EFFECT OF FISHBOWL AND DIALOGUE-ANALYSIS INSTRUCTIONAL STRATEGIES ON COLLEGES OF EDUCATION STUDENTS ACHIEVEMENT IN PRINCIPLES OF MARKETING IN NORTH-EASTERN NIGERIA

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ABSTRACT

The study was on Effect of Fishbowl and Dialogue-Analysis Instructions on Colleges of Education Students Achievement in Principles Marketing in North-Eastern Nigeria. Four objectives, four research questions, and four null hypotheses guided the study. Population of the study was 993 students in 2018/2019 academic session. 270 students were used for the study. The instruments used for data collection were Pre Diagnostic Marketing Academic Achievement Test and Diagnostic Marketing Achievement Test. The instruments were validated. A reliability of .895 and .809 were obtained for pretest and post-test respectively. The difficulty index of the instrument stood at 80.33 and 82.17 and the discriminating of each of the instruments stood at 0.6 each. A pretest was administered before the treatment while post-test was administered after the treatment. Scores collected were subjected to statistical analysis using SPSS version 23. The package was used to run mean scores which was used to answer the research questions. ANOVA was employed in testing null hypotheses one and four while independent sample t-test was employed to test null hypothesis two and three at the 0.05 level of significance. The result revealed that Fishbowl and Dialogue-analysis instructional strategies significantly improved the academic achievement of students in principles of marketing. It was recommended lecturers should be blending with interactive teaching method (fishbowl and dialogue analysis) instructional strategies in teaching Principles of Marketing to students.

Keywords: Fishbowl, Dialogue-Analysis, Achievement, Marketing

INTRODUCTION

Principle of Marketing is one of the core courses to all business education students in Colleges of Education in North-eastern Nigeria. The course content of the course of Principles of Marketing in Nigeria contains concepts and processes ranging from business plan, forecast, purchases, storing, promotion, price, and sales among others. A solid foundation as well as performance, in the course will enable students to become familiar and attain competencies in related courses such as commerce, economics and entrepreneurship. By implication, the understanding and achievement in the principles of marketing is a foundation to students in the related courses.

Research evidences bound on the general decline in the standard of education and persistent failure among principles of marketing students in Colleges of Education in North-eastern Nigeria (Magaji 2017). The academic achievement of students can be affected by numerous factors. Scholars such as Adams, Wowmble and Jones (2012), opined that, school factors, home factors, students' factors, peer group and teachers have significant influence on academic achievement of students in business related subjects. Studies by Adamu and Usman (2018) among school related factors; teachers matter most. Study conducted by Mohammed and Yusuf (2015) also revealed that, when it comes to student performance, a teacher is

ISSN: 2307-3721, e ISSN: 2307-3713

estimated to have two or three times the impact of other factors. Specifically, recent studies in business education by Adamu, Bashir and Haruna (2015) attributed the low academic achievement of business students largely on lecture method which is the predominant instructional strategy used in tertiary institutions in Nigeria. Ali, Tariq and Topping (2012) criticized the lecture method which is predominately used in tertiary institutions for not yielding desire learning objectives.

The need to improve the general academic achievements 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. Advocates of interactive instructional strategies such as Anowar and Rohani (2013), Aswadi and Akhmad (2016) considers fishbowl and dialogue-analysis inclusive to be effective on development of student's critical thinking dispositions, and achievement.

Fishbowl instructional strategy is a name that is based on seating arrangement which looks like a goldfish bowl. In this method, participants either sit in the inner or outer circle. Those in the inner circle engage in an in-depth discussion. In this strategy, students in the inner circle are challenged to participate in a high-level discussion while the outer circle listen to the discussion and critique content, logic, and group interactions. According to Rahmatun (2016) fishbowl method serves two purposes to provide structure for in-depth discussions and provide opportunities for students to model or observe group processes in a discussion setting. Consequently, the method offers students the opportunity to observe closely and learn about social interactions.

Dialogue-analysis is a method whereby students receive written dialogues to analyze. In this method, participants are made to identify the different viewpoints of each participant in the dialogue, analyzing the discussion for biases, presence or exclusion of important evidence, alternative interpretations, misstatement of facts and errors in reasoning. In dialogue analysis, each group decides which view is the most reasonable. After coming to a conclusion, each group can act out their dialogue while offering a critical analysis of the key points and successes to the large group. Dialogue analysis increases students' collaborative learning process, academic motivation and overall feeling of success (Susan, 2015). In business related course, Adamu, Bshir and Haruna (2015) maintained that interaction teaching approach improves the performance of students. The citations prompted the researcher to empirically carry out the study.

Statement of the Problem

A survey of students' results in area of study indicated that students' academic achievement in principles of marketing is low. Evidence from examination office revealed out of 9924 students that sat for the examination between 2012 to 2017 only 5580(56%) that passed while 4344 (44%) failed. The situation is worrisome and frustrating as it affects students' graduation period. The situation urged the researchers to determine the difference: (1) among the pretest mean achievement scores in students of principles of marketing in experimental and control groups; (2) between mean achievement scores of students taught principles of marketing using fishbowl instructional strategy and those taught using conventional lecture method; (3) between mean achievement scores of students taught principles of marketing using dialogue analysis instructional strategy and those taught using conventional lecture method; and (4) among the mean achievement scores of students taught principles of marketing using fishbowl, dialogue-analysis and conventional lectures method.

ISSN: 2307-3721, e ISSN: 2307-3713

RESEARCH QUESTIONS

1. What are the differences among the pretest mean achievement scores in students of principles of marketing in experimental and control groups?
2. What is the difference between mean achievement scores of students taught principles of marketing using fishbowl instructional strategy and those taught using conventional lecture method?
3. What is the difference between mean achievement scores of students taught principles of marketing using dialogue analysis instructional strategy and those taught using conventional lecture method?
4. What are the difference among the mean achievement scores of students taught principles of marketing using fishbowl, dialogue-analysis and conventional lectures method?

RESEARCH HYPOTHESES

1. There is no significant difference among the pretest mean achievement scores of principles of marketing students in experimental and control groups.
2. There is no significant difference between mean achievement scores of taught principles of marketing using fishbowl instructional strategy and those taught using lectures method.
3. There is no significant difference between the mean achievement scores of students taught principles of marketing using dialogue analysis instructional strategy and those taught using lectures method.
4. There is no significant difference among the mean achievement scores of students taught principles of marketing using fishbowl, dialogue-analysis and lectures method.

METHODOLOGY

The study employed quasi experimental design. The design is represented symbolically as follows:

Table 1. Symbolic Representation of Design for the Study

Group	Pretest	Treatment	Post-test
EX_1	O_1	X	O_1
EX_2	O_2	X	O_2
CG_3	O_3	-	O_3

The population of the study comprised all the 993 NCE II students that offered Principles of Marketing in 2018/2019 academic session. Intact 3 classes of 274 were used the study. The intact classes were randomly assigned Experimental I, Experimental II and control group respectively.

The instruments used for data collection were Pre Diagnostic Marketing Academic Achievement Test (PDMAT) and Diagnostic Marketing Achievement Test (DMAT). The PDMAT was used to determine the entry level of the students used for the study. The DMAT was used to determine the academic achievement of the students after the treatment. The instruments were adopted from 2013 to 2016 pasted question papers.

The instruments were validated by experts and pilot tested. Data collected from pilot study were coded in Statistical Packages of Social Sciences (SPSS) version 23. The package was used to run Guttman Split-half reliability coefficient. The result revealed the unequal

ISSN: 2307-3721, e ISSN: 2307-3713

reliability coefficient of .89, the difficult index of 80.33 and discriminating of each of the instruments stood at 0.6 each. According to George and Mallery (2003), a minimum reliability coefficient of .70 should be considered for experimental study. Ebel and Frisbie (1986) suggested a discriminating score of >0.39 for study. Anowar and Rohani (2013) suggested the difficulty index of four-response multiple-choice should not be less than 74. Based on these, instruments were considered suitable for the study

In the first stage of data collection, intensive competence training was organized for the research assistants. The research assistants were given detailed explanations on the instructional strategies and how to incorporate the strategies into the lessons. To ensure that the research assistants mastered the strategies as expected, the researcher organized microteaching session at the end of the training. To avoid any bias in the study and preventing the subjects from acting in any manner that can affect the outcome of the study, the regular course lecturers were used as research assistants.

The pre-test was administered to all the students before the treatment. In the next stage, the three groups of students were taught 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 post-test was administered. The scripts of the pre-test and post-test were marked using drawn marking scheme.

Data collected were analyzed using SPSS version 23.0. The package was used run mean and mean difference which was used to answer the research questions. The decision rule is based on suggestion of Adamu and Kusa (2018) as presented in Table 2.

Table 2. Decision Rule for the Research Questions

S/No	Score	Decision
1.	± 0.1 - 0.99	Very trivial difference (VTD)
2.	± 1.0 - 1.99	Trivial difference (TD)
3.	± 2.0 - 4.99	Moderate difference (MD)
4.	± 5.0 - 9.99	Large difference (LD)
5.	± 10 and above	Very large difference VLD)

In the test of the null hypotheses, ANOVA was used to test null hypotheses one and four while Independent Samples t-test was used to test null hypotheses 2 and 3 at the 0.05 level of significance.

RESULTS

Research Question One

What are the differences among the pretest mean achievement scores in students of principles of marketing in experimental and control groups?

Table 3. Pre-test mean difference among the three groups of Students

(I) Methodology	Mean	(J) Methodology	Mean Diff (I-J)	Decision
Fishbowl	36.11	Dialogue Analysis	.280	VTD
		Lecture	.010	VTD
Dialogue Analysis	35.83	Fishbowl	-.280	VTD
		Lecture	-.320	VTD
Lecture	36.01	Fishbowl	-..010	VTD
		Dialogue Analysis	.320	VTD

ISSN: 2307-3721, e ISSN: 2307-3713

The pretest mean achievement scores of the three groups of students used in the research work revealed the mean score of 36.11 for students in fishbowl group. Students in dialogue analysis had mean of 35.83 while students exposed to lectures had pretest mean score of 36.01. Trivial mean differences among the three groups of ±.320 obtained indicated that difference was not large.

Research Question Two

What is the difference between mean achievement scores of students taught principles of marketing using fishbowl instructional strategy and those taught using conventional lecture method?

Table4. Post-test mean difference between students in E_1 and those in control group

Instructional strategy	N	Mean	Std. Dev	Std. Error Mean	Mean diff	Remark
Fishbowl	94	51.07	6.37	.65744	12.70	VLD
Conventional	87	38.37	5.68	.60892		

The descriptive use to determine the difference between students taught principles of marketing using fishbowl revealed mean score of 51.07 with standard deviation of 6.37. Students taught using conventional method had the mean score of 38.37 with standard deviation of 5.68. The mean difference of 12.70 shows that very large in favour of students in experimental group I.

Research Question Three

What is the difference between mean achievement scores of students taught principles of marketing using dialogue analysis instructional strategy and those taught using conventional lecture method?

Table 5. Post-test mean difference between the students in E2 and those in Control group

Instructional strategy	N	Mean	Std. Dev	Std. Error Mean	Mean diff	Remark
Dialogue	93	46.44	5.900	.612	8.07	LD
Conventional	87	38.37	5.680	.609		

The result of research question three revealed the mean scores of 46.44 and 38.37 with standard deviations of 5.90 and 5.68 for students taught principles of marketing using Dialogue analysis and those taught using conventional method respectively. The mean difference of 8.07 obtained was large. The mean obtained was large in favour of students in experimental group two.

Research Question Four

What are the difference among the mean achievement scores of students taught principles of marketing using fishbowl, dialogue-analysis and conventional lectures method?

Table 6. Post-test mean difference among students in E1, E2 and Control group

(I) Methodology	Mean	(J) Methodology	Mean Diff	Remark
Fishbowl	51.07	Dialogue Analysis	4.63	MD
		Conventional	12.71	VLD
Dialogue Analysis	46.44	Fishbowl	-4.63	MD
		Conventional	8.07	LD
Conventional	38.37	Fishbowl	-12.71	VLD
		Dialogue analysis	-8.07	LD

ISSN: 2307-3721, e ISSN: 2307-3713

The cross multiple comparisons used to determine the difference among the mean achievement scores of students taught principles of marketing is as presented in Table 5. From the Table, the mean scores of 51.07 (E_1), 46.44 (E_2) and 38.37 for the control group were obtained. The result shows that there was difference among the post-test mean achievement scores of the students. The mean difference was large (±12.71) in favour of students in experimental groups.

Hypothesis One

There is no significant difference among the pretest mean achievement scores of principles of marketing students in experimental and control groups.

The analysis of variance (ANOVA) was used to test null hypothesis one revealed that the F/2,266 was .684 and the p-value was.562. The result shows that no significant difference exists among the pretest mean achievement scores of the three groups. The hypothesis was therefore retained. The analysis of effect size (eta square=0.00) further affirmed that the difference was small.

Table 7. ANOVA on test of null hypothesis one

	Sum of Squares	Df	Mean Square	F	p-value
Between Groups	47.74	2	23.87		
Within Groups	8517.99	267	31.90	.684	.562
Total	8565.73	269			

Test of effect size: Eta square = 47.74/8565.73 Eta square = 0.00

Hypothesis Two

There is no significant difference between mean achievement scores of taught principles of marketing using fishbowl instructional strategy and those taught using lectures method.

The P-value of independent t-test was less than the alpha value (.000<0.05), the result therefore shows that there was significant difference between the mean achievement scores of students in the two groups in favour those in experimental. The hypothesis was therefore rejected. The Cohen's *d* value of r=0.72 indicated in the effect size was large.

Table 8. Independent t-test on null hypothesis two

Methodology	N	Mean	Std. Dev	Std. Error Mean	T	df	P-value
Fishbowl	94	51.07	6.37	.657	14.12	179	.000
Lecture	87	38.37	5.68	.609			

Test of effect size: Cohen's *d* = (38.37 - 51.07)/6.03487 = 2.1., r= .72

Hypothesis Three

There is no significant difference between the mean achievement scores of students taught principles of marketing using dialogue analysis instructional strategy and those taught using lectures method.

Table 9: Independent t-test on null hypothesis three

Methodology	N	Mean	Std. Dev	Std. Error Mean	t	df	p-value
Dialogue	93	46.44	5.900	.612	9.340	178	.000
Conventional	87	38.37	5.680	.609			

Test of effect size: Cohen's *d* = (38.37 - 46.44)/5.791045 = 1.4, r = .57

ISSN: 2307-3721, e ISSN: 2307-3713

The p-value obtained for test of the null hypothesis was less than alpha (.000< 0.05). The result therefore shows significant difference exists between the mean achievement scores of the students in experimental group and those in control group. The hypothesis was rejected. Cohen's *d* value of r=.57 indicated that the effect size was large.

Hypothesis Four

There is no significant difference among the mean achievement scores of students taught principles of marketing using fishbowl, dialogue-analysis and lectures method.

Table 10. ANOVA on null hypothesis four

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	7447.208	2	3723.604		
Within Groups	13609.592	267	507.972	66.759	.000
Total	21056.800	269			
Test of effect size: Eta square = 7447.208/21056.800, eta square = 0.358					

Table 11. Turkely Multiple-Comparisons Analysis among E_1, E_2 and Control group

(I) Methodology	(J) Methodology	Mean Difference (I-J)	Std. Error	Sig.	Remark
Fishbowl	Dialogue Analysis	4.634	.892	.000	Rejected
	Conventional	12.707	.907	.000	Rejected
Dialogue Analysis	Fishbowl	-4.634	.892	.000	Rejected
	Conventional	8.073	.910	.000	Rejected
Conventional	Fishbowl	-12.707	.907	.000	Rejected
	Dialogue analysis	-8.073	.910	.000	Rejected

Analysis of variance used to determine null hypothesis five in Table 10 revealed the F=2/267 and the p-value was .000. The p-value obtained was less than the 0.05 level of significance. The result therefore shows that there was significant difference among achievements score of the three groups of the students. This can also be seen in the value of eta square =-0.358 obtained shows that the effect size was medium.

The details of the variation shown in the post hoc test in Table 11 revealed that there was significant difference among the mean achievements of students in experimental groups (Fishbowl, Dialogue-analysis and lecturer) as the p-value was less that 0.05 level of significance as seen in Table 11.

DISCUSSION OF THE FINDINGS

The result of the study shows that there was significant difference between the mean achievement scores of students taught principles of marketing using fishbowl and those taught using lecture method. The observed difference is attributed to the instructional strategy used to two groups of the students. The finding was in line with the studies of conducted by Looi et al., (2010), and Sezek, (2012) affirmed that fishbowl interactive strategy increased academic achievements and desire to learn among students. Tran and Lewis (2012) revealed that teaching method that students share ideas is more effective to the demands of high rates of cognitive and affective outcomes. Tran and Lewis (2012) added that in order to improve students' cognitive outcomes, an alternative to lecture-based teaching could be cooperative learning strategy. Sahin (2010) added that instructional strategy that students actively participate has the tendency of improving the learning outcome. Recently,

ISSN: 2307-3721, e ISSN: 2307-3713

Harris and Sass (2018) opined that interactive teaching method such as fishbowl contributed to the learning interest and learning outcomes of students.

The study further revealed that there was difference between the mean achievement scores in students of principles of marketing exposed to dialogue analysis instructional strategy and those exposed to lecture method. The outcome of the result is attributed to learner-centre teaching method that experimental group were exposed to. In this method, the students participated in the teaching and learning exercise which gave them advantage over students that were taught using teacher centre method. The result was similar with that of Paul and Elder (2004) who reported that dialogic approaches develop critical thinking of students, facilitate their participation in their learning and academic achievement compared to the traditional lecture method. Gotsman (2010) also reported that dialogue approach which shift power to students in education, and to shift power to people in the wider society has the capacity of improving learning outcome.

The finding of the study indicated that there was significant difference among the post-test mean achievement scores of the three groups of Principles of Marketing students used for the study. The finding of the study concurred with that Slavin (2011) whose study revealed that students taught using the cooperative and interactive teaching methods were more disposed to working together and have more interactive spirit and higher achievement than those taught using the conventional classroom method. Similar study conducted by Damodharan and Rengarajan (2013) reported that the conventional lecture approach in classroom is of limited effectiveness in both teaching and learning.

CONCLUSION AND RECOMMENDATION

The results demonstrate the effect of the three teaching methods in promoting positive learning outcomes and retention of principles of marketing students. It is therefore concluded that the adoption of Fishbowl and Dialogue-Analysis instructional strategy will help to reduce the rate of students' failure. It was recommended that Principles of marketing lecturers should make efforts to integrate fishbowl and dialogue analysis instructional strategies in teaching the students.

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ISSN: 2307-3721, e ISSN: 2307-3713