Pre-Reading Questions as Predictor of Reading Comprehension Achievement of Secondary School Students in Ilorin Metropolis

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Abstract
Reading is one of the literacy skills required of an individual in the process of pursuing and achieving educational goals at all levels. Ability to ask and answer questions is fundamental to teaching and learning. This study examined the predictiveness *of Pre-Reading Questions (PRQ) on the 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 Ilorin, but two public secondary schools were purposively sampled. From each school, 50 students were selected giving a total of 100 SS2 students. The sample was categorised into one experimental group and one control group of fifty respondents each. Reading comprehension achievement test was used for data collection. The test items were adopted from recommended texts and validated by language experts. English Reading Comprehension Achievement Test (ERCAT) was used to collect data from the respondents. The data were analysed using the percentage, mean, standard deviation and analysis of Co-variance (ANCOVA) to test all the four formulated hypotheses at 0.05 level of significance. Findings revealed that before the treatments (42.79) but high after the treatments (77.76) and that PRQ significantly predicted the reading comprehension achievement of secondary school students at literal, inferential and critical levels with calculated F-ratio 135.04; > critical F-ratio (0.00 $p<0.05$).The study concluded that PRQ add a critical value to students' comprehension achievement at the literal, inferential and critical levels of reading. The implication is that these questioning strategies are highly needed in the teaching of reading compr ehension.*

Keywords: Pre-reading, Questions, Predictor, Comprehension, Achievement

Introduction

Reading is an intensive process in which the reader's level of assimilation is determined by the pace of eye movement, interest, attention, and the rate at which his mind interacts with the text. It is a process of getting information from print. Tunde-Awe (2012) affirmed that for a reader to be successful, he must bring in his linguistic ability, interest and purpose into reading endeavour. The processes involved in reading called for teachers to adopt as many as possible strategies to teach the students how to infer information from the texts. This is particularly essential at the secondary school where students have to read to learn their various subjects across levels. The experiences readers bring into a text determine their level of interpretation of the message in the text.

Reading is a gate-way to the world which Adeshina and Okewole (2014) described as a skill that is capable of promoting intellectual development in students, remedy their ignorance, widen their thinking, turn out educated elites in the society and help in the development of culture. Reading ability and academic success are two sides of a coin; no wonder Olajide (2004) noted that reading, in several capacities, is capable of exposing readers to uncountable

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wisdom. Comprehension is the outcome of a process of reading to get information from a text.

Both reading and comprehension are important skills that secondary school teachers and students should strive to improve upon for the achievement of secondary school educational goals.Reading comprehension involves a high degree of mental representation of meaning. Readers' knowledge of vocabulary and grammar are fundamental in the understanding of the meaning of a text. The roles of vocabulary and grammar in reading comprehension are for the construction of literal meaning of a text. Also, reading comprehension largely depends on the strength of readers' cognitive foundation established in their early years of reading, which helps them to move considerably from passive to active level of reading (Lawal, 1997).

Questioning technique is a major form of human thought and interpersonal communication. Teachers of reading are expected to employ series of questioning strategies to explore an issue, an idea or something intriguing. Benson, Nnemeka, Thelma, Emeka, Sam and Elsie (1998) elucidated on how readers should engage in reading to gain comprehension. They suggested activities that are capable of helping the learners before, during and after the reading. These activities tagged "questioning techniques" are expected to assist the learners to read between the lines, read along the lines, read for implied meaning and critical evaluation.

Lawal (1997) identified pre-reading questions as a tool that serves as mediator between the text and the learner. Before the actual reading of a text or passage begins, teachers of reading are expected to raise some questions that could make the process of reading more comprehensible. These questions (pre-reading questions) are to provide the necessary background information for learners and to facilitate comprehension. Lewin (2006) suggested that teachers of reading should raise questions that can sensitize students on information they already have and questions that will link their prior knowledge to important information in the text.

Statement of the Problem

Most teachers of English language in Nigerian secondary schools tend to neglect the teaching of reading comprehension and mostly engage in testing reading comprehension. This is because teachers teaching reading comprehension are not abreast of the appropriate teaching techniques for teaching reading comprehension. It is common knowledge that what obtains in schools between students and teachers is a test of reading ability rather than the teaching of reading comprehension. So, the neglect of reading comprehension by implication detracts proficiency in English and learning at the secondary school level.

Popoola (2015) worked on effects of pre-reading activities on the reading comprehension performance of secondary school students and his findings revealed that pre-reading activities have significant effects on students' reading comprehension performance. Many other researchers such as Ajideh, 2006; Lewin, 2006; Kristie, 2007; Kei Mihara, 2011) have carried out studies on self-questioning and several strategies. However, it was found that none of these previous studies worked on the predictiveness of pre-reading questions on reading comprehension achievement especially on Nigerian senior secondary school students. Hence, this left a research gap which this study filled by investigating the predictiveness of pre-reading questions on students reading comprehension achievement.

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Purpose of the Study

Generally, this study examined the predictiveness of pre-reading questions on the reading comprehension achievement of Nigerian senior secondary school students. Specifically, the study finds out:

1. the general level of Nigerian students' achievement in reading comprehension at the secondary school level;
2. the predictiveness of pre-reading questions (PRQ) on the reading comprehension achievement of Nigerian senior secondary school students;
3. the predictiveness of pre-reading questions (PRQ) on the reading comprehension achievement of Nigerian senior secondary school students on the basis of gender (male and female);
4. the predictiveness of pre-reading questions (PRQ) on the 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 pre-reading questions predict the reading comprehension achievement of Nigerian senior secondary school students?
3. will pre-reading questions predict the reading comprehension achievement of Nigerian senior secondary school students on the basis of gender (male and female)?
4. will pre-reading questions predict the 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:

HO_1: Pre-reading questions will not significantly predict the reading comprehension achievement of Nigerian senior secondary school students.

HO_2: Pre-reading questions will not significantly predict the reading comprehension achievement of Nigerian senior secondary school students on the basis of gender (male and female).

Ho3: Pre-reading questions will not significantly predict the reading comprehension achievement of Nigerian senior secondary school students on the basis of ability levels (low, medium and high).

Methodology

The study was an experimental study using pretest, post-test and non-equivalent control group. The study consisted of 100 students from two senior secondary schools within the Ilorin metropolis. The study adopted a factorial design of 2 x 2 x 3 x 3 to test the null hypotheses. The study investigated the predictiveness of pre-reading questions as teaching instruction on senior secondary school students' achievement in reading comprehension. There were two groups (one experimental group and one control group). The experimental group was exposed to treatment (pre-reading questions) while the control group was taught with the conventional method. Gender (male and female) and ability levels (high, medium

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and low) are used as moderating variables, and literal, inferential and critical levels of reading are considered as the dependent variables. In carrying out the study, English Language performance test adapted from (WAEC/NECO) was used.
It consists of Fifty (50) multiple-choice items. This was validated by experts in the field of English language Education.

Scope of the Study

This study centered on pre-reading questions as predictors of reading comprehension achievement of Nigerian senior secondary school II students. 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 classes sampling technique. The study was informed by Lawal's (1997) model which advocated for a number of teacher-initiated and learner-oriented activities tagged "mathemagenic beheaviour" and the study involved one experimental group and a control group.
The strategies used are pre-reading questions and the use of conventional method in facilitating/teaching 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) statistical techniques were used to analyse the data collected for the study.

Data Presentation and Analysis

This chapter presents the analysis and interpretation of the results for this study. The demographic distribution of both the experimental and control group respondents were analysed using percentage. Mean and standard deviation were used 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 questions without corresponding hypotheses. However, all other research questions with corresponding hypotheses were addressed through appropriate testing of the hypotheses. The results are presented as follows:

Table 1: Demographic Information of Participants

Groups	Gender	Frequency (%)	Sub-Total (%)
Experimental Group I	Male	27 (13.5%)	50 (25.0%)
Pre-Reading Questions (PRQ)	Female	23 (11.5%)	
Control Group	Male	31 (15.5%)	50 (25.0%)
(*Conventional Method*)	Female	19 (9.5%)	**200 (100.0%)**
Total			

Table1 shows the demographic information of the groups (experimental group I and control group). Out of 100 (100%) students sampled for this study, 50 (25.0%) of the respondents formed the experimental group I (Pre-Reading Questions) from which 27(13.5%) were males

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and 23 (11.5%) were females and 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 Questions

RQI: What is the general level of Nigerian students' achievement in reading omprehension 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 (Pre Reading Questions)	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 results revealed that students' achievement scores before the treatments (Experimental Group 42.79, and Control Group. 40.52) was low. However, after the treatments, the mean score of the reading achievement of students taught with pre-reading questions 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.

HoI Pre-reading questions will not significantly predict the reading comprehension achievement of Nigerian senior secondary school students.

Table 3: Analysis of Covariance Showing Pre-reading Questions 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
Pre-Reading Questions	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), thus, the null hypothesis one is rejected. This implies that pre-reading questions significantly predicts the 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 pre-reading question and conventional methods (i.e. the effect of the

treatments (pre-reading questions) 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
Pre-Reading Questions (I)		59.70[a]	10.18*	1.52	0.00	14.66	20.69
Conventional (J)	Method	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 pre-reading questions 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 pre-reading questions performed better than those taught using the conventional method with the mean difference of 10.18.

Ho2 Pre-reading questions will not significantly predict the reading comprehension achievement of Nigerian senior secondary school students on the basis of gender.

Table 5: Analysis of Covariance on Pre-reading Questions 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
Pretest	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 is2.105 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 five is retained. Thus, pre-reading questions do not significantly predict the 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 the predictiveness of pre-reading questions.

Ho3: Pre-reading questions will not significantly predict the reading comprehension achievement of Nigerian senior secondary school students on the basis of ability levels as high, medium and low.

Table 6: Analysis of Covariance on Pre-reading Questions as Predictor of Reading Comprehension Achievement of Nigerian Senior Secondary School Students on the Basis of Ability Levels

Source	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
Pretest	61.117	1	61.117	2.570	.112
Ability	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 levels. Since the p-value (0.914) is greater than the significance level (0.05). Null hypothesis three is thus retained. Thus, pre-reading questions do not predict the 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 the predictiveness of pre-reading questions. From the results of the analysis of data in this study, the below is the discussion of the findings:

Discussion

The general objective of this study was to investigate the predictive ability of pre-reading questions on the reading comprehension achievement of senior secondary school students in Ilorin metropolis. The motive was to find out whether or not the use of pre-reading questioning strategy 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 as finding revealed that the performance of learners was better when they were exposed to treatments. This study was also anchored on the psycholinguistic theory by identifying reading process as an interaction between the reader's mind and the text.

Predictiveness of Pre-reading Questions in Relation to the Reading Comprehension Achievement of Nigerian Senior Secondary School Students

The outcome of this study revealed that pre-reading questions significantly predicted the reading comprehension achievement of students. This manifested in the achievement of those

taught with pre-reading questions. 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 findings corroborate that Duke and Pearson's (2003) assertion that pre-reading questions enhance readers' comprehension of the incoming information and enable students to select and integrate prior knowledge with the reading text. This finding is in line with the submission of Okoye and Okechukwu (2010) and Ajaja (2011), who separately stressed that pre-reading questions assist students in understanding complex ideas and clarifying ambiguous issues.

Predictiveness of Pre-reading Questions in Relation to the Reading Comprehension Achievement of the Students on the Basis of Gender

The findings on the predictiveness of pre-reading questions on the basis of gender 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 this questioning strategy for teaching reading. This finding is consistent with Carrier's (2003) and Popoola's (2015) findings that gender difference was not significant among English as second language college students

Predictiveness of Pre-reading-Questions in Relation to the Reading Comprehension Achievement of the Students based on Ability Level

The findings revealed that pre-reading questions did not significantly predict the reading comprehension achievement of students on the basis of ability level. The finding showed that this strategy is capable of removing the difference among students and exposing them to equal opportunities if effectively used by the teachers. The finding however, revealed that pre-reading questions experimented had a significant intervening role for ability level due to the equal learning opportunities this strategy offered to students. Mohammed (2016)'s findings are in consonance with these findings.

Conclusions

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

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 implies that (pre-reading) is an important variable because it predicts students' comprehension achievement than the conventional method of teaching.

Implications of the Study

The findings on the significant predictiveness of pre-reading questions lend support to the view of reading as psycholinguistic process which involves the interaction of the reader's mind with the text. The questions serve as a tool for setting a reading purpose for teaching and learning of reading.

The findings also proved that teachers mostly use questions for testing rather than teaching. Therefore, government at all levels should make funds available for training and retraining of teachers on the effective use of questions for teaching reading at different stages. Also, recommendations are offered to teachers, students, parents, curriculum planners, textbook writers and publishers as well as the government on how pre-reading questions can effectively be incorporated in their role and activities as agents of education to enhance students' reading comprehension achievement.

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Suggestions for Further Studies

This study examined the predictiveness of pre-reading questions on the reading comprehension achievement of senior secondary school students in Ilorin metropolis. Further studies should also examine the same in other areas and that of the influence of gender and ability levels on the use of pre-reading questions since both variables tend to be inconclusive as previously observed.

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