

How does Gender Affect Teacher-Student Interaction: A Case Study in China's EFL Classes

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Abstract. Under the background of modern education paying more and more attention to gender equity, teacher-student interaction, as an important micro component that will affect students in the classroom, whether it will be affected by gender factors is also a topic that researchers have long discussed. This study is committed to adding new cases to the study of gender and teacher-student interaction, focusing on teacher-student interaction in EFL classrooms in primary education from Mainland of China. This study is a case study, focusing on an experienced English teacher and her six classes. Through classroom observation of 12 English classes and interviews with teachers, this study found that female students will receive less attention from teachers, while male students will be more likely to receive negative comments from teachers because of gender factors. Overall, it is suggested that gender bias in EFL classrooms and believed that gender factors would affect the formation of the teacher-student interaction model.

Keywords: Teacher-student interaction; Gender factors; Gender bias; Classroom interaction.

1. Introduction

1.1 Background

In recent years, the issue of gender equity has been brought up repeatedly in the field of education. In addition to explicit gender education fairness such as equal access to education, various hidden gender inequalities in educational practice are also receiving more attention. As an important part of classroom interactions, teacher-student interactions can affect students' classroom participation and learning enthusiasm according to the outcomes of past research. As early as the 1970s, the issue of whether classroom interaction patterns could be affected by the gender of teachers and students has been proposed and discussed. Over the past few decades, scholars from different countries have discussed the impact of gender on teacher-student interactions in the classroom from the perspectives of different grades and disciplines. Based on previous research, this study narrows the scope to EFL education in a primary school in mainland China and observes the classroom interactions of an English backbone teacher with rich educational experiences and her classes. It is hoped that this research will enrich the research content on gender and teacher-student interactions.

1.2 Related research

As for the research perspective, some studies have focused on the impact of teacher gender on teacher-student interaction. Malik et al. examined the impact of teacher's gender on teacher-student interaction, especially concerning the differences in the frequency and types the teachers of different genders' responses towards boys and girls in their classes. The researchers conducted observations in the 8th-grade classroom in Gujranwala for 36 lessons total, and then coded the interactions using the Interactions for Sex Equity in Classroom Teaching (INTERSECT) research tool (Malik, 2018) [4]. Zare-ee and Hejaz made a study on seven EFL teacher and their 25 undergraduates involved in the English Literature and Translation Studies program at the University of Kashan based on the model of Initiation-Response-Feedback. By using the methodology of observation, the researchers aimed at examining what impacts teachers' gender and teaching experiences may make on the T-S interactions, and then it turns out that students prefer to interact more with the more experienced teacher and their interaction will not be influenced by teachers' gender (Zare-ee, 2019) [5]. Some studies have been

concerned about the effect of students' gender on teacher-student interactions. Rimm-Kaufman et al. analyzed 5th-grade teacher-student interaction quality and students' engagement in the math classroom while considering how the gender of students can affect T-S interaction and students' engagement. The researchers conducted a quantitative survey through classroom observation, teacher reports about students' engagement, and a questionnaire for students to give feedback. And it turns out that boys reported higher engagement in higher instructional supporting classrooms (Rimm-Kaufman, 2015) [8].

In terms of research methods, many of the studies were case studies and used the method of classroom observation. Durán conducted a case study in a high school in Bogotá Colombia to explore the teacher and students' conceptions of gender, by using the methodology of classroom observation, interaction coding, and interviewing. During the study, girls reported the ignorance their teacher showed towards them, which will have a positive influence on their motivation for study. And it also offered an inequality caused by teachers that favored boys (Durán, 2011) [6]. LeBlanc held a case study by analyzing the classroom tape of a 9th-grade female English teacher from Southern California, while he also observed how the teacher interacted with her students. By conducting these procedures, the scholar studied how the teacher dealt with the conflicts happening between genders and how she tried to represent the voice of her students when the confrontation occurred. And the study turns out that intertextuality plays an essential role in teacher talk, and a 'managed heart' is also vital for the teacher to control the whole classroom interaction (LeBlanc, 2018) [7]. Hassaskhah and Zamir researched the gender bias in the interaction between teacher-student in the EFL curriculum in the context of Iranian College, by observing a real classroom analyzing a seating chart, and studying the record of all the T-S interactions happening during the courses. And the outcome turns out that there are both qualitative and quantitative differences existing because of gender bias (Hassaskhah, 2013) [2].

In the research on teacher-student interaction, some concerns have been raised about whether teachers' attention to their students is affected by gender factors or not. Some studies suggested that teacher-student interaction could be affected by gender. Bassi et al. conducted a study concerning the quality of teacher-student interactions by observing 237 class tapes and collecting data from fourth graders in Chile, finding that girls are not given equal attention as boys and most of them are ignored in the T-S interactions to some extent (Bassi, 2018) [1]. Ortega et al. researched the educational inclusion of girls in mathematics classes in Chile, by observing 79 classroom audio tapes in which about 2295 students were involved. The statistics drawn from the record indicate that girls get fewer chances to interact with teachers and they were probably paid less attention (Ortega, 2021) [3]. Some studies believed that teacher-student interaction was not affected by gender. Krkovic et al. made a study about whether the interaction between teachers' and students' gender impacts teachers' assessment of students' performance. For the methodology, students should complete three academic skill tests and teachers should assess every student involved in the study and predict students' future academic achievement. And main results indicated that teacher-student interaction and teachers' evaluation of the students were not influenced by gender [9]. Weiller and Doyleb made classroom research aiming at exploring the patterns of gender-related interaction happening in Taiwan colleges, especially investigating whether teachers treat students differently according to their genders. The primary instrument used in the study was Flanders' Interaction Analysis Categories (FIAC), which was used in 19 English teachers' classroom observations from Tamkang University. And the observation data did not show a significant gender bias at the higher-education level in Taiwan (Weiller, 2000) [10].

1.3 Objective

This paper aims to investigate whether gender bias exists in teacher-student interactions in EFL courses. It is embodied in two questions:

- 1). Do students get different degrees of attention from teachers because of their gender?
- 2). Do students get different feedback from teachers based on gender?

In the methodology chapter, the research methods of this study are introduced as classroom observation and interview, and the subjects of the study are also described. In the third chapter, the data obtained from the study are analyzed and the findings are drawn. In the fourth chapter, the obtained outcomes are discussed and suggestions are made to teachers. It also reflects on the shortcomings of this research and the direction for further research in the future.

2. Methodology

2.1 Classroom Observation

To observe the teacher-student interaction in EFL lessons in primary schools in Mainland of China, a female English teacher in a primary school and her six classes with a total of 275 students were included in this classroom-based study. Due to the "double reduction policy" and the shortage of teacher resources, the teacher involved in this study needed to teach three grades at the same time. Therefore, of the six classes she taught, one was in first grade, two were in second grade, and the other three classes were from fifth grade. For these six classes, a total of 12 class observations were conducted, as two lessons were observed in each class, and each observation lasted 45 minutes long.

In the classroom observation, the number of participants in each class, how many questions the teacher asked students, questions promoted by students during lessons, and the teacher's responses were recorded. In addition to briefly collecting the overall data in 12 lessons, the data were also classified according to the gender of the student involved in each teacher-student interaction, to explore whether teachers have different teacher-student interactions with different gender students.

2.2 Interview

Besides collecting data on actual teacher-student interactions that take place in the classroom, the teacher also expressed her principles and considerations of teacher-student interaction in the unstructured interview. Through the analysis of interview materials, whether students of different genders face different teacher-student interaction patterns and the causes behind this phenomenon will be further explored.

3. Data Analysis

By observing and recording 12 lessons in six classes, the study obtained the number of times students were asked questions by teachers in each lesson. In the 12 recorded lessons, all students received 204 questions from the teacher overall, of which 116 were asked to men students and 88 to females. To study whether teachers are more inclined to ask questions of a certain gender in the lesson, this study defines the variable Times-A (the number of times students were asked questions by teachers in each lesson) and uses the t-test (the full name as an independent sample t-test) to study the difference of gender for a total of 1 item of Times-A.

Table 1. T-test Analysis Results

	Gender (average value ± standard deviation)		t	p
	Male(n=12)	Female(n=12)		
Times-A	9.67±1.92	7.42±3.09	2.142	0.046*

* p<0.05 ** p<0.01

It can be seen from Table 1: Times-A all showed significance (p<0.05), which means that samples of different gender have differences in Times-A. And the specific analysis indicates that gender showed a significant level of 0.05 for times-a (t=2.142, p=0.046), and the specific comparison showed that the average of males (9.67) was significantly higher than that of females (7.42).

In conclusion, it can be seen that all samples of different gender showed significant differences in Times-A. This result represents that the teacher involved in this study does have gender preferences

when asking questions in class. During her students, no matter what grade they are in, male students are significantly more likely to be asked by teachers than females.

In addition to concerns about how students of different genders received questions from the teacher, this study also expects to how students received feedback after answering questions asked by the teacher. Therefore, except for the number of times the teacher asked the student, the times the teacher responded to the student's answers were also recorded.

To better understand the situation of teachers' responses to students of different genders, feedback is roughly divided into four types. They are no-feedback (the teacher did not give feedback on students' answers), positive feedback (the teacher praised students' answers, etc.), neutral feedback (short responses to students' answers, with no evaluation), and negative feedback (teacher criticized students' answers, etc.). And the variables Times-no, Times-p, Times-neu, and Times-neg are respectively defined as "the number of times students did not receive feedback", "the number of times students received positive feedback", and "the number of times students received neutral feedback" and "the number of times students received negative feedback". After variable definitions, independent samples t-tests were performed on gender with Times-no, Times-p, Times-neu, and Times-neg, respectively.

After the t-test, Table 2 presents that no feedback ($p=0.237>0.05$) and positive feedback ($p=0.333>0.05$) have no significant difference in gender. However, on the items of neutral feedback and negative feedback, gender shows a significant difference.

Table 2. T-test Analysis Results

	Gender (average value±standard deviation)		t	p
	Male(n=12)	Female(n=12)		
Times-neu	3.83±1.03	2.33±1.23	-3.238	0.004*

* $p<0.05$ ** $p<0.01$

It can be seen from Table 3 that gender shows a 0.01 level of significance for Times-neu ($t=-3.238$, $p=0.004$), and the specific comparison difference shows that the average value of female (2.33) is significantly lower than the average male value (3.83). It can be seen that different genders all face significant differences in neutral feedback. Male students received significantly more neutral feedback than females.

Table 3. T-test Analysis Results

	Gender (average value±standard deviation)		t	p
	Male(n=12)	Female(n=12)		
Times-neg	2.08±1.31	0.33±0.49	-4.328	0.001*

* $p<0.05$ ** $p<0.01$

In terms of negative feedback, gender also shows a significant difference. From the table, gender shows a significance level of 0.01 for Times-neg ($t=-4.328$, $p=0.001$), and the specific comparison difference indicates that the average value of females (0.33) is significantly lower than that of males (2.08).

In conclusion, it can be seen that different gender samples all show significant differences in negative feedback. Generally speaking, male students received significantly more negative feedback than females. And this also means they get more criticism after answering the question.

Summarizing the analysis of classroom observation data, the following three conclusions can be drawn from the two aspects of questioning and feedback:

1)Males are more likely to be asked questions by the teacher in class compared with female students.

2)Male students are more likely to get neutral and negative feedback after answering teachers' questions compared with females.

3)The fact that students receive no or positive feedback after answering the questions is not affected by gender.

In response to the above conclusions, questions about teaching and classroom interaction strategies were applied to unstructured interviews with the teacher involved in this study. And the teacher's response can also be divided into three parts.

First, during the interview, the teacher admitted that she was devoted to students in different degrees according to their genders and she thought it was common to pay more attention to boys in EFL lessons. "I think it mainly comes from common sense that boys are not good at language learning, especially English," the teacher was outspoken. As an experienced primary school teacher with more than ten years of teaching experience, who has also been exposed to teaching in all grades, the interviewed teacher firmly believed that it was reasonable that she owned different judgments about male and female talents in language learning. The teacher indicated, "Although you (researcher) may criticize our opinion that boys are less good at English, in teaching experience, this is the fact. They need us English teachers to spend more time to pay attention to, urge, and even use the time after class to help them improve their grades."

Second, the pattern of teacher-student interaction was not only affected by the student's gender, but also by the grade of the class and how difficult the course content was. "Questioning students from junior and senior grades is completely different," the teacher promoted her idea. When teaching in the lower grades, the learning content is basic and simple. Therefore, the teaching goal is to make sure every student in the class can master it. "In this case, I will set more questions in class, and let as many students as possible have the opportunity to participate in the class." However, at the senior stage, the content of courses gradually became difficult, and this made the teacher adjust her teaching policies accordingly. "In senior grades, the gap between students' achievements is gradually reflected. To ensure that the overall academic outcome of the class is satisfying, we have to pay more attention to several people. Of course, in real teaching circumstances, such "several people" are usually, at 90 percent, boys."

Third, when talking about the feedback on students' answers and questions, the teacher expressed that she would indeed consider the gender of students. "This can be regarded as a consensus among teachers. Boys are difficult to manage, and most don't take your criticism to heart. Only when you criticize more, they will be afraid of you and listen to you. As for girls, they may be more face-saving. But boy, I think all teachers will be strict." In addition to the motivation to improve students' achievement in English, the teacher also mentioned the purpose of masculinity development in male students. "Boys need to be strong, and criticism will help them grow. This is the so-called criticism of education."

4. Discussion

According to the research outcomes, gender bias does exist in teacher-student interactions in EFL lessons in primary schools. The findings indicated that female students receive less attention, while more negative feedback is given to males. Gender-specific attention gaps have been addressed in previous research results, with male students receiving more teacher attention than females (Bassi, 2018; Ortega, 2021). However, besides gender bias or stereotypes, we can find that more factors can affect the pattern of T-S interaction. According to the interview with the teacher, the causes of gender differences are complicated and they may include the pursuit of the overall academic achievements of the whole class, limited teaching time, the difficulty of the learning content, consensus teaching experiences among teachers, and even social need for masculinity and femininity cultivation. Therefore, if it is determined to reduce the difference in attention and feedback given to students of different genders in T-S interaction, multiple related factors need to be taken into consideration.

Based on the findings, several recommendations are also given to stakeholders of teacher-student interaction. Teachers need to first be aware of gender bias that may exist in teacher-student interactions and admit them instead of simply ignoring them. When interacting with students, teachers need to care about their attention to students of different genders. They need to offer female students the same concern as males and give them enough opportunities to speak in class. Besides, teachers

should not deliberately give too much criticism to male students because of gender bias. In actual teaching, students should be given more encouragement and support regardless of their gender identity.

As for the drawbacks, this study owns two drawbacks that can be further improved. First of all, the number of research samples included is insufficient. In this study, classroom observations and data were recorded for only one teacher and the six classes she taught. Although this study is designed as a case study, the outcomes would be more credible if more subjects could be involved. Second, this study didn't study the differences between different grades of students. As the teacher mentioned in her interview, she chose to conduct different t-s interaction patterns in different grades. However, because of the limited time and the number of samples, this study didn't observe the differences among grades, which can be improved in future research.

When it comes to the future goals of the research concerning gender factors and teacher-student interactions, developing the theoretical framework on how gender would affect teacher-student interactions is a lofty ideal. Based on the discovery of gender barriers, it will be the ultimate question of this study to further explore how gender factors affect teacher-student interaction through a certain theory-based model.

5. Conclusion

This paper studies whether gender bias exists in EFL classrooms, which is a topic divided into two parts, concerning whether the study of teachers' concern for students in EFL and teachers' feedback on students' answers are affected by students' gender. Through classroom observation and interviews with an experienced teacher and her six classes, the study found that teachers would pay less attention to female students based on gender factors and give more negative feedback to male students. According to the results of these two studies, this paper believes that gender bias exists in the teacher-student interaction in the EFL classroom. Therefore, it is suggested that teachers should first recognize the existence of such gender discrimination, and consciously give students attention and feedback that are not affected by their gender. Generally speaking, this research on gender factors and teacher-student classroom interaction only found that teacher-student interaction would be affected by gender factors. However, the formation of a teacher-student interaction mode is affected by not only gender factors but also a variety of factors. In future research, researchers can further explore the theoretical framework through which gender factors affect teacher-student interaction in the classroom, and further, summarize to obtain the theoretical framework of gender factors and teacher-student interaction.

References

- [1] Malik, R., Javed, N., & Dilshad, M. (2018). Inquiry into Gendered Teacher-Student Classroom Interactions. *Pakistan Journal of Education*, 35(2).
- [2] Zare-ee, A., & Hejazi, S. Y. (2019). The Effects of EFL Teachers' Gender and Experience on Interaction Patterns in Undergraduate Content Classes. *English Teaching & Learning*, 43(3), 255–275.
- [3] Rimm-Kaufman, S. E., Baroody, A. E., Larsen, R. A. A., Curby, T. W., & Abry, T. (2015). To What Extent Do Teacher-Student Interaction Quality and Student Gender Contribute to Fifth Graders' Engagement in Mathematics Learning? *Journal of Educational Psychology*, 107(1), 170–185.
- [4] Durán, N. C. (2011). Exploring gender differences in the EFL classroom. *Colombian Applied Linguistics Journal*, 8, 123–136.
- [5] LeBlanc, R. J. (2018). Managed confrontation and the managed heart: gendered teacher talk through reported speech. *Classroom Discourse*, 9(2), 150–165.
- [6] Hassaskhah, J., & Roshan Zamir, S. (2013). Gendered Teacher-Student Interactions in English Language Classrooms: A Case of Iranian College Context. *SAGE Open*, 3(3), 215824401350298–.

- [7] Bassi, M., Mateo Díaz, M., Blumberg, R. L., & Reynoso, A. (2018). Failing to notice? Uneven teachers' attention to boys and girls in the classroom. *IZA Journal of Labor Economics*, 7(1), 1–22.
- [8] Ortega, L., Treviño, E., & Gelber, D. (2021). The inclusion of girls in Chilean mathematics classrooms: gender bias in teacher-student interaction networks (La inclusión de las niñas en las aulas de matemáticas chilenas: sesgo de género en las redes de interacciones profesor-estudiante). *Infancia y Aprendizaje*, 44(3), 623–674.
- [9] Krkovic, K., Greiff, S., Kupiainen, S., Vainikainen, M.-P., & Hautamäki, J. (2014). Teacher evaluation of student ability: what roles do teacher gender, student gender, and their interaction play? *Educational Research (Windsor)*, 56(2), 244–257.
- [10] Weiller, K. H., & Doyle, E. J. (2000). Teacher-Student Interaction: An Exploration of Gender Differences in Elementary Physical Education. *Journal of Physical Education, Recreation & Dance*, 71(3), 43–45.