



## EFFECT OF ONE-MINUTE PAPER COOPERATIVE LEARNING STRATEGY ON JUNIOR SECONDARY SCHOOL STUDENTS' ACADEMIC ACHIEVEMENT IN BUSINESS STUDIES IN LAGOS STATE

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### Abstract

This study examined the effect of one-minute paper cooperative learning strategy on the academic achievement of junior secondary school students in business studies within Lagos State. A quasi-experimental design of pre-test, post-test, control group was adopted. One research question was raised, and one null hypothesis was formulated to achieve the study's objective. The sample consisted of 259 JSS3 students from two intact classes in secondary schools in Lagos State. The Business Studies Achievement Test (BSAT), with a reliability coefficient of 0.75, was validated and utilized for data collection. Mean, standard deviation and t-test were the statistical measures employed to analyze the data collected. The findings of the research question showed that students taught using a one-minute paper cooperative learning strategy performed better than their counterparts taught with the conventional method. The findings of the hypothesis revealed that there is a significant difference between the mean achievement scores of students taught business studies using the minute papers strategy and those taught using the conventional method. The study recommends among others that one minute papers cooperative learning strategy should be adopted in the teaching of business studies in secondary schools and that government through the Ministry of Education should include one-minute paper cooperative learning strategy in the list of suggested methods for teaching business studies in the curriculum of junior secondary schools in Lagos State and Nigeria at large due to their immense benefits.

**Keywords:** academic performance, business studies, cooperative learning strategy, one-minute papers

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### Introduction

Business studies is a pre-vocational subject offered to junior secondary school students in Nigeria. It encompasses an integrated approach to business education, equipping students with essential theoretical knowledge, skills, and attitudes necessary for careers or advancement in the business field. This subject serves as a foundation for skill development, facilitating multiple means of livelihood and contributing to the holistic development of the three "Hs" (the head, the heart, and the hands). Neglecting this aspect could hinder the formation of a well-rounded and integrated personality (Ayuba, 2018). As a compulsory subject at this educational level, business studies aims to provide students with fundamental insights into the business world. According to Jimoh et al. (2024), the overarching goals outlined in the UBE curriculum include equipping individuals with vital skills to pursue occupations, imparting basic business skills for personal application in both the present and future, preparing students for advanced studies in business, establishing



connections between knowledge and skills and the national economy, and fostering essential skills for office occupations. However, these objectives can only be achieved if students demonstrate encouraging levels of achievement in the subject.

Academic achievement is crucial for achieving educational goals and measuring the standard of education. It encompasses excellence in both academic and extracurricular activities, reflecting the fulfilment of short and long-term goals (Akerman, 2019). Academic achievement involves studying, remembering, and communicating facts verbally and in writing. Observation and preliminary studies in the field of Business Education have shown that junior secondary school students' academic achievement in Business Studies has consistently fallen short of expectations. Data from the West African Examination Council (WAEC) and its local counterparts, the National Examination Council (NECO), over the years has shown notable instability in students' academic performance in Business Studies (Ediagbonya & Adebayo, 2017). Specifically, the Basic Education Certificate Examination (BECE) results for Business Studies in 2020, 2021 and 2022 from sampled schools in Lagos State revealed failure rates of 54%, 39% and 57% respectively, indicating fluctuating performance levels during the reviewed years. Consequently, parents, teachers, school administrators, and other stakeholders in Business Education have expressed significant concern regarding this instability in academic achievement.

Several factors influencing students' academic achievement have been identified, including the academic environment, study habits, class size, location, gender stereotypes, parental socioeconomic background, parental support and involvement, and the calibre of teachers along with their instructional strategies (Ayuba, 2018; Azih & Samuel, 2019). However, the method of teaching has emerged as a primary factor in the instructional process. The predominant reliance on conventional teaching methods for lesson delivery is often seen as a significant contributor to students' academic failures (Ediagbonya & Adebayo, 2017; Boma, 2019). In Nigerian secondary schools, conventional teaching methods—such as lectures, Montessori techniques, dramatization, inquiry-based learning, and project work—tend to be expository and fact-oriented. This approach often places students in a passive role, where they receive information from their teachers while relying on them to determine what, when, and how they learn. Consequently, conventional teaching enables teachers to maintain control over their audience, which can lead to a lack of active participation from students (Jimoh et al., 2021). Despite the advantages of conventional teaching styles, such as accommodating large classes, saving time, and covering a wide range of material, the adoption of learner-centred approaches remains essential for ensuring students' active involvement in the learning process. This engagement is critical for helping students retain what they learn and apply it meaningfully.

A transition from teacher-centred instructional styles to student-focused methods is essential for fostering critical thinking and effective communication skills in students. Recent research, including studies by Karali and Aydemir (2018), Boma (2019), Feldman (2019), and Umoru and Oluwafemi (2020), advocates for instructional strategies that enhance student interest and promote the development of inquiry, critical thinking, problem-solving skills, as well as their ability to work cooperatively and communicate effectively. One prominent student-centred method is Cooperative



Learning (CL), which has been shown to improve academic achievement, critical thinking abilities, and overall well-being. This approach encourages collaboration on projects, reduces stress, and fosters positive attitudes (Karali & Aydemir, 2018). Various cooperative learning strategies documented in literature include STAD, Jigsaw II, TGT, Round Table Discussions, Group Investigations, Jigsaw Puzzles, Round-Robin, Think-Pair-Share, Three Minute Reviews, and the One-Minute Paper (Feldman, 2019). While many of these methods have gained recognition in literature, experimental studies, and practice, others, such as the One-Minute Paper, have not received much attention, particularly in the context of business studies within business education. To address this gap, this study aims to investigate the effectiveness of the One-Minute Paper cooperative strategy in enhancing academic achievement among junior secondary school students in business studies in Lagos State.

The One-Minute Paper (OMP), also known as a minute paper, one-minute wonder, or half-page paper, was developed in the early 1980s. It involves students writing anonymously for one minute at the end of a lesson in response to two primary questions: "What was the most important thing you learned during this class?" and "What important questions remain unanswered?" These questions can be posed for students to answer collaboratively in small groups or addressed individually at the beginning or near the end of a class session. The teacher then provides feedback during the next class or engages with students privately. The OMP involves dialogue about the students' learning, prompting them to write brief answers, usually limited to two or three questions provided by the teacher, about areas they find unclear and any questions they have regarding the material. This exercise takes place in the final minutes of a teaching session (Umoru & Oluwafemi, 2020). The feedback gathered from these papers can significantly influence the content of future lessons, and follow-up on individual or group comments can be achieved through brief written responses or direct communication with students. The OMP is an inexpensive, mutually beneficial, formative assessment method. The OMP provides a straightforward and immediate way to evaluate student learning objectives. It creates a platform for learners to reflect, ask questions during the course, and offer feedback to teachers on their understanding of the material, how well the learning objectives were met, and ultimately reduces the volume of papers for grading when applied collaboratively. This approach also fosters interaction between teachers and learners by addressing queries, leading to a deeper understanding of the topic (Umoru & Oluwafemi, 2020).

Cooperative learning techniques can be effectively applied at nearly all educational levels and can be tailored to meet specific classroom needs. However, the One-Minute Paper (OMP) technique may prove particularly beneficial in large classes, where it is challenging for instructors to engage with every student and monitor their attentiveness as effectively as in smaller groups. This approach is especially relevant in Nigeria, where public secondary school classrooms often contain a high number of students. The OMP is also considered a valuable instructional tool across a range of disciplines, making it suitable for teaching Business Studies, a subject that integrates five distinct business areas, which can be overwhelming for students without effective teaching strategies to clarify the underlying concepts. Research surrounding the OMP, including studies by Ashakiran and Deepthi (2013), Meehlhause (2016), Fatin and Sarah (2019), and Fritz (2022),



suggests that the strategy has the potential to enhance students' academic achievement when implemented effectively. Additional studies indicate a significant correlation between OMP and improved academic performance (Whittard, 2015; Naktal & Muhammad, 2021; Whittard et al., 2022). These researchers found that students view the one-minute paper as a learning method that fosters creativity, aids their understanding of the concepts taught, and contributes to academic success. Whittard et al. (2022) also emphasized that students appreciate the one-minute paper as it reflects respect for them, thereby fostering an atmosphere of trust that encourages engagement and active learning.

Research on improving students' academic performance in Business Studies at the junior secondary school level has garnered significant attention both locally and internationally, with experts exploring various cooperative learning strategies. However, most studies on the one-minute paper technique have been conducted outside Nigeria's geographical borders. There is a notable scarcity of research investigating the effectiveness of the one-minute paper cooperative learning strategy on students' achievement in Business Studies, particularly within Lagos State. This underscores the necessity of the present study, which aims to examine how the academic performance of junior secondary school students in Lagos State can be improved through the implementation of the one-minute paper (OMP) method.

### **Theoretical Framework**

This study is grounded on the theoretical framework of Social Learning Theory, proposed by Albert Bandura in 1977. The theory combines behaviourist learning principles with a cognitive approach, focusing on mediating processes that occur between stimuli and responses. Bandura posits that humans are active information processors who consider the relationship between their behaviour and its consequences. The theory describes how individual learns through social experiences and observations during interaction with others. Bandura identified four key mediational processes: attention, retention, reproduction, and motivation, along with the importance of critical evaluation. While Social Learning Theory provides a comprehensive understanding of human learning, it cannot fully account for the development of thoughts and feelings. In 1986, critics argue that the theory is limited in its focus on the environment as the primary influence on behaviour, thereby underestimating the complexity of human behaviour.

This theory is significant to the study as it emphasizes the role of social modelling and positive behaviour in classroom teaching. By implementing learner-centred methods such as one-minute paper cooperative learning, students can develop cognitive and creativity skills. Students are more likely to emulate the behaviour of those they perceive as similar to themselves, especially when the outcomes of these behaviours are rewarding. This is known as vicarious reinforcement, where students learn by observing the consequences of another person's behaviour. Students may identify with various role models, such as parents, older siblings, or peers. The theory also highlights the importance of self-beliefs in human cognition, motivation, and behaviour, emphasizing the importance of a self-system that empowers students to take control of their thoughts, feelings, and actions. Consequently, students will consider the repercussions of others' behaviours when determining whether to imitate them.



### Statement of the Problem

A plethora of studies have highlighted a scarcity of reports in the literature regarding the impact of teaching strategies on academic achievement in Business Studies. This is particularly concerning given the significance of Business Studies in developing the future workforce and entrepreneurs, critical to the socioeconomic advancement of the nation. It has been noted that the integrated nature of Business Studies, which encompasses five business areas in junior secondary schools, can often be confusing and challenging for students to comprehend. A more student-centred approach that clarifies the various concepts is essential to enhance their understanding and application of these business principles, ultimately leading to improved academic performance. Therefore, there is a pressing need for the adoption of more participatory, interactive, and collaborative teaching strategies, such as cooperative learning.

While limited studies have examined the effects of cooperative learning as a teaching strategy, they have primarily concentrated on well-known methods like Student Teams-Achievement Divisions (STAD), Jigsaw II, and Think-Pair-Share. Conversely, the One-Minute Paper strategy has received scant attention, despite its numerous potential, possibly due to a lack of awareness and knowledge about its numerous potential benefits and implementation. This has contributed to a noticeable decline in its application within classroom pedagogy. Additionally, previous research on this subject has inadequately addressed factors such as gender differences, school location, and the level of parental support regarding the effectiveness of the One-Minute Paper cooperative learning strategy. Therefore, this study aims to fill this gap by investigating the effects of the One-Minute Paper cooperative learning strategy on students' academic achievement in Business Studies in Lagos State.

### Research Questions

This research question was raised and answered in this study:

1. Is there any difference in the mean achievement scores of students taught business studies using the OMP cooperative learning strategy and the conventional teaching method?

### Research Hypotheses

This null hypothesis was formulated and tested at a 0.05 level of significance:

**Ho1:** There is no significant difference in the mean academic achievement scores of business studies students taught using a one-minute paper cooperative learning strategy and those taught using the conventional teaching method in junior secondary schools in Lagos State

### Methodology

This study employs a pretest-posttest control group quasi-experimental design, which is suitable given that the research was conducted within a conventional school environment where modifications for a true experimental study would be challenging. Consequently, the researcher could only assign intact classes to different groups for treatment, thereby maintaining the existing class arrangements in the schools. The study's population includes all Business Studies students in public junior secondary school III (JSS 3) from a total of one hundred and seventy-one (171) public junior secondary schools in Lagos State. The sample for this research consists of two hundred and





fifty-nine (259) JSS 3 business studies students drawn from two (2) intact classes across two educational districts in Lagos State. This sample included 152 Business Studies students from Education District II and 107 business studies students from Education District IV. The selection was carried out using stratified random sampling techniques through a multi-stage sampling process. The Business Studies Achievement Test (BSAT) was the instrument used for data collection. This test comprises sixty (60) multiple-choice items covering topics from the JSS 3 syllabus. The instrument was validated by three experts in business studies, including two lecturers and one teacher. Reliability was established using the Kuder-Richardson (KR-20) technique. The BSAT was trialed with forty-five (45) business studies students from junior secondary school III (JSS 3) in the Odogbolu Local Government Area of Ogun State, which lies outside the geographical scope of the study. The collected data were analyzed, resulting in a reliability coefficient of 0.75, indicating that the instrument was suitable for the study.

Before the commencement of the treatment, a pre-test was administered to assess the students' initial group differences or equivalence. Subsequently, a six-week treatment was conducted in two groups. The data gathered from the pre-test and post-test were analyzed using mean and standard deviation to answer the research questions, while a t-test was used to test the null hypotheses at a 0.05 level of significance.

**Results**

**Research Question One:** Is there any difference in the mean achievement scores of students taught Business Studies using the OMP cooperative learning strategy and the conventional teaching method?

**Table 1:** Mean Achievement Score of Students Taught Business Studies with OMP and Conventional Teaching Method

Treatment Strategies	N	Pretest		Posttest		Mean Gain
		Mean	Std. Dev	Mean	Std. Dev	
OMP Strategy	152	23.41	7.66	40.69	6.57	<b>17.28</b>
Conventional Teaching Method	107	21.49	5.45	23.78	5.43	<b>2.29</b>

The result of the analysis in Table 1 shows that students who received business studies instruction through the OMP cooperative learning strategy achieved a pretest mean score of 23.41, which improved to a posttest mean score of 40.69. In contrast, students taught using the conventional teaching method exhibited a pretest mean score of 21.49 and a posttest mean score of 23.78. When comparing the two groups, the mean gain in achievement for students exposed to the OMP strategy was 17.28, while those taught through the conventional method showed a mean gain of only 2.29. This suggests that the experimental group, utilizing OMP, significantly outperformed the control group that received conventional instruction.



**Test of Hypotheses**

**H<sub>01</sub>:** There is no significant difference in the mean academic achievement scores of business studies students taught using a one-minute paper cooperative learning strategy and those taught using the conventional teaching method in junior secondary schools in Lagos State

**Table 2:** *T-Test Statistics showing Significant Difference between the Academic Achievements of Students Taught using OMP and those Taught using the Conventional Teaching Method*

Strategies	N	Mean	Std. Dev.	df	t-value	Sig. (2-tailed)	Remark
OMP Strategy	152	40.69	6.58	257	21.87	.00	Significant
Conventional Method	107	23.78	5.43				

The results presented in Table 2 indicate a t-value of 21.87 and a significant value of 0.00. Given that the computed significance (p-value) is less than the alpha level of significance ( $p < 0.05$ ), the null hypothesis which posits that there is no significant difference in the mean academic achievement scores of students taught using the one minute paper cooperative learning strategy compared to those instructed using the conventional teaching method is rejected. This finding implies that there is a significant difference in the mean academic achievement scores of business studies students taught with the one-minute paper cooperative learning strategy and those taught through the conventional method in junior secondary schools in Lagos State.

**Discussion of Findings**

The research findings indicate that students who received instruction in business studies through the OMP (One Minute Paper) cooperative learning strategy outperformed those taught using conventional teaching methods. This achievement may stem from the fact that OMP, like other cooperative learning structures, encourages students to engage in dialogue about their learning by requiring them to provide brief answers to teacher-provided questions after each teaching session. This strategy, similar to other cooperative learning models, fosters critical thinking and enables students to construct their understanding by the end of each class, which ultimately aids in achieving and retaining the content. Consequently, OMP serves as a platform for critical thinking, offering business students the opportunity and flexibility to engage in an active learning process and to reflect on what they have learned. This gives students in the experimental group a distinct advantage over their peers in the conventional group regarding improved academic performance. Additionally, it facilitates the assessment of the extent to which the objectives of business studies are achieved. This result corroborates the findings of Umesh et al. (2023), which demonstrate that OMP significantly improve the confidence and clinical skills of postgraduate students, thereby leading to higher achievement in clinical studies. It also corresponds with the findings of Fritz (2022), which indicate that students using OMP for formative assessments performed significantly better than those who relied on quizzes for the same assessment. Also, the finding agrees with Naktal and Mohammad (2021), who found that the use of the OMP strategy contributes to the development of higher-order thinking skills among first intermediate class students in science



subjects. Similarly, the results of Jimoh et al. (2021) indicate that students who received business studies instruction via OMP achieved greater success than those taught using the lecture method. Additionally, this finding supports the report by Fatin and Sarah (2019), which stated that the post-test performance of students in the experimental group, taught with OMP, was superior in writing composition compared to the control group, who followed a conventional teaching approach.

The findings of the hypothesis indicate a significant difference in the mean academic achievement scores of business studies students taught using the One Minute Paper (OMP) cooperative learning strategy compared to those instructed via the conventional teaching method in junior secondary schools in Lagos State. This result may be attributed to the engagement of students in dialogue that OMP fosters, as well as its encouragement of critical thinking and provision of flexibility for active learning. Furthermore, OMP aids students in both achieving and retaining learning content. This finding aligns with Umesh's (2023) report that treatment significantly enhances the confidence and clinical skills of postgraduate students, leading to higher achievement in clinical studies. It also supports the conclusions of Ikegbusi and Okeke (2022), which highlight a significant effect of cooperative learning on students' academic achievement. Additionally, it is consistent with the research by Kaymak et al. (2021), which demonstrates that intervention with cooperative learning strategies has a significant positive impact on students' mathematics achievement. The findings from Angroliya and Musa (2020), which reveal that cooperative learning is highly effective in improving achievement in Literature in English among secondary school students in Dodoma city, also align with these results. Furthermore, this outcome is supported by the report by Fatin and Sarah (2019), indicating that the post-test performance of students in the experimental group, who were taught using OMP, surpassed that of the control group instructed through conventional means. Likewise, it is consistent with Eze and Lasisi's (2018) findings that students taught Basic Technology using cooperative learning achieved higher post-test scores than those who received conventional instruction. This finding contradicts Brown's (2015) report, which noted that the majority of students engaged in debate (fourteen out of sixteen) preferred other teaching strategies, claiming debate did not enhance their learning.

### **Conclusion**

The findings of this study indicate that the use of the one-minute paper cooperative learning strategy is more effective in enhancing students' achievement scores in business studies compared to conventional teaching methods. This approach, similar to other cooperative learning structures, promotes critical thinking, allows for flexibility of active learning, provides diverse learning opportunities, and leads to higher achievement scores. Consequently, this study highlights that employing appropriate teaching methods in business studies at the junior secondary level can greatly improve students' academic performance, ultimately contributing to the overall objectives of the subject. Furthermore, this research contributes to existing knowledge by exposing the procedures involved in utilizing the one-minute paper strategy and demonstrating the effectiveness of these teaching methods through a practical field experiment.





## Recommendations

The following recommendations are presented in light of the findings of the study:

1. Business studies teachers should employ the use of one-minute papers cooperative learning strategy for teaching of business studies in secondary schools in Lagos and Nigeria at large.
2. The government through the Ministry of Education should include one-minute paper cooperative learning strategy in the list of suggested methods for teaching business studies in the curriculum of junior secondary schools in Lagos State and Nigeria at large due to their immense benefits.
3. The state government should regularly organize and sponsor periodic training, seminars and workshop in collaboration with secondary school managements for business studies teachers to enhance their understanding of the practical application of OMP cooperative techniques in teaching business studies at the junior secondary school level.
4. Business studies teachers should ensure proper grouping, monitoring and supervision of students during the implementation of OMP to obtain their full benefits during business studies instructions, since the use of the strategy requires proper planning and coordination.
5. Administrators of junior secondary schools should create an enabling work environment for utilizing the OMP cooperative learning strategy by allocating sufficient time to the business studies class on the school timetable to accommodate the use of the strategy towards effective teaching and improved academic achievement.

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