

Effect of Dialogue-Analysis and Fishbowl Instructions on Retention Ability of Business Education Students in Principles of Marketing in North-Eastern Nigeria

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ABSTRACT

The study investigated the Effect of Fishbowl and Dialogue-Analysis on retention ability of business education students in Principles of Marketing. The study had four objectives, four research questions and four null hypotheses. An intact three classes of 370 were used for the study. The instrument used for data collection was Diagnostic Marketing Achievement Test and Marketing Retention Achievement Test. The instruments were pilot tested and the result of the pilot study established the reliability coefficient of .809. The students were tested using DMAT after the treatment. The DMAT was reshuffled and called Marketing Retention achievement Test (MRAT). The MRAT was administered two weeks after post-test. The scripts of the test were marked and subjected to statistical analysis using SPSS to compute mean and mean difference which was used to answer the research questions. Paired Sample t-test was employed in testing hypotheses one and two while ANOVA was employed to test null hypotheses four. Effect size was also calculated to further affirmed the results of research questions and hypotheses. All the hypotheses were tested at the 0.05 level of significance. The result revealed among others that Fishbowl and Dialogue-analysis has effect on the retention ability of students in principles of marketing. It was therefore concluded that the adoption of these instructional strategies will help reduce the rate of students' failure in Principles of Marketing. Based on the findings, it was recommended that lecturers should be using fishbowl and dialogue analysis instructional strategies in teaching Principles of Marketing.

Key words: Dialogue-Analysis, Fishbowl, Retention, Principles of Marketing

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Introduction

Principle of Marketing is a core course that all business education students in Colleges of Education in Nigeria must offer and pass before graduation. It has two credit units as stipulated by National Commission for Colleges of Education (NCCE) minimum standard 2012 guideline. Success in the course and application of its knowledge would help to improve students' achievement in related courses such as entrepreneurship, economics and commerce. To achieve this, a credit pass at ordinary level in one of the commercial subjects (marketing, economics, salesmanship or commerce) is part of the requirements for admission into the programme. Despite the importance of Principles of Marketing, research evidence has shown that there is persistent decline on students' performance in the subject (Magaji, 2017). Evidence from examination office from colleges of education in the study area revealed the results in Table 1:-

Table 1: Performance Trend 2012 to 2017 Academic Sessions

Academic session	Total		Percentage		
	Students	Pass	Failed	Pass	Failed
2012/2013	1734	1002	732	58	42
2013/2014	1964	1056	908	54	46
2014/2015	1851	931	920	50	50
2015/2016	2631	1602	1029	61	39
2016/2017	1744	989	755	57	43
Total	9924	5580	4344	56	44

Source: Fieldwork (2018)

The situation which remains almost the same yearly has led many students to carry the course over and the circumstance is more worrisome and frustrating as it affects students' graduation period. What could be the cause? Empirical studies conducted by Adams, Wowmble and Jones (2012), Adamu and Jibril (2017) attributed the persistent low performance of students in the subject to low memory capacity of the students. Magaji (2017) maintained that most students find themselves at lost when it come to examination. What could be the reason? Study conducted by Mohammed and Yusuf (2015) revealed teaching method is estimated to have 50% to 60%

effect on recalling ability of the students. Adamu and Kusa (2018) maintained that the predominant lectures strategy used in tertiary institutions has negative effect on retention ability of students. Abdullahi and Jibrin (2017) posit that ineffective teaching method is the major factors affecting retention ability of the students.

The need to improve the memory capacity of students prompted scholars to investigate the instructional strategies that would be more appropriate. Wealth of literature shows the effectiveness of interactive instructional strategies on enriching learners' knowledge retention. For instance, Eric (2013), Sultana and Zaki (2015) advocated for a paradigm shift from teacher-Centred to interactive approach maintained that when learners play the most active role to construct their own knowledge helps to improve their recalling ability. Ealier, Ezenwosu and Nworgu (2013) earlier postulated the use of interaction strategy fosters creativity, problem-solving skills, achievement and retention ability of students. Specifically, Rahmatun (2016) and Aswadi and Akhmad (2016) considers fishbowl and dialogue-analysis inclusive to be effective on development of student's critical thinking dispositions, achievement and retention. According to Brookfield and Preskill (2005) fishbowl strategy provide structure for in-depth discussions and long time learning capacity of students while Susan, (2015) opined that Dialogue-analysis instruction increases students' collaborative learning process, academic motivation and long time recalling ability of students. Based on the citations, the specifically determine the(1) effect of fishbowl strategy on post-test and delayed post-test mean achievement scores of students in principles of marketing; (2) effect of Dialogue-analysis strategy on post-test and delayed post-test mean achievement scores of students in principles of marketing; (3) effect of lecture strategy on post-test and delayed post-test mean achievement scores of students in principles of marketing; and (3) the difference among delayed post-test mean achievement scores of students taught principles of marketing using lecture, fishbowl and dialogue-analysis instructional strategies.

Research Questions

The study answered the following research questions:

1. What is the difference between post-test and delayed post-test mean achievement scores of students in principles of marketing using fishbowl strategy?
2. What is the difference between post-test and delayed post-test mean achievement scores of students in principles of marketing using dialogue analysis strategy?
3. What is the difference between post-test and delayed post-test mean achievement scores of students in principles of marketing using lecture strategy?
4. What are the differences among delayed post-test mean achievement scores of students taught principles of marketing using lecture, fishbowl and dialogue-analysis instructional strategies?

Research Hypotheses

The following null hypotheses were raised.

1. There is no significant difference between post-test and delayed post-test mean achievement scores of students taught principles of marketing using fishbowl strategy.
2. There is no significant difference between post-test and delayed post-test mean achievement scores of students taught principles of marketing using dialogue analysis strategy.
3. There is no significant difference between post-test and delayed post-test mean achievement scores of students taught principles of marketing using lectures strategy.
4. There is no significant difference among delayed post-test mean achievement scores of students taught principles of marketing using lecture, fishbowl and dialogue-analysis instructional strategies.

METHODOLOGY

The study employed quasi experimental design. The choice of the design was based on suggestion of McGarr, (2009) who stated that quasi-experimental design should be adopted when a study involves finding out the effect(s) of a treatment(s) on a group(s) of people.

The researchers used intact three classes 370 students were used for the study. The instrument used for data collection was Diagnostic Marketing Achievement Test (DMAT) and Marketing Retention Achievement Test (MRAT). The DMAT was used to determine the academic achievement of the students after the treatment and

MRAT was used to determine the retention ability of the students. Although the instrument was adopted from past question paper, the researchers further pilot tested the instrument using 54 students. The data was analyzed using Statistical Packages of Social Sciences (SPSS) version 23. The package was used to run Guttman Split-half reliability coefficient. The result revealed the unequal reliability coefficient of .809 was obtained.

In the first stage of data collection, two weeks intensive competence training was organized for the research assistants. Detailed explanations of the instructional strategies and how to incorporate the strategies into the lessons were explained to the research assistants who were regular course lecturers in the participating institutions. To ensure the competency of the research assistants, micro teaching was organized.

In the next stage, the three groups of students were taught Principles of Marketing using the respective strategy guided by the lesson plans. The instruction was for three hours weekly for the period of three weeks. At the end of the exercise, the MDAT was administered to all the groups. The retention test was administered four weeks after post-test. The scripts were marked by the researcher using drawn marking schemes.

The results of the test were analyzed through Statistical Packages of Social Sciences (SPSS) version 23.0. The package was used to compute descriptive statistics to answer the research questions. A Paired sample t-test was used to test null hypotheses 1, 2 and 3 while Analysis of Variance (ANOVA) was employed to test null hypothesis 4. All the hypotheses were tested at the 0.05 level of significance.

RESULTS AND DISCUSSION

Research Question One

What is the difference between post-test and delayed post-test mean achievement scores of students taught principles of marketing using fishbowl strategy?

The statistical result used to answer research question one revealed the post-test mean achievement scores of 51.07 with standard deviation of 6.37. The delayed mean achievement was 50.33 with standard deviation of 5.96 and mean difference of 0.74. The mean difference obtained shows that very trivial exist between the post-test and delay post-test of mean achievement scores of students.

Table 2: Difference between post-test and delayed post test of students exposed to Fishbowl Strategy

Test	N	Mean	Std. Dev	Mean diff	Remark
Post-test	94	51.07	6.37		
Delayed post-test	94	50.33	5.96	0.74	VTD

Research Question Two

What is the difference between post-test and delayed post-test mean achievement scores of students taught principles of marketing using dialogue analysis strategy?

The result in Table 3 revealed the post-test and delayed post-test mean achievements of 46.44 and 45.45 with standard of 5.90 and 5.87 respectively. The mean difference obtained (0.99) indicated that very trivial difference exist between the post-test and delayed post-test mean achievement scores of students taught principles of marketing using dialogue analysis instructional.

Table 3: Difference between post-test and delayed post test of students exposed to Dialogue strategy

Test	N	Mean	Std. Dev	Mean diff	Decision
Post-test	93	46.44	5.90	0.99	VTD
Delayed post-test	93	45.45	5.87		

Research Question Three

What is the difference between post-test and delayed post-test mean achievement scores of students taught principles of marketing using lecture strategy?

The result presented in Table 4 revealed the post-test mean score of 38.37 with standard deviation of 5.68. The mean score of delayed post-test was 36.12 with the standard deviation of 4.58 and the mean difference of 2.25. The mean difference of 2.25 obtained shows that there was a trivial difference between the post-test and delayed post-test mean achievement scores in students of principles of marketing exposed to lecture method in colleges of education in north-eastern Nigeria.

Table 4: Difference between post-test and delayed post test of students exposed to lecture strategy

Test	n	Mean	Std. Dev	Mean diff.	Dec
Post-test	87	38.37	5.68		
Delayed post-test	87	36.12	4.58	2.25	TD

Research Question Four

What is the difference among delayed post-test mean achievement scores of students taught principles of marketing using lecture, fishbowl, dialogue analysis and conferencing instructional strategies in colleges of education in north-eastern Nigeria?

The result presented in Table 5 revealed the delayed post-test mean scores are as follows: $E_1=50.33$; $E_2 = 45.45$; $E_3 = 44.72$ and 37.34 for students in control group. The result shows there was difference among the post-test mean achievement scores of the four groups of students. The summary of the result revealed a very large difference between ± 12.99 . This indicated that there was very large difference among the delayed post-test mean achievement scores of the four groups of students involved in the study

Table 5: Multiple Comparisons among the Delayed Post-Test Mean Achievement of Four Groups of Students

(I) Methodology	Mean	(J) Methodology	Mean Diff (I-J)	Remark
Fishbowl	50.33	Dialogue Analysis	4.88*	MD
		Conferencing	5.61	MD
		Lecture	12.99	VLD
Dialogue Analysis	45.45	Fishbowl	-4.88	MD
		Conferencing	.73	TD
		Lecture	8.11	LD
Conferencing	44.72	Fishbowl	-5.61*	MD
		Dialogue analysis	-.73	TD
		Lecture	7.38	LD
Lecture	37.34	Fishbowl	-12.99	VLD
		Dialogue analysis	-8.11*	LD
		Conferencing	-7.38	LD

Test of Hypothesis One

There is no significant difference between post-test and delayed post-test mean achievement scores of students taught principles of marketing using fishbowl instructional.

The paired t-test analysis on difference between the post-test and delayed post-test revealed the p-value of .062 which was greater than the 0.05 level of significance. The result therefore shows that there was no significant difference between the post-test and delayed post-test mean achievement scores of students taught principles of marketing using fishbowl strategy. The effect size value of 0.1 equivalents to $r=.050$ indicating that the effect size was small.

Table 6: Paired Sample T-Test on Post-Test and Delayed Post-Test of Students exposed to Fishbowl Strategy

Test	N	Mean	Std. Deviation	Std. Error Mean	t	Df	p-value
Post-test	94	51.07	6.374	.65744			
Delayed post-test	94	50.33	5.958	.61447	77.68	186	.062

Test of effect size

Cohen's $d = (50.3298 - 51.0745) / 6.169316 = 0.1$
 $r=.050$

Test of Hypothesis Two

There is no significant difference between post-test and delayed post-test mean achievement scores of students taught principles of marketing using dialogue analysis strategy in colleges of education in north-eastern Nigeria.

The result of test of null hypothesis two in Table 7 revealed the p-value of 0.18 obtained was greater than 0.05 level of significance, the result therefore shows that no significant difference exists between the post-test and delayed post-test mean achievement scores of students taught principles of marketing using Dialogue Analysis. The hypothesis was retained. The Cohen's value of 0.2 ($r=.100$) further affirmed that the effect size was small.

Table 7: Paired Sample T-Test on Post-Test and Delayed Post-Test of Students exposed to Dialogue Analysis Strategy

Test	N	Mean	Std. Deviation	Std. Error Mean	t	Df	p-value
Post-test	93	46.44	5.900	.612		75.90	184
Delayed post-test	93	45.45	5.875	.609			0.18

Test of effect size

$$\text{Cohen's } d = (45.45164 - 46.4409) / 5.887514 = 0.2$$

$$r = .100$$

Test of Hypothesis Three

There is no significant difference between post-test and delayed post-test mean achievement scores of students taught principles of marketing using lecture strategy in colleges of education in north-eastern Nigeria.

The result of test of the null hypothesis revealed the post-test mean score of 38.37 with standard deviation of 5.68. The delayed post-test mean achievement was 36.12 with standard deviation of 4.58. The p-value obtained (0.02<0.05) indicated that there was significant difference between the two mean achievement. The test of effect size Cohen's d 0.436 corresponds to an r value of .038 obtained further affirmed that the effect size was medium.

Table 8: Paired Sample T-Test on Post-Test and Delayed Post-Test of Students exposed to lecture Strategy.

Test	N	Mean	Std. Dev	Std. Error Mean	t	df	p-value
Post-test	87	38.37	5.68	.609		8.49	172
Delayed post-test	87	36.12	4.58	.123			0.02

Test of effect size

$$\text{Cohen's } d = (36.12 - 38.37) / 5.159399 = 0.436$$

$$r = .038$$

Test of Null Hypothesis four

There is no significant difference among delayed post-test mean achievement scores of students taught principles of marketing using lecture, fishbowl, dialogue analysis and conferencing instructional strategies in colleges of education in north-eastern Nigeria.

The analysis of variance on test null hypothesis four revealed the F/3:366 with value of 97.646 and the p-value was .000. The result indicated that there was significant difference among the delayed post-test mean achievements of the four groups of students. The analysis of effect size which revealed eta square of 0.445 further affirmed that the differences that exist among the delayed post-test of the four groups of students was large.

Table 9: Analysis of Variance among the Delayed Post-Test Mean achievement scores among the Four Groups of Principles of Marketing Students

	Sum of Squares	Df	Mean Square	F	p-value
Between Groups	10205.731	3	3401.910	97.646	.000
Within Groups	12751.199	366	34.839		
Total	22956.930	369			

Test of effect size

$$\text{Eta square} = \frac{10205.731}{22956.930}$$

$$= 0.445$$

The details of the difference shown in the multiple post hoc comparisons revealed that there was significant difference among the four groups of students with students exposed to fishbowl on advantage side and students exposed to lecturers on disadvantage size. The p-value obtained were all less than the alpha value of 0.05 as seen in Table 10.

Table 10: Turkey Comparisons Analysis on the Delayed Post-Test Mean Achievement among the Four Groups of Principles of Marketing Students

(I) Methodology	(J) Methodology	Mean Diff (I-J)	Std. Error	Sig.	Remark
Fishbowl	Dialogue Analysis	4.88	.863	.000	Rejected
	Conferencing	6.41	.856	.000	Rejected
	Conventional	13.09	.878	.000	Rejected
Dialogue Analysis	Fishbowl	-4.88	.863	.000	Rejected
	Conferencing	1.53	.859	.002	Rejected
	Conventional	8.21	.880	.000	Rejected
Conferencing	Fishbowl	-6.41	.856	.000	Rejected
	Dialogue analysis	-1.53	.859	.002	Rejected
	Conventional	-8.21	.874	.000	Rejected
Conventional	Fishbowl	-13.09	.878	.000	Rejected
	Dialogue analysis	-8.21	.880	.000	Rejected
	Conferencing	-8.21	.874	.000	Rejected

Discussion of the Findings

Results of research question one which was further affirmed by corresponding null hypotheses shows that there was no significant difference between the post-test and delayed post-test mean achievement scores of students taught principles of marketing using fishbowl strategy. This result was as a result of active participation of students in the class. It is a known fact that when students were engaged in the classroom discussion which help to improve their recalling ability. The result is similar with that Jackson (2012) who reported that adoption of good and thought provoking teaching methods, under conducive learning environment, facilitate better learning and retention of learnt materials by students. This agrees with the findings of Klegeris and Hurren (2011) and Hoidn and Karkkainen (2014) which reported that students taught using interactive method retained more knowledge than those taught using lecture method.

The analysis of data in respect to research question seven shows that there was no significant difference between the post-test and delayed post-test mean achievement scores of students taught principles of marketing using dialogue analysis. The result was as a result of interaction among the students which boast their ability to recall what was learned. Scholars such as Harpiansi (2014) who reported that students exposed to interactive teaching strategy have preeminence in self-esteem, interpersonal ability and retention compared to those in other instructional strategies. Similarly, Eze, Ezenwafor and Obidile (2016) reveled that students taught financial accounting using interactive teaching method performed better and retained more knowledge in the post-test scores than those taught using lecture teaching method. Andika (2013) in his study found that fishbowl technique and students' learning motivation can increase the students' achievement and retention. Similarly, the study of Aswadi and Akhmad (2016) revealed that the mean in the pre-test of the experimental group taught using fishbowl technique was found to be less than the post-test mean achievement. The authors added that, there was an increasing average score after the students got the treatment.

The result of research question four and test of corresponding null hypothesis shows that there was difference among the delayed post-test mean achievement scores of the four groups of students. The difference in the retention ability of the students is attributed to the level of participation of students in the class. By implication, participation in the class improves the recalling ability of the students. The outcome of the study was in line with that Eilks (2002), Pekene (2002), Ibitoye (2006) and Mundi (2006) who opined that the test scores recorded by

students depend greatly on the teaching method(s) employed by the teachers. Aziz and Hossain (2010) reported that interactive learning strategy facilitates to develop better relationship among gifted, average and below average learners, enhance their self-esteem and improve their performance and retention. Similarly, study conducted by Van (2014) revealed that interactive teaching method such as conferencing and dialogue have the potentials of improving the retention ability of students.

Conclusion

The study revealed that Fishbowl and Dialogue-Analysis has positive effect of retention ability of students in Principles of Marketing, it is therefore concluded that the adoption of Fishbowl and Dialogue-Analysis strategy will help to improve the learning outcome of students in Principles of marketing. Based on the result, it was recommended that Principles of marketing lecturers should blend lectures method with either fishbowl and dialogue analysis strategies in the classes.

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