

Effect of Graphic Organiser Method on Academic Performance of Primary School pupils in Atiba Local Government Area, Oyo State, Nigeria

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Abstract: *The performance of English-language pupils falls far short of expectations. To improve their performance, the researcher investigated the effect of the graphic organiser method on the academic performance of primary school pupils in Atiba, LGA., Oyo State. This study adopted a pretest and posttest quasi-experimental control design. A simple random sampling technique was used to select four schools, two public and two private. The English Language Performance Test (ELPT) provides pretest and posttest marks. English teachers validated it. Pearson Product Moment Correlation (PPMC) was used to estimate instrument reliability at 0.83. The data gathered were analysed using the covariance analysis (ANCOVA). All assumptions were tested to a value level of 0.05. One outcome revealed a graphic organizer effect ($F(1; 176) = 3.544, P < 0.05$). It was recommended that teachers be enlightened on the effectiveness of graphic organisers on the academic performance of pupils through organised seminars and workshops*

Keywords: Academic Performance, English Language, Graphic organiser, Gender and School type

Introduction

Academic performance is a benchmark by test and examination scores or marks assigned by the subject teachers. It could also be an expression used to represent pupils' scholastic standing which shows the performance of pupils in any given task at a particular period. Academic performance is as participants' examination grades (Grade Point Average) at the concluding part of a specific term, semester or programme (Ebenuwa-Okoh, 2010). It was submitted that academic performance is an upshot of pupil's assessment through comprehensive, systematic, cumulative, diagnostic, formative and summative evaluation of what they have learnt in various subjects, including English Language (Ayo, 2000).

English Language subject, which is one of the compulsory subjects, plays an essential role in our lives as it helps communication. It is the primary language for studying any subject all over the world. English is necessary for pupils as it broadens their minds, develops emotional skills, and improves their quality of life by providing job opportunities. Moreover, English as an International language is growing with time because it is the only medium for communication in many countries. English is also used widely in the literature and media section to publish books; most writers write in the English language due to the vast majority of readers know only the English language, and they can describe their ideas best in the English language. Despite this, the performance of primary schools pupils was not encouraging (Josefina & Sandeep 2022).

This was also evident in the English language, where pupils could not spell and pronounce correctly during the spelling Bee organised by NAPPS Atiba Local Government Area; pupils' English studies performance is adjudged according to Aremu (2003) by examiners as falling below an expected standard. Poor English language performance has also been observed among primary school pupils. This has been attributed to the inability of the pupils to learn, unlearn, and re-learn and the inadequacies in parental efforts to make pupils read at their various homes to master and discover new things about themselves different from what they have been taught and exposed to in school (Yusuf, 2019). Effective teaching is crucial for learning, as training products such as knowledge, skills and attitudinal development are firmly based on effective teacher education. Without prejudice, the teacher is a principal influential agent due to some principles and practices considered in the teaching and learning processes. One may be aware that teaching and learning depend on the abilities of the teacher to drive home lessons with the appropriate use of strategies such as graphic organisers and instructional resources.

A graphic organiser is one of the pictorial representations of textual concepts. It helps pupils organise information and structure the data and ideas to relate to other ideas. They are visual representations or illustrations that depict relationships among the key concepts involved in a lesson, unit or task (Braselton & Decker, 1994). Graphics utilise alphabets, and visuals or images to communicate ideas and concepts are conspicuously seen everywhere because the captions enhance e-learning through a sense of

sight. It is pertinent for learners to be prepared to learn about the world of graphics and especially letterings and visuals, from an early stage (Miller, 2011).

Sharrock (2008) conducted action research to study the effect of graphic organisers, especially the concept map, on pupils' writing. One third grade class was involved in a six-week study and was assigned two personal narrative writing assignments. The assignments were rated using a writing rubric provided by the Georgia Department of Education. Results of this experiment indicated that the pupils using graphic organisers showed a significant improvement in their creative writing. The result found that graphic organisers helped the writers keep to the topic by having their ideas in front of them as they were writing. They also helped the writer to present things in the correct sequential order. Some other studies attempted to investigate the use of computer graphic organisers to improve pupils' writing (Lin, Strickland, Ray, & Denner, 2004).

Lin et al. (2004) investigated handwritten and computer graphic organisers as a pre-writing strategy for persuasive writing with 278 eighth grade pupils. They found that computer graphic organisers increased the number of ideas generated by the pupils in the planning stage more than handwritten graphic organisers. Lorber (2004) conducted his study on expository writing with 67 eighth graders using computer graphic organisers. He found that graphic organisers increased the pupils' ability to organise their ideas and to write compositions effectively.

In a study conducted recently by Meera and Aiswary (2014), they explored the efficacy of graphic organisers as a strategy to facilitate writing skills. Their sample consisted of 50 secondary school pupils. They adopted a quasi-experimental design where the experimental group was prepared using graphic organisers and the control group with the existing teaching method. A pretest was administered at the beginning of the treatment, and posttest data were analysed using the test of significance of the difference between means. The results of this study indicated that the graphic organisers developed the English writing skills of pupils

Griffin, Simmons, and Kameenui (2011) investigated 28 middle school pupils with Learning Disabilities (15 fifths and 13 sixth-grade) 5–6. In contrast to the Graphic Organizer treatment group, the comparison group received the critical information from the text in a vertical list form. The Graphic organisers employed in this study did not reflect the discourse structure of the reading; instead, they were arranged in ranks to incorporate key vocabulary words and phrases extracted from the passage and t Both groups received four consecutive training sessions of 45 minutes each in their classrooms. The dependent measures were: researcher-developed oral free retell, researcher-developed production comprehension test, and researcher-developed multiple-choice comprehension test Quasi-experimental design. The multivariate ANOVA results showed that there were no statistically significant differences between the average performance of pupils in the Graphic Organizers and No Graphic Organizers conditions on either the immediate posttests ($F(4, 20) = .75, p > .05$) or the delayed posttests ($F(2, 24) = .79, p > .05$). The results suggested that the Graphic Organizers did not have a significant impact on the acquisition of science content

Statement of the Problem

The performances of pupils in the English Language in Atiba Local Government are not up to the expected standard called pass mark, and this fact has shown at the end of the term and common entrance results. The majority of the teachers in the study area had adopted several teaching methods to correct poor performance in the study area, but the situation persisted; the performance of pupils in the English Language during the last term examination was not encouraging. This was also evident in English studies where pupils could not spell and pronounce correctly during the spelling Bee organised by NAPPS Atiba Atiba Local Government Area, Oyo State. To alleviate the situation, the researcher, therefore, investigated the effect of the graphic organiser method on the academic performance of primary school pupils in Atiba Local Government Area, Oyo State

Based on the stated problem, The following research hypotheses were formulated to direct this study

1. There is no significant main effect of the graphic organiser method on pupils' academic performance in Atiba Local Government Area, Oyo State.
2. There is no significant main effect of gender on pupils' academic performance in Atiba Local Government Area, Oyo State
3. There is no significant main effect of school type on pupils' academic performance in Atiba Local Government Area, Oyo State
4. There is no significant interaction effect of:
 - a. Gender and school type ;
 - b. Graphic organiser method and gender;
 - c. Organiser method and school-type on pupils' academic performance in Atiba Local Government Area, Oyo State.
- 5: There is no significant interaction effect of graphic organiser method, gender and school type on pupils' academic performance in Atiba Local Government Area, Oyo State.

Methodology

This study adopted the pretest-posttest quasi-experimental control group research design. The purposive sampling technique was used to select eight primary schools because of specific characteristics (Public and Private, Boy and Girl) which are relevant to the conduct of this study, while the random sampling technique was used to select four schools, two public and two private. English Language Performance Test (ELPT) was used to obtain pretest and posttest scores. This instrument was used as a pretest before the treatment was administered and a posttest after the treatment. It was given to both experimental and control groups based on topics from the curriculum to which pupils were exposed. The instrument was validated by the English Language teachers and some lecturers in the Early Childhood and Primary Education Department. Items therein were established using the test-retest method. Therefore, the Pearson Product Moment Correlation (PPMC) was used to establish the reliability coefficient of the instruments at .83. The treatment lasted for six weeks and was carried out by the researcher and the research assistants. The procedure adopted was to give the pretest developed based on the topics chosen by the pupils before the treatment began. After this, those in the experimental group were taught the selected topics using the graphic organiser teaching method, and the control group was conducted using the conventional way. After the teaching and learning exercises, the two groups administered the test again. Data gathered was analysed using Analysis of Covariance (ANCOVA). All the hypotheses were tested at a 0.05 level of significance

Results

Research Hypothesis One: There is no significant main effect of graphic organiser and word-wall on pupils' academic performance in Atiba Local Government Area, Oyo State.

Table 1: Showing the summary of Analysis of Co-variance (ANCOVA) on the significant main effect of treatment on pupils' academic performance in Atiba Local Government Area, Oyo State.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	7232.077 ^a	12	602.673	1.319	.211
Intercept	23852.566	1	23852.566	52.201	.000
Pretest	993.758	1	993.758	2.175	.142
Treatment	3238.506	2	1619.253	3.544	.031
Gender	9.462	1	9.462	.021	.886
School-type	.002	1	.002	.000	.999
Treatment * Gender	388.347	2	194.174	.425	.654
Treatment * School-type	660.683	2	330.341	.723	.487
Gender * School-type	715.916	1	715.916	1.567	.212
Treatment * Gender * School-type	743.380	2	371.690	.813	.445
Error	80421.363	176	456.940		
Total	688900.000	189			
Corrected Total	87653.439	188			

Table 1 shows the significant main effect of the graphic organiser method on pupils' academic performance in Atiba Local Government Area, Oyo State. The graphic organiser method has a significant main effect on pupils' academic performance in Atiba Local Government Area, Oyo State. ($F_{(1; 176)} = 3.544$, $P < 0.05$). Therefore, the hypothesis is rejected in light of the result since the significant value (.031) is less than 0.05. This implies that graphic organisers significantly affected pupils' academic performance in Atiba Local Government Area, Oyo State.

Table 2: Summary of Bonferroni's Post Hoc pairwise Comparison of the scores within the three groups

Treatment	Mean Score	Experimental	Control Group
Graphic Organiser	60.451	*	
Conventional Method	48.810		*

Table 2 reveals the significant main effect exposed by table 1 due to the considerable difference between the Graphic organiser and Conventional Group. The graphic organiser refers to an experimental group, while the conventional method is a control group. This implies that those taught with Graphic organiser performed better than those prepared with a traditional approach.

Research Hypothesis Two: There is no significant main effect of gender on pupils' academic performance in Atiba Local Government Area, Oyo State

Table 5 shows the significant main effect of gender on pupils' academic performance in Atiba Local Government Area, Oyo State. There was no significant main effect of gender on pupils' academic performance in Atiba Local Government Area, Oyo State. ($F_{(1;$

$_{176}) = .21, P > 0.05$). Therefore, the hypothesis is not rejected in light of the result since the significant value (.886) is greater than 0.05. This implies that gender had no significant effect on pupils' academic performance in Atiba Local Government Area, Oyo State.

Research Hypothesis Three: There is no significant main effect of school type on pupils' academic performance in Atiba Local Government Area, Oyo State

Table 5 shows the significant main effect of school type on pupils' academic performance in Atiba Local Government Area, Oyo State. There was no significant main effect of school type on pupils' academic performance in Atiba Local Government Area, Oyo State. ($F_{(1; 176)} = .000, P > 0.05$). Therefore, the hypothesis is not rejected in light of the result since the significant value (.999) is greater than 0.05. This implies that school type had no significant effect on pupils' academic performance in Atiba Local Government Area, Oyo State.

Research Hypothesis Four: There is no significant interaction effect of gender and school type on pupils' academic performance in Atiba Local Government Area, Oyo State.

Table 5 shows the significant interaction effect of gender and school type on pupils' academic performance in Atiba Local Government Area, Oyo State. There was no significant interaction effect of gender and school type on pupils' academic performance in Atiba Local Government Area, Oyo State. ($F_{(1; 176)} = .425, P > 0.05$). Therefore, the hypothesis is not rejected in light of the result since the significant value (.654) is greater than 0.05. This implies that gender and school type interaction had no significant effect on pupils' academic performance in Atiba Local Government Area, Oyo State.

Research Hypothesis Five: There is no significant interaction effect of the graphic organiser method and gender on pupils' academic performance in Atiba Local Government Area, Oyo State.

Table 5 shows the significant interaction effect of treatment and gender on pupils' academic performance in Atiba Local Government Area, Oyo State. There was no significant interaction effect of graphic organiser method and gender on pupils' academic performance in Atiba Local Government Area, Oyo State. ($F_{(1; 176)} = .723, P > 0.05$). Therefore, the hypothesis is not rejected in light of the result since the significant value (.487) is greater than 0.05. This implies that the interaction of the graphic organiser method and gender had no significant effect on pupils' academic performance in Atiba Local Government Area, Oyo State.

Research Hypothesis Six: There is no significant interaction effect of graphic organiser method and school-type on pupils' academic performance in Atiba Local Government Area, Oyo State.

Table 5 shows the significant interaction effect of the graphic organiser method and school type on pupils' academic performance in Atiba Local Government Area, Oyo State. There was no significant interaction effect of graphic organiser method and school type on pupils' academic performance in Atiba Local Government Area, Oyo State. ($F_{(1; 176)} = .1567, P > 0.05$). Therefore, the hypothesis is not rejected in light of the result since the significant value (.212) is greater than 0.05. This implies that the interaction of the graphic organiser method and school type had no significant effect on pupils' academic performance in Atiba Local Government Area, Oyo State.

Research Hypothesis Seven: There is no significant interaction effect of the graphic organiser method, gender, and school type on pupils' academic performance in Atiba Local Government Area, Oyo State.

Table 5 shows the significant interaction effect of graphic organiser method, gender and school type on pupils' academic performance in Atiba Local Government Area, Oyo State. There was no significant interaction effect of graphic organiser method, gender and school type on pupils' academic performance in Atiba Local Government Area, Oyo State. ($F_{(1; 176)} = .813, P > 0.05$). Therefore, the hypothesis is not rejected in light of the result since the significant value (.445) is greater than 0.05. This implies that the interaction of graphic organiser method, gender and school type had no significant effect on pupils' academic performance in Atiba Local Government Area, Oyo State.

Discussion of Findings

One of the major findings of this study revealed that there was a significant main effect of the graphic organiser method on pupils' academic performance in Atiba Local Government Area, Oyo State. ($F_{(1; 176)} = 3.544, P < 0.05$). This was in agreement with the findings of Linet (2004), who investigated the use of handwritten and computer graphic organisers as a pre-writing strategy for persuasive writing with 278 eighth grade pupils. The study found that computer graphic organisers increased the number of ideas generated by the pupils in the planning stage more than handwritten graphic organisers. Using computer graphic organisers, Lorber (2004) studied expository writing with 67 eighth graders. The result found that graphic organisers increased the pupils' ability to

organise their ideas and write compositions effectively. Meera and Aiswary's (2014), whose the results of the study indicated that the graphic organisers developed the English writing skills of pupils

Contrary to the above finding, Griffin, Simmons, and Kameenui(2011) found that there were no statistically significant differences between the average performance of pupils in the Graphic Organizers and No Graphic Organizers conditions on either the immediate posttest($F(4, 20) = .75, p > .05$) or the delayed posttest ($F(2,24) = .79, p > .05$). It also suggested that the Graphic Organizers did not significantly impact the acquisition of science content. The submission of Smith (2012) was stated that the effects of instruction and test type were not statistically significant ($F(3.76)=1.9, p=.12$). this was also against the result of this study

Conclusion

Based on the above discussion, it can be explicitly stated that graphic organisers can enhance better performance more than the conventional method of teaching and learning. By the result of this study, it can therefore be concluded that gender and school type had no significant effect on pupils' academic performance in Atiba Local Government Area, Oyo State. This implies that performance is neither gender nor school type sensitive; it depends on the method used and how the teacher is able to communicate, and the level of pupils' participation in the learning process.

Recommendations

In the light of this conclusion, the following recommendations were made:

1. Teachers should be enlightened on the effectiveness of graphic organisers on pupils' academic performance through organised seminars and workshop
2. Curriculum developers like Federal and State Ministries of Education, school proprietors and NERDC should incorporate graphic organisers into the English studies curriculum as one of the innovative methods to teach English studies, especially in primary schools.
3. Pupils' academic performance should not be determined based on their gender and school type. The two factors have been discovered not to be decisive factors that hinder pupils' academic performance.

Reference

- Aremu, A. O. (2003). Academic performance 5 factor inventory. Ibadan: Stirling-HordenPublishers. Retrieved December 8, 2019, from http://www.eurojournals.com/ejss_17_5_0.pdf
- Ayo, T. N. (2000). Principle of school management. London: ASTY
- Braselton, S., & Decker, B. S. (1994). Using graphic organisers to improve the reading of mathematics. *TheReadingTeacher*,s 48(3), 276 – 281. Retrieved January 5, 2008 from EBSCO online database, Academic Search Premier <http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=8735219&site=ehost-live>
- Ebenuwa –Okoh, E.E. (2010). Influence of Age, Financial Status and Gender on Academic Performance. *Journal of Psychology*, 1 (2): 99-103.
- Griffin, C. C., Simmons, D. C., & Kame'enui, E. J. (2011). Investigating the effectiveness of graphic organisers instruction on the comprehension and recall of science content by pupils with learning disabilities. *Reading, Writing, and Learning Disabilities*, 7(4), 355–376.
- Joseena & Sandeep(2022). Public speaking lessons in Lalbahadurnagar for home tuition. <https://www.apprentus.com/en/public-speaking-lessons/Lalbahadurnagar-India/8>. Retrieved on 3rd June, 2022
- Lin, S. Strickland; M. Ray, M. & Denner, G. (2004). Computer-based concept mapping as a pre-writing strategy for middle school pupils. *Meridian* 7. Retrieved March 13 .2006 from <http://www.ncsu.edu/|Meridian|sum|2004cbc>
- Lorbre, M. (2004). Instructional computer technology and student learning: An investigation into using inspiration software to improve eighth-grade pupils' writing ability. Unpublished doctoral dissertation, Fielding Graduate Institute.
- Sharrock, T. (2008). The effect of graphic organiser on pupils' writing: Action Research. Kennesaw State University.
- Meera, P. & Aiswarya, K (2014) A study on the effectiveness of graphic organisers in English writing skill among secondary school pupils. *w.w.w. scholar world. Net. vol.(2), Issue IV October 2014 (72)*.
-

Miller, S. P., Crehan, K., Babbitt, B., & Pierce, T. (2011). Fraction instruction for pupils with mathematics disabilities: Comparing two teaching sequences. *Learning Disabilities Research & Practice*, 18(2),99-111.

Miller, S. (2011). Using graphic organisers to increase writing performance. Unpublished MA thesis. The State University of New York at Fredonia.

Veni, R. K., et al. "Differences in Happiness and Emotional Intelligence among Adolescents and Adults." *Indian Journal of Health and Wellbeing*, vol. 9, no. 1, Indian Association of Health, Research and Welfare, Jan. 2018, p. 115.

Yusuf, G.A., (2019). Effects of think-pair-share and problem-solving strategies of academic performance of pupils in numeracy in Ekiti Local Government Area of Kwara State. ProQuest Dissertation/Thesis, Kwara State University, Malete.