



Exploring Gender Differences in Classroom Interaction Patterns: The Impact on Academic Performance of Upper Basic Social Studies Students in Delta State

OSHIOGWEMO, Irialuose Agatha

*Department of Social Science Education, Social Studies Unit, Faculty of Education, Delta State University,
Abraka, Nigeria.*

Date of Submission: 28-10-2024

Date of Acceptance: 08-11-2024

ABSTRACT

This study explored gender differences in classroom interaction patterns and their effect on the academic performance of Upper Basic Social Studies students in Delta State. Using an ex-post facto research design, the study was guided by one research question and one hypothesis. The sample consisted of 975 Basic 9 (JSS3) students, including 481 males and 494 females, selected through simple random sampling. Data collection tools included a questionnaire and Social Studies performance scores. The reliability of the questionnaire items was assessed using Cronbach's alpha at a significance level of $P < 0.5$. To address the research question, the Pearson coefficient of determination was employed, while the Pearson Product Moment Correlation was used to test the null hypothesis at a 0.05 significance level. The results indicated a significant relationship between classroom interaction patterns and academic performance, influenced by gender. Based on these findings, it was recommended that both genders be encouraged to engage in classroom interactions to better understand the specific challenges each faces and to convert these challenges into positive outcomes for improved participation.

Keywords: Academic Performance, Gender, Classroom Interaction Patterns, Social Studies.

I. Introduction

Although the Nigerian constitution and the National Policy on Education promote gender equality, student gender continues to influence academic performance to some degree. Gender refers to the state of being male or female, particularly regarding social and cultural distinctions (Filgona & Sababa, 2017). Some teachers hold different expectations for male and female students' academic performance and interact with them in distinct ways, which can affect their performance (Elbechir, 2021). Classroom interaction, defined as

the verbal exchange between teachers and students, is crucial as it can impact students' academic outcomes (Atuboinoma & Amadi, 2021).

Academic performance refers to the qualitative and quantitative evaluation of a student's progress, often measured through exams conducted at regular intervals. Both male and female students require equal treatment, encouragement, and engagement during the teaching-learning process. To foster academic success in Upper Basic students, teachers need to motivate and assist them in the classroom. Research suggests that females often gravitate toward Humanities and Social Science subjects, viewing them as easier, while males, influenced by societal expectations to be competitive, tend to take on more challenging subjects like science (Almut, 2017; Workman & Heyder, 2020). These gender roles are deeply ingrained in society and can affect academic performance by limiting full participation and the development of students' potential (Elbechir, 2021). However, with increasing attention to the education of the girl-child, there is a growing assumption that girls can perform academically on par with boys, as more efforts are made to tap into their intellectual resources (Salihu et al., 2020).

Statement of the Problem

The interaction patterns between teachers and students, as well as peer interactions, play a pivotal role in shaping students' learning experiences and academic outcomes. Despite the Nigerian government's efforts to promote gender equality in education through various policies and initiatives, notable disparities remain in the academic performance of male and female students in Upper Basic Social Studies. It is assumed that classroom interaction patterns may be influenced by gender stereotypes, biases, and societal expectations, which could affect students' academic performance. Therefore, the central issue of this study is to investigate the impact of gender on the



relationship between classroom interaction patterns and the academic performance of Upper Basic Social Studies students in Delta State.

Purpose of the Study

The main purpose of the study is to examine the impact of gender in the relationship between classroom interaction patterns and academic performance of Upper Basic Social Studies students in Delta State.

Research Question

i. What is the relationship between classroom interaction patterns and academic performance of Upper Basic Social Studies students in Delta State as it relates to gender?

Hypothesis

Ho1: There is no significant relationship between classroom interaction patterns and academic performance of Upper Basic Social Studies students in Delta State as it relates to gender.

Classroom Interaction Patterns and Academic Performance of Students as it Relates to Gender

The primary objective of Social Studies is to equip students to become more humane, rational, responsive, and responsible participants in national affairs. However, classroom interaction patterns have raised concerns, particularly regarding how teachers engage with male and female students. Classroom interaction patterns refer to the communication style between the teacher and students, as well as among students themselves. These patterns are crucial in helping students develop communication and social skills. Gender, which encompasses a broad range of physical, biological, and psychological characteristics distinguishing males and females, plays a role in these interactions (Adigun et al., 2015). It is important to note that gender and sex are not interchangeable. While sex refers to the biological differences between males and females, gender encompasses the roles, responsibilities, opportunities, constraints, and needs associated with males and females in various social contexts (Filgona & Sababa, 2017). Teachers often hold attitudes and beliefs that shape their expectations of students' abilities and interests based on gender. These perceptions can lead to differential treatment of male and female students in the classroom (Elbechir, 2021). Male students tend to be more active during the teaching-learning process, often due to underlying gender biases (Christine, 2015). However, Fatokun and Omenesa (2015) found no

significant difference in academic performance between male and female students, despite female students being less active in classroom interactions. This suggests that students of any gender have the potential to achieve academic excellence, regardless of their level of participation in class discussions.

A study by Nnamani and Oyibe (2016) found that male students had lower mean academic performance scores compared to female students. Interestingly, both male and female students taught Social Studies by male teachers had higher mean scores than those taught by female teachers. The study also revealed a significant difference in academic performance based on gender. Similarly, Almut (2017) found that teacher stereotypes, such as the belief that science is a subject for males, positively influenced male students' self-concept but negatively affected female students' motivational beliefs. This stereotype contributed to differences in course selection, with females gravitating toward subjects focused on humanity and males preferring science-related courses. These findings suggest that teacher stereotypes can significantly impact students' academic performance and their subject preferences based on gender.

In a study by Makila (2015) in Sweden, male and female students were observed during a science practical. The findings showed that girls spent more time watching and listening rather than actively participating, while boys were more engaged, though the study did not examine how this affected academic performance. Similarly, Irungu et al. (2019) found that female students were more interactive in the classroom than males, but there was no statistically significant effect of gender interaction on students' academic performance in Chemistry. Hurtado (2021) noted that teachers often give male students more opportunities to participate in classroom activities than females, which significantly affects how both genders interact in the classroom. Dana (2020) found that classroom interactions based on gender could either positively or negatively influence students' academic performance. Further studies by Gopal et al. (2021), Martin (2021), and Mensink and King (2020) revealed that students, regardless of gender, who were encouraged to engage actively in class, respond to questions, and receive feedback from teachers performed better academically than those who were not given such opportunities.

Hashemi (2021) and Terblanche et al. (2020) found that higher levels of teacher-student and peer-to-peer interaction contributed to the development of positive self-esteem, motivation, and improved academic performance. However,



Ndirika and Ubani (2017) observed no significant relationship between interaction levels and academic performance with regard to gender. Cooper et al. (2018) also reported that students' academic performance was not influenced by their level of classroom interaction. Rudhumbu (2022) highlighted that classroom interaction levels have a significant impact on students' academic performance in terms of gender. However, Faisal et al. (2017) found no significant difference in academic performance based on gender. In contrast, Mwihiya (2020) reported a significant gender difference in academic performance, with male students outperforming female students. Zinyahs and Farhad (2017), in their study of Junior Secondary Mathematics classrooms in Nigeria, found that male students participated in classroom interactions more frequently than females, which positively impacted their academic performance. Similarly, Quasim et al. (2022) investigated teacher-student interactions in secondary chemistry classes in Lahore, Punjab, Pakistan, with a sample size of 250 students. The study used a descriptive research design and data were collected through questionnaires. Analysis was conducted using the mean, standard deviation, t-test, and one-way ANOVA. The findings revealed that female students in chemistry demonstrated better classroom interaction than their male counterparts, which positively influenced their academic performance.

Previous studies on the relationship between classroom interaction patterns and students' academic performance, particularly in relation to gender, have yielded conflicting results. For example, Ndirika and Ubani (2017) and Irungu et al. (2019) found no significant influence of gender on the relationship between classroom interaction patterns and academic performance. In contrast, studies by Nnamani and Oyibe (2016), Almut (2017), Zinyalus and Farhad (2017), Dana (2020), Mwihiya (2020), Gopal et al. (2021), Martin (2021), Quasim (2022), and Rudhumbu (2022) reported that gender does influence the relationship between classroom interaction patterns and academic performance. Given these inconsistent findings, this study aims to further investigate the relationship between classroom interaction patterns and the academic performance of Upper Basic Social

Studies students in Delta State, with particular attention to gender differences.

II. Methodology

This study utilized an ex-post facto research design. The population comprised 43,022 Basic 9 (JSS3) students from 468 public Upper Basic schools in Delta State. A sample of 975 students, consisting of 481 males and 494 females, was selected from the three senatorial districts in Delta State using a stratified random sampling technique. Data collection instruments included a four-point Likert scale questionnaire titled "Gender Differences in Classroom Interaction Patterns and Academic Performance of Delta State Upper Basic Social Studies Students" and Social Studies academic performance scores from teacher-made tests, validated by the Delta State Ministry of Basic and Secondary Education. To ensure the instrument's appropriateness for measuring the intended variables, both face and content validity were employed. The internal consistency reliability of the questions in the survey "Gender Differences in Classroom Interaction Patterns and Academic Performance Scale" was estimated using Cronbach's alpha analysis. One hundred (100) Basic 9 students who were not included in the sample but shared traits with the students selected for the primary study were given the questionnaire by the researcher. The reliability value for gender differences in classroom interaction patterns was $r=0.71$, $p<0.5$, after the responses were coded, examined, and assessed for significance at a level of $P<0.5$. The study issues were addressed using the Pearson Coefficient of Determination, and the null hypotheses were tested at the 0.05 level of significance using the Pearson Product Moment Correlation Coefficient because, it allows a researcher to ascertain the direction and degree of a link between variables in a study, the Pearson statistical approach was used in this investigation.

III. Results

Research Question 1: What is the relationship between classroom interaction patterns and academic performance of Upper Basic Social Studies students in Delta State as it relates to gender?



Table 1: Mean Scores and Standard Deviation Analysis on classroom interaction patterns and academic performance as it relates to gender.

Variables	N	Mean	SD	r	r ²	r ² %	Remark
teacher-learner interaction	975	2.63	1.17	.207	0.043	4.3%	Positive relationship
academic performance		2.91	1.10				

Source: SPSS Output, 2024

The mean scores and standard deviation analysis of Delta State's Upper Basic Social Studies students' academic performance and classroom interaction patterns by gender are displayed in Table 1. The findings indicate a favourable correlation between gender-related academic performance and classroom interaction patterns. This is demonstrated by mean scores of 2.63 and 2.91 above the benchmark mean value of 2.50 and standard deviation scores of 1.17 and 1.10, which showed

that classroom interaction patterns and academic achievement of Delta State students in Upper Basic Social Studies are positively correlated with gender.

Hypothesis

H01: There is no significant relationship between classroom interaction patterns and academic performance of Upper Basic Social Studies students in Delta State as it relates to gender.

Table 2: Correlation result for the significant relationship between classroom interaction patterns and academic performance of Upper Basic Social Studies students in Delta State as it relates to gender.

		Classroom interaction patterns	Academic performance as it relates to gender
Classroom interaction patterns	Pearson Correlation	1	.305**
	Sig. (2-tailed)		.000
	N	975	975
Academic performance as it relates to gender	Pearson Correlation	.305**	1
	Sig. (2-tailed)	.000	
	N	975	975

** . Correlation is significant at the 0.01 level (2-tailed).

The Pearson's r correlation finding and the P-value at the 0.05 level of significance are displayed in Table 2. There is a positive association between classroom interaction patterns and academic performance in respect to gender, as indicated by the Pearson r correlation value of .305. Additionally, a statistically significant correlation between classroom interaction patterns and academic performance in respect to gender is shown by the P-value of .000. This indicates that classroom interactions can be moderated by gender as a variable to influenced academic performance. As a result, the null hypothesis is disproved. In conclusion, Delta State's Upper Basic Social Studies students' academic achievement and classroom interaction patterns are significantly correlated with gender.

The results of this study demonstrate that, with regard to gender, there is a favourable correlation between Delta State Upper Basic Social Studies students' academic performance and classroom interaction patterns. This result showed that compared to male students, female students preferred to participate in classroom interaction patterns. The idea that scientific courses are exclusive for male students is to blame for this because, Social Studies is not a science subject. Male students appear to be less interested in participating in Social Studies classroom interaction patterns. This result is consistent with that of Zinyahs and Farhad (2017), who discovered that male students in math classes participated in classroom interaction patterns considerably more than female students, which improved the academic performance of male students. This result also supports the findings of Nnamani and Oyibe (2016),

IV. Discussion of Findings



Almut (2017), Dana (2020), Mwihi (2020), Gopal et al. (2021), Martin (2021), Quasim (2022), and Rudhumbu (2022), who discovered a positive correlation between students' academic performance and classroom interaction patterns in relation to gender. In contrast, Ndirika and Ubani (2017) and Irungu et al. (2019) found no evidence of a substantial correlation between students' academic performance, gender and classroom interaction patterns.

V. Conclusion

The study came to the conclusion that students' academic performance was influenced by their gender. The study's findings specifically showed that female students do better academically than male students in Social Studies and that they favoured classroom interaction patterns.

VI. Recommendation

Based on the findings of the study, it was recommended that:

In order to understand the unique challenges surrounding both genders' participation in classroom interaction and how this can be turned into beneficial outcomes for any identified challenges from either gender, it is important to encourage both genders to participate in classroom interaction patterns as they relate to the learning process.

References

- [1]. Adigun, J. Onihunwa, J., Irunokhai, E. Sada, Y. & Adesina, O. (2015). Effect of gender on students' academic performance in computer studies in secondary schools in New Bussa, Borgu Local Government of Niger State. *Journal of Education and Practice*.
- [2]. Almut, E. T. (2017). Gender differences in students' Physical Science motivation: Are teachers implicit cognitions another piece of the puzzle? *American Educational Research Journal*. <https://doi.org/10.3102/0002831216682223>
- [3]. Atuboinoma, A.J. & Amadi, E. (2021). Perceived influence of classroom interaction on students' academic performance in senior secondary schools in Rivers State. *International Journal of Innovative Education Research*. 9(2), 95-104.
- [4]. Christine, H. (2015). Gender and classroom interaction: A research review. The Scottish Council for Research in Education.com/iar/s/societw.htm.
- [5]. Cooper, K. M. Downing, V. R. & Brownell, S.E. (2018). The influence of active learning practices on students' anxiety in large – enrollment college science classrooms. *International Journal of STEM Education*. 5(23), 1-18.
- [6]. Dana, A. (2020). An investigation into female students' less participation in English Language class. Waja Karo Junior Primary School, Grade & Students in focus. *Research on Humanities and Social Science*. 10(5), 20-27.
- [7]. Elbachir, Y. (2021). Teachers–students interaction in EFL classroom in the Algerian Secondary School. *Journal of Human Science*. 8(1), 1362-1373.
- [8]. Fatokun, K.V.F & Omenesa, K.A. (2015). Effects of prior knowledge and classroom interaction on students' achievement in Chemistry. *African Educational Research Journal*. 3 (3), 184-189.
- [9]. Filgona, I. & Sababa, L. K. (2017). Effect of gender on senior secondary school students' academic achievement in Geography in Ganye Education Zone, Nigeria. *European Journal of Education Studies*. 3(4), 394-410.
- [10]. Gopal, R. Singh, V. & Aggarawal, A. (2021). Impact of online classes on the satisfaction and performance of students during the pandemic period of COVID 19. *Education and Information Technologies*. 7(1), 1-25.
- [11]. Hashemi, (2021). Effect of COVID 19 on the Academic Performance of Afghan Students and their Level of Satisfaction with Online Teaching. *Cogent Arts and Humanities*. 8(1), 10-17.
- [12]. Irungu, M.N, Nyagah, G. & Mugambi, M. (2019). To examine the influence of gender interaction on academic achievement of learners. *Advances in Social Sciences Research Journal*. 6(7), 126-143.
- [13]. Makila, A. (2015). Constructing gender in the EFL classroom; How Swedish upper secondary school students' performance in relation to gender in rural communication. Department of Languages and Literature, University of Gothenburg. [Http://hdl.handle.net/2077/40673](http://hdl.handle.net/2077/40673).
- [14]. Martin, A.M. (2021). Instructor qualities and student's success in higher education online course. *Journal of Digital Learning in Teacher Education*. 37(1), 65-80.
- [15]. Mensink, P.J. King, K. (2020). Students' access of online feedback is modified by the availability of assessment marks, gender and



- academic Performance. *British Journal of Educational Technology*. 51(1), 10-22.
- [16]. Mwihiya, C. (2020). Gender difference in academic achievement of students in Kinagop Sub Country, Nyanarua Country Kenya. *European Journal of Social Science Studies*. 5(4), 19-31.
- [17]. Ndirika, M.C. & Ubani, C.C. (2017). Effect of peer tutoring teaching strategy and academic achievement of secondary school Biology students in Umuahia Education Zone, Nigeria. *Journal of Research Method in Education*. <https://doi.org>.
- [18]. Nnamani, S.C. & Oyibe, O.A. (2016). Gender and academic achievement of secondary school students in Social Studies in Abakaliki: Urban of Ebonyi State. *British Journal of Education*. 4(8), 84-95.
- [19]. Rudhumbu, N. (2022). A gender-based analysis of classroom interaction. *International Journal of Learning, Teaching and Education Research*. 21(5), 22-45.
- [20]. Salihu, J. J. Usman, A. and Buhari, Y. S. (2020). Effect of gender on upper basic social studies students' academic achievement in educational field trips learning environment in Kaduna State, Nigeria. *Sampling Foundation Journal Education, Sciences and Gender Studies*. 2(3), 239-246.
- [21]. Terblanche, W. Fakir, D. Chinyamurindi, W. T. & Mishi, S. (2020). Impact of self-esteem and student and lecturer interaction on academic performance in a Chattered Accounting program. *Journal of Further and Higher Education*. 45(3), 1-17.
- [22]. Qasim, S., Mohammed, S. & Imran, T. (2022). Teacher-student interaction towards chemistry at Secondary Level. 7(2), 167-174.
- [23]. Workman, J. & Heyder, A. (2020). Gender achievement gaps: The role of Social costs to trying hard in high school. *Soc Psychol Educ*. 23(6), 1407-1427.
- [24]. Zinyahs, Z. Farhad, B. (2017). Gender teacher-student interactions in junior secondary Mathematics classrooms in Nigeria. *The Eurasia Educational and Social Science*. 6(1), 73-83.