

Instructional Scaffolding and Students' Academic Performance in Business Studies in Ogba-Egbema-Ndoni Local Government Area, Rivers State

By

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Abstract

The present study examined the impact of instructional scaffolding on the academic performance of students in Business Studies at Community Secondary School Okposi, located within the Ogba-Egbema-Ndoni Local Government Area. The scaffolding instructional strategy was employed as the experimental condition, while the traditional lecture method served as the control condition. The investigation was guided by two objectives, two research questions, and one hypothesis. A quasi-experimental pre-test post-test design with intact classes was utilized for the study. The population for this research comprised all 100 junior secondary school two students enrolled in Business Studies, with a sample size of 41 participants selected randomly from this population. The theoretical framework underpinning the study was grounded in Vygotsky's Social Constructivism and the principles of instructional scaffolding. The Business Studies Performance Test was utilized as the primary instrument for data collection. Responses obtained from the Business Studies Performance Test were analyzed using the Kuder Richardson 20 (KR-20) formula, yielding a reliability coefficient of 0.81. The mean and standard deviation were employed to address the research questions, while paired t-test and two-way ANCOVA at a 0.05 alpha level of significance were utilized to evaluate and analyze the hypotheses. The findings of the study indicated, among other conclusions, that the scaffolding instructional strategy exerted a significant positive influence on students' performance in Business Studies. In light of these findings, it was recommended, among other suggestions, that Business Studies educators should implement scaffolding instructional strategies in their teaching practices, as this approach would facilitate the incorporation of relevant examples and support from the immediate school environment, thereby rendering the learning experience more authentic for the students.

Keywords: Business Studies performance, Scaffolding strategy, Production

Introduction

Education constitutes a crucial investment for both human and economic advancement and is subject to the influences of the surrounding environment in which it operates. Transformations in technology, labor market dynamics, and the overarching global context necessitate appropriate policy interventions. Cultural traditions, societal norms, and religious beliefs profoundly impact

the educational system while concurrently being shaped by it. The interplay of continuity and change persists as an enduring phenomenon, with society being tasked to dictate the velocity and trajectory of these developments. Researchers must remain preoccupied with methodologies, approaches, strategies, and principles that yield the requisite functional, pertinent skills, competencies, and attitudes.

Business Studies as a subject is taken in junior secondary as a pre-vocational offering employing a comprehensive curriculum. It is designed to furnish learners with the essential skills and knowledge required for pursuing more specialized and advanced coursework at higher educational levels. The importance of business as a driver of economic development is unequivocal. Enterprises significantly contribute to national prosperity through the production and distribution of goods and services, thereby engendering increased income, job opportunities, and improved standards of living. It has been recognized that the lack of appropriate pedagogical methodologies or approaches constitutes a critical factor that significantly contributes to the subpar academic performance observed among students in this domain (Fehintola, 2021). Consequently, this study aims to examine the impact of instructional scaffolding strategy on the academic achievement of students in Business Studies within the study area.

Problem Statement

Students in every institution of learning attain certain levels of academic performance based on how they are taught by their teachers and through the methods, strategies, and approaches adopted to ensure the achievement of the expected outcome. There have been various methods used in teaching various concepts and topics in Business Studies, which have not particularly convincing in promoting meaningful learning of Business Studies. It has been revealed that difficulty in comprehending some concepts in Business Studies and other Business education subjects is attributed to the complexity, misunderstanding, and misinterpretation of the concepts used in the topics.

Students' performances in business education subjects, particularly Business Studies internal and external examinations, have been consistently poor. This observed shortcoming is evidenced in

Table 1.1, which reflects the students' poor performance in Business Studies Junior Secondary two third-term examinations from 2019-2022 in the area.

Table 1.1: Performance of candidates in Business Studies at the junior secondary two (third term) examination 2019-2022 in Ogba-Egbema-Ndoni Local Government.

Number and Percentages of Obtained Grades:

Year	Total Sat	No of A	No of B	No of C	No of P	No of F
2019	3,633	440	548	561	603	1,481
		12.11%	15.07%	15.43%	16.60%	40.76%
2020	6,019	667	804	1,011	1,079	2,458
		11.08%	13.36%	16.80%	17.94%	40.83%
2021	5,692	560	710	912	1,168	2330
		9.83%	12.48%	16.02%	20.52%	40.93%
2022	5,633	448	662	806	1,306	2,411
		7.95%	11.76%	14.30%	23.19	42.80%

Source: Ogba-Egbema-Ndoni Local Government Education Authority, 2024.

The above observed situation was capable to impact the future of the nation and its academic realm adversely if nothing is done to redress it, that is, it can lead to a decline in the national development.

The problem of the present examination therefore, was to test the effectiveness of the scaffolding strategy on enhancing the performance of students in Business Studies.

Purpose

This study explored the effect of instructional scaffolding on students' performance in Business Studies in the local government area. Specially, the study intends to:

1. Evaluate the extent to which the Scaffolding strategy affects the performance of students in Business Studies.
2. Determine the joint effect of instructional scaffolding and gender on students' performance in Business Studies

1.4 Research Questions

The following research questions will guide the study based on the objectives;

1. What effect does the instructional scaffolding strategy have on students' performance in Business Studies?
2. What joint effect does the scaffolding strategy and gender have on students' performance in Business Studies?

1.5 Hypothesis

The hypothesis below was formulated and tested:

1. There exist no significant difference between male and female in their performance based on instructional strategy and gender in Business Studies.

Literature Review

Instructional scaffolding strategy

Instructional scaffolding strategies within the realm of education denote the supportive methodologies employed by educators to facilitate students' learning experiences. As articulated by Pea in Ali (2022), scaffolding serves as an educational concept that encapsulates a collection of pedagogical techniques aimed at guiding learners toward a more profound comprehension of material and, ultimately, fostering greater autonomy in their educational endeavors. Subsequently, these support mechanisms are withdrawn to empower students to engage in independent work. According to Nwanekezi and Arokoyu (2014), scaffolding encompasses the educator's regulation of the learning activity, enabling the learner to tackle problems or execute tasks that would be

unfeasible without such guidance. The objective of these strategies is to furnish learners with direction and structure as they cultivate new competencies and knowledge.

The overarching aim of instructional scaffolding is to assist learners in actualizing their full potential by equipping them with vital support and resources necessary for success (Nwanekezi & Ugonwa, 2021). This process entails deconstructing intricate tasks into smaller, more digestible components, delivering lucid explanations and illustrative examples, providing prompts and cues, and systematically diminishing support as students gain independence. The employment of instructional scaffolding strategies has the capacity to enhance students' conceptual understanding, critical thinking abilities, and attitudes toward the learning process. The judicious implementation of scaffolding can facilitate students' personal growth and enable them to attain their educational objectives.

Wang (2024); Arora, Al-Wad and Afari (2024) outline five principles for application:

1. Providing a reasonable teaching framework with progressive difficulty
2. Encouraging creative thinking
3. Guiding students to understand error-prone points through questioning
4. Breaking down large tasks into smaller steps referred to as chunking
5. Ensure that all learners participate

Instructional scaffolding strategy revealed several benefits. Grady and Marjorie (2020) and Alenandru, Shih-Yin and Chandralekha (2020) observed the following possible benefits: i). Possibility of early identification of giftedness ii). Offers individualized instruction iii). Higher assurance of the student acquiring the desired skill, ability, or knowledge iv). Affords differentiated instruction v). Effectuates efficiency v). Generates momentum vi). Involves the learner vii). Incites the learner to learn viii) Limits the degree of frustration for the learner.

Concept of Academic Performance

Matalaka and Dwakat (2022) posit that academic performance represents the attainment of educational objectives achieved either by students or educators; it reflects the extent to which a student meets the standards established by local governing bodies within the institution.

Academic performance is influenced by a complex interplay of numerous internal and external determinants. According to Kumar and Anburaj (2024), Ghanney and Wotordzor (2024), internal factors include personal traits such as time management skills, study strategies, and psychological health, while external factors encompass socioeconomic conditions, parental involvement, and institutional characteristics (Siswanto, 2023). Understanding these influences is crucial for devising effective educational interventions.

The aspiration to enhance academic performance is a common objective among students. To boost students' performance; , Podareducation (2021); and Tenzin, Seden and Dorji (2021) revealed the following in their findings: recognize the best way you absorb knowledge, figure out the areas you find most difficult, seek counsel from your teachers, the cultivation of fundamental learning competencies, establish objectives and prioritize tasks, integrate physical activity and nutritional well-being, and a healthful lifestyle

Concept of Business Studies

Ezeani and Ogundola (2016) posited that business education constitutes a segment of vocational educational programs that equip students with the attitudes, skills, knowledge, and understanding essential for entry into and progression within careers in the business sector. Business studies constitutes a fundamental aspect of vocational learning which enhances the integration of cognitive and hand-operated skills in the acquisition of specialized practical training essential for business and industrial contexts at the upper basic level.

To Adamu, Munkaila, Abdullahi, and Hamza (2022), Business Studies constitutes an essential component of vocational education, promoting the synthesis of cognitive and practical competencies requisite for achieving specialized training relevant to commerce and industry within the context of junior secondary education. The curriculum associated with Business Studies incorporates disciplines such as Bookkeeping, Commerce, Office Practice, Shorthand, Computer Studies, and Typewriting.

In the context of Nigeria, secondary education is systematically divided into two distinct phases: junior and senior levels. As delineated in the national policy on education, the junior secondary is

designed to provide both pre-vocational and academic education (Federal Republic of Nigeria, 2014)

However, Business Studies' instructional methodologies and learning frameworks are impeded by a multitude of challenges. Among these obstacles is the widespread issue of insufficient financial resource allocation within Nigeria (Anyanwu and Ewhe, 2020; Asiyai, 2015). A further substantial impediment to the efficacious transmittal of business education is the inadequate ubiquity of competent educators; the challenge of deficient infrastructural resources; the deployment of antiquated curricula; and low level of public engagement and interest (Edokpolor & Owenvbiugie (2017)

Gender and Performance in Business Studies

The influence of gender on students' performance has persistently been a subject of scholarly investigation, however, no conclusive determinations have been established. According to Udoukpong, Emah, and Umoren (2012), empirical research studies are deficient specifically focused on Business Studies, therefore, the majority of the literature they analyzed pertains to Business Studies by way of its composite elements, including Office Practice, Shorthand, Typewriting, Commerce, and Bookkeeping. It is crucial to emphasize that bookkeeping and commerce encompass significant facets of Accounting and Mathematics, whereas Shorthand, Office Practice, and Typewriting are correlated with literacy, verbal proficiency, and technical subjects. Therefore, the studies they investigated maintain relevance to the present research inquiry. The findings in Sam (2016), which examined gender disparities in academic performance within the domain of Financial Accounting, substantiate the results obtained by Kiptum, Rono, Bii, and Too (2013). Audu and Abu(2024) as well as Ajai and Imoko (2015), who indicated that male and female students do not exhibit significant differences in their academic performance, therefore gender friendly.

Methodology

The study adopted a pre-test and post-test non-randomized control group quasi-experimental design whereby the students received treatment in their respective classes without re-arranging or disorganizing their class setting (Nwankwo, 2016). The experiment was carried out in intact classes. It was represented in table 2 below:

Group	Pre-test	Treatment	Post-test
E ₁	O ₁	x ₁	O ₂
C	O ₁	-	O ₂

Where:

- E₁ - Experimental class (taught using scaffolding strategy)
- C - Control group (taught using Lecture method)
- X₁ - Treatment group using scaffolding instructional strategy
- - Taught using Lecture method
- O₁ - Pretest
- O₂ - Posttest

The research was carried out in Community Secondary School, Okposi in Ogbia-Egbema-Ndoni Local Government Area, with its headquarters at Omoku. The study population consist of all the 100 (57 and 43 girls) JSS II Business Studies students in Community School Okposi, while the sample was 41(18 boys and 23 girls) determined by a random sampling technique.

The study used an instrument tagged Business Studies Performance Test. The content and face validity of the instruments were ascertained by the researcher's supervisors and two experts in Measurement and Evaluation, while the responses of students from the Business Studies Performance Test were subjected to Kuder Richardson 21 (KR-20) formula to obtain a reliability coefficient of 0.81.

To analyze the data, the questions were answered employing mean, percentages and standard deviation, while the hypotheses were tested using two-way Analysis of Covariance.

Results

Research Question 1: What is the effects scaffolding strategy on the performance of students in Business Studies?

Table 3: Mean and standard deviation on the pre and post-test performance scores of students in business studies.

Instructional strategy	Number	Post test		Pretest		Gained mean
		Mean	Std	Mean	Std	
Scaffolding	40	22.13	4.10	12.53	4.27	9.60
Lecture	41	16.12	1.47	5.59	1.74	4.17

In table 3, it is revealed that the students taught using instructional scaffolding strategy had the mean score of 12.53 (SD = 4.27) at pre-test and 22.13 (SD = 4.10) at post-test stage. These gave rise to a gained mean score of 9.60 from pre-test to post-test stage which indicate a positive effect of scaffolding on performance of students in Business Studies

Research Question 2: What is the joint effect of scaffolding strategy and gender on the performance of students in Business Studies?

Table 4: Mean and standard deviation on the performance score of students based on their instructional strategy groups and gender.

Instructional strategy	Gender	Number	Post test		Pretest		Gained mean
			Mean	Std	Mean	Std	
Scaffolding	Male	21	21.95	4.45	13.95	4.20	8.00
	Female	19	22.32	5.16	10.95	3.85	11.37
	Total	40	22.13	4.10	12.53	4.27	9.60
Lecture	Male	23	16.72	1.12	7.45	2.71	3.93

Female	18	17.27	2.68	5.49	1.19	2.88
Total	41	17.00	1.9	6.47	1.95	4.37

Table 4 elucidated that with regard to the cohort that received instruction through scaffolding, Table 4.2 demonstrated that the male participants within this group achieved mean scores of 13.95 (SD = 4.20) and 21.95 (SD = 4.45) during the pre-test and post-test phases, respectively. Consequently, they exhibited a mean score increase of 8.00 from the pre-test to the post-test interval. Conversely, the female participants within this cohort recorded mean scores of 10.95 (SD = 3.85) and 22.32 (SD = 5.16) at their respective pre-test and post-test intervals. Thus, they demonstrated a mean value increase of 11.37 from the pre-test to the post-test interval. From this analysis, it can be inferred that scaffolding proved to be more advantageous for the female participants in their performance in business studies compared to their male counterparts on one hand and when lecture method was used as depicted in table 4.

Hypothesis 1: There exists no significant disparity between male and female participants regarding their performance, as contingent upon instructional strategy and gender within the context of business studies.

Table 5: Summary of the two-way analysis of covariance concerning students' performance in Business Studies, predicated upon their instructional strategies and gender.

Source of variation	Sum of squares	Df	Mean square	F	p-value	Partial eta square
Corrected model	3487.96	8	3487.96	24.57	0.0005	0.559
Intercept	4954.56	1	4954.56	279.20	0.0005	0.643
Pretest (covariate)	143.68	1	143.68	8.10	0.0005	0.050
Instructional strategy	2526.32	3	842.11	47.46	0.0005	0.479
Gender	70.66	1	70.66	3.98	0.049	0.025
Instructional strategy and gender (interaction)	50.90	3	16.97	0.956	0.415	0.018
Error	2750.55	155	17.75			
Corrected total	6238.51	163				

R squared = .559 (adjusted) R squared = 0.536

Table 5 Revealed that f-value 47.46 for instructional strategy was obtained at degrees of freedom of 3 and 155 at 0.0005 level ($P < 0.05$), which is less than 0.05 the chosen alpha level. So the null hypotheses is rejected which indicated that instruction strategies had differential effects on students' performance in business studies. This is supported by a moderate effect size which is indicated by the partial eta squared of 0.479 obtained for instructional strategy.

Discussion of Findings

The results derived from this investigation indicated that the instructional scaffolding strategy yielded significantly elevated mean post-test scores, coupled with a substantial mean gain, thereby demonstrating its efficacy in improving the performance of students in Business Studies in comparison with Lecture Method. In the hypothesis testing, the statistical analysis revealed a noteworthy disparity in the mean performance scores between students who were instructed via the scaffolding strategy and those who received instruction through the traditional Lecture method. This finding aligns with the research conducted by Wang (2024), who implemented the scaffolding strategy in the teaching of writing tasks. The data indicated that students exposed to science education through the Scaffolding Teaching Strategy (STS) attained significantly superior outcomes than their counterparts instructed via the Traditional Lecture Teaching Method (TLTM). Moreover, neither gender nor achievement level exhibited a statistically significant impact on the mean achievement score of students receiving Science Education instruction through STS.

The efficacy of the instructional scaffolding strategy is largely attributable to its comprehensive incorporation of contextual variables, thereby rendering the learning experience more pertinent and compelling for students. This approach not only cultivates a more profound comprehension of the subject matter but also augments students' capacity to connect the content with their real-world experiences. The empirical evidence from this study illustrates that the scaffolding strategy produced a marginally higher mean difference for both male and female students, alongside a greater mean gain in comparison to the Lecture method. Scaffolding consistently maintained elevated mean post-test scores, thereby signifying its effectiveness in enhancing students' academic performance in Business Studies.

Upon conducting hypothesis testing, the statistical outcomes revealed no significant differences in the mean achievement scores between female and male secondary school students instructed in Business Studies utilizing the scaffolding strategy and those taught through the conventional lecture method. This observation corroborates the findings of Tenzin, Seden and Dorji (2021), which indicated that the instructional scaffolding teaching strategy substantially enhances students' performance more effectively than the conventional lecture method in the domain of Biology concepts. Gender did not emerge as a significant determinant of students' performance, although female students did surpass their male counterparts in achievement.

The findings of the analysis indicated that there was no notable impact of gender and teaching methodology on students' academic performance in Business Studies. This suggests that the combined influence of gender alongside the scaffolding strategy and the Lecture method did not significantly alter students' post-test mean scores in the Business Studies performance assessment. This conclusion is consistent with the investigation conducted by Alexandru, Shih-Yin, and Chandralekha (2020), which explored the effects of metacognitive learning styles on academic achievement and retention of ecological concepts among Biology students. Furthermore, Audu and Abuh (2024) found that students instructed in science education through the Scaffolding Teaching Strategy (STS) demonstrated significantly superior outcomes compared to those taught via the Traditional Lecture Teaching Method (TLTM). Additionally, neither gender nor achievement level significantly influenced the mean achievement scores of students receiving Science Education instruction through STS.

Conclusion

Based on the findings, the study concluded that instructional scaffolding strategy is significantly more effective than the conventional Lecture method in enhancing the performance of students in Business Studies in Ogba-Egbema-Ndoni Local Government Area. Also, the lack of significant gender-based differences and interaction effects suggests that the scaffolding strategy is an inclusive, gender friendly and versatile instructional strategy that can benefit a diverse student population.

Recommendations

The following recommendations were made based on the findings of the study

1. Professional development programs should be designed to train teachers through seminars, workshops, and conferences in implementing the scaffolding strategy effectively to improve students' performance
2. Scaffolding instructional strategy should be used by Business Studies teachers in teaching students, as this will draw examples and support from the school's immediate environment, thus making learning more real for the learners.
3. Students should be given equal opportunity, just as seen in the scaffolding strategy classroom, regardless of their gender to develop and sustain their performance in Business Studies

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