
| RESEARCH ARTICLE

Gender Differences and the Writing Achievement of University Fresh Students: A study of Federal University of Technology Owerri

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| ABSTRACT

Gender differences have often been identified as being manifest in the performance and achievement of students in their academic activities. Male students are said to be more productive in science and technology courses, while female students are said to be better than the males in humanities and non-numerate disciplines. Therefore, in this paper, the gender similarities hypothesis (Hyde, 2005) was used to examine whether gender would make any significant difference between the writing achievements of newly admitted university undergraduates in Federal University of Technology Owerri, Imo State, Nigeria. The pre-test, post-test, control group quasi-experimental method was employed, using a total number of 425 students in three experimental groups and one control group. At the end of the treatment of the experimental groups, the pre-test and post-test scores of male and female students were analyzed as data. It was found that there was no significant difference between the achievement of male and female participants. Therefore, it was concluded that there are no gender differences found in the writing achievement of male and female undergraduates but that students who apply themselves to their studies would excel irrespective of their gender.

| KEYWORDS

Gender, Federal University of Technology Owerri, achievement, gender differences

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1. Introduction

Gender is the description of the roles played by men and women in society which is different from their socially determined functions as male or female (UN Women/IPS Africa, n.d.). Gender is also seen as the cumulative of the cultural and social values, attitudes, practices and uniqueness attached to being male or female (Anyanwu, 2015). Studies in gender have sought to identify and reveal the disparities and inequalities between the different genders and the effects of these on different areas of society such as education, health, and even business. Boyi (2013) asserts that gender serves as a means of differentiation in the allocation of opportunities or participation in such areas as labour, education, income, amongst others. Gender has also formed a notable subject of discourse in students' academic performance or achievement in different disciplines such as literacy, science or medicine. It is against this background that this paper investigates whether gender would influence the writing achievement of newly admitted undergraduates.

1.1 The problem

Gender differences in students' academic performance and achievement have been of great interest to researchers and other academics. For example, male students are said to perform better than female students in schools (UNESCO, 2006); male students have also been found to boast of greater achievement in the sciences and numerate disciplines while female students are believed to perform more than the males in the humanities (Adeyemi, 2008). Eurydice (2010) affirms that female students read more than male students at all levels of education. Williams and Takaku (2011) also contend that females perform better than males in composition writing. The supposition of all these is that gender difference plays a role in students' academic achievement and

educational attainment. Hence, this study sought to investigate whether gender would have any effect on the writing achievement of undergraduate students.

1.2 Research Question/Hypothesis

One research question and one hypothesis were used to investigate the problem.

1. **RQ:** What level of difference exists between the writing achievement of male and female students?
2. **H₀:** There is no significant effect of gender on students' writing achievement.

2. Review of concepts

2.1 Writing

Writing is the encoding of information in the form of marks on paper (or hypertext in digital formats), which an individual may decode based on agreed symbols to get the message's import. It is the setting down of language for reading with the eyes or touching with the hands (Coulmas, 1999). The National Institute for Literacy in the United States of America (2007) characterizes it to be the capacity to create a text for different situations and readers. Most knowledge is stored in texts through writing, and learners read what is written to gain knowledge and write to display what knowledge they have acquired in a particular subject area. Therefore, without writing, there can be no reading. Writing forces the learners to be focused and attentive to their learning since it encourages them to think (Institute for Writing and Rhetoric, IWR, 2013) and helps them improve their communication skills. Writing is used as a tool for judging learners' academic progress, and poor writers invariably will perform poorly. Therefore, the necessity for tertiary school learners to imbibe effective writing cannot be gainsaid.

2.2 Gender differences

Gender disparities or inequalities are prevalent in Nigeria, especially in the educational sector. This is evident in the enrolment of children into school where more males are enrolled than females and in admission into tertiary institutions where the same applies. For example, Fapohunda (2011) describes the participation of females in tertiary education as abysmally low when compared with that of males, while Mukoro (2014) reports that the figures for the feminine gender in the JAMB university entrance examinations was on the decline from 2013 to 2014 just as earlier university enrolment figures from 2003 to 2008 were all in favour of males candidates. It is, therefore, necessary that research be carried out to confirm whether these gender differences are carried forward even to the classroom activities of students, especially in the writing achievement of newly admitted university undergraduates.

2.3 Theoretical platform

This study made use of the Gender Similarities Hypothesis (Hyde, 2005), which assumes that in most intellectual or emotional parameters, male and female human beings are comparable rather than different.

3. Review of Literature

Gender differences have been found to occur in academic settings, especially in reading and writing achievement. For example, in a study conducted in the Kogi State of Nigeria, Muodumogu and Unwaha (2013) used the mini-lesson strategy to investigate the essay writing achievement of SS 11 students. Three hundred and forty-two students in eight intact classes in four schools were used as subjects through a non-random sampling procedure that shared them in treatment and non-treatment groups. The researchers report that boys and girls performed at the same level, and gender had no appreciable impact on their performance in writing.

Okonkwo (2015) studied how students in a collaborative setting would be affected by gender in their composition writing. One hundred and ninety-one students from four co-educational secondary schools in Abakaliki, Ebonyi State, Nigeria, made up the sample. Students from two schools were selected as experimental, while those from the other two were the control. The experimental students were taught with the collaborative instructional package, while the others were taught with the conventional method. Other instructors in the schools acted as research assistants and the treatment period was for six weeks. An achievement test was used as an instrument while students' scores made up the data which were analyzed with statistical correlation. The researcher reports, among other things, that boys in the treatment group attained higher grades than girls in the same group, while girls in that same group beat the boys in the control group. Girls in the control group also performed better than boys in the same group. In general, the performance was not significant.

Ladipo and Gbotosho (2015) examined whether gender had any bearing on the achievement and habits in the reading of medical students at the University of Ibadan. The survey design was adopted while the questionnaire was used as an instrument for the collection of data. The sample was 429 students selected randomly. Data were analyzed with mean and standard deviation as well as correlation. Results revealed that male students achieved more than females, but there was no difference in the reading habits of participants.

In their study of EFL students, Al Khamisi, Al Bawani, Al Meklafi & Osman (2016) sought to find out if there was a difference between the achievement in reading, amongst other things, of male and female students in elementary and secondary schools in Oman. The study, which lasted for six weeks, employed a questionnaire to collect data from a total sample of participants made up of 323 girls and 313 boys. A reading achievement test was used for the reading segment of the study. Data were analyzed by t-tests, regression and correlation. The researchers found that girls had greater achievement in reading than boys with mean performance in favour of the females against the males.

In a similar study, Anggraini (2016) sought to find out if gender would make a distinction in the achievement in the writing of 110 undergraduates of PGRI University, Palembang (55 males and 55 females) who were purposively chosen for the study. Scores from students' essays formed the data, which were analyzed with t-test, means and standard deviation. Results showed that being male or female did not play any major role in the writing achievement of study participants. Indeed, the male subjects' achievement excelled above females', thus upturning the widespread belief that females generally perform better than males in literacy skills.

Etim (2019) sought to understand whether there was a relationship between gender and teachers' instruction in argumentative essays in secondary schools in South-South Nigeria. The sample for the study was 100 teachers of the English language from southern Nigeria. A questionnaire was the instrument for collecting data. Analysis of data was done by frequency counts and percentages. The researcher found that there was a connection between gender and teaching of argumentative writing as more males than females taught it, amongst other findings.

4. Methodology

The study made use of the pre-test, post-test, control group, quasi-experimental design. A total of 425 freshly admitted undergraduates in the Federal University of Technology Owerri, Imo State, Nigeria, for the 2019/2020 session, comprising 253 males and 172 females, participated in the study. These comprised of four intact classes of students from four different faculties in the university. The faculties and departments were selected through simple random sampling. Three departments were used as experimental, while one was used as the control.

A pre-test was administered to all the participants, after which a writing treatment was administered on the experimental groups, but the control group was not treated. The student's scores from the pre and post-tests formed the statistically analysed data. One research question and one hypothesis were used to analyze the data.

4.1 RQ: What level of difference exists between the writing achievement of male and female subjects using IRW methods?

The mean scores of males and females in the different study groups were computed to answer this research question. Table 1 shows the result.

Table 1: Pre-test and post-test results of the writing achievement of male and female students.

Groups	Gender	N	Pre-Test		Post-Test	
			Mean	Std. Deviation	Mean	Std. Deviation
Exp. Group 1	Male	43	51.43	4.49	73.23	7.76
	Female	80	53.31	4.45	71.46	7.42
	Total	123	52.37	4.69	72.34	8.03
Exp. Group 2	Male	32	52.94	4.50	69.82	7.91
	Female	62	52.79	4.58	71.33	7.79
	Total	94	52.86	4.78	70.57	8.35
Exp. Group 3	Male	67	51.69	4.61	76.40	7.82
	Female	16	52.29	4.36	76.65	7.39
	Total	83	51.99	5.59	76.52	9.47
Control Group	Male	111	50.77	4.74	61.46	8.05
	Female	14	52.03	4.36	57.61	8.37
	Total	125	51.40	6.99	59.54	13.23
Total	Male	253	51.71	5.06	70.23	8.76
	Female	172	52.61	5.80	69.26	10.41

In the pre-test, there was not much difference in the mean scores of male and female students in the different groups. Though the female participants were slightly better than the male participants in the Exp. Grp. 1, Exp. Grp 3 and Control groups while the male students performed slightly better than the female students in the Exp. Grp 2, the mean scores were all at par. The male students performed slightly better in the post-test than the female students in the Exp. Grp. 1 and the Control groups while the female participants achieved very slightly better than the male participants in the Exp. Grp 2 and Exp. Grp 3. A t-test was carried out on the scores of male and female subjects to ascertain if there was any difference between the genders. Table 2 below displays the analysis

Table 2: T-Test analysis of the difference between the writing achievement of male and female students in the Pre and Post-Tests.

Group/ Treatment	Test	Gender	N	Mean	Std	Mean Difference	Df	T-statistic	p- value	Decision
Exp. Grp. 1	Pre	Male	43	51.43	4.49	-1.88	121	-2.22	0.029	Sig.
		Female	80	53.31	4.45					
	Post	Male	43	73.23	7.76	1.77	121	1.22	0.224	Not Sig.
		Female	80	71.46	7.42					
Exp. Grp. 2	Pre	Male	32	52.94	4.50	0.150	92	0.15	0.880	Not Sig.
		Female	62	52.79	4.58					
	Post	Male	32	69.82	7.91	-1.51	92	-0.88	0.381	Not Sig.
		Female	62	71.33	7.79					
Exp. Grp 3	Pre	Male	67	51.69	4.61	-0.60	81	-0.49	0.629	Not Sig.
		Female	16	52.29	4.36					
	Post	Male	67	76.40	7.82	-0.25	81	-0.12	0.905	Not Sig.
		Female	16	76.65	7.39					
Control Group	Pre	Male	111	50.77	4.74	-1.26	123	-1.01	0.327	Not Sig.
		Female	14	52.03	4.36					
	Post	Male	111	61.46	8.05	3.85	123	1.63	0.123	Not Sig.
		Female	14	57.61	8.37					

The t-test shows that the mean difference between the achievement of males and females in all the study groups was not significant as the difference between the mean scores of males and females was infinitesimal and not statistically significant. Thus, gender is not significant in explaining the achievement of subjects in writing.

This result agrees with studies by Muodumogu and Unwaha (2013) and Okonkwo (2015), which found that there is no difference between the writing achievement of males and females. Thus it is concluded that gender had no effect on writing achievement, in contradiction to Adeyemi (2008) and Williams and Takaku (2011), who found that females performed better than males in composition writing. Figure 1 below graphically shows no significant difference between the achievements of the different genders across the groups represented by the different bars of various colours.

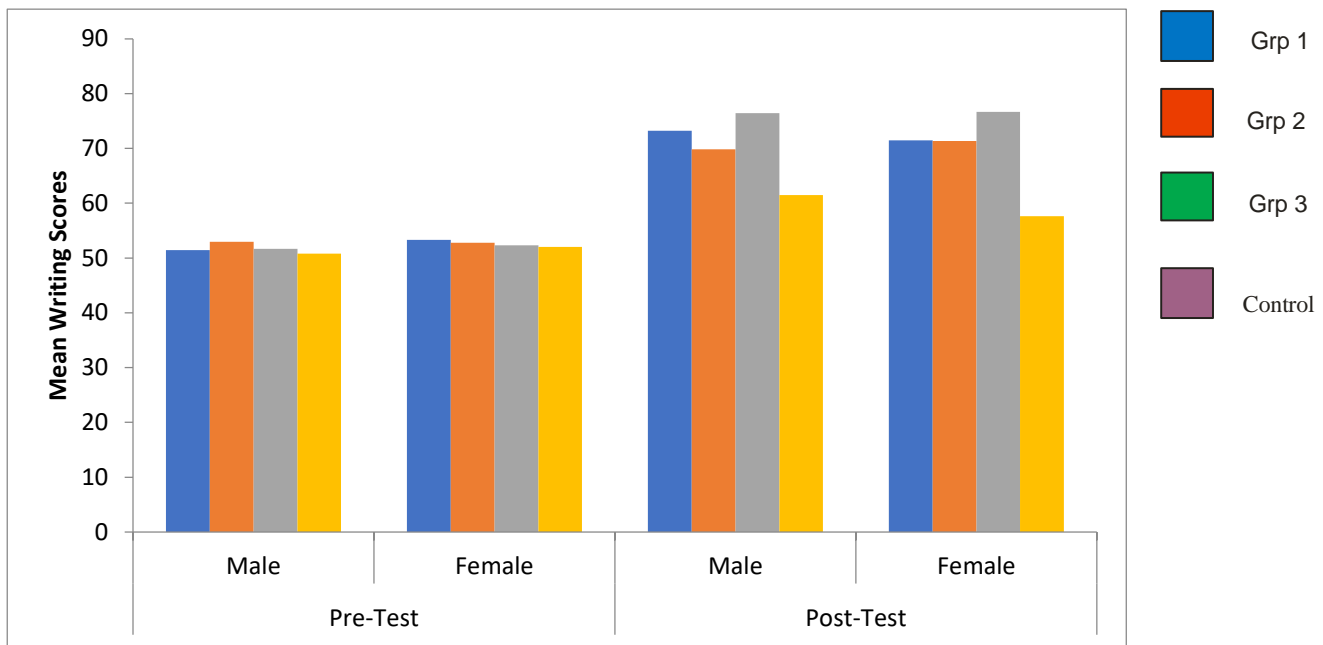


Fig 1: Pre and Post-test Mean Scores by Gender for Treatments.

From the chart above, we see that in the pre-test, generally, the achievement of both males and females in all the groups were approximately on the same level. The slight differences in the genders' achievement in the various post-test groups do not suggest any significance.

H₀: There is no significant effect of gender on students' achievement in writing

Table 3 indicates that gender had no noticeable effect on achievement of participants in writing ($F_{(1, 400)} = 1.00$; $p > 0.05$, partial $\eta^2 = 0.00$). Thus, the null hypothesis was not rejected. This implies that gender has no appreciable impact on students' achievement in writing.

Table 3: Analysis of Covariance (ANCOVA) of Post-test Achievement by Treatment and Gender

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	15540.575	24	647.524	11.972	0.000	0.418
Intercept	15407.921	1	15407.921	284.868	0.000	0.416
Pre Writing	234.491	1	234.491	4.335	0.038	0.011
Treatment	6781.144	3	2260.381	41.791	0.000*	0.239
Gender	54.196	1	54.196	1.002	0.317	0.002
Treatment x Gender	227.642	3	75.881	1.403	0.241	0.010
Error	21635.190	400	54.088			
Total	2082741.000	425				
Corrected Total	37175.765	424				

R Squared = 0.42 (Adjusted R Squared = 0.38) * denotes significant $p < 0.05$

The table shows that the difference between the mean scores of male and female students was not statistically significant. Thus it is in agreement with the finding above that gender did not significantly affect the ability of the participants in their writing. It is, therefore, appropriate to conclude that any student who applies him/herself to study would excel irrespective of gender identity. This is in consonance with the Gender Similarities Hypothesis, which sees human beings of whatever gender as not different from one another when it comes to intellectual endeavours.

5. Conclusion and Recommendation

The investigation sought to find out if a gender difference would influence the writing achievement of newly admitted undergraduates of the Federal University of Technology Owerri. At the end of the study, it was discovered that there was no significant disparity between the achievement in the writing of male and female study participants. Thus it was concluded that being male or female did not influence their writing performance and achievement but that anyone who worked hard would excel.

This study has expanded the frontiers of research in gender and writing at the tertiary level of education, especially among students studying science and technology courses in Nigeria. Students, and even those outside the educational system, will be encouraged to put in their best effort, knowing that their hard work will yield greater achievement irrespective of being male or female.

The study was initially planned to be longer than six weeks, but the school calendar was disrupted by students' demonstrations which caused the university authorities to shut the school for about two months. The study was therefore readjusted to align with the revised university calendar; hence the time for the study was reduced to six weeks.

Scholars could use this study as a base to further investigate whether other methods and strategies of instruction in writing could be affected by the gender difference of undergraduates in Nigeria. The study could also be replicated in Polytechnics and Colleges of Education to further investigate the place of gender in students' performance and achievement in writing and other courses.

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Conflicts of Interest: The authors declare no conflict of interest.

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