EFFECTS OF DISCUSSION METHOD ON NATIONAL DIPLOMA ONE STUDENTS' ACHIEVEMENT IN READING COMPREHENSION IN PLATEAU STATE POLYTECHNIC BARKIN LADI, NIGERIA

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ABSTRACT

Discussion method is a 21st century instructional method which is crucial to text comprehension as it promotes critical reading and higher level thinking in reading. This study examined the effects of discussion method among 153 national diploma one students. A reading comprehension achievement test (RCAT) was used to gather data for the study. The RCAT measured two reading comprehension skills: literal and inferential. Analysis of data was carried out using Analysis of Covariance (ANCOVA) which revealed that discussion method improved reading comprehension of the students. The results showed that the students taught using discussion method achieved higher in literal and inferential comprehension skills than those taught using lecture method. The study recommended that teachers of English language to tertiary school learners should improve the reading comprehension of the students using the discussion method. Also the students should be encouraged to use higher order thinking skills in any reading activity.

INTRODUCTION

Reading comprehension is a derivative of reading. Reading involves understanding and making sense of what is being read. Therefore, the primary purpose of reading is comprehension. Comprehension is at the heart of reading; as such, a reader does not continue to read if he does not comprehend the text being read. Reading comprehension is the process of simultaneously extracting and constructing meaning through interaction and involvement with written language based on the background knowledge of the reader. Reading comprehension is instrumental to achieving the goals/objectives of any education system some of which are to develop permanent literacy, numeracy and critical thinking skills in learners. Therefore, reading comprehension is significant because it builds confident far beyond school when faced with a real-life situation. Students' achievement in reading comprehension has remained the fundamental goal of many teachers, parents and the society at large because success in reading is pivotal to understanding all other subjects as it directly affects students' achievement in all academic work.

In Nigeria, English is the lingua franca and it functions in the educational, economic, legal and socio-political life of the people, as such, the need to acquire English is more compelling for meaningful and result-oriented learning. Reading facilitates and enhances the realization of the official functions of English as it is one of the four language skills. Others are listening, speaking and writing. However, reading is at the pivot of facilitating learning in academic and personal life. Students acquire more knowledge, access more information and expand their experiences through reading.

Reports from the Academic Board and Academic Registry of the Plateau State Polytechnic Barkin Ladi show that a high number of National Diploma I students cannot successfully obtain information from print. They find it difficult to comprehend what they read and they struggle to read. This has led to a decline in their achievement in reading comprehension. This can be attributed to two major reasons among many others. These are ignorance of the nature of the reading process and poor teaching methodology which have affected students' level of comprehension in reading and in other courses. This is evident in the statistical analysis of the institution's first semester examinations. For instance, in the first semester of 2015/2016 academic session, out of 1,962 students that wrote the English examination, 742 passed with credit while 1,220 failed. In the first semester of 2016/2017, out of 1,063 students who wrote the English examination, 430 passed and 633 failed. In

2017/2018 session, 508 students passed while 1,138 failed. In the first semester of 2018/2019, 110 students wrote the examination and only 370 passed while 740 failed. In the first semester of 2020/2021, 286 students passed and 476 failed Academic Registry Plateau State Polytechnic Barkin Ladi, 2022. This trend is not only disturbing but requires urgent attention. Efforts have been made in the last five years by the Management of the Polytechnic to improve students' achievement by organizing teachers training programmes, workshops and seminars to enhance students' acquisition and maintenance of reading competence, yet students' achievement in reading continues to decline in reading comprehension.

AIM AND OBJECTIVES

The purpose of the study was to investigate the effects of discussion method on National Diploma One students' achievement in reading comprehension in the Plateau State Polytechnic, Barkin Ladi, Nigeria. Two primary research questions (RQ) and two null hypotheses informed the direction of this work.

Research Questions

RQ1.   What is the pre-test and post-test literal comprehension mean scores of National Diploma students in experimental and control groups?

RQ2.   What is the pre-test and post-test inferential comprehension means scores of National Diploma students in experimental and control groups?

HYPOTHESES

Hn_1.   There is no significant difference between the pre-test and post-test mean scores of the experimental and control groups in literal comprehension.

Hn_2.   There is no significant difference between the pre-test and post-test mean scores of the experimental and control groups in inferential comprehension.

SCOPE OF THE STUDY

The study focused on the effects of discussion method on National Diploma One students' achievement in reading comprehension in the Plateau State Polytechnic Barkin Ladi, Nigeria. The study was conducted on newly admitted National Diploma One students to determine their ability level in literal and inferential comprehension and how they answer comprehension questions.

THEORETICAL/CONCEPTUAL FRAMEWORK

The study has hinged on the Social Learning Theory propounded by Vygotsky in 1978. The theory states that human development and learning originate in social and cultural interaction. Vygotsky's theory is made up of three fundamental which are social interaction, language development and zone of proximal development. The theory is related to the study on discussion is the basis for social interaction between teacher and students, and among students.

LITERATURE REVIEW

The concept of reading has been defined differently by many researchers globally. These definitions focus on the ideas of learning and teaching reading as well as developing thinking skills in students to help them assess texts. Reading is a challenging activity which require readers to utilize their own prior knowledge and skills in conjunction with the information from the text to make meaning. The real meaning of a text lies in the relationship words have with each other. Readers should therefore recognize these relationships and put together the meaning of the text for comprehension to take place (Ningsih, 2017). Reading is the process of making sense from texts and symbols to be effectively understandable (Godik & Akyol, 2022). Agustin (2022) defined readingas the process of constructing meaning from written texts. Reading is a process understanding a written text by extracting the required information from it as efficiently as possible (Panjaitan, 2023). Reading requires more attention from students because they are expected to have good interaction with the text in order to get the meaning of the text. The purpose of reading is to connect the ideas on a page with what the reader already knows. Reading enhances knowledge acquired consistently through deciphering new words and phrases. The general aim of reading is to develop the ability to read text, obtain information, understand the text, and react to it.

IMPORTANCE OF READING

Reading is an essential language skill even though it is highly complicated. Reading stands out of the four language skills and the mastery of it enhances the mastery of other language skills, promoting the acquisition of knowledge, interaction with printed word and text for content and for pleasure. Reading is an acquired skill that most students require some degree of direct instruction to master with certain students requiring much more extensive teaching than others. Reading texts provides opportunities to study and

remember vocabulary and grammar structure consistently, particularly punctuation and the way sentences are constructed, paragraphs and texts. Thus, reading enriches knowledge, develops vocabulary, improves writing skills and concentration to get better academic results (Meiter, 2018).

Reading is important because it involves the active participation of the reader who connects existing knowledge and the construction of meaning from the materials read. Reading enables individuals to enrich their attitudes. It is also a key for recognizing other cultures. Reading is the easiest way for all-round development of a person as it improves lifestyles and is seen as a key to passion and learning (Chaima, 2019).

Furthermore, reading enables the mind to be focused and this is possible when a reading habit is developed to accomplish many goals and ambitions. Reading plays important parts to play role in education as without reading academic, goals cannot be achieved. In reading, the reader can "travel" round the world while sitting in one place and make contact with all kinds of people and also come across all sorts of dialects. The more one reads, the greater one will be able to understand the world for it through reading that one is able to understand what is happening and the current situations of the world without visiting personally. So, reading helps to explore the world using the imagination (Wangmo, 2012).

READING COMPREHENSION AND ACADEMIC ACHIEVEMENT

Reading comprehension is the ability to read and understand a written text by constructing meaning from the words to understand the passage as a whole. The comprehension of a text is dependent on the knowledge of the language in the text and the background knowledge relevant to the content of the text. Reading is a language skill that is built on the two oral language skills which are listening and speaking. Therefore, meaningful reading can only take place when the reader has some oral understanding of the language of the text. Similarly, background knowledge enhances the understanding of the content of the text when the reader has encountered the ideas relevant to the text. Reading comprehension is an intentional, active and interactive process that occurs before, during and after reading. Comprehension is considered the essence of reading as it accounts for the process that supports effective extraction of meaning from a written passage (Alghonoaim, 2020).

Reading comprehension and academic achievement are closely related. Comprehension determines success based on the efforts put and it results in academic achievement. Academic achievement is the active

effort and motivation deployed in the learning and acquisition of knowledge which results in success. Academic achievement is the ability of a student to study and remember facts and to communicate the knowledge orally or in written form even under examination conditions (Venesovaa & Mala, 2016). Consequently, academic achievement is based on the scores or grades achieved at the end of the academic year for the attainment of short or long-term educational goals of an institution. This serves as a reliable measure of students' level of knowledge and skills acquisition in tertiary institutions. Academic achievement also requires an individual to develop emotional skills and a healthy mind for concentration in academic pursuit. Another important aspect of academic success is the self-regulation skills in students which allow them to actively participate in their own learning process. Individual and contextual factors responsible for students' academic achievement include self-concept, attitudes, students' interest, individual differences, gender, socio-economic status of parents and age.

DISCUSSION METHOD

In order to improve students' comprehension skills and consequently enhance their achievement, the discussion method has been selected because it contains activities which can stimulate learners and enrich their experiences. The discussion method is a 21st century instructional method which emphasizes student-centred learning where students explore and participate actively in the teaching/learning process. The method promotes critical reading and higher-level thinking. The method guarantees interaction and stimulates imaginative, conceptual thinking among students. Discussion method is an organized instructional process that arranges learners in groups or panels to enable them exchange their views, opinions or ideas on predetermined topics via active participation of the students (Iormem, 2016). It also encourages students to listen, think, analyse and evaluate points made. It allows students learn from one another, practice oral communication skills and to train themselves to respect other people's views as well as to look for facts or information on their own. Discussion method promotes the use of democratic tenets in education as students are actively engaged in the learning process by relating their concrete personal experiences through observation, reflection and analysis of these experiences.

METHOD AND PROCEDURE

The quasi-experimental design was used for the study, specifically the non-equivalent pre-test – post-test control group design. The population for the study comprised 67 ND I students of the Department of Office Technology Management and 86 ND I students of the Department of Public Administration of the Plateau State Polytechnic, Barkin Ladi. A sample of 153 ND I students from the two departments were therefore used for the study with 67 students as the experimental group and 86 students as the control group.

The Reading Comprehension Achievement Test (RCAT) was used as the instrument for data collection. The RCAT measured two reading comprehension skills: Literal and inferential. RCAT comprised two reading passages selected from 2009 UTME English language reading comprehension passage I and II.

A pre-test was administered on both the experimental and control groups before the commencement of treatment to ascertain their level of literal and inferential comprehension. The test result was to ascertain the students' entry behaviour on reading comprehension. The post-test was administered on the experimental and control groups by the researchers.

The research questions formulated were answered using mean and standard deviation. The hypotheses formulated were tested at 0.05% level of significance using analysis of Covariance (ANCOVA) to analyse pre-test and post-test achievement mean score for experimental and control groups to determine whether there was significant difference between the groups in their achievement in reading comprehension before and after treatment.

Research Question One

What are the ND I students pre-test and post-test achievement mean score in literal comprehension in experimental and control groups?

Table 1: Results of the Pre-test and Post-test Achievement Mean Scores of ND I students in literal comprehension in the Experimental and Control Groups.

Group		N	$\bar{x}$	SD	Mean Gain	$\bar{x}dd$
Experimental	Pre-test	67	4.54	1.51		
	Post-test	67	9.50	2.13	4.96	
						3.25
Control	Pre-test	86	3.90	1.78		
	Post-test	86	6.25	1.52	2.38	

The result of the analysis from Table 1 reveals that the experimental group had a pre-test mean score of x4.54, 50 = 1.57 and a post-test mean score of x9.50, SD = 2.13 with mean gain of 4.96 while the control group had a pre-test mean score of x=3.90, SD = 1.78 and a post-test mean score of x6.25, SD = 1.52 with mean gain of 2.38. The results further indicate a post-test mean difference between the experimental and control group of x-diff = 3.25 in favour of the experimental group. This implies that discussion method improved the achievement of ND I students in literal comprehension achievement test more than the conventional lecture method.

Research Question Two

What are the ND I pre-test and post-test inferential comprehension achievement mean scores of the experimental and control groups?

Table 2: Results of the Pre-test and Post-test Inferential Comprehension Achievement Mean Scores of the Experimental and Control Groups.

Group		N	$\bar{x}$	SD	Mean Gain	$\bar{x}$dd
Experimental	Pre-test	67	3.98	1.72		
	Post-test	67	8.88	2.31	4.90	
						2.66
Control	Pre-test	86	4.28	1.64		
	Post-test	86	6.22	1.41	1.94	

The results of the analysis from Table 2 showed that the experimental group had a pre-test mean score of x3.98, SD = 1.72 and a post-test means score of x=8.88, SD=2.31 with mean gain between the pre-test and post-test of 4.90 while the control group had a pre-test mean score of x=4.28, SD=1.64 and a post-test mean score of x=6.22, SD=1.42 with mean gain between the pre-test and post-test of 1.94. The results further showed a post-test mean difference between the experimental and control group of x=diff=2.66 in favour of the experimental group indicating that discussion method improved students achievement in inferential comprehension more than lecture method.

Hypothesis I

There is no significant difference between the post-test literal reading comprehension achievement mean scores of ND I students in the experimental and control groups.

Table 3: Summary of ANCOVA Results of the Pre-Test and Post-test Mean Scores of the Experimental and Control Groups

Source	Type of 111 Sum of Squares	df	Mean Scores	F	Sign	Partial Ela Square
Corrected model	368.830a	2	184.415	44.854	.000	.406
Intercept	478.715	1	478.715	116.934	.000	.471
Pre-test	1039	1	1.039	1253	.616	.002
Group	183.798	1	183.798	44.704	.000	.4254
Error	538.603	131	46.411			
Total	6530.00	134				
Corrected total	907.433	133				

aR Squared = 706 (adjusted R Squared = 797)

Table 4: Results of Sidak post hoe comparism of the different between the Post-test Literal Reading Comprehension Mean Scores of Students in the Experimental and Control Groups

I Experimental	J Control	x-diff. I-J	std error	p-value
9.00	6.25	3.25	2.04	0.000

Analysis of Covariance was conducted to determine if a significant difference exist in the post-test mean scores of ND I students between the experimental and control groups. Table 3 showed that F(131) = 44704, p<0.000 partial n2 = 42. Since the p-value of 0.000 is less than 0.05 level of significance with an effect size of 42.56% the null hypothesis which says there is no significant difference between the post-test literal reading comprehension achievement mean scores of ND I students in the experimental and control group is rejected indicating that there is a significant effect of discussion method on students achievement in literal reading comprehension. The results further revealed an adjusted Rsquad value of .797 which meant that 79.7% of the variation in the dependent variable which was literal comprehension achievement of ND I students was explained by the variation in the discussion method. While the remaining 28.3% was due to other factors not included in the study. The Sidak post-hoc test in Table 4 showed that the corrected differences between the experimental and control groups was statistically significant (I-J) = 3.25. We can therefore conclude that discussion method improved students' achievement in literal reading comprehension than lecture method.

Hypothesis Two

There is no significant difference between the post-test inferential reading comprehension achievement mean scores of ND I students in the experimental and control groups.

Table 5: Summary of ANCOVA Results of the Pre-test and Post-test Mean Scores of the Experimental and Control Groups

Source	Type of 111 Sum of Squares	df	Mean Scores	F	Sign	Partial Ela Square
Corrected model	486.474a	2	243.237	41.981	.000	.301
Intercept	667.828	1	667.528	115.261	.000	.468
Pre-test	5.011	1	5.011	.865	.354	.007
Group	344.589	1	344.589	59.473	.000	.312
Error	759.019	131	5.794			
Total	6894.000	134				
Corrected total	1245.493	133				

aR Squared = 891 (adjusted R Squared = 881)

Table 6 Results of Sidak Post-hoc Comparism of the differences between the Post-test Inferential Reading Comprehension Mean Scores of Students in the Experimental and Control Groups

I Experimental	J Control	$\bar{x}$-diff. I-J	std error	p-value
8.88	6.22	2.66	2.11	0.000

Analysis of Covariance was conducted to determine if a significant difference exist in the post-test mean scores of ND I students in the experimental and control groups in Table 5 showed that $F(1,131) = 59.423$ p<0.000 partial n2 = .312. Since the p-value of 0.000 is less than 0.05 level of significance with effect size of 31.2%. The null hypothesis which stated that there was no significant difference between the post-test mean scores of ND I students in inferential comprehension between the experimental and control groups was rejected indicating that there was no significant effect of discussion method on students' achievement in inferential reading comprehension. The results further revealed an adjusted R squared value of .881 which meant that 88.1% of the variation in the dependent variable which was achievement in inferential reading comprehension was explained by the variation in the instruction discussion method while the remaining 11.9% was due to other factors not included in the study. The Sidak post-hoc test in Table 6 confirmed that the corrected difference

between the experimental and control groups was statistically significant (1-5) = 2.66, we can conclude that discussion method improved ND I students achievement in inferential reading comprehension.

SUMMARY OF FINDINGS

The results of the findings on research questions 1 and 2 showed that the ND I students that were taught using discussion method achieved higher in literal and inferential reading comprehension than those taught using lecture method. Similarly, the hypotheses in tables 1 and 2 showed that there were significant differences between the achievement mean scores of ND I students in literal and inferential reading comprehension between the experimental and control groups in favour of the experimental group.

CONCLUSION

Discussion method was found to be effective for teaching literal and inferential skills in reading comprehension as the comprehension ability of the students greatly improved after treatment. Therefore, discussion method is an effective method of teaching reading comprehension because of the gains yielded in the results of the experimental group. It is therefore imperative to conclude that from the findings of the study, discussion method has a very positive impact on the students. Also, discussion method was successful as reflected in the result of the experimental group because the students were involved in critical reading by engaging in careful, active, reflective and analytic reading.

RECOMMENDATIONS

The researchers therefore recommended as follows:

i. The study suggests that further research is conducted in schools to find solutions to the reading comprehension challenges;

ii. Training for teachers to teach comprehension skills in classrooms especially for learners of English as a second language.

iii. There should be a revision of the English curriculum to include the use of discussion method in reading comprehension.

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