



TEACHER-TEACHING-STRATEGIES (TTS) EXPERIMENTING PICTURES FOR TEACHING READING COMPREHENSION IN NIGERIA SENIOR SECONDARY SCHOOLS

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ABSTRACTS

Reading is a fundamental component of the secondary school curriculum, yet handled with levity by teachers of reading at this level. In the process of teaching, teachers of reading are saddled with the responsibility of assisting learners in transforming the linguistic symbols presented in the text into active, habit-forming language experience since reading juices the entire personality of the reader as an individual, in term of attitudinal disposition, belief and experience. Ability to use pictures is crucial to teaching and learning. Despite various studies on strategies for teaching, most teachers of reading at the secondary school level still neglect the use of appropriate strategy for teaching reading, hence the trend of students' low comprehension achievement in reading. This study examined the use of pictures as predictor of reading comprehension achievement of Nigerian senior secondary school students. The quasi-experimental design with pre-test, post-test, non-randomised and non-equivalent control group was adopted. The population consisted of all senior secondary school students in Nigeria, but two public secondary schools were purposively sampled. The sample was categorised into one experimental group and one control group of fifty respondents each. English Reading comprehension achievement test (ERCAT) was used for data collection. The test items were adopted from recommended texts and validated by language experts. The data were analysed using the percentage, mean, standard deviation and analysis of Co-variance (ANCOVA) to test all the three formulated hypotheses at 0.05 level of significance. Findings revealed that: the general level of achievement of students in reading comprehension was low before the treatments (42.79) but high after the treatments (77.76) and that irrespective of gender and ability level, pictures is significantly determined students' reading comprehension achievement at literal, inferential and critical levels

INTRODUCTION

Reading influences the entire personality of the reader as an individual, in term of attitudinal disposition, belief and experience. Reading is crucial and germane to the attainment of literacy since it involves skills to be learnt and knowledge to be acquired. Reading culture of secondary school students is affecting their performance in the core subjects. The complex nature of the reading process suggests that students need to be directly taught how to infer information from the texts for them to be able to read to learn their various subjects across levels (Tunde-Awe, 2012). According to Snow (2002) Reading comprehension is “the process of simultaneously extracting and constructing meaning through interaction and involvement with written language”. He further exemplified that extracting meaning from text is to understand what the author has explicitly or implicitly stated while constructing meaning is to interpret what the author has written based on the reader’s background knowledge, experiences, capabilities, and abilities.

Ounyeagu (2002) submitted that Nigeria appears “lucky” to have inherited a world language such as English as her medium of communication in almost all aspects of human endeavours. The importance of the English Language in Nigerian secondary schools is noticed by the curriculum planner since students have to interact with other people to communicate and read texts. Such a student needs competency not only on other subjects but linguistic competence to function and be valuable to the society. Secondary school student who have the ability to read and write in good English would perform excellently well. For these students to be able to meet up, the teachers of English Language must adequately be prepared to tackle their (the students’) communication challenges so as:

- (a) to remedy their deficiencies in English Language; and
- (b) to update their knowledge and proficiency in English Language (Ounyeagu, 2002).

When reading, students and teachers are required to develop strategies that will help them to cope with writer’s style and content of the written text. Jegede et al. (2003) posited that strategies are not the objective of teaching but the learner can apply them (strategies) to his study as a student and in teaching as a teacher to accomplish the reading objectives. They affirmed that there are principles guiding the use of strategies for teaching and these strategies must be based on the understanding of reading as an interactive process. Ofodu (2010) identified two strategies in processing meaning from print by readers; these are cognitive strategies and meta-cognitive strategies. The cognitive strategies are the process of using mental clues to understand a written text while meta-cognitive strategies enable the readers to make use of other skills like note-taking to retain meaning. Stephen (2005) submitted that teachers’ strategies can be used to improve students’ reading ability level. Students with learning deficiency (LD) are confronted with lack of skills for processing and organising a written text and due to their inability to make inferences in understanding relationship and connections inherent in a written text, the learners find difficult to distinguish main ideas from insignificant ones (Stephen, 2005). Stephen further submitted that message the writer intends to pass across to the readers is determined by the

readers' ability to comprehend. Alexandra, Kathryn & Patricias (2012) submitted that students with high-reading ability should be able to demonstrate the knowledge of how information can be extracted from written materials. Stephen (2005) affirmed that a teacher's use of graphics organiser as strategy will improve learners' understanding of content of the written material and their ability level.

A good strategy should be adopted to facilitate, concretise and consolidate learning. The kind of strategy employed in the process of achieving teaching goals, help in shaping learning environment and in presenting concepts to the learners. Ofodu (2010) identified the following as advantages of using pictures as an instructional resources thus: to reinforce verbal and visual messages, to focus attention, to motivate and arouse learners' interest, to provide source of information and authority, to save teachers preparation time, to provide experience not otherwise available, to elucidate verbal concepts and arouse interaction, supplement description and help to explain words, promote retention and memory and stimulate imagination.

THEORETICAL FRAMEWORK

The psycholinguistic model that is mostly relevant to this study is Goodman's (1967) model which stressed that reading is a psycholinguistics guessing game that requires physical and mental processes as the reader's mouth and mind respectively interact with the text. Goodman (1967) believed that reading is an activity that involves interaction between the thought and language and the cognitive processes involved include intelligent guessing, anticipating and inferring of meaning which can be facilitated through the teacher's skillful strategies before, during and after the reading. The theory of language acquisition and learning that is also mostly relevant to the present study is the cognitive theory of language acquisition. Piaget (1959) dwelled on the idea that students can learn things when they are developmentally (physically and mentally) ready to do so since learning mostly depends on development, which is the starting point of cognitive ideas. The theory stresses the importance of meaning which Ogunleye (2009) tagged as "knowing" and "understanding". According to cognitive psychologists, meaning plays important roles in human learning while learning is a meaningful process of relating new events or ideas to already existing cognitive concepts. Mohammed (2016) submitted that pictures play a central role in learning processes and teachers should plan their use of pictures carefully to support their learners' creative thinking. She recommended that teachers should plan their teaching by thinking through possible pictures that will guide students towards further investigation and deeper understanding of the concept being read. Mohammed (2016) believed that if teachers utilise pictures effectively in teaching, students will discover that pictures are valuable learning tools for organising their thinking to achieve the reading goals.

Oakhill, Cain and Bryant's (2003) submission on pictures as inferences tool reflects the construction of mind-based representation of a text which involves going beyond the meaning of the text through the generation of inferences. Bowyer-Crane and Snowing (2005) stressed that

readers' ability to make an inference rests heavily on possessing the appropriate schema or background knowledge in order to comprehend the written text which requires cognitive skills as a comprehension mental model. Oakhill, Cain and Bryant's (2003) observed that reader's ability to draw inferences when reading is an essential component of reading comprehension skill. They affirmed that the more a skillful reader makes a greater number of inferences in the process of creating mental models of texts, the more skillful his reading becomes. Cain et al (2001) also noted that inferential discussion as well as inference-oriented comprehension pictures goes beyond what is directly stated in the text and sometimes involves probing the writer's state of mind.

STATEMENT OF THE PROBLEM

Efforts have been put in place over the years to improve the quality of teaching in Nigerian schools to attain the required standard. Since language is an important tool for learning, it is pertinent to mention that teachers of English have a lot to do in developing their students to become masters in the use of English in print as medium of communication. Ofodu (2010) researched on comparative effects of two cooperative instructional methods on reading performance of secondary school students, where she found that the two methods have positive effects on students' performance in reading. Tunde-Awe (2012) investigated inter-relationships of reading attitudes, televiewing habit and reading comprehension performance of secondary school students and the outcome of the study revealed that students' attitude towards extensive reading was negative and poor.

It is then obvious that many researchers Lawal 1997, Busari, 2011; Kei Mihara 2011 and several others have carried out studies on reading comprehension. It can be found from these previous studies that there has not been specific emphasis on the use of pictures as predictor of comprehension achievement of Nigerians secondary school students. The study was with a view to determine the extent of reading comprehension achievement, these strategies could effect on the students. The study therefore, would have filled a research gap.

PURPOSE OF THE STUDY

Generally, this study examined the use of pictures as predictor of reading comprehension achievement of Nigerian senior secondary school students. Specifically, the study sought to find out:

1. the general level of Nigerian students' achievement in reading comprehension at the secondary school level;
2. the use of pictures as predictor of reading comprehension achievement of Nigerian senior secondary school students;
3. the use of pictures as predictor of reading comprehension achievement of Nigerian senior secondary school students on the basis of gender (male and female);
4. the use of pictures as predictor of reading comprehension achievement of Nigerian senior secondary school students on the basis of ability levels (low, medium and high).

RESEARCH QUESTIONS

The following research questions were drawn to guide the study:

1. What is the general level of Nigerian students' achievement in reading comprehension at the senior secondary school level?
2. Will the use of pictures determine reading comprehension achievement of Nigerian senior secondary school students?
3. Will the use of pictures determine reading comprehension achievement of Nigerian senior secondary school students on the basis of gender (male and female)?
4. Will the use of pictures determine reading comprehension achievement of Nigerian senior secondary school students on the basis of ability levels (low, medium and high)?

RESEARCH HYPOTHESES

The following null hypotheses were tested in this research:

- HO₁:** Pictures will not significantly determine reading comprehension achievement of Nigerian senior secondary school students.
- HO₂:** **HO₁:** Pictures will not significantly determine the reading comprehension achievement of Nigerian senior secondary school students on the basis of gender (male and female).
- HO₃:** Pictures will not significantly predict the reading comprehension achievement of Nigerian senior secondary school students on the basis of ability levels (low, medium and high).

SCOPE OF THE STUDY

This study centered on pictures as predictor of reading comprehension achievement of Nigerian senior secondary school students II. The population for this study was all senior secondary school II students in Ilorin, Kwara State, Nigeria. The study covered two public senior secondary schools in Ilorin metropolis from where participants were selected using intact groups sampling technique. The study was informed by Lawal's (1997) model which advocated for a number of teachers initiated and learners'-oriented activities tagged "mathemagenic beheaviour" and the study involved one experimental group and a control group. The strategies used are pictures and the use of conventional method in the facilitation of reading comprehension at the senior secondary school level. Also, the study was limited to the reading comprehension aspect of the English Language curriculum for Nigerian senior secondary school students (SSS II). Percentage, Mean and standard deviation and analysis of covariance (ANCOVA) statistics techniques were used to analyse the data collected for the study.

DATA ANALYSIS AND RESULTS

The table below presents the analysis and interpretation of the results for this study. The demographic distribution of respondents of both the experimental and control groups were analysed using percentage. Mean and standard deviation to answer research question one, while other research questions with corresponding hypotheses were tested using Analysis of Covariance (ANCOVA). The study provided answers to only the research question one without corresponding hypotheses. However, all other research questions with corresponding hypotheses were addressed through appropriate testing of the hypotheses. The results are presented as follow:

Table 1: Demographic Information of Participants

Groups	Gender	Frequency (%)	Sub-Total (%)
Experimental Group I	Male	27 (13.5%)	50 (25.0%)
<i>Use of Pictures (P)</i>	Female	23 (11.5%)	
Control Group (<i>Conventional Method</i>)	Male	31 (15.5%)	50 (25.0%)
	Female	19 (9.5%)	
Total			100 (100.0%)

Table 1 shows the demographic information of the groups (experimental group and control group). Out of 100 (100%) students sampled for this study, 50 (25.0%) of the respondents formed the experimental group (use of pictures) from which 27(13.5%) were males and 23 (11.5%) were females whereas 50 (25.0%) of the respondents constituted the control group (conventional method) out of which 31 (15.5%) were males and 19 (9.5%) were females.

Answering of Research Question

Research Question One: *What is the general level of Nigerian students' achievement in reading comprehension at the senior secondary school level?*

Table 2: Descriptive Statistics on the General Level of Nigerian Students' Achievement in Reading Comprehension at the Senior Secondary School Level

Groups		Mean	S.D.	Min	Max	Remark
Experimental I (Use of Pictures)	Pre-test	42.79	8.19	18.00	56.00	Low
	Post-test	59.70	13.36	40.00	72.00	Fairly- High
Control (Conventional Method)	Pre-test	40.52	7.80	22.00	54.00	Low
	Post-test	49.52	6.47	42.00	64.00	Average

As revealed in Table 2, the achievement of students (experimental and control groups) in the post-test was higher than in the pre-test. The result indicates that students' achievement scores before the treatments (*Experimental Group 42.79 and Control Group. 40.52*) were low. However, after the treatments, the mean score of the reading achievement of students taught with pictures was 59.70 and the students taught using conventional method had a mean score of 49.52. This shows that reading achievement of students taught with conventional method is relatively low compared to the experimental group.

Hypotheses Testing

Hypothesis One: *Pictures will not significantly determine reading comprehension achievement of Nigerian senior secondary school students.*

Table 3: Analysis of Covariance Showing Pictures as Predictor of Reading Comprehension Achievement of Nigerian Senior Secondary School Students

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	12514.586 ^a	2	6257.293	117.300	.000
Intercept	3834.486	1	3834.486	71.882	.000
Pre-test	2151.346	1	2151.346	40.329	.000
Pictures	7203.857	1	7203.857	135.044	.000
Error	5174.414	97	53.344		
Total	374098.000	100			
Corrected Total	17689.000	99			

a. R Squared = .707 (Adjusted R Squared = .701)

*Significant at $p < 0.05$

The result in Table 3 reveals that F-value is 135.044 and a p-value is 0.000 computed at 0.05 level of significance since the p-value (0.00) is less than the level of significance (0.05), the null hypothesis one is rejected. Thus, pictures significantly determine reading comprehension achievement of Nigerian Senior Secondary School students ($F_{(1, 97)} = 135.044, p < 0.05$).

A Pair wise Comparison Analysis is presented in Table 4 on where the difference lies between the use of pictures and conventional methods (i.e. the effect of the treatments on students' reading achievement and use of conventional method)

Table 4: Pairwise Comparisons Analysis Showing the Effect of Treatment on Students' Reading Comprehension Achievement

Treatment	Mean	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
Pictures s (I)	59.70 ^a	10.18*	1.52	0.00	14.66	20.69
Conventional Method (J)	49.52 ^a	-10.18*	1.52	0.00	-20.69	-14.66
Grand Mean = 54.61						

* The mean difference is significant at 0.05 level

b. Adjustment for Multiple Comparisons: Bonferroni

As shown in Table 4, students in the experimental group who were taught reading comprehension with pictures had higher mean score of 59.70 than those in the control group taught with conventional method with the mean score of 49.52. This outcome reveals that students taught with pictures achieved better than those taught reading using the conventional method with the mean difference of 10.18.

Hypothesis Two: *Pictures will not significantly determine the reading comprehension achievement of Nigerian senior secondary school students on the basis of gender (male and female).*

Table 5: Analysis of Covariance on Pictures as Predictor of Reading Comprehension Achievement of Nigerian Senior Secondary School Students on the Basis of Gender

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	12628.970 ^a	4	3157.243	59.276	.000
Intercept	3859.794	1	3859.794	72.466	.000
Pre-test	2020.785	1	2020.785	37.939	.000
Gender	112.103	1	112.103	2.105	.150
Error	5060.030	95	53.263		
Total	374098.000	100			
Corrected Total	17689.000	99			
a. R Squared = .714 (Adjusted R Squared = .702)					

*Insignificant at $p > 0.05$

The result in Table 5 reveals that the calculated F-value is 2.105 and the p-value is 0.150 computed at 0.05 significance level. Since the p-value (0.150) is greater than significance level (0.05), the null hypothesis two is retained. Thus, pictures do not significantly determine reading comprehension achievement of the sampled students on the basis of gender (male and female) ($F_{(1,95)} = 2.105$, $p > 0.05$). This implies that gender does not play any intervening role on the earlier finding on pictures as predictor of reading comprehension achievement of secondary school students.

Hypothesis Three: *Pictures will not significantly determine reading comprehension achievement of Nigerian senior secondary school students on the basis of ability levels (low, medium and high).*

Table 6: Analysis of Covariance on Pictures as Predictor of Reading Comprehension Achievement of Nigerian Senior Secondary School Students on the Basis of Gender and Ability Levels

	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	15453.921 ^a	5	3090.782	129.988	.000
Intercept	6365.961	1	6365.961	267.730	.000
Pre-test Ability	61.117	1	61.117	2.570	.112
	988.455	2	.278	.0857	.914
Error	2235.088	94	23.778		
Total	374098.000	100			
Corrected Total	17689.000	99			

a. R Squared = .874 (Adjusted R Squared = .867)

*significant at $p > 0.05$

The result in Table 6 reveals that the calculated F-value of 0.847 and p-value of 0.914 computed at 0.05 significant level. Since the p-value (0.914) is greater than the significance level (0.05). Null hypothesis three is thus retained. Thus, pictures do not determine reading comprehension achievement of students on the basis of ability levels as high, medium and low ($F_{(1,94)} = .4.209$, $p > 0.05$). This implies that ability levels do not play any intervening role on the earlier finding on use of pictures as predictor of reading comprehension achievement of student.

Summary of the Findings

The following are the summary of the major findings of this study:

1. The general level of the achievement of students in reading comprehension in the experimental and control groups was low before the treatments (PRQ, DRQ and a

combination of the two) but high after the treatments. However, students taught with a combination of pre-reading and during-reading questions achieved better than those taught with during-reading questions followed by those taught with pictures and the conventional method.

2. Pictures significantly predicted the reading comprehension achievement of Nigerian senior secondary school students. This implies that students taught reading comprehension with pictures achieved better than those taught with the conventional method.
3. Pictures did not significantly predict the reading comprehension achievement of Nigerian senior secondary school students on the basis of gender.
4. Pictures did not significantly predict the reading comprehension achievement of Nigerian senior secondary school students on the basis of ability levels.

DISCUSSION

The general objective of this study was to investigate the extent at which pictures effectively determined reading comprehension achievement of Nigerian senior secondary school students. The motive was to find out whether or not the use of pictures would offer cognitive assistance to students of reading to achieve better comprehension in their reading task.

General Level of Nigerian Senior Secondary School Students' Achievement in Reading Comprehension

The result on the general levels of achievement of students in reading comprehension in the experimental and control groups was low before the treatments but better after the treatments. The outcome of this study is in tandem with the findings of Adebileje (2001), Ofodu (2010), Muhammed (2016) just to mention a few, who found that the performance of learners was better when they were exposed to treatments. This finding implies the use of pictures as an instructional strategy for teaching reading is an important variable.

Use of pictures as predictor of reading comprehension achievement of Nigerian senior secondary school students;

The outcome of this study indicated that Pictures significantly determined reading comprehension achievement of students. This manifested in the achievement of those taught with pictures. These students also achieved better than those taught with the conventional method because the strategy affords them the opportunity to interact and exchange experiences which serve as knowledge pool. The finding confirmed Iliyas & Lawal (2016) affirmed that pictures enhance knowledge and comprehension of the incoming information and enable students to select and integrate prior knowledge with the incoming information. The strategy suggested that for students to achieve better comprehension at literal, inferential and critical levels, they are better induced with the use of pictures for teaching reading.

Use of Pictures as Predictor of Reading Comprehension Achievement of Nigerian Senior Secondary School Students on the basis of gender and ability level

The findings on the use of pictures as predictor of reading comprehension achievement of Nigerians secondary school on the basis of gender and ability level revealed that a significant difference did not exist in students' reading comprehension achievement. This may be due to the equal opportunities opened to students at the same time when using the pictures for teaching reading. This finding is consistent with Carrier's (2003) finding that ability and gender difference was not significant among English as second language college students. The finding also agrees with Popoola's (2015) that no significant difference existed between male and female students' performance viz-a-viz ability level in reading comprehension.

CONCLUSION

Based on the discussion of the findings of this study, the following conclusion were drawn:

- a. The general level of achievement of students in reading comprehension in the experimental and control groups was low before treatments but better after the treatments. This finding implies that use of pictures as strategy for teaching reading is important variable because, it is a better predictor of students' comprehension achievement than the conventional method of teaching, as also found by Zucker et al. (2010) and Ajaja (2011). Therefore, it is concluded that use of pictures as an instructional strategy tend to determined students' comprehension achievement better than the conventional method of teaching.
- b. The findings indicated that pictures as an instructional strategy do not significantly determine reading comprehension achievement of students based on gender and ability level. The findings tally with those of Stephen (2005), Gajira el al. (2007) among others but they are contrary to the findings of Perfetti (2007) and Charles (2007). However, findings on the role of gender and ability level in reading comprehension seem inconclusive and, therefore, further studies are required.

RECOMMENDATIONS

From the findings of this study, recommendations are offered to teachers, students, curriculum planners, textbook writers and publishers as well as the government on effective ways of using pictures as an instructional strategy in facilitating students' reading comprehension achievement thus:

Teachers and Students: Reading comprehension teachers should carefully prepare their pictures for teaching reading comprehension.

Curriculum Planners: The teaching and learning of reading comprehension entails many activities before, during and after reading. Curriculum planners should endeavour to incorporate the use of pictures in the curriculum since comprehension is at the heart of scholarship.

Textbook Writers/ Publishers: It is recommended that textbook writers should place emphasis on pictures by creating space for it in their reading comprehension textbooks to activate the right schema in students and to assist them in monitoring their comprehension.

Government: It is recommended that government at the Federal, State and Local levels should endeavour to supply schools with adequately trained teachers, provide training and re-training opportunities for the teachers and fund workshop and seminar.

Suggestions for Further Studies

This study examined the use of pictures as predictor of reading comprehension achievement of Nigerian secondary school students. Further studies should also examine the influence of gender and ability level on the use of pictures since it tends to be inconclusive as previously observed.



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