

THE EFFECT OF GAME STRATEGY ON THE ACADEMIC PERFORMANCE OF PUPILS IN LITERACY IN ILORIN METROPOLIS OF KWARA STATE

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ABSTRACT: *The academic achievement of students in literacy has been declining over time. This study looked at how gaming strategy affected students' literacy test scores in the city of Ilorin, Kwara State. The study used a quasi-experimental pre-test-post-test control group research design. Two private and two public schools in Ilorin Metropolis, Kwara State, were chosen as the sample to participate in the study, and a straightforward random sampling technique was employed to choose the sample. All of the basic schools in Ilorin Metropolis constitute the population. Data were gathered using the literacy achievement test (LAT) and the literacy instruction guide (LIG). The Pearson Product Moment Correlation (PPMC) method was used to calculate the LAT dependability index, and it produced (0.75). In this study, seven research hypotheses were developed and assessed at a significance level of 0.05. The hypothesis was tested using inferential statistics from Analysis of Covariance (ANCOVA). According to the results, game strategy had a substantial impact on students' academic achievement ($F(1; 105) = 4.978, P 0.05$), among other things. Additionally, it was discovered that the type of school had a significant impact on students' academic performance in literacy ($F(1; 105) = 7.003; P > 0.05$), and that students exposed to game strategy in private schools outperformed those exposed to it in public schools (14.892: a significant difference) (11.597). Gender, however, had no discernible impact on students' academic success in literacy in this study. In conclusion, it is obvious and unmistakable that game strategy (such as scrabble) affects students' academic performance in literacy and has the potential to improve it, regardless of a student's gender or the type of school they attend. Therefore, it was advised that teachers of literacy in particular use this method to impart knowledge to the students. The government ought to integrate gaming tactics into literacy lessons. Finally, Nigerian teacher training programmes should include classes in game strategy.*

Keywords: Game Strategy, Academic Performance, Literacy, Gamification, Innovation in Education

Introduction

As a result of the subject's heavy emphasis on talking and writing, which encourages a bad attitude and subpar performance, there has been a recent decline in students' academic achievement in literacy. Because the subject is unfamiliar to the students, factors like spelling difficulties and a lack of vocabulary might make it difficult for them to formulate simple phrases, which can negatively impact their communication skills and academic achievement. This could be due to traditional didactic teaching method which is a teacher-centered method carried out without any interaction between the facilitator and pupils' or among pupils' themselves, and generally leads to boring and ineffective lessons.

Literacy in most cases known as English language in preschool is a school subject and like every other school subject requires formal instruction. Instruction in Literacy involves instruction on the four basic language skills; listening, speaking, reading and writing. This is due to the fact that learning a new language necessitates the development of these four modalities to various extents and in various combinations (Tankersly, 2008). According to the Federal Government of Nigeria (FGN, 2004), literacy is still regarded as a fundamental subject and is required of all primary and secondary school students. In preschool, it is acknowledged as literacy. Literacy, according to the United Nations Educational, Scientific, and Cultural Organization (UNESCO, 2017), is the capacity to recognize, comprehend, interpret, produce, communicate, and compute using printed and written materials associated with varied settings. Literacy encompasses a continuum of learning to assist people in realizing their goals, increasing their knowledge and potential, and actively participating in their community and greater society. As with English, there are various definitions of literacy and being literate, and these definitions are always changing. For instance, the phrase "literacy" can refer to reading alone, reading and writing, or, less frequently, reading, writing, speaking, and listening. Games are a great way to engage students in active, entertaining, and sufficiently engaging activities to inspire them to study more.

A game is an activity or sport that typically involves skill, knowledge, or chance in which you adhere to set rules and attempt to defeat an opponent or solve a riddle, according to Collins Dictionary (2022). According to Wikipedia(2022), a game is a structured kind of play that is typically done for enjoyment or fun, however it can also occasionally be used as a teaching tool. In contrast to

work, which is typically performed for pay, and art, which is more frequently an expression of aesthetic or ideological components, games are not working. Games can be played as a form of competition or cooperation with clearly defined objectives and rules, and they can help children develop physically, socially, emotionally, and cognitively (Read, 2007). Additionally, games offer students a fun and welcoming environment in which to learn.

A game is a form of play, in which players adhere to predetermined rules. According to (Houghto, 2013), educational games are used to support teaching and learning. Games can be used as a supplemental tool to augment conventional teaching techniques to enhance the learning experience for students and teach additional skills including adhering to rules, adapting, problem-solving, interaction, critical thinking, creativity, teamwork, and good sportsmanship. Learning shouldn't be boring, and it shouldn't only be rote memory exercises where pupils memorize information or study for tests. In order to raise student performance, teachers can benefit from the enthusiasm and creative thinking that technology-based learning fosters.

According to McFarlane and Sakellariou (2002), playing video games is intrinsically useful because it fosters the growth of a variety of skills and abilities that may be applied to various social and professional uses of digital technology. According to Kamra (2010), teaching English in the classroom with games is a successful strategy. The best classroom results can be achieved by using this strategy. The students' motivation is increased. Young students consider playing games by developing positive social attitudes and life skills. Teammates learn to communicate, collaborate, and share while playing games. A youngster learns by seeing, imitating, living, and trying. Therefore, this kind of instruction sticks. Some emotions, such as the thrill of winning and the dread of defeat, may appear while playing games. This gives the teacher perception into the personality of the pupil. One way to teach vocabulary to kids is through the word game scrabble, which they would practice over a longer period of time.

Concerns about how well boys and girls perform academically have generated a lot of interest in the field of educational testing throughout the years. Additionally, studies have shown that there are disparities in academic achievement between males and girls; these differences are probably going to cause disparities in how cognitive responsibilities are distributed (Oppong-Sekyere, 2012). The Ado (2015) assessment states that student performance is subpar and that there is a significant gender difference in English performance. Additionally, there is a sizable gender discrepancy in terms of where students attend school, with girls outperforming boys in both urban and rural areas.

A significant body of literature has been written about gender inequalities in achievement, including works by Adeyemi and Ajibade (2011), Apata (2011), Dania (2014), Agbaje & Alake (2014), Nenty (2010), Kyei et al. (2011), Awofala, Adeneye & Nneji, & Amosun (2011). While some of these researchers found no gender differences in students' academic achievement and retention across a variety of subjects, others found that either the boys or the girls performed better.

Additionally, according to numerous studies, female students perform better than their male counterparts (Orabi, 2007; Dayioglu & Turut, 2007; Khwaileh & Zaza, 2010). Ghazvini and Khajehpour's (2011) additional contention is that girls are likely to be more adaptive in learning in a diverse situation. This is true even in academic settings when gender inequalities in cognitive functioning are present. In contrast, Wangu (2014) discovered that among Kenyan secondary school pupils, boys passed more frequently than girls. However, Goni et al. (2015) found no evidence of a gender difference in academic performance among pupils planning to attend college.

Stakeholders in education are curious to better understand the effect of school type on learning because policy, as they know, can influence the quality of any school. A particular type of school is known by such attributes as name, curriculum, learners' category, and school ownership. Several scholars have reported these factors to be influential to students' academic performance. According to Okon & Archibong (2015), Depending on their wealth and academic performance, household members decide what kind of school their children or wards attend. Researchers have also discovered variances in kids' performance based on the type of school (Ajayi, 2010; Philiat & Wanjobi, 2011).

Many studies have emphasized that games have positive impacts on learning vocabulary, especially on children (Prensky, 2003; Leemkuil, 2006; Gee, 2012; Tüzün et al. 2009; Van Eck, 2006). Games provide an actual learning environment in which students collaborate with each other (Derakhshan & Davoodi Khatir, 2015). Huyen & Nga (2003) highlighted the value of games by allowing students to use English in authentic communicative situations. The usefulness of digital games was emphasized by Kalaycioglu (2011) in a manner similar to this, emphasizing how they make students the center of attention in the classroom. Games can therefore be modified for kids' learning goals, age, and level. To keep kids interested in language learning, multimedia contexts might be provided through games. As a result, it is encouraged kids to speak with their friends and learn new words (Segal-Drori et al., 2010; Silsüpür, 2017). Games also have additional advantages, like their wealth of educational material (Tsai et al., 2011). Younger students are more motivated to study languages as a result of digital games.

Despite the fact that numerous academics have looked into gaming strategy across a variety of topic areas, none has particularly examined how it affects students' academic achievement in literacy in the Ilorin Metropolis of Kwara State. In order to bridge this researchable knowledge gap, the researcher will look at how game strategy affects students' academic achievement in literacy in Ilorin West Local Government Area in Kwara State..

Statement of the Problem

Literacy, also referred to as English Language, is a subject that must be taken at the elementary and secondary levels of education in Nigeria in order to be admitted to a university. Parents and other education stakeholders have complained about the high percentage of kids who perform poorly in external exams (West African Examination Council and National Examination Council). Private

schools also performed poorly, so it's not just public schools that were impacted. Failures in this topic have been linked to a number of things, including ineffective teaching techniques, poor teaching personnel, a lack of school facilities, poor literacy performance, poor vocabulary development, and poor communication skills among students. Studies have shown that the conventional (chalk-and-duster) teaching method is employed, which may prevent active engagement or interaction between teachers and students or among the students themselves, and generally results in boring and ineffective lectures.

Many studies on educational methods have been conducted, but little attention has been paid to how game strategy affects students' academic success in reading, especially at the primary level of education. No such study has, as far as the researcher is aware, been conducted in the Ilorin Metropolis of Kwara. Therefore, the goal of this study was to find out how pupils' academic performance in literacy in the Ilorin Metropolis of Kwara State was impacted by game strategy.

Research Hypotheses

H₀₁: There is no significant effect of Game Strategy on Academic Performance of pupils' in Literacy in Ilorin Metropolis of Kwara State.

H₀₂: There is no significant effect of gender on pupils' Academic Performance in Literacy in Ilorin Metropolis of Kwara State.

H₀₃: There is no significant effect of school type on pupils' Academic Performance in Literacy in Ilorin Metropolis of Kwara State.

H₀₄: There is no significant interaction effect of treatment and gender on pupils' Academic Performance in Literacy in Ilorin Metropolis of Kwara State.

H₀₅: There is no significant interaction effect of treatment and school type on pupils' Academic Performance in Literacy in Ilorin Metropolis of Kwara State.

H₀₆: There is no significant interaction effect of gender and school type on pupils' Academic Performance in Literacy in Ilorin Metropolis of Kwara State.

H₀₇: There is no significant interaction effect of treatment, gender and school type on pupils' Academic Performance in Literacy in Ilorin Metropolis of Kwara State.

Methodology

The study's quasi-experimental pre-test, post-test, control group approach was chosen because it was effective for identifying potential effect linkages. Students must be divided into groups in a different way than at random because of the non-equivalent control group design. To avoid interfering with the ordinary classroom presentation, the quasi-experimental research design used the core four intact classes. The 2x2x2 factorial design was employed in this study to examine the null hypotheses. The experimental and control groups make up the first two levels of the factorial design. The second level is gender, which can be either male or female (M or F), and the last level is school type, which can be either private or public. In order to select the schools for the survey, a simple. Two more schools were picked as the experimental group, while two more were picked as the control group. The population of the study comprised all students registered for both private and public schools in the Ilorin Metropolis of Kwara State. There are 61 public schools and 266 private schools, making a total of 327 schools (Annual School Census Report, 2018-2019).

The researcher used a simple random selection method to select the schools for the experimental and control groups. The experimental group consisted of two (2) schools, and the control group consisted of two (2) more schools. Primary four kids were chosen at random from intact classes at the four primary schools used for the study. The Literacy Instructional Guide (LIG) and the Literacy Achievement Test (LAT), both created by the researcher and covering the topics of "Vocabularies" and "Word construction," were the instruments used in this study (LIG). The returned test that was provided to the respondents was used to analyze the study's results. Both descriptive statistics (frequency count, mean, and percentage) and inferential statistics (ANCOVA) were used. The decision was made at a 0.05 significance level.

Results

H₀₁: There is no significant effect of game strategy on pupils' academic performance in Literacy in Ilorin Metropolis, Kwara State.

Table 1: Summary of Analysis of Covariance (ANCOVA) showing the Main Effect of Treatment on Pupils Academic performance in Literacy

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	800.158 ^a	8	100.020	7.762	.000
Intercept	645.812	1	645.812	50.115	.000
Pre_Test	68.043	1	68.043	5.280	.240
Treatment	64.149	1	64.149	4.978	.028
Gender	12.021	1	12.021	.933	.337
School_Type	90.240	1	90.240	7.003	.009
Treatment * Gender	12.747	1	12.747	.989	.322
Treatment * School_Type	8.892	1	8.892	.690	.408

Gender * School_Type	5.810	1	5.810	.451	.504
Treatment * Gender *	16.366	1	16.366	1.270	.263
School_Type	1249.993	97	12.887		
Error	19602.000	106			
Total	2050.151	105			
Corrected Total					

a. R Squared = .390 (Adjusted R Squared = .340)

The impact of game strategy on students' academic achievement in literacy in Ilorin Metropolis, Kwara state, is depicted in Table 1 data. In Ilorin Metropolis, Kwara State, the results showed that there was a significant main effect of therapy on students' academic performance in literacy ($F(1; 105) = 4.978, P 0.05$). Given the outcome and the fact that the significant value (.028) is less than 0.05, the hypothesis is consequently rejected. This suggests that game strategy significantly influences how well students perform academically in literacy in Ilorin Metropolis, Kwara State.

Table 2: Summary of Bonferroni's Poc Hoc Pairwise Comparison of the scores within the two groups

Treatment	Mean Difference	Experimental	Control Group
Game Strategy	14.359 ^a	*	
Conventional Method	12.130 ^a		*

Table 2 showed that the considerable difference between Game Strategy and traditional approach is the cause of the significant main effect highlighted by table 1. Game strategy is the experimental group, whereas the control group represents the traditional approach. This suggests that those exposed to the game strategy (14.359) outperformed those exposed to the traditional method significantly (12.130).

Research Hypothesis Two: Gender has no discernible impact on students' academic achievement in literacy in Ilorin Metropolis, Kwara state.

The impact of gender on students' academic achievement in literacy in Ilorin Metropolis, Kwara state, was shown by data in table 1. The results demonstrate that gender had no discernible impact on students' academic achievement in literacy in the Ilorin Metropolis ($F(1; 105) = .933; P > 0.05$). In view of the outcome, the hypothesis is therefore not ruled out because the significant value (.337) is higher than 0.05. This suggests that gender in Ilorin Metropolis, Kwara state, did not significantly affect students' academic achievement in literacy.

Research Hypothesis Three: The type of school has no discernible impact on students' academic achievement in literacy in Ilorin Metropolis, Kwara state.

The impact of school type on students' academic achievement in literacy in Ilorin Metropolis, Kwara state, was also shown by Table 1 data. In Ilorin Metropolis, Kwara State, the results showed that school type had a significant impact on students' academic achievement in literacy ($F(1; 105) = 7.003; P > 0.05$). In view of the outcome, the hypothesis is consequently disproved because the significant value (.009) is less than 0.05. This suggests that the type of school has a major impact on students' academic success in literacy in the Ilorin Metropolis of Kwara state.

Table 3: Summary of Bonferroni's Poc Hoc Pairwise Comparison of the scores within the school types

School Type	Mean Difference	Experimental	Control Group
Private	14.892 ^a	*	
Public	11.597 ^a		*

Data in table 3 showed that the substantial difference between treatment in public and private schools is what causes the main effect identified in table 1 to be significant. This suggests that students at private schools (14.892) performed much better than students in public schools (11.597).

Research Hypothesis Four: In Ilorin Metropolis, Kwara state, there is no discernible interaction effect of therapy and gender on students' academic achievement in literacy.

The interaction effect of gender and therapy on students' academic performance in literacy in Ilorin Metropolis, Kwara state, was also demonstrated by Table 1 data. In Ilorin Metropolis, Kwara State, the results demonstrate that there was no significant interaction effect of therapy and gender on students' academic performance in literacy ($F(1; 105) = .989; P > 0.05$). In light of the outcome, the hypothesis is therefore not ruled out because the significant value (.322) is higher than 0.05. This suggests that the combination between treatment and gender in Ilorin Metropolis, Kwara State, has no appreciable impact on students' academic progress in literacy.

Research Hypothesis Five: In Ilorin Metropolis, Kwara State, there is no discernible interaction effect of treatment and school type on students' academic achievement in literacy.

The interaction effect of treatment and school type on students' academic performance in literacy in Ilorin Metropolis, Kwara State, was also shown by Table 1 data. In Ilorin Metropolis, Kwara State, the results showed that there was no significant interaction impact of therapy and school type on students' academic performance in literacy ($F(1; 105) = .690; P > 0.05$). In view of the outcome, the hypothesis is therefore not ruled out because the significant value (.408) is higher than 0.05. This suggests that student academic achievement in literacy in Ilorin Metropolis, Kwara State, was not significantly impacted by treatment or school type.

Research Hypothesis Six: In Ilorin Metropolis, Kwara State, there is no discernible interaction effect between gender and school type on students' academic achievement in literacy.

The interaction effect of gender and school type on students' academic performance in literacy in Ilorin Metropolis, Kwara State, was also demonstrated by Table 1 data. The outcome demonstrates that in Ilorin Metropolis, Kwara State, there was no significant interaction between gender and school type on students' academic performance in literacy. ($F(1; 105) = .451; P > 0.05$). In view of the outcome, the hypothesis is therefore not ruled out because the significant value (.504) is higher than 0.05. This means that students' academic progress in literacy in Ilorin Metropolis, Kwara State, was not significantly impacted by the interplay of gender and school type.

Research Hypothesis Seven: In Ilorin Metropolis, Kwara State, there is no discernible interaction effect between treatment gender and school type on students' academic achievement in literacy.

The interaction effect of therapy, gender, and school type on students' academic performance in literacy in Ilorin Metropolis, Kwara State, was also demonstrated by Table 1 data. In Ilorin Metropolis, Kwara State, the study found no significant interaction between treatment, gender, and school type on students' academic performance in literacy ($F(1; 105) = 1.270; P > 0.05$). In light of the outcome, the hypothesis is therefore not ruled out because the significant value (.263) is higher than 0.05. This suggests that the academic achievement of students in literacy in Ilorin Metropolis, Kwara State, was not significantly impacted by therapy, gender, or school type.

Discussions of the Findings

In the Kwara State city of Ilorin, the study looked at how gaming strategy affected students' academic achievement in literacy. The purpose of the study was to compare the academic performance of students who were taught literacy using a gaming strategy and those who were taught using the traditional way in primary schools in the Ilorin Metropolitan Area. Numerous research have supported the link between student academic achievement and gaming strategy. The use of game strategy encourages students to think critically and collaborate with their colleagues, which supports the learning process.

Results showed that the treatment had a significant main effect on students' academic performance in literacy. This suggests that students who were taught literacy using a gaming strategy outperformed those who were taught using a traditional approach. The key factor contributing to the improvement in students' academic performance may be the use of game strategy as a teaching style that allows for active engagement in the learning process. This result is consistent with Alemi's past research (2010). Alemi conducted research on the efficacy of educational games as tools for vocabulary instruction. In an effort to better understand how word games might help students increase their vocabulary, a study was conducted. It was finally determined that word games have a positive and significant impact on students' vocabulary. The study by Ali (2016), which looked at the impact of the scrabble game instructional technique (SGIT) on secondary school students' achievement and interest in English vocabulary, was also supported by this. The study's findings showed that the Scrabble Game Instructional Technique significantly impacted students' academic performance and vocabulary interest. Students may succeed more when professors show a passion for what they are teaching and are successful in persuading students of its significance. Additionally, students' achievement and interest in English language vocabulary may increase if English language teachers adopt game strategy and put it into practice in their varied schools. The research

supports Sulyman, Abubakar, and Oladoye's (2022), which showed that therapy has a considerable impact on students' academic achievement.

In the Ilorin Metropolis of Kwara State, the study also discovered that gender had no appreciable influence on students' academic achievement in literacy. This outcome was in line with Akabogu's (2002) examination into secondary school pupils' exposure to contextual signals in English and their impact on reading comprehension. Gender had no appreciable impact on the academic performance of the students, according to the data collection and analysis performed using ANCOVA. The findings supported Folaranmi's 2007 research, which looked at the impact of verbal ability on second-language writers' performance in essay writing in the English language and found that gender had no appreciable impact on students' success in essay writing in English.

Additionally, in the Ilorin Metropolis of Kwara State, the study's findings demonstrated a significant influence of school type on pupils' academic progress in reading. This finding supported Cecilia and Archibong's (2015) study, which compared the academic achievement of students in private secondary schools and public secondary schools in Akwa Ibom State and discovered that students in private secondary schools performed better than those in public secondary schools in the subject of social studies. In a similar vein, Babagana and Babakura (2017) found that the type of school students attend affects their academic achievement. On the other hand, this result contradicted Olatunji and Gabriel's (2012) assertion that there was no obvious difference in students' academic performance between the two types of secondary schools (Private and Public).

In addition, this study investigates how gender and treatment interact to affect students' academic achievement in literacy in Ilorin Metropolis, Kwara State. The results showed that gender and Treatment (game strategy) had no discernible impact on students' academic achievement in literacy in Ilorin Metropolis, Kwara State. This study refutes Munir and Mumtaz's (2013) study, which claimed that the experimental group's average science accomplishment levels were much higher than the control group's.

This study also investigates the interaction between treatment and school type on students' academic achievement in literacy in Ilorin Metropolis, Kwara State. The findings showed that in Ilorin East Local Government Area, Kwara State, there was no appreciable relationship between therapy and school type and pupils' academic progress in fundamental science and technology. This study is in line with Olatunji and Gabriel's (2012) study found no discernible differences between secondary school students enrolled in the two types of schools (public and private). The findings also contradict a study by Sulyman, Abubakar, and Oladoye (2022), which discovered a strong correlation between student academic performance and school type and therapy. More facilities for public secondary schools should be purchased, it was suggested.

This study also investigates the relationship between gender and the type of school and how it influences students' academic progress in literacy in Ilorin Metropolis, Kwara State. The findings indicated that there was no significant relationship between gender and school type that affected pupils' academic performance in literacy in Ilorin Metropolis, Kwara State. This finding conflicts with Babagana & Babakura's (2017) study, which found that the characteristics, location, ownership, and organisational structure of the school in Maiduguri Education Zone, Borno State, Nigeria significantly influenced differences in students' academic performance in the West African Examination Council (WASSCE). The study is crucial for educational planners and administrators as they get ready for the kinds of schools that the community needs.

Last but not least, this study examines the interactions among therapy, gender, and school type to influence kids' academic progress in literacy in Ilorin Metropolis, Kwara State. The findings demonstrated that therapy, gender, or kind of school had no discernible influence on pupils' academic progress in literacy in Ilorin Metropolis, Kwara State. The findings supported Rafiu's (2018) study, which demonstrated that gender in Kwara State's Ilorin West Local Government Area had no appreciable impact on students' academic ability in numeracy. The type of school pupils attended had little bearing on their academic ability in mathematics, according to Tijani (2017). On the other hand, this research contradicted the findings of Newhouse and Beegle (2005), who discovered that socioeconomic status had a significant impact on academic achievement among pupils.

Conclusion

The study's findings make it quite clear that gaming strategy, specifically Scrabble, affects students' literacy test scores. Regardless of their gender or style of school, students can increase their academic performance in literacy by using game strategy.

Recommendations

It is highly recommended that Nigerian educators, and literacy teachers in particular, adopt this method of knowledge transfer because it promotes critical thinking in the classroom, cooperative learning, and student literacy development. Seminars, workshops, and conferences should be held to help teachers become familiar with the use of game strategy since the majority of them may not be familiar with it. Additionally, the Ministry of Education must begin holding regular training sessions for current educators so they may update their knowledge of the latest research on the application of game strategy to the teaching of literacy in elementary schools. The government ought to include game strategy into the curriculum for literacy. Teachers should broaden their knowledge beyond what they were instructed during their training by researching new information online and learning new strategies for enhancing each student's performance in the classroom. They will learn more and be able to raise students' literacy test scores as a result. Ultimately, game strategy should be included in Nigeria's teacher training programmes.

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