, which helped them achieve [5]. According to previous research [6], the classroom environment is crucial. And other scholars link participation with improved academic performance [7]. Campus amenities have a significant impact on the learning environment, which has an impact on student engagement and performance [8]. The relationship between the learning environment in the classroom and academic success generally is highly dependent on student engagement.

When students are in a positive and comfortable classroom learning environment, their academic performance will be greatly improved [9]. The classroom environment and students' learning results are therefore closely related, and a good classroom climate can enhance and increase students' learning outcomes [10].

In previous studies, previous researchers proposed the theory of stage environment adaptation, which elaborates on how to cultivate students' participation and achievement in higher education. Subsequently, Reyes et al. showed [11] that a higher emotional atmosphere in the classroom can improve students' participation and academic performance. The teaching methods used by teachers are also considered an important determinant of student performance. According to previous research, students often exhibit a certain level of participation, which depends on how their teachers design learning tasks and involve them in the learning process. In this interview, when asked if the teacher's attitude towards each student was equal, some students believed that the teacher would lean towards students with good academic performance. Teachers tend to ask more questions to students who are good at learning while neglecting students with relatively poor foundations, resulting in low participation in courses and ultimately low knowledge absorption among students with poor grades.

Numerous studies have shown a significant positive correlation between classroom environment and students learning performance. Sun Yunmei used a mixed research method to investigate the perception of classroom environment among domestic college students. The results indicate that college students with better grades have a better perception of the classroom environment. Liu Liyan and Liu Yongbing [1] used quantitative and qualitative methods to study the classroom environment of 308 high school sophomores. Research has found that students' perception of classroom environment can positively predict their learning performance. A study on senior high school students' perceptions of the learning environment was done in Changshu by Yang Jingyi [12]. The

findings suggest that students' perceptions of the learning environment in their third year of high school can also positively influence their academic performance. According to the survey results, perception of the learning environment in the classroom and academic achievement are significantly positively correlated. It is clear from the data shown above that academics frequently utilize quantitative or mixed research methodologies to examine the classroom setting and come to the conclusion that there is a favorable relationship between the setting and academic achievement.

3. Research design

3.1. Research topic

This article mainly explores the impact of high school students' classroom environment on their academic performance, understands the overall situation of high school students' classroom environment, and discovers the differences in students' perception of classroom environment. The research topics are as follows: 1. How do high school students perceive the actual classroom environment? What kind of classroom environment can improve and enhance students' learning outcomes?

2. What is the internal mechanism by which the classroom environment affects learning outcomes? How does it work?

3. The learning outcomes mentioned here include two parts: cognitive outcomes (mainly referring to students' grades in course tests) and emotional outcomes (mainly referring to students' attitudes towards learning).

Research subjects:

A second year high school student from a certain city was selected as the research object（because the second year high school students have a significant role in connecting the past and the future for the entire high school learning life. Students at this stage have adapted to high school learning and also have an understanding of their own English learning situation. Therefore, conducting research on second year high school students yields more convincing data.)

3.2. Research process

The article adopts a semi structured interview method, in which the interviewees conduct one-on-one interviews with the interviewees. Within the overall framework of the interview outline, appropriate adjustments are made to the interview questions based on the on-site interview situation. Through some teachers' understanding of the current education situation, identifying existing problems, and listening to their opinions and suggestions.

Afterwards, three homeroom teachers and three high school sophomore students were randomly selected for pre interviews, and the interview outline was adjusted based on the interview results. In the following formal interviews, the focus was on classroom environment and academic performance related issues.

On the basis of obtaining the consent of the interviewees, record the interview on their mobile phones and take notes during the interview process. In the later stage, repeatedly listen to the recording, identify and fill in any gaps, extract key information from it, and form interview records.

Based on the results of data analysis, explain the correlation between the classroom learning environment of high school students and their academic performance, and discuss it in conjunction with student feedback and interview results.

The interview results indicate that the interviewees are satisfied with the high school English classroom environment they are in. The main reasons are: (1) Most students can feel the teacher's vivid teaching in the classroom, clear explanations, easy to accept, and can stimulate students' learning enthusiasm. (2) Students can consciously abide by classroom discipline in class order, actively cooperate and interact with classmates in class, and maintain a harmonious learning atmosphere and class order. In addition, 2 respondents expressed moderate satisfaction and believed

that there were some problems with the current high school English classroom environment, with 2 female students each having intermediate and low English proficiency. The main reasons are: (1) the teacher speaks faster and the students take notes in a shorter time; The teacher mainly focuses on grammar, vocabulary, and text in class, with less expansion of extracurricular knowledge, and a lack of connection and review of learned knowledge (2) Some teachers, as class teachers, are too authoritative and use class time to handle class affairs, occupying teaching time.

4. Discussion

This article studies some important practical results of the classroom environment for high school students, but due to objective conditions, there are also some shortcomings. Firstly, in terms of sample selection, ten high school students were selected for interviews. It is suggested that in future related research, the sample size should be larger, more schools should be selected, and the type of school should be wider. Secondly, this study only conducts research on classroom environment through the method of interviews, which is also a commonly used method at home and abroad. It is suggested that future related research can adopt multiple research methods to study the classroom environment, in order to explore more research avenues for studying the relationship between classroom environment and students' English grades.

5. Conclusion

This article concludes that high school students are generally satisfied with the classroom environment. The classroom learning environment is positively correlated with students' grades. Based on the research results, some suggestions were put forward on how to improve students' academic performance: students should have initiative in the learning process, and teachers should gradually guide students to master new knowledge and openness. Assist students in strengthening their understanding and mastery of teaching objectives, and actively mobilize their existing knowledge to guide them in mastering new knowledge. At the same time, this article also has limitations. Firstly, the sample size interviewed in this study is relatively small. Secondly, this study only explored the current classroom environment and academic performance of high school sophomores, and did not conduct long-term research on it. Students' perception of the classroom environment and academic performance will change over time and their growth and development. Therefore, it is hoped that in the future, diachronic research can be conducted on high school students in order to understand the real situation of classroom environment and academic performance of high school students in different periods.

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