

Research Article

A Comparative Study on English Language Achievement of Female Students Between Only-Girl School and Mixed-Sex School in EFL Classroom

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Abstract

This study's main goal was to compare the English language achievement of female students in an all-girl school and a mixed-sex school within the Ethiopian EFL (English as a Foreign Language) context. The findings, motivated in part by the observation that female students tend to have higher levels of "language-related anxiety," which affect their performance in the environment surrounding them at school. The research involved 92 grade 9 female students from both Pharo (Homosha) Boarding School, an all-girl school, and Bambassi Secondary School, mixed sex school. The study was conducted using a causal-comparative design. Semi-structured interviews were added to the data obtained by analyzing documents from students' English achievement records during their second semester. The Mann-Whitney U test was employed to measure differences in achievement across the two groups. The mixed-sex school students had a slightly higher average grade in English achievement than those from the only-girl school, but the difference was not statistically significant ($p = .068$) according to the result. Even though school type has some influence on English achievement, the findings also indicate that other factors such as teaching style and school resources are equally important, as psychological factors like speaking anxiety can also have an impact.

Keywords

English Achievement, Single Sex School, Mixed Sex School, Language Related Anxiety

1. Introduction

The importance of English has significantly increased due to the rapid expansion of international trade, diplomacy, mass media, telecommunications, and scientific literature. It has become the global lingua franca, essential for communication, education, and career opportunities worldwide. In non-native English-speaking countries like Ethiopia, proficiency in English is particularly crucial. It is often the language of instruction in schools and a key skill for academic and career success. Consequently, developing communicative competence in

English is vital, reflecting its prominent role in the school curriculum. Brown [2] states that language teaching decisions should align with broader educational goals. Awol [1] also emphasizes the importance of English in shaping students' futures, a sentiment echoed by the Ethiopian Ministry of Education [12], which highlights its critical role in education. Therefore, English is introduced as a subject from the first grade and is used as the medium of instruction from the seventh grade onwards in Ethiopia.

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School type can play a significant role how well students' achievement in English as a foreign language. Research, including meta-analyses on single-sex schooling has found that girls attending all-female schools often report feeling more confident and have a more positive attitude towards learning [13]. While the differences in overall academic achievement may be minor, the emotional benefits like reduced anxiety and increased participation in class can lead to better performance outcomes. In countries like Ethiopia, where English is the primary language of instruction from secondary school onward and is essential for academic success, achieving proficiency in English Language is a key focus. Thus, the achievement of female students in English may be shaped by both their emotional well-being and the type of educational environment they are in. This ties into the objective of this study, which aims to compare the English achievements of female students in all-girl schools versus those in mixed-gender schools. By comparing English achievement among female students in various educational settings, this study aims to close this gap.

The literature review indicates the gaps as there is a lack of empirical studies that directly compare the academic achievement of female students in mixed-sex and single-sex schools. In addition, it indicates the fact that few studies have looked at how school type affects female learners' proficiency in English.

Although there is great enthusiasm among students, they are still finding it difficult to learn foreign languages. Ganschow and Schneider [7] explored why some individuals appear to learn additional languages with such facility while others struggle with the process. Their results have generated interest in investigating the relationship between language learning and individual differences in psychology. Researchers [10, 7] have proposed that individuals with problems of acquiring the first language can have similar problems with the second or foreign language.

2. Literature Review

2.1. The Impact of Learning Environment (All-girls Versus Mixed -Gender) on Foreign Language Achievement

Do males and females do better when they study by themselves or together? It's a big speak. Studies show that all-females schools may push females to join in and feel sure which helps them learn better [13]. But, mixed schools could make kids rival each other, which could change results for males and females. Some say females in mixed places might not do as well as males in some classes like languages because of what people expect from them [3]. But, others say there's no big change in scores from females or males in mixed classes. They think how the class is taught, who else is there, and each kid's nature plays a big role [14]. The setting where

they learn can also change how kids take on language lessons. This study looks at how anxiety of speaking a foreign language links to how well kids do in all-females and mixed schools.

2.2. Single-sex and Mixed Sex Along with their Academic Achievement and Foreign Language Speaking Anxiety

For many years, people have asked if kids in males-only or females-only schools do better than those in schools with both. Lee and Bryk [11] saw good things in males-only and females-only schools for all. Kids in these places did well in school and wanted to go further in their studies, with females showing even greater gains. Females did more homework and took more math classes while males chose more math and science. In contrast, kids in mixed schools did not go so far.

Past work also looked if learning in these schools felt different. For example, Jones et al. [9] found that kids in single-sex schools liked studying more. Others said that males-only and females-only schools were more about work and less about dating than mixed schools [11]. On the other hand, mixed schools let both males and females get ready to be adults together better than single-sex schools do Dale [4].

2.3. Academic Outcomes in Foreign Language Education

The link between where we learn and how well we do in school has been much looked at, giving mixed results based on the setting. Schools just for females may help female students more, especially in areas where people often think less of them [3]. But, schools with both males and females may make a space where kids try to outdo each other, and this might make the differences in how well males and females do even bigger, especially in learning foreign languages.

2.4. Gender and Cognitive/Non-Cognitive Development

How school feels can change how well kids do, especially in languages. Studies show that females in just-girl classes often show better control, drive, and handling of feelings (Hyde, [8]). These skills help a lot in learning language as they keep females trying, bouncing back, and dealing with tough parts. Females in these classes might feel more driven and sure, leading to them doing better.

On the other side, classes with both males and females, while giving a mix of friends, might sometimes make females compare themselves too much or get distracted, which can hurt focus and the will to learn, especially for females. The need to match up to males might take down the courage of females who don't see themselves as good as males in studying.

3. Method and Material

3.1. Research Design

This study employed a causal-comparative design to find differences in English language proficiency and female students attending a mixed-sex school and an all-girl school. Without changing the independent variable, this design is used to investigate variations among naturally occurring groups [6].

3.2. Participants of the Study

Female students in grade 9 from Bambasi High School and Homosha Boarding School took part in the study.

3.3. Sample Size

There were just 44 grade 9 Homosha female boarding schools in all. Since the number was easily manageable, it was intended to take them all into consideration. However, only 36 female students who were available were included in this study because 8 students were unavailable during data collection. However, out of 196 female students at Bambasi High School, 56 were chosen

3.4. Sampling Techniques

Because the researcher works at the local universities, Bambassi and Homosha High Schools were specifically chosen for this study. They are also practical for this research topic and made it possible for the researcher to enter the school and collect data with ease. Because the number of students was easily manageable for this study, comprehensive sampling techniques were used for Homosha female students, and simple random sampling techniques were used to select female Bambasi High School students from each section.

3.5. Data Gathering Instruments

One data collection tool was used to get the information needed for this study. This was document analyses. Students' results from their second semester roster were gathered and organized for additional analysis in order to ascertain the correlation between accomplishments and the school types.

3.6. Data Analysis Method

To achieve this objective, the study utilized independent

sample t-test and Mann_Whitney U test. The selection of this method was based on its ability to compare means across groups and identify variations both within and across different categories, which is consistent with the study's objective of identifying significant differences in single-sex versus mixed-sex school and academic performance.

3.7. Ethical Consideration

Since ethics guarantee the reliability and credibility of research, ethical considerations were essential to this study. Important ethical guidelines were strictly adhered to, including informed consent, confidentiality, voluntary participation, and harm avoidance. Participants and other pertinent parties, such as school administrators, gave their consent. In order to promote trust and openness, the study's goal was made explicit and participants' privacy and anonymity were protected. Following these ethical rules made sure that the study process maintained high moral standards, enhancing its legitimacy and encouraging participant collaboration.

4. Data Analysis, Discussion and Result

Evaluating the connection between students' academic performance and the type of schools was one of the study's goals. Students' results from their second semester roster were gathered and organized for additional analysis in order to ascertain the correlation between accomplishments and the school types. Therefore, the researcher used these findings to examine the connection between students' EFL accomplishments and the schools type.

A t-test and Mann_Whitney U test were used to evaluate the hypothesis, which states that there is no discernible difference in foreign language proficiency between only-girl schools and mixed-sex schools. Because it compares the means of two independent groups, this test is appropriate Rovai et al., [15]. A parametric method for assessing whether the mean scores of the two groups differ statistically significantly is the independent t-test Rovai et al., [15].

Assumption checks were performed prior to the analysis. Normality (the dependent variable has a normal distribution) and homogeneity of variance (the variances of the two groups are similar) are the two primary presumptions for the t-test Warner, [17]. Levene's test was used to test for homogeneity of variance, and the Kolmogorov-Smirnov test and histograms were used to assess normality. To decide whether to reject the second null hypothesis, a significance level of 0.05—which is frequently employed in social science research—was set.

4.1. Test of Normality

Table 1. Tests of Normality for foreign language achievement.

Tests of Normality		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Name of the school	Statistic	Df	Sig.	Statistic	Df	Sig.
Academic achievement	Pharo boarding school	.100	36	.200*	.967	36	.340
	Bambassi secondary school	.092	56	.200*	.979	56	.445

In the above table to evaluate whether academic achievement scores for students from Pharo Boarding School and Bambassi Secondary School are normally distributed, the Kolmogorov-Smirnov (K-S) and Shapiro-Wilk (S-W) tests were conducted. Since many statistical tests, especially parametric methods, assume that the data follows a normal distribution, determining normality is an essential step in data analysis. Field [5].

Both the Shapiro-Wilk and Kolmogorov-Smirnov test results show that the academic achievement data for both

schools have a normal distribution. The Shapiro-Wilk test showed a similar pattern (statistic = 0.967, $p = 0.340$), while the Kolmogorov-Smirnov statistic and p -value for Pharo Boarding School were 0.100 and 0.200, respectively. Similarly, the Shapiro-Wilk test yielded a statistic of 0.979 ($p = 0.445$) and the Kolmogorov-Smirnov statistic was 0.092 ($p = 0.200$) for Bambassi Secondary School. Since the p -values in both instances are greater than the significance level of 0.05, the null hypothesis of normalcy cannot be rejected.

Table 2. Test of homogeneity for academic achievement.

Test of Homogeneity of Variance		Levene Statistic	df1	df2	Sig.
Academic achievement	Based on Mean	15.799	1	90	.000
	Based on Median	15.681	1	90	.000
	Based on Median and with adjusted df	15.681	1	86.667	.000
	Based on trimmed mean	15.728	1	90	.000

The null hypothesis of equal variances is rejected since the p -values for each of the methods (mean, median, adjusted median, and trimmed mean) are below the significance level of 0.05. This finding suggests that the variances of academic achievement scores between the two schools differ significantly. There is heterogeneity in variances between Pharo Boarding School and Bambassi Secondary School's academic achievement scores, according to the significant results ($p <$

0.05). The assumption of homogeneity necessary for some parametric tests is broken by this. To account for unequal variances in these situations, alternative techniques such as the Mann-Whitney U should be employed [16].

Following the breach of the homogeneity of variance assumption, Mann-Whitney U, which does not necessitate equal variances, was used.

4.2. Mann_Whitney U Test

Table 3. A non-parametric test: Mann_Whitney U test rank.

Ranks				
	Name of the school	N	Mean Rank	Sum of Ranks
Academic achievement	Pharo boarding school	36	40.17	1446.00
	Bambassi secondary school	56	50.57	2832.00
	Total	92		

Mann-Whitney is a non-parametric statistical test. The data was analysed using the U test, which compares the ranks of two independent groups. Using a rank-based methodology, this data compares the academic achievement rankings of Bambassi Secondary School and Pharo Boarding School. With 36 students in the sample, Pharo Boarding School has a mean rank of 40.17 and a total rank of 1446.00. On the other hand, Bambassi Secondary School, which has 56 pupils, has a higher mean rank of 50.57 and a total rank of 2832.00. The

higher mean rank for Bambassi suggests that its students generally performed better or ranked higher in academic achievement compared to those from Pharo Boarding School. The difference in mean ranks could indicate a statistically significant difference in academic achievement between the schools. Further analysis, such as calculating the test statistic or p-value, would help confirm whether this difference is meaningful.

4.3. Mann_Whitney U Test Result

Table 4. The results of the Mann_Whitney U test.

Test Statistics ^a	
	Academic achievement
Mann_Whitney U test	780.000
Wilcoxon W	1446.000
Z	-1.825
Asymp. Sig. (2-tailed)	.068
a. Grouping Variable: Name of the school	

The Mann_Whitney U test results are presented in the table above, which demonstrates how Pharo Boarding School and Bambassi Secondary School's academic achievement rankings compare. Pharo Boarding School's ranks are equal to 780.000 Mann-Whitney U value and 1446.000 Wilcoxon W value, respectively. Pharo Boarding School had lower ranks than Bambassi, as indicated by the Z-statistic of -1.825.12. Its p-value of 0.0668 is slightly higher than the usual significance threshold of 0.05. The observed difference in academic achievement rankings between the two schools is not statistically significant at a 5% level. Nevertheless, the outcome is

almost decisive, suggesting a potential trend that may require further investigation. Even though there is no definitive evidence of a substantial variation in the data, the proximity of this value to 0.05 indicates that the difference could become more statistically significant with additional data or examining sample size. The results indicate that there are other elements, such as variations in resources or teaching methods that could be responsible for the observed variation.

5. Conclusion

The study showed that the two schools had very different scores on academic achievement ($p < 0.05$). This goes against the idea that the variances should be the same, which is needed for some statistical tests to work. This implies that the variances in academic results across the schools are not equal, maybe as a result of variations in school resources, teaching methods, or student motivation. This breach of the assumption of homogeneity of variance calls for strong statistical techniques, such as Welch's t-test, for correct analysis. It also highlights the need for educational research to take into account both the mean and variance of academic success, as many parametric statistical tests need homogeneity of variance.

6. Recommendation

Future studies should keep looking at how anxiety and academic success are linked in different people, and how psychological characteristics shape these outcomes in different ways.

Abbreviations

EFL English as a Foreign Language

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Conflicts of Interest

The authors declare no conflicts of interest.

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