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Co-operative Learning Strategy and Academic Achievement of Business Studies Students in Secondary Schools in Wukari Education Zone, Taraba State, Nigeria

Ikpe Ijuo David[1], Magaji Ruth[2]
Federal University, Wukari, Taraba State, Nigeria
Corresponding Author: Ikpe Ijuo David ikpeijuodavid@gmail.com

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A B S T R A C T

The study investigates the impact of cooperative learning strategies on the academic performance of Business Studies students in secondary schools in the Wukari Education Zone, Taraba State, Nigeria. It uses Levi's Social Interdependence Theory and Bandura's Social Learning Theory to support the research. The study used a quasi-experimental design and examined three instructional strategies: STAD Model, Jigsaw II Model, and Lecture methods. The study targeted 2,684 Business Studies students in 47 public secondary schools during the 2022/2023 academic session. The research instrument used was the Business Studies Achievement Test (BSAT), which was assessed by experts at Taraba State University. The instrument's internal consistency reliability was found to be 0.83.

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INTRODUCTION

In recent times, there has been a growing emphasis on vocational-related subjects globally, spurred by the rapid expansion of industrialization driven by technological advancements and innovations in both developed and developing nations. The progress and prosperity of many countries hinge on the advancement of science, technology, and vocational education. This underscores the significance of Business Studies in the socio-economic development of any nation, particularly in Nigeria, given its pivotal role in economic growth and national advancement. The importance of Business Studies to the economy has garnered increased attention both in Nigeria and internationally. In recent years, Business Studies has emerged as a vital component for sustainable national progress and development, being offered at the junior secondary school level to impart crucial business concepts and skills that foster self-reliance among the growing youth population graduating from schools annually in Nigeria. It caters to the needs of the majority through its practical and applicable content, addressing contemporary economic demands. As highlighted by Nnamdi (2014) and Jack (2013), the effective delivery of vocational education curriculum is imperative for ensuring sustainable technological development. Business Studies constitutes a fundamental element in technology and skill enhancement, necessitating the proper delivery of its curriculum in junior secondary schools to achieve enduring technological and skills development.

As per Akpan (2015), the 2012 Revised Edition of the 9-Year Basic Education Curriculum, crafted by the National Education Research and Development Council (NERDC), incorporates Business Studies as one of the ten subjects earmarked for instruction at the Junior Secondary School (JSS) level. The curriculum encompasses a diverse range of subjects, including English language, Mathematics, Basic Science and Technology, Religion and National Values, Cultural Creative Arts, Nigerian Languages, Pre-vocational Studies, French, and Arabic. The primary objective underlying the development of the 9-Year Basic Education curriculum is to achieve the overarching goals of 'Education for All'. Additionally, Akpan (2015) delineates the general aims of Business Studies at the JSS level, which include providing students with foundational orientation and skills relevant to potential careers, equipping them with fundamental business skills for personal and future utilization, preparing them for further education in business studies, establishing a link between acquired knowledge and skills with the national economy, and fostering the development of basic skills in office occupations.

Pre-vocational Business Studies, therefore, aims to furnish students with fundamental business skills and knowledge to enable them to assess their potential in the business sector. This allows them to make informed decisions regarding further education in business studies after completing junior secondary school or to engage in small-scale entrepreneurship if they opt not to pursue further education.

Despite the importance of the subject, reports from examination bodies such as the West African Examination Council (WAEC) and the National Examination Council (NECO) consistently indicate low enrollment and poor performance among students in Business Studies examinations. Okonkwo (2012) reviewed students' performance in Business Studies from 2013 to 2022 in WAEC examinations, revealing a persistent pattern of poor performance. The chief examiner's report from WAEC 2018 highlights that a majority of Business Studies candidates performed below average.

Asikhia (2010) attributes students' poor achievement in Business Studies to ineffective teaching methods employed by teachers. This issue has prompted significant concern among stakeholders in Business Studies education. Researchers such as Longjohn (2009) and Igboegwu (2010) have identified various factors contributing to this problem, including a lack of qualified teachers, insufficient teaching materials and equipment, poor classroom management, student disinterest, perceived difficulty in certain Business Studies concepts, inappropriate language of instruction, and ineffective teaching strategies.

Given these challenges, the teaching of Business Studies requires an approach that emphasizes the relevance and applicability of its concepts and processes. The main purpose of methodology in this context is to ensure that ideas and information are presented meaningfully, clearly, and retained over time. Business Studies lessons should integrate current ideas and innovations, particularly in the modern digital age where students are highly engaged with technology. Utilizing activity-based learning methods, such as incorporating games both in and out of the classroom, can enhance students' understanding and retention of technical concepts in the subject.

Furthermore, Nigeria has long prioritized rapid industrial growth for economic development, particularly in the 21st century characterized by rapid technological advancements. To meet the needs of 21st-century learners, innovative strategies such as Cooperative Learning Strategy (CLS) are being explored. CLS involves organizing students into small groups to work collaboratively on academic tasks, fostering positive interdependence, promoting interaction, ensuring individual accountability, teaching interpersonal and social skills, and facilitating group processing.

Cooperative learning strategies like Student Team Achievement Division (STAD), Jigsaw II, and Teams-Games-Tournaments (TGT) can effectively engage students of varying abilities in learning activities. Implementing cooperative learning methods tailored to students' learning capabilities and fostering mutual support among peers can enhance students' academic achievement in Business Studies.

Improved academic achievement in Business Studies is essential for assessing students' progress and fostering positive attitudes towards the subject. Addressing the problem of poor academic performance in Business Studies requires the development and implementation of effective teaching and learning methods. Academic achievement serves as a benchmark for evaluating

the extent to which educational goals are achieved and the manifestation of what learners have acquired in a particular subject or discipline.

The prevalent use of ineffective teaching strategies in secondary schools, including traditional instructional methods, has been criticized for contributing to poor academic performance among students. Despite efforts to incorporate alternative teaching methods such as discovery learning and field trips, students' achievement in Business Studies remains suboptimal in the Wukari education zone based on WAEC results from 2013 to 2018.

The issue of underachievement in Business Studies has been linked to multiple factors, such as inadequate teaching methodologies, students' perception of complexity in specific concepts, and insufficient teaching resources and facilities. Predominantly, ineffective instructional approaches have been identified as the primary contributors to students' ongoing struggles with Business Studies.

Given the pressing challenges in Business Studies education, exploring modern and appropriate teaching alternatives becomes imperative. Therefore, this study seeks to investigate the impact of cooperative learning strategy on students' achievement in Business Studies.

LITERATURE REVIEW

Two significant theories, Levi's Social Interdependence Theory (1948) and Bandura's Social Learning Theory (1977), were utilized to underpin the study.

Levi's Social Interdependence Theory (1948) suggests that individuals are motivated by states of tension, driving them to pursue desired goals. This tension-induced behavior can lead to both positive and negative social interdependence, with cooperation or competition being the respective outcomes.

This theory serves as the foundation for cooperative learning methodologies, emphasizing collaboration towards shared objectives. It resonates with the cooperative nature of cooperative learning, where knowledge and skills are constructed through mutual interaction among participants. Consequently, cooperative learning implementation involves designing interactive tasks and lessons to foster collaborative learning towards common goals.

Bandura's Social Learning Theory (1977), articulated by Albert Bandura, highlights the role of observation, modeling, and imitation in learning processes. The theory suggests that learners can enhance their understanding and retention by observing and emulating desired behaviors, attitudes, and reactions demonstrated by others. Human cognitive processes are central in this theory, as behavior is first mentally processed before being enacted.

Bandura contends that much of human behavior is acquired through observational learning, where individuals gain insights into new behaviors by observing others. Learning, according to this theory, predominantly occurs in social settings, where individuals acquire knowledge, rules, skills, and attitudes through observation. The theory posits reciprocal interactions among individuals, behaviors, and the environment, each influencing the others.

Bandura's theory implies that students can learn effectively through observation. By illustrating the consequences of behaviors, educators can reinforce desired behaviors and deter undesirable ones. This theory underscores the importance of observational learning and modeling in education, aligning with the study's focus on enhancing learning through observation and emulation of desired behaviors and attitudes.

METHODOLOGY

The study employed a quasi-experimental design, specifically pre-test, post-test, non-equivalent control group design. Three instructional strategies (STAD Model, Jigsaw II Model, and Lecture method serving as the control) were the independent variables, while academic achievement was the dependent variable. The study was conducted in the Wukari Education Zone of Taraba State, Nigeria. The design is represented diagrammatically as follows: Diagram representation follows:

Table 1. Pretest, Treatment and Post-tst

Groups	Pre-test	Treatment	Post-test
Experimental (E_1) STAD Model	O_1	X_1	O_2
Experimental (E_2) Jigsaw II Model	O_1	X_2	O_2
Control Group (C) Lecture Method	O_1	-	O_2

Diagram representing research design adopted. Source (Okonkwo, 2012)

Where:

E_1 = Experimental group 1 (STAD Model)
E_2 = Experimental group 2 (Jigsaw II Model)
C = Control group (Lecture Method)
$X_1$and X_2Treatment that will be given to experimental groups
- = No treatment (Lecture method)
O_1= Pre-test for all groups
O_2= Post-test for all groups

The tool utilized for this research was the Business Studies Achievement Test (BSAT), comprising fifty (50) items sourced from standardized tests administered by the West African Examination Council (WAEC) between 2012 and 2021. The content of the instrument was reviewed by three experts from the Faculty of Education, Taraba State University, Jalingo, Nigeria.

The study's target population encompassed all 2,684 Business Studies students enrolled in the 47 public secondary schools within the Wukari education zone of Taraba State during the 2022/2023 academic session. A sample size of 219 was selected for the study.

The internal consistency reliability of the BSAT was evaluated using the Kuder-Richardson's formula-20 (K-R20), yielding a reliability index of 0.83. This index suggests that the instrument is reliable and appropriate for the specific objectives of the study.

RESEARCH RESULTS AND DISCUSSIONS

What is the difference in the mean achievement scores of students taught Business studies with Cooperative Learning Strategy (STAD) and students taught with Lecture Method in Wukari Education Zone?

Table 1. Mean Achievement and Standard Deviations of Pretest and Posttest of Experimental (STAD) and Control Groups

Group	**N**	**Pretest**		**Posttest**	**Mean Gain**
		Mean	**Std.Dev.**	**Mean**	**Std.Dev.**
CLS	68	24.15	6.52	58.71	6.70 34.56
LM	79	23.14	6.09	39.29	5.13 16.15
Mean Difference		1.01			19.42 18.41

Table 1 illustrates that the post-test mean achievement scores of students instructed in Business Studies using the Cooperative Learning Strategy (STAD) amount to 58.71, with a standard deviation of 6.70. Conversely, those taught through the Lecture Method exhibit a mean score of 39.29, accompanied by a standard deviation of 5.13. The discrepancy between the pre-test and post-test achievement mean scores for the Cooperative Learning Strategy (STAD) group is recorded at 34.56, while for the Lecture Method group, it stands at 16.15. These variations signify the outcomes attained by the respective groups.

Moreover, there exists a disparity of 19.42 between the post-test mean scores of the two groups, favoring the Cooperative Learning Strategy (STAD) cohort, with a mean gain of 18.41. This implies that students instructed in Business Studies utilizing the Cooperative Learning Strategy (STAD) demonstrated greater achievement gains compared to their counterparts taught through the Lecture Method.

Research Question Two

What is the difference in the mean achievement scores of students taught Business studies with Cooperative Learning Strategy (JIGSAW II Model) and students taught with Lecture Method in Wukar Education Zone?

Table 2.Mean Achievement and Standard Deviations of Pretest and Posttest of Experimental (JIGSAW II Model) and Control Groups

Group	N	Pretest		Posttest		Mean Gain
		Mean	Std.Dev.	Mean	Std.Dev.	
CLS	72	23.00	6.53	52.25	4.14	29.25
LM	79	23.14	6.09	39.29	5.13	16.15
Mean Difference		0.14		12.96		13.10

The findings from Table 2 indicate that the post-test mean achievement scores of students instructed in chemistry using the Cooperative Learning Strategy (JIGSAW II Model) amount to 52.25, with a standard deviation of 4.14. In contrast, those taught through the Lecture Method exhibit a mean score of 39.29, accompanied by a standard deviation of 5.13. The discrepancy between the pre-test and post-test achievement mean scores for the Cooperative Learning Strategy (JIGSAW II Model) group is recorded at 29.25, while for the Lecture Method group, it stands at 16.15. These disparities elucidate the outcomes achieved by the respective groups.

Furthermore, there exists a discrepancy of 12.96 between the post-test mean scores of the two groups, favoring the Cooperative Learning Strategy (JIGSAW II Model) cohort, with a mean gain of 13.10. This suggests that students instructed in chemistry utilizing the Cooperative Learning Strategy (JIGSAW II Model) demonstrated greater achievement gains compared to their counterparts taught through the Lecture Method.

Rsearch Question Three

What is the difference in the mean achievement scores of students taught chemistry with Cooperative Learning Strategy (STAD) and students taught with Cooperative Learning Strategy (JIGSAW II Model) in Wukari Education Zone?

Table 5. Mean Achievement and Standard Deviations of Pretest and Posttest of Experimental Groups (STAD) and (JIGSAW II Model)

Group	N	Pretest		Posttest	Mean Gain
		Mean	Std.Dev.	Mean	Std.Dev.
CLS(STAD)	68	24.15	6.52	58.71	6.70 34.56
CLS(JIGSAW)	72	23.00	6.53	52.25	4.14 29.25
Mean Difference		1.15			6.46 5.31

Results of Table 3 show that the posttest mean achievement scores of students taught chemistry with Cooperative Learning Strategy (STAD) is 58.71 with standard deviation of 6.70, while that of those taught with Cooperative Learning Strategy(JIGSAW II Model)is 52.25 with standard The variance of 4.14. The contrast between the pretest and posttest achievement mean scores of the Cooperative Learning Strategy (STAD) group amounts to 34.56, while that of the Cooperative Learning Strategy (JIGSAW II Model) group stands at 29.25. These distinctions illuminate the outcomes attained by the two groups. Additionally, there exists a discrepancy of 6.46 between the posttest mean scores of the two groups, favoring the Cooperative Learning Strategy (STAD) group, with a mean gain of 5.31. This suggests that students instructed in chemistry using the Cooperative Learning Strategy (STAD) demonstrated greater achievement gains compared to their counterparts taught through the Cooperative Learning Strategy (JIGSAW II Model).

The study investigated how Cooperative Learning Strategy influenced the academic performance of Business Studies students in Wukari Education Zone, Taraba State, Nigeria. It examined two teaching methods, namely Cooperative Learning Strategy and Lecture Method, as independent variables, while achievement served as the moderator variable. Pretest scores on the achievement and attitudes inventory scale were employed as covariates to address individual differences. The results are presented based on the study's objectives as follows:

Effect of cooperative learning strategy (STAD Model) and Lecture method on Students Academic Achievement in Business studies in Wukari Education Zone of Taraba State

Table 1 presents the findings indicating a notable contrast in the average achievement scores among students instructed in Business Studies using Cooperative Learning Strategy (STAD Model) and the Lecture Method. Students exposed to Cooperative Learning Strategy (STAD Model)

demonstrated superior mean achievement scores in Business Studies compared to those taught using the Lecture Method. This suggests that the implementation of Cooperative Learning Strategy in Business Studies instruction significantly enhances students' academic performance in the subject. Consequently, it is evident that the two instructional approaches do not yield equal outcomes. This aligns with the conclusions drawn by Yaduvanshi and Singh (2018), who similarly identified a substantial discrepancy in academic performance between students taught through Cooperative Learning (STAD Model) and those instructed via lecture methods.

Effect of Cooperative Learning Strategy (JIGSAW II Model) and Lecture Method on Students Academic Achievement in Business studies in Wukari Education Zone of Taraba State

The findings depicted in Table 4 indicate a distinction in the mean achievement scores between students instructed in Business Studies using cooperative learning strategy and those taught using lecture methods. The study unveils that students who received instruction in Business Studies through cooperative learning strategy (Jigsaw II Model) exhibited higher mean achievement scores compared to those taught using the lecture method. This suggests that the Jigsaw II Model significantly contributes to enhancing and elevating students' academic performance in chemistry, contrasting with the teacher-centered approach of the lecture method. These outcomes corroborate with the research conducted by Sheikhi, Zainalipoor, and Jamri (2012) in Iran and Odagboyi and Kreni (2017), which both concluded that students instructed using cooperative learning strategy (Jigsaw II Model) outperform those taught using lecture methods. Thus, indicating the superior effectiveness of the cooperative learning strategy (Jigsaw II Model) over the traditional lecture method. Moreover, this superiority is attributed to the instructional delivery method employed in cooperative learning strategy, fostering a more profound and meaningful understanding of the subject matter among students.

Effect of Cooperative Learning Strategy (STAD Model) and (Jigsaw II Model) on the academic achievement of Business studies students in Wukari Education Zone of Taraba State

The outcomes validated by the results presented in Table 5 elucidate the distinctions observed between the two groups. The findings indicate that students instructed in Business Studies using the cooperative learning strategy (STAD Model) achieved higher mean achievement scores compared to their counterparts taught using the cooperative learning strategy (Jigsaw II Model).

Additionally, there exists a disparity of 6.46 between the posttest mean scores of the two groups, favoring the Cooperative Learning Strategy (STAD) group, with a mean gain of 5.31. This suggests that students instructed in Business Studies with the Cooperative Learning Strategy (STAD) exhibited greater academic improvement compared to their counterparts taught with the Cooperative Learning Strategy (Jigsaw II Model). This underscores the

significance of the cooperative learning strategy (STAD Model) in enhancing students' achievement in Business Studies.

These findings align with the research conducted by Alabekee, Samuel, and Osaat (2015) in River State, which similarly concluded that the cooperative learning strategy (STAD Model) yielded higher mean achievement scores than the cooperative learning strategy (Jigsaw II Model) among their counterparts. Although the difference was not deemed significant, it underscores the capacity of the cooperative learning strategy to foster a deeper understanding of knowledge and skills among students, while also stimulating their interest and enthusiasm for acquiring knowledge.

CONCLUSION AND RECOMMENDATIONS

The findings of this study clearly indicate that employing cooperative learning strategies, such as the STAD Model and Jigsaw Model, could offer effective avenues for students to comprehend Business Studies concepts. Consequently, the study concludes that a significant disparity exists between the mean achievement scores of students instructed in chemistry using the cooperative learning strategy (STAD Model) compared to those taught via the Lecture method. Moreover, it was concluded that students instructed in Business Studies using the Cooperative Learning Strategy (Jigsaw II Model) achieved significantly higher mean achievement scores than their counterparts taught using the Lecture Method. Additionally, although statistically insignificant, students taught Business Studies with the Cooperative Learning Strategy (STAD) demonstrated greater academic improvement compared to their Cooperative Learning Strategy (Jigsaw II Model) counterparts.

These findings carry important implications, leading to the following recommendations in the context of Business Studies education:

1. Business studies teacher trainees should receive training on the implementation of cooperative learning strategies, including the STAD Model and Jigsaw II Model.
2. Business studies teachers should be encouraged to incorporate cooperative learning strategies (STAD Model and Jigsaw II Model) to enhance students' academic achievement in chemistry.
3. Cooperative learning strategies (STAD Model and Jigsaw II Model) should be promoted and integrated into Business Studies lessons to expose students to the dynamic and comprehensive nature of the subject.
4. Curriculum planners and educators should integrate innovative, problem-based, and activity-based pedagogical strategies like cooperative learning into teacher education programs.
5. National Educational Research and Development Council (NERDC) and other governmental bodies are urged to sponsor further research to assess the effectiveness of cooperative learning strategies in various aspects of Business Studies education on a broader scale.

REFERENCES

Akpan, N.R. (2015). Effect of cooperative learning instructional strategy on senior secondary school students achievement in biology in Anambra State, Nigeria. *International Journal for Cross Disciplinary Subjects in Education* 5(1), 2424-2427

Alabgekee, E.C., Samuel, A. &Osaat, S.D.(2015). Effects of cooperative learning strategy on students learning experience and achievements in mathematics. International Journal of Education Learning and Development. 3(4), 67-75

Asikhia, I. A., (2018) The implications of cooperative learning strategy on student's academic achievement *African Journal of Education and Technology* Volume 3 Number 1 (2013) 115-124 University of Port Harcourt, Nigeria. SSN-2046-6927 (print), ISSN 2046-6935 (Online) www.sachajournals.com.

Asikhia, O.A. (2010). Students' teachers' perception of the causes of poor academic performance in Ogun State secondary school (Nigeria): Implications for counseling fornational development.*European Journal of Social Science.*13(2),229-249

Ayeni, A. (2011). Teachers' professional development and quality assurance in Nigeria secondary schools.*World Journal of Education*, 1(2), 143-149

Bandura, A. (1977). Social Learning Theory (3rd Ed.), Englewood Cliffs, NJ: Prentice Hall Regents.

Bello, A.E. (2013). Effect of cooperative learning strategy on senior secondary school students 'achievement in biology. *Faculty Journal of Education 6(2)* .33-41

Igboegwu, V.D. (2014). The Effects of Cooperative Learning on the Academic Achievement and Knowledge Retention:*International Journal of Higher Education*, 3 (2), 1927-6044, Vietnam. Available at URL:http://dx.doi.org/10.5430/ijhe.v3n2p131

Johnson, C., Daigle, P., &Rustamov, I. (2010). Bandura's Social Learning Theory Applied to a "How- to "ExpositoryWriting Piece. [Online]Available: http://uhaweb.Hartford.edu /SMITHJO

LongJohn, I. T. (2009). Effect of game method of teaching on students" achievement in chemistry *Journal of Science Teachers Association of Nigeria* 44 (1 & 2), 85-92

National Educational Research and Development Council: (NERDC) (2009). 9-years Basic Curriculum for Islamic Studies: Abuja; Federal Republic of Nigeria.

Nnamdi, B.O (2014). Improving the teaching and learning of Business studies in primary school through collaborative approach. Ed. (Sadiku, J.S. 5th-10th September) Proceedings of MAN annual national conference. 190-196

odagboyi, D. S. (20117), Effects of Collaborative and Cooperative Learning Strategies on Upper Basic Students' Interest and Achievement in Basic Science. University Of Nigeria Virtual Library, Retrieved 2/4/2019

Sheikhi, F.A., Zainalipoor, H. &Jamri, M. (2012). An Investigation into the Effect of Cooperative Learning with Focus on Jigsaw Technique on the Academic performance of 2nd-Grade Middle School Students, *Journal of Life Science and Biomedicine*2(2), 21-24

Slavin, H.E. (2011). Improving teaching and learning through the use of co-operative and collaborative learning. *Journal of Curriculum Studies and Instruction.* 3, 18-28

Slavin, R. E. (2011). Instruction Based on Cooperative Learning. In R. E. Mayer & P. A. Alexander (Eds.) Handbook of Research on Learning and Instruction (pp. 344-360). New York: Taylor &Francis.

Vygotsky, L. S. (1978). Mind in society; the development of higher psychological processes. Cambridge: Hayward University Press.

West African Examination Council, (WAEC) (2010-2011).*Chief Examiners Reports*; Yaba: Lagos

West African Examination Council, (WAEC) (2010-2019).*Chief Examiners Reports*; Yaba: Lagos

West African Examination Council, (WAEC) (2018).*Chief Examiners Reports*; Yaba: Lagos

Yaduvanshi, U. (2018). Effect of Cooperative Learning Strategy on Geography Students' Academic Performance in Senior Secondary School in Sokoto: Thesis Submitted to School of Post Graduate Studies, Ahmadu Bello University Zaria