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META-LANGUAGE SKILLS AND STUDENTS' ACADEMIC SUCCESS IN ACCOUNTING EDUCATION: AN EXPERIMENTATION OF 'Z TO A' TEACHING APPROACH IN COLLEGES OF EDUCATION, BENUE STATE NIGERIA

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Abstract

This paper examined the Meta-Language Skills and Students Academic Success in Accounting Education, based on the experimentation of Z to A teaching approach in Colleges of education, Benue State Nigeria. 'Z to A' approach attempt to give explanation with regard to the application of a particular concept at the beginning. The teacher here makes a particular concept clear, and students develop interest to know the concept. The study is restricted to the use of Z to A teaching strategy as experimental group and the normal conventional/traditional method as control. Similar literatures relevant to this particular study was reviewed. The design adopted is the quasi-experimental research design. The population of the study includes all business education students offering accounting within the ongoing academic session. Simple random sampling technique were used in selecting the sample Colleges of Education for the study. Also, the same technique was used in selecting the experimental and control group. The mean and standard deviation was solely used in answering the research question of the study. The independent and paired sample t-test was used to test the null hypothesis. The null hypotheses were also tested at 0.05 level of significance. At the end of the study, result reveals a significant difference between the mean achievement score of experimental groups over the control group and that Z to A teaching strategy found to be effective for teaching Meta-language of accounting in colleges of education within Benue State of Nigeria.

Key words: Accounting, Meta-language, business, education, 'Z to A' approach, Academic, Success.

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Introduction

In the current pursuit of innovative teaching methods, there is a growing emphasis on finding more effective approaches to foster deeper understanding and improved teaching outcomes. Hence, innovative teaching strategies prioritize the needs and engagement of students, fostering active participation in the learning process. Salako (2021) stated that to improve learning, then a need to teach in the language students use and understand best. As such, in the field of business, and for the business education students, the best is to use the language of business. Accounting is aptly called the language of business. This designation is applied to accounting because it is the method of communicating business information. Hence, the basic function of any language is to serve as a means of communication. Sahabi (2022) adds that the language of business is accounting, as all business transactions will eventually end up in accounting prepared statements. Taking concepts, as metalinguistic skills (Meta-Language) language of accounting for test of teaching as therefore become necessary for the business education students of colleges of education within Benue State, as the subject of this study.

Following the concept of Meta language of accounting, Raymond, Susanne, John, and Robert (2021) had postulate that students rely on rote knowledge to learn accounting concepts. wikipedia.org, equally posted that rote learning is sometimes disparaged with the derogative terms parrot fashion, regurgitation, cramming, or mugging. It was added that one who engages in rote learning may give the wrong impression of having understood what they have written or said. This is strongly discouraged by many new curriculum standards (Wikipedia.org). Moreso, rote learning approach does not allow them to understanding the meta language of accounting (Raymond, Susanne, John, & Robert 2021).

Meta language is simply the concepts and terms that are used in a profession and are easily understood by it users (Elson, Callaghan, Walker, & Cuny, 2017). Terms like accrual, goodwill, account receivable and payable, provisions, current and non-current assets, prepayment, drawing, liability, equity, retain earnings are all parts of meta-language of accounting. Professions, associations, communities and many other groups, have their own meta-language which insiders are familiar with. The language of business (accounting) has long systematic and developed terminologies and concepts which is a bit confusing, but to those who are in the field or professions, serve a means to convey idea.

Consequently, student of business or management studies who studied and understood accounting Meta language will have better performance in the course (Giacomino, Wall, & Akers, 2019). Students who understood and mastered accounting terminologies and concept within the text would perform better in business and accounting literacy (Williams, 2019). Generally, difficulties in learning accounting concepts was seen from the

results in many studies; that students reliance on rote learning of accounting do not understanding the course and thereby resulting to poor achievement in their learning (Amiri, Fatemi, Bellin, Gunzenhauser, Carroll, Elson, & Rodriquez, 2018). Besides, rote learning approach does not allows students properly understand the Meta language of accounting (Elson *et al*., 2017). Hence, investigation on the most effective way and manner of teaching Meta language of accounting become so important. This has revealed in number of literatures; that mass failure of students in accounting and accounting related courses, is due to inability of the students to understanding the meta language of accounting (Muhammad, 2018). Meta language of accounting was found to be the most difficult concepts, and if not understood, the students would find it hard to analyse and interpret financial statement and to solving other accounting related problems (Olamide & Temitope, 2016).

Study carried out by Debreceny & Farewell, (2019) among graduates and undergraduate students' of the universities over the period of 3 years from (2019 to 2021) shows that, students understanding of accounting Meta language is fairly low. As a result, they are unable to use accounting meta-language to process information and record transactions needed in higher level undergraduate and graduate accounting courses (Datnow, Park, & Wohlstetter, 2019). This further relates to Muhammad, (2018) study which found student's inability to pass their examinations; was as a result of not understanding the meta-language of accounting. Elson *et al.*, (2017) attributed the problems to students relying on rote learning, the wide difference in coverage of meta-language by accounting lectures and course tutors within the programs or both the two factors combined.

In view of the background to this study, Sanako (2021) of the view that great lecturer, teacher or tutor understand that there's no quick fix that can be deployed to help students quickly become better in understanding concepts. Sanako (2021) further argued that the most effective innovative teaching approach is often a mix of several strategies tailored to the needs of individual learners. Salako (2021) asserted that innovative approach, as 'Z to A' approach, an activity-based learning can be used in teaching a subject more effectively. Salman (2019) concluded that 'Z to A' approach helps students to learn actively in classroom and it also provides ample scope for experimental learning. The aforementioned scenarios however provide bases for the researchers to see whether Z to A teaching approach will solve the problem at hand.

Statement of the Problem

Learning accounting requires ability to read and understand accounting meta-language as well as skills to interpret concept. Meta language of accounting was seen as the most difficult concepts in business education, if not properly understood would lead to students' failure and inability to solve accounting or financial related problems (Olamide

& Temitope, 2016). Nevertheless, accounting education programs in many colleges of learning have been under constant criticism for failing to produce graduates with the competencies needed (Salman, 2019). And, while most accounting education studies have less focus on developing strategies for teaching meta-language that will reduce challenges and problems in accounting, few studies have however been conducted to investigate the challenges and problems of meta language of accounting in tertiary institutions. As such, this study examined the Meta-Language Skills and Students Academic Success in Accounting Education, based on the experimentation of Z to A teaching approach in colleges of education, Benue State Nigeria.

Aim of the study

The main aim of this study is to examine the Meta-Language Skills and Students Academic Success in Accounting Education Based on the Experimentation of Z to A teaching approach within Benue state Nigeria.

Specifically, the study seeks to:

i. Examine the effect of Z to A teaching approach on the academic achievement of students of business education in colleges of education, within Benue State of Nigeria, using mean difference.

Research Question

(1) What is the effect of Z to A teaching approach on the academic achievement of students of business education in colleges of education within Benue State of Nigeria, using mean difference?

Research Hypothesis

H_{o1}. There is no significant difference between pre-test and post-test mean achievement scores of students taught meta language of accounting using Z to A teaching Approach.

Literature Review

The independent variable =IV ('Z to A' teaching approach), an experimental treatment is being tested to see its effect on the dependent variable = DV (students' academic success in accounting education), outcome being measured to see how it is being affected. The moderator variable = MV (Meta-Language skills) is tested to see how it influences the relationship between the IV and the DV. And, in ensuring a tenable validity and reliability for the study findings, the control variables = CV (Colleges of education and the students' characteristics) calls for differences between the students' individualization in the colleges, towards the results therein. That is, on whether the students in colleges of

education in Benue State get the use of 'Z to A' teaching approach, and to ascertain whether 'Z to A' teaching approach affects the student's prior knowledge, or motivates them, or changes their leaning style to attain academic success in accounting education.

Meta Language of Accounting and Accounting Literacy

Professions, associations, communities and groups, have their own specific meta-language in which insiders are familiar with. Business accounting is entirely not different. Whoever studied and understood accounting Meta language will have better performance in Accounting courses (Giacomino *et al*., 2019). Students who understood and mastered accounting terminologies and concept in the text would perform better in management or business and accounting literacy (Williams, 2019). The problems with learning and understanding accounting is not just directly attributed to any other factor, but as revealed empirically. Empirical studies show that inadequate understanding of the meta-language of accounting leads to a serious failure among students (Amiri *et al.,* 2018). The approach of rote learning therefore, does not allow students to properly understand the Meta language of accounting (Elson *et al*., 2017).

Study on students failure in principles and practice of accounting found the inability of students to pass accounting in the schools before and during their final examinations, emanated as a result of not understanding the meta language of accounting (Muhammad, 2018). Meta language is not just a single concept, it is therefore defined in a broader perspective as a language or symbols used when language is being discussed or examined (wikipedia.com 2020). The use of terms like statement of financial position, assets, accruals, pre-payment, liabilities, equity, trade receivables, payables and net income among others, creates specific meaning to accounting and business personnel. Raymond, et al (2021) work assessed students understanding or memory of basic accounting concepts (i.e., the meta language) using pre-test in accounting courses at several universities over multiple semesters. The result reads that the students' average scores on the pre-test were less than the anticipated average scores. The paper offers some suggestions as providing students with practical application of accounting concepts such as the preparation of bank statements and financial statements by educators to strengthen students' understanding of accounting meta language. Cohen et al., (2020) also add about a recent developed Meta language in accounting as Extensive Business Reporting Language (XBRL). XBRL is a collaboratively introduced framework for creating standardized and customize digital representations of business financial statements, returns on tax and other detailed and summarized business reports and data extracts.

Philosophy and Objectives of Teaching Accounting in Tertiary Institutions

Accounting education is situated in different jurisdictions and cultures around the world (Bragg, 2021). However, accounting education programs including those at colleges of

learning designed to provide the foundation upon which accounting students developed a broad set of knowledge and skills, as well as a commitment to lifelong learning to serve their society effectively (Debreceny and Farewell, 2019). Accounting education at the colleges and other tertiary institutions in many countries is the main channel to educate accountants (Dabor, 2018). Nevertheless, accounting education programs in many colleges of learning have been under constant criticism for failing to produce graduates with the competencies needed (Salman, 2019). While most accounting education studies have less focus on developing strategies for teaching meta-language that will reduce challenges and problems in accounting, few studies have been conducted to investigate the challenges and problems of meta language of accounting in tertiary institutions.

Methodology

Design of the Study

Non-equivalent pre-test, post-test Control Group of Quasi-experimental was adopted as a Design for the study. It is called quasi-Experimental because it lacks the full laboratory control and laboratory isolation, the designs are dependent upon the natural setting in which the researchers find themselves. The designs also explore the opportunity of collecting data in situations where nature has performed, or is performing her own experiment (Sambo, 2005). The authors further explained that the design provides information from which selection bias and experimental mortality could be determined and the other factors as rival hypothesis of the observed gain score will be controlled. The quasi experiment is an empirical study used to estimate the causal impact of an intervention on its target population.

G_1:	**Y_{11}**	**X**	**Y_{12}**
G_2:	**Y_{21}**		**Y_{22}**

Source; Adopted from Sambo (2005)

Area of the Study

Benue state has legacy of the administrative entity which was carved out from the protectorate of Northern Nigeria at the early period of the twentieth century. The entire territory was previously known as the Munshi province until the early 1918 when dominant geographical features begin, the name Benue River was therefore adopted. The Benue State was initially named after River Benue and the Benue was formed from the former Plateau state around 1976, together with Igala and some aspect of Kwara state. In the year 1991, other part of Benue state dominantly Igala speakers and parts of Kwara state were brought together to formed Kogi state. Some Igbo people were found around the boundary area like Obi and Oju and Ado LGA. The area popularly known as the Heartbeat

of middle belt, north with Niger river, the Otukpo mainly Idoma people's traditional and administrative capital of the land. The place also known as Lion Heart and land of Brave.

Population of the Study

The population of this study comprises of 317 business education students in NCE 1 level within ten (10) Colleges' awarding NCE in Business Education. The schools are; Federal College of Education Odugbo, College of Education Katsina Ala, College of Education Oju, Gboko College of Education, Unity College of Education Aukpa Adoka, Kwararafa College of Education Otukpo, Emmanuel Ebije Ikwue College of Education Otukpo, Sinai College of Education, Entrepreneurial Studies Gboko, Calvin Foundation College of Education, and Apa College of Education Aido. These Colleges of Education mentioned, are the respective population of the study for this research.

Sample and Sampling Technique.

The research being quasi experimental in nature, used an intact class to achieve the objective of the study. Fresh NCE 1 Business Education students of the Federal College of Education Odugbo were used as experimental group and the College of Education Oju, as control group and the students possessed the same characteristics such as age, gender and environment with those involved in the Experimental group.

Instrument for Data Collection

The instrument that was used in this study for the collection of data was the Meta-language of Accounting Achievement Test (MLAAT), the measurement instrument was Adopted by the researchers from the study Conducted on Meta Language of Accounting among the students of business education in the sampled colleges. The Meta-language of Accounting Achievement Test (MLAAT) was divided into Pre-test and Post-test that contained 20 items multiple choice questions with option letter A-D which was almost the same for both the Pre-test and Post-test that were administered prior and after the treatment.

Result on Research Question

What is the effect of Z to A teaching approach on the academic achievement of students of business education in colleges of education within Benue State of Nigeria, using mean difference?

The result presented in Table 2 shows that there were 30 students in the experimental group and 46 students in the control group, The experimental group had a pre-test mean achievement score of 22.16 and standard deviation of 7.77 while, control group had a pre-test mean achievement score of 22.12, and standard deviation of 7.54. The result further

shows that mean achievement scores are different. However, the significance of the difference was established by result of the hypothesis test.

Table 2: Pre-test mean achievement scores of Business Education students taught Meta-language of accounting in the experimental and control group

	Group	N	Mean	Std. Deviation
Pre_test	Experimental	30	22.16	7.76
	Control	46	22.12	7.54

Source: Field Work (2024)

What is the difference between pre-test and post-test mean achievement scores of students taught meta language of accounting using 'Z to A' approach?

The result in Table 3 shows that there were 30 students in the Experimental group taught Meta-language of accounting. 30 were taught using Z to A teaching approach while 46 using conventional teaching approach. The pre-test mean achievement scores of the experimental group is 22.16, while the standard deviation is 7.76. However, in the post-test, the group had a mean achievement score of 35.27 while the standard deviation is 12.72, after the treatment (Z to A teaching approach), it is very clear that the Meta-language of accounting students had a higher achievement in the post-test given than in the pre-test. Moreover, significant effect exists between the pre-test and post-test mean achievement scores of the students of Meta-language of accounting in the experimental group.

Table 3: Pre-test and post-test mean achievement score of colleges of education students taught Meta-language of accounting using Z to A teaching approach.

Group		N	Mean	Std. Deviation
Experimental	Pre-test	30	22.16	7.76
	Post-test	30	35.27	12.72

Source: Field Work (2024)

Hypothesis Test

H_{01}: There is no significant difference between pre-test mean achievement scores of students taught meta language of accounting.

The data presented in table 3 shows the results of independent sample t-test used for the testing of difference between the pre-test mean achievement scores of the students of Meta-language of accounting in experimental and control group. The data from the table showed the mean achievement scores of the experimental and control groups as 22.16

and 22.12 with a standard deviation of 7.76 and 7.54 respectively. The t-calculated is 0.033 while, the t-critical is 1.66 with degree of freedom of 145. Since the t-calculated is below the t-critical and the P value above 0.05 level of significance. This shows that no significant difference exists between the pre-test mean achievement scores of students in the experimental and that of the control groups. Therefore, the null hypothesis (There is no significant difference between pre-test mean achievement scores of the students taught Meta-language of accounting in the experimental and control group) is accepted.

Table 4: Test of difference between pre-test mean achievement scores of the students taught Meta-language of accounting in the experimental and control groups

Pre-test	N	Df	Mean	SD	t-cal	t-crit	P value	Decision
Experimental	30		22.16	7.76				
		145			0.033	1.66	0.707	Accept H_{01}:
Control	46		22.12	7.54				

Source: Field Work (2024)

There is no significant difference between pre-test and post-test mean achievement scores of students taught Meta language of accounting using Z to A teaching approach.

Table 5: showed the difference between the pre-test and post-test mean achievement scores of students taught Meta-language of accounting in the experimental group using paired sample t-test. The data from the table disclosed that the pre-test mean achievement scores is 22.16 with the standard deviation of 7.76, after conducting the treatment (Z to A teaching approach) the post-test mean achievement scores is 42.46 with the standard deviation of 10.81. The t-calculated is 6.604 while, the t-critical is 1.99 with degree of freedom of 79 and the P value of 0.000. This also indicated significant difference exists between the pre and post-test mean achievement scores of the experimental group. Where the t-calculated is above the t-critical and the P value is below 0.05 level of significance, this shows that significant difference exists between the pre and post-test mean achievement scores of students taught Meta-language of accounting in the experimental group. The null hypothesis which stated no significant difference between pre-test and post-test mean achievement scores of students taught Meta-language of accounting in the experimental group is therefore rejected.

Table 5: Test of difference between pre-test and post-test mean achievement scores of students taught Meta-language of accounting in the experimental group.

Experimental	N	Df	Mean	SD	t-cal	t-crit	P value	Decision
Pre-test	30		22.16	7.76				
		79			6.604	1.99	0.000	Reject H_{02}:
Post-test	30		35.27	12.72				

Source: Field Work (2024)

Summary and Conclusion

This work focused in achieving the stated specific objective of which research question and hypotheses was formulated. These are all formed in order to provide ability to implement the statistical work that help in achieving the purpose of this study. The research employed a quasi-experimental non-equivalent control group design. The population of this research work involved all 317 Business Education students offering principles of accounting at the first year in the ten Federal, State and Private Colleges of Education offering business education in Benue State of Nigeria. During the period of this study, two out of the ten Colleges were selected using simple random sampling technique. The technique was used to select the experimental and control group from two the Colleges selected. Total of 76 students were used as sample for this particular study, that is, 30 students in experimental group while 46 students in control group respectively. Summarily, the analytical findings reveal that Meta-language of accounting communicates with better achievement using 'Z to A' teaching approach.

Recommendations

Based on the findings and the conclusion made on this particular study, the following recommendations were made:

1. Lecturers handling principles of accounting should put more emphasis on the use of Z to A Teaching Approach specifically when it comes to teaching Meta-language of accounting.
2. Accounting lecturers should always develop their plan of instructions using the Z to A teaching strategy as discovered by the study.
3. Curriculum experts, should also consider the use of this teaching strategy in their curriculum development, specifically when it comes to Meta-language of accounting.

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