

Research Article

Principals' Leadership Behaviours, Teachers' Continuing Professional Development and Students' Academic Performance in Public Senior Secondary Schools in South-South Nigeria

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Abstract: This study examined the relationship among principals' leadership behaviours, teachers' continuing professional development, and students' academic performance in public senior secondary schools in South-South Nigeria. A correlational survey and ex-post facto research design were adopted for the study. From a population of 84,841 teachers in 709 public senior secondary schools, a sample of 382 teachers and 71 schools was drawn from Edo and Delta States using a multistage sampling technique. Data were collected using three instruments: the Principals' Leadership Behaviour Questionnaire (PLBQ), the Teachers' Continuing Professional Development Questionnaire (TCPDQ), and the Students' Academic Performance Proforma (SAPP). The reliability of the PLBQ and TCPDQ was established using the split-half method and Pearson product moment correlation, yielding coefficients of 0.82 and 0.84 respectively. Data were analysed using descriptive statistics (mean and standard deviation) and inferential statistics (linear and multiple regression) at the 0.05 level of significance. The findings revealed that principals predominantly exhibited task-centred, people-centred, transformational, and transactional leadership behaviours, while teachers demonstrated a high level of engagement in continuing professional development activities. Students' academic performance, as measured by SSCE results from 2013 to 2022, was generally very good. The study further established a significant relationship among principals' leadership behaviours, teachers' continuing professional development, and students' academic performance. It was concluded that effective school leadership and sustained professional development practices are critical to improving academic outcomes in public senior secondary schools. Consequently, the study recommends that principals should consistently adopt leadership behaviours that promote teachers' professional growth and enhance students' academic achievement in South-South Nigeria.

Keywords: Principals' leadership behaviours; continuing professional development; academic performance; secondary school administration; educational leadership; South-South Nigeria.

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1. Introduction

The quality of school leadership has remained a central issue in global educational discourse over the past two decades, particularly because of its critical role in determining school effectiveness and student outcomes. In Nigeria, leadership at the secondary school level is fundamental to the attainment of national educational objectives, notably the preparation of students for productive living in society and for higher education (FGN, 2014). Leadership is commonly conceptualised as the process through which individuals influence and guide others to work willingly and collaboratively towards the achievement of set goals (Akpan, 2012). Consistent with this view, Beri and Shuaibu (2018) asserted that effective leadership constitutes a decisive factor distinguishing successful secondary schools from unsuccessful ones. This

underscores the need for school principals to exhibit leadership behaviours that foster both individual and institutional goal attainment.

Within the Nigerian secondary school system, the principal occupies a pivotal position as the chief educational leader and administrator. The principal is responsible for providing instructional leadership, maintaining discipline, coordinating academic programmes, supervising teaching and learning, managing school facilities, and ensuring the effective implementation of educational policies (Akpan, 2012). These responsibilities extend across both managerial and instructional domains and include policy implementation, curriculum development, staff selection and development, instructional supervision, evaluation of school programmes, record keeping, and maintaining productive relationships with the community and relevant external agencies. The effectiveness with which these functions are discharged is largely dependent on the leadership behaviours demonstrated by principals, making leadership behaviour a critical variable in school administration.

Leadership behaviours are often closely associated with leadership styles, which reflect a leader's behavioural patterns, attitudes, skills, and personal attributes in guiding subordinates (Reyes, 2024). In this study, emphasis is placed on four leadership behaviour dimensions commonly identified in educational leadership literature: task-centred, people-centred, transformational, and transactional leadership behaviours. Task-centred leadership focuses on goal attainment, task execution, and adherence to instructional expectations (Ejiofor, 2016), while people-centred leadership prioritises staff welfare, motivation, and the development of positive interpersonal relationships within the school (Hlumela, 2015). Transformational leadership enables principals to inspire and motivate teachers to exceed expected performance levels by aligning personal goals with institutional vision (Opara, 2016). In contrast, transactional leadership is characterised by the use of rewards and sanctions to reinforce performance and compliance with assigned duties (Eboka, 2016; Obi & Onyeike, 2018). These leadership behaviours are considered influential in shaping teachers' commitment, instructional effectiveness, and ultimately students' academic outcomes.

Teachers remain the cornerstone of any educational system. It has been widely acknowledged that no education system can surpass the quality of its teachers (Sheyin & Adediran, 2019; FGN, 2014). Teachers play a crucial role in translating educational policies into classroom practice and facilitating effective teaching-learning processes (Kilaso, 2019). Consequently, teachers' continuing professional development (CPD) has become a vital mechanism for enhancing instructional competence, professionalism, and adaptability to evolving educational demands. Teachers' professional development is generally regarded as structured and continuous learning experiences aimed at improving pedagogical knowledge, skills, and effectiveness throughout a teacher's career (Osiesi, 2020).

Continuing professional development encompasses both formal and informal learning opportunities, including workshops, conferences, mentoring, post-qualification studies, action research, collaborative activities, and engagement with professional literature (Ganser, 2013). As noted by Awodiya and Ijaya (2019), teachers do not enter the profession as fully developed practitioners; rather, professional growth occurs through sustained training, experience, and reflective practice. Macheng (2016) further observed that continuous learning is essential for teachers to respond effectively to instructional challenges and classroom complexities. Given the dynamic nature of education, initial teacher preparation alone is insufficient to meet the demands of a lifelong teaching career, thereby necessitating ongoing professional development.

The relevance of teachers' continuing professional development has become more pronounced in the face of increasing demands on teachers, including multicultural classrooms, inclusive education, integration of information and communication technologies, heightened accountability, and stronger school–community partnerships (Suleiman & Sani, 2020). In the South-South region of Nigeria, some teachers reportedly experience difficulties in equipping students with the diverse skills required to function effectively in a rapidly changing global environment. This study therefore focuses on six key dimensions of teachers' continuing professional development: educational workshops, conferences, mentoring, post-qualification courses, action research, and collaborative activities. These dimensions also align with the concept of professional learning communities, where educators engage collectively to improve teaching practices and student outcomes (Archie & Hughes, 2023; Washington, 2024).

Students' academic performance remains a widely accepted indicator of educational effectiveness. It is commonly assessed through internal examinations, continuous assessment, and external examinations such as the West African Senior School Certificate Examination (WASSCE) and the Senior School Certificate Examination (SSCE) (Olowo & Fashiku, 2019). Academic performance reflects students' ability to meet learning objectives and successfully accomplish academic tasks (Ayodele, 2015). In Nigeria, performance at the secondary school level is largely measured through grades obtained in WAEC and NECO examinations, with a strong emphasis on cognitive achievement (Sheyin & Adeniran, 2019).

Despite the importance of academic performance, concerns have been raised about persistent underperformance in public secondary schools. WAEC statistics from 2009 to 2012 revealed substantial performance gaps at both national and regional levels, with the South-South states recording an average performance deficit of 41.7%. These trends have generated concern among education stakeholders and have been attributed to a range of school-related factors, including leadership practices and the level of teachers' professional development. Against this backdrop, the present study investigated the relationship among principals' leadership behaviours, teachers' continuing professional development, and students' academic performance in public senior secondary schools in South-South Nigeria between 2013 and 2022.

2. Statement of the Problem

Academic excellence among secondary school students remains a fundamental objective of secondary education in Nigeria, and it is particularly critical in the South-South region. Despite this, the persistent underperformance of students in the Senior School Certificate Examination (SSCE), as evidenced by WAEC records, has continued to raise concerns among education stakeholders nationwide. In Edo and Delta States specifically, WAEC statistics from 2009 to 2012 revealed a cumulative average mean performance of 59.43%, leaving a substantial performance gap of 40.57%.

The researcher observed that the leadership behaviours exhibited by principals in public senior secondary schools in South-South Nigeria are not always sufficient to foster academic excellence among students. In several instances, principals have struggled to communicate clear instructional objectives to teachers, adequately support the teaching staff in meeting instructional demands, provide timely corrective feedback on instructional practices, or establish ambitious targets for teachers' professional growth. These deficiencies in leadership behaviours may limit the capacity of schools to achieve optimal academic outcomes.

Similarly, teachers' engagement in continuing professional development (CPD) has been inconsistent across schools in the region. Some teachers face practical challenges in implementing instructional objectives due to limited participation in professional development activities such as educational workshops, conferences, mentoring programmes, collaborative initiatives, and action research. Such gaps in professional development may hinder teachers' effectiveness and, by extension, compromise students' learning outcomes.

Taken together, the observable deficits in students' academic performance in SSCE results may be attributed, in part, to inadequate leadership behaviours of principals and insufficient commitment by teachers to ongoing professional development. Therefore, the central problem addressed in this study is: what is the nature of the relationship among principals' leadership behaviours, teachers' continuing professional development, and students' academic performance in senior secondary schools in South-South Nigeria?

Objectives of the Study

The specific objectives of the study were to:

- i. Examine the leadership behaviours exhibited by principals in public senior secondary schools in South-South, Nigeria.
- ii. Ascertain the extent to which continuing professional development programmes are provided for teachers in public senior secondary schools in South-South, Nigeria.
- iii. Establish the trend in students' academic performance in SSCE results in public senior secondary schools in South-South, Nigeria from 2013 to 2022.

Research Questions

The following research questions were raised to guide the study:

1. What are the leadership behaviours exhibited by principals in public senior secondary schools in South-South, Nigeria?
2. What is the extent to which Continuing professional development programmes are provided for teachers in public senior secondary schools in South-South, Nigeria?
3. What is the trend in students' academic performance in SSCE results in public senior secondary schools in South-South, Nigeria from 2013 to 2022?

1.5 Hypotheses

The following null hypotheses were tested at 0.05 level of significance.

H₀₁: There is no significant relationship among principals' leadership behaviours, teachers' continuing professional development and students' academic performance in public senior secondary schools in South-South, Nigeria.

3. Literature Review

Principals' Leadership Behaviours and Students' Academic Performance

Empirical studies have extensively explored the relationship between principals' leadership behaviours and students' academic outcomes, highlighting mixed findings across contexts. Bello, Ibi, and Bukar (2016) investigated principals' administrative styles and students' performance in Taraba State, Nigeria, and reported no significant relationship between principals' initiative, consideration structure, or participatory administrative style and students' academic performance. Similarly, Brown and Weli (2019) found no significant differences in students' performance based on the two leadership styles practiced by principals in Rivers State, suggesting that academic outcomes are influenced by the application of multiple leadership dimensions rather than a single style.

In contrast, other studies reported positive associations between certain leadership behaviours and student achievement. Igwe, Ndidiama, and Chidi (2017) found that autocratic leadership style was positively correlated with students' academic performance in public and mission schools in Enugu metropolis. Mutuku (2018) highlighted that all four instructional leadership practices—defining the school mission, managing the instructional programme, promoting a positive school climate, and advancing teachers' interests—were strongly linked to academic performance in Machakos County, Kenya. Likewise, Igiri, Oji, and Achigbe (2019) reported a significant positive relationship between democratic leadership and students' performance in Cross River State, while laissez-faire leadership showed no such effect.

Research in Edo State also demonstrated the importance of transformational leadership. Osagie and Momoh (2019) found that its four dimensions—charisma, intellectual stimulation, idealized influence, and individualized consideration—predict students' academic performance. Similarly, Ngunyi (2018) confirmed that transformational leadership positively impacts student outcomes in public secondary schools in Lari Sub County, Kenya. Contrarily, Obama, Akinyi, and Orodho (2016) found no significant link between principals' leadership styles and students' performance in Homa Bay County, Kenya, indicating that contextual factors may mediate these relationships. In Abia State, Nigeria, Okeze, Ekekwe, and Uwaoma (2018) demonstrated that principals' leadership styles significantly influenced academic performance, reinforcing the role of effective school leadership in shaping students' learning outcomes.

Overall, the literature indicates that while some leadership behaviours, particularly transformational and democratic styles, are positively associated with student achievement, the influence of principals' leadership varies across contexts and is often contingent on the interplay of multiple leadership dimensions.

Teachers' Continuing Professional Development and Students' Academic Performance

Empirical studies consistently highlight the influence of teachers' professional development on students' academic outcomes. Oluwole, Idikwu, Bawa, and Owobu (2017) reported that teachers' participation in educational conferences and workshops significantly enhanced students' academic achievement in secondary schools in Benue and Nasarawa States. Similarly, Filgona and Sakiyo (2020) found that teachers' academic qualifications served as significant predictors of students' achievement in geography among senior secondary school students in Adamawa State, Nigeria.

The role of teachers' professional ethics and instructional performance has also been linked to students' learning outcomes. Ayeni (2018) demonstrated a significant relationship between teachers' professional ethics and students' academic performance in Owo Local Government, Ondo State. Complementing this, Olawoyin and Isuku (2019) found that the quality of teachers, particularly through continuous professional development, strongly influenced students' academic achievement in Yewa South Local Government Area, Ogun State.

Further evidence from Lagos State indicates that teachers' professional traits are positively associated with student performance (Akinyemi, Shittu, Faduyile, & Orunbon, 2017). Oyebanji and Faremi (2016) similarly reported that teachers' qualifications and participation in capacity-building workshops significantly predicted students' academic outcomes in Oyo State secondary schools. In Rivers State, Amadi and Amadi (2019) concluded that teachers' adherence to professional ethics, coupled with continuous training, substantially enhanced students' academic achievement.

Collectively, these studies underscore that teachers' continuing professional development—including academic qualifications, professional ethics, participation in workshops, and capacity-building programmes—plays a critical role in shaping students' academic performance. The evidence suggests that enhancing teachers' knowledge, skills, and professional conduct is essential for improving learning outcomes in secondary schools.

4. Methodology

This study employed a correlational survey and ex-post facto research design. The correlational survey design was adopted to examine the predictive relationships between the independent variables—principals' leadership behaviours and teachers' continuing professional development—and the dependent variable, students' academic performance (Filgona & Sakiyo, 2020). This design also facilitated generalization of findings from the sample to the population. The ex-post facto design was used to analyze students' SSCE results from 2013 to 2022, allowing investigation of variables that had already occurred (Owan, Bassey, & Ekpe, 2020).

The population comprised 1,744 public senior secondary schools and 128,552 teachers in South-South Nigeria. A sample of 382 teachers and 71 schools was selected from Edo and Delta States. The schools represented 10% of the total in the two states, in line with recommendations for manageable sampling in empirical studies (Lakens, 2022). The sample of teachers was determined using Krejcie and Morgan's (1970) table for finite populations. A multistage sampling technique was applied: two states were randomly selected, educational zones within the states were stratified, and schools and teachers were proportionately sampled to ensure equitable representation.

Data were collected using three researcher-developed instruments: the Principals' Leadership Behaviours Questionnaire (PLBQ), the Teachers' Continuing Professional Development Questionnaire (TCPDQ), and the Students' Academic Performance Proforma (SAPP). The PLBQ consisted of 40 items measuring four leadership dimensions—task-centred, people-centred, transactional, and transformational behaviours. The TCPDQ contained 24 items assessing six aspects of teacher professional development: workshops, mentoring, post-qualification courses, collaborative activities, action research, and conferences. The SAPP captured students' SSCE performance from 2013 to 2022, with scores weighted according to the number of credits obtained, including English and Mathematics.

Validity was established through face and content validation by experts in measurement and evaluation at the University of Abuja, with corrections incorporated prior to final administration. Reliability was determined via a pilot study involving 28 teachers from four schools not included in the main study. The split-half method and Pearson product-moment correlation, adjusted using the Spearman-Brown formula, yielded reliability indices of 0.82 (PLBQ) and 0.84 (TCPDQ), exceeding the recommended threshold for postgraduate research (Olayiwola, 2012). The SAPP did not require reliability testing, as it comprised authentic secondary data verified by WAEC.

Data analysis was conducted using SPSS Version 23. Descriptive statistics (mean and standard deviation) were used to answer research questions, while inferential analyses employed linear and multiple regression at a 0.05 significance level. Hypotheses 1–10 were tested with linear regression to evaluate the influence of single independent variables, whereas hypothesis 11 was tested with multiple regression to assess the combined effect of multiple predictors. A decision rule of 2.50 on a 4-point scale guided interpretation: values ≥ 2.50 indicated agreement/high extent, while values < 2.50 indicated disagreement/low extent. Students' academic performance trends were interpreted as

excellent (3.50–4.00), very good (3.00–3.49), good (2.50–2.99), and fairly good (1.00–2.49). Hypotheses were rejected when $p < 0.05$ and accepted when $p > 0.05$.

5. Data Analysis of Results

Research Question One: What are the leadership behaviours exhibited by principals in public senior secondary schools in South-South, Nigeria?

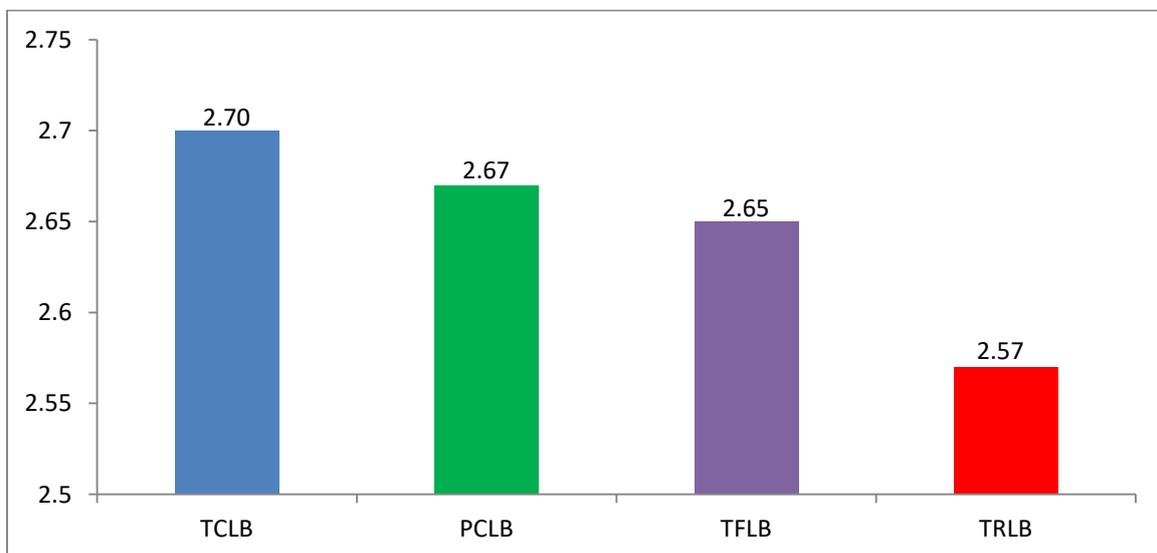
Table 1: Mean Ranking of Leadership Behaviours exhibited by Principals in Public Senior Secondary Schools in South-South, Nigeria

S/No	Leadership Behaviours	Mean	S.D	Rank	Decision
1	Task Centred	2.70	.81	1 st	Exhibited
2	People Centred	2.67	.86	2 nd	Exhibited
3	Transformational	2.65	.88	3 rd	Exhibited
4	Transactional	2.57	.91	4 th	Exhibited

Table 1 presents the mean ranking of leadership behaviours exhibited by principals in public senior secondary schools in South-South, Nigeria. The results indicate that principals demonstrate multiple leadership behaviours, with all mean scores exceeding the 2.50 benchmark, signifying general agreement among respondents.

Task-centred leadership behaviour ranked highest ($m = 2.70$), suggesting that principals place greater emphasis on task accomplishment, goal attainment, and instructional supervision. This was followed by people-centred leadership behaviour ($m = 2.67$), indicating that principals also give considerable attention to staff welfare, motivation, and interpersonal relationships. Transformational leadership behaviour ranked third ($m = 2.65$), reflecting principals' efforts to inspire and motivate teachers towards improved performance and shared school vision. Transactional leadership behaviour ranked lowest ($m = 2.57$), though still within the agreed range, implying a relatively lesser reliance on reward–sanction mechanisms.

Overall, the findings reveal that principals in public senior secondary schools in South-South, Nigeria exhibit a blend of leadership behaviours, with a stronger inclination towards task-centred and people-centred approaches, thereby adequately addressing the research question.



- Key: TCLB ■ Task Centred Leadership Behaviour
 PCLB ■ People Centred Leadership Behaviour
 TFLB ■ Transformational Leadership Behaviour
 TRLB ■ Transactional Leadership Behaviour

Figure 1: Rank Order Distribution of Leadership Behaviours exhibited by Principals in Public Senior Secondary Schools in South-South, Nigeria.

Research Question Two: What is the extent to which continuing professional development programmes are provided for teachers in public senior secondary schools in South-South, Nigeria?

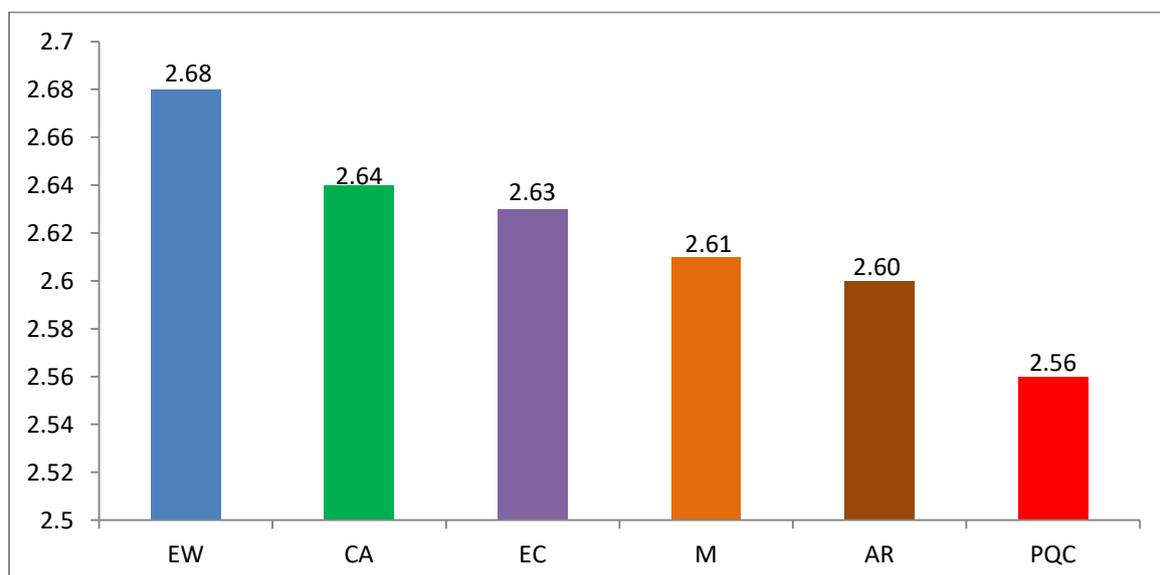
Table 2 : Mean Ranking of the Extent of Provision of Continuing Professional Development Programmes for Teachers in Public Senior Secondary Schools in South-South, Nigeria

S/No	Continuing Professional Development Programmes	Mean	S.D	Rank	Decision
1	Educational Workshop	2.68	.85	1 st	HE
2	Collaborative Activities	2.64	.84	2 nd	HE
3	Educational Conferences	2.61	.89	3 rd	HE
4	Mentoring	2.61	.89	3 rd	HE
5	Action Research	2.60	.91	5 th	HE
6	Post Qualification Courses	2.56	.93	6 th	HE

*Note HE=High Extent

Table 2 presents the mean ranking of the extent to which continuing professional development (CPD) programmes are provided for teachers in public senior secondary schools in South-South, Nigeria. The results show that all the identified CPD programmes are provided to a high extent, as all mean scores exceed the 2.50 benchmark. Educational workshops ranked highest (m = 2.68), indicating that they are the most commonly provided CPD activity for teachers. This was followed by collaborative activities (m = 2.64), suggesting a strong emphasis on peer interaction and collective professional learning within schools. Educational conferences and mentoring were jointly ranked next (m = 2.61), reflecting substantial opportunities for professional exposure and guided support for teachers. Action research (m = 2.60) and post-qualification courses (m = 2.56), although ranked lower, were also provided to a high extent.

Overall, the findings indicate that teachers in public senior secondary schools in South-South, Nigeria have considerable access to diverse continuing professional development programmes, thereby addressing the research question and demonstrating a supportive framework for sustained teacher professional growth.



Key:	EW		Education Workshops
	CA		Collaborative Activities
	EC		Education Conferences
	M		Mentoring
	AR		Action Research
	PQC		Post Qualification Courses

Figure 2: Rank Order Distribution of Teachers' Continuing Professional Development Activities in Public Senior Secondary Schools in South-South, Nigeria.

Research Question Three: What is the trend in students' academic performance in SSCE results in public senior secondary schools in South-South, Nigeria from 2013 to 2022?

Table 3: Analysis of Trend in Students' Academic Performance in SSCE Results in Public Senior Secondary Schools in South-South, Nigeria

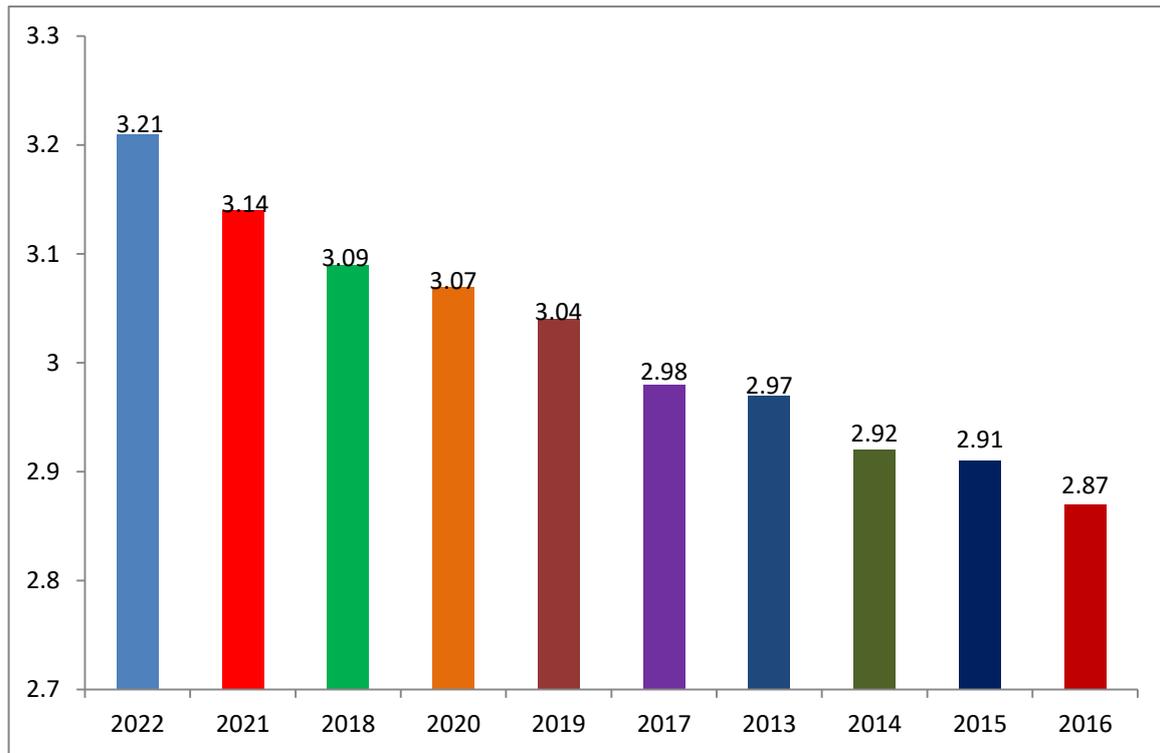
Year	No. of Candidates	4	3	2	1	\bar{x}	S.D	Decision
2013	34892	16625	6603	5714	5950	2.97	.82	Good
2014	36783	16736	6794	6805	6448	2.92	.84	Good
2015	35674	15447	7885	5996	6346	2.91	.86	Good
2016	37565	16458	6976	7087	7044	2.87	.89	Good
2017	38456	18569	7067	6178	6642	2.98	.80	Good
2018	41347	20670	9158	6269	5250	3.09	.74	Very Good
2019	44238	21781	9249	6340	6868	3.04	.78	Very Good
2020	49129	27892	6330	5441	9466	3.07	.76	Very Good
2021	42016	23903	6421	5552	6140	3.14	.70	Very Good
2022	43987	26879	5534	5407	6167	3.21	.67	Very Good
Total	404,087	204,960 (50.72%)	72,017 (17.82%)	60,789 (15.04%)	66,321 (16.41%)	3.02	.79	Very Good

Highest Mean Score = 3.21
Average Mean Score = 3.02
Lowest Mean Score = 2.87

Key: 4 = 5 credit and above including English Language and Mathematics
3 = 5 credit with either English Language or Mathematics
2 = 5 credit with neither English Language nor Mathematics
1 = Less than 5 credit or no credit

Table 3 presents the analysis of the trend in students' academic performance in SSCE results in public senior secondary schools in South-South, Nigeria from 2013 to 2022. According to the results of the analysis; a total of 404,087 students from the 71 sampled public senior secondary schools sat for the SSCE from 2013 to 2022. Out of this number, 204,960 students (50.72%) had 5 credits and above including English Language and Mathematics; 72,017 students (17.82%) had 5 credits with either English Language or Mathematics; 60,789 students (15.04%) had 5 credits with neither English Language nor Mathematics; and 66,321 students (16.41%) had less than 5 credits or no credit.

As observed in the results, the highest mean academic performance of 3.21 was recorded in 2022; while the lowest mean academic performance of 2.87 was recorded in 2016. Cumulatively, from 2013 to 2022, the average mean academic performance was 3.02. This implies that there was a very good trend in students' academic performance in public senior secondary schools in South-South, Nigeria.



Key:

2022		2017	
2021		2013	
2018		2014	
2020		2015	
2019		2016	

Figure 3: Rank Order Distribution of Students' Mean Academic Performance Scores in SSCE Results in Public Senior Secondary Schools in South-South, Nigeria.

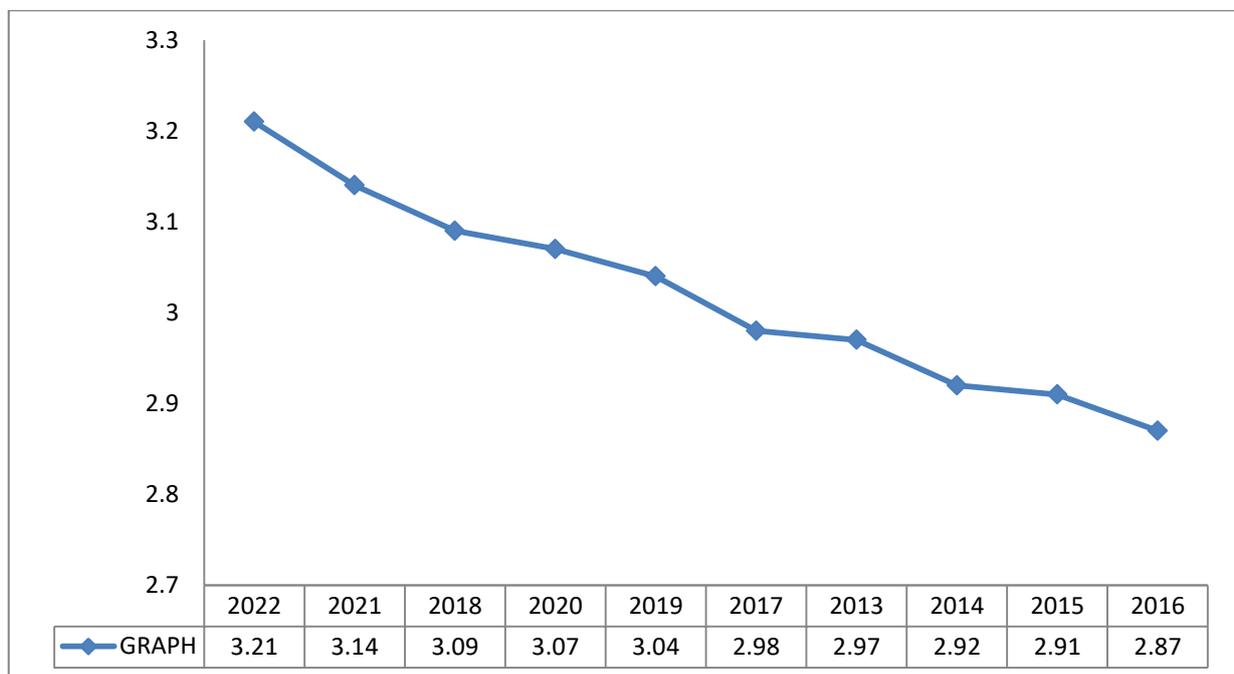


Figure 4: Graphical Representation of the Students' Mean Academic Performance Scores in SSCE Results in Public Senior Secondary Schools in South-South, Nigeria.

H₀: There is no significant relationship among principals' leadership behaviours, teachers' continuing professional development and students' academic performance in public senior secondary schools in South-South, Nigeria.

Table 4: Multiple Regression Analysis of Relationship among Principals' Leadership Behaviours, Teachers' Continuing Professional Development and Students' Academic Performance in Public Senior Secondary School in South-South, Nigeria.

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	SE	Beta (β)		
(Constant)	3.587	1.794		2.693	.038
Task Centred	.436	.135	.373	4.234	.000
People Centred	.392	.149	.341	3.986	.006
Transactional	.308	.193	.298	2.997	.013
Transformational	.361	.177	.326	3.579	.009
Education Workshops	.574	.096	.456	4.677	.000
Mentoring	.387	.153	.371	3.546	.012
Post Qualification Courses	.328	.188	.253	2.459	.023
Collaborative Activities	.493	.125	.424	4.331	.000
Action Research	.364	.167	.279	2.723	.019
Education Conferences	.471	.139	.398	3.814	.007

α Dependent Variable: Students' Academic Performance

*** $p < 0.05$ = Significant relationship among variables**

The results of the multiple regression analysis examining the combined influence of principals' leadership behaviours and teachers' continuing professional development on students' academic performance are presented in Table 26. Interpretation of the hypothesis was based on the standardized beta coefficients (β), t-values, and associated p-values. The findings indicate that both principals' leadership behaviours and teachers' continuing professional development significantly predicted students' academic performance in public senior secondary schools in South-South Nigeria.

Among the leadership behaviour dimensions, principals' task-centred leadership emerged as the strongest predictor of students' academic performance ($\beta = .373$, $t = 4.234$, $p < .05$), followed by people-centred leadership ($\beta = .341$, $t = 3.986$, $p < .05$), transformational leadership ($\beta = .326$, $t = 3.579$, $p < .05$), and transactional leadership ($\beta = .298$, $t = 2.997$, $p < .05$). These results suggest that improvements in principals' leadership practices are associated with corresponding increases in students' academic outcomes.

Similarly, all six dimensions of teachers' continuing professional development were found to be significant predictors of academic performance. Educational workshops recorded the highest predictive strength ($\beta = .456$, $t = 4.677$, $p < .05$), followed by collaborative activities ($\beta = .424$, $t = 4.331$, $p < .05$), educational conferences ($\beta = .398$, $t = 3.814$, $p < .05$), mentoring ($\beta = .371$, $t = 3.546$, $p < .05$), action research ($\beta = .279$, $t = 2.723$, $p < .05$), and post-qualification courses ($\beta = .253$, $t = 2.459$, $p < .05$). This indicates that increased engagement in professional development activities is positively associated with students' academic performance.

Given that all p-values were below the 0.05 level of significance, the null hypothesis was rejected. The results therefore confirm a significant relationship among principals' leadership behaviours, teachers' continuing professional development, and students' academic performance in public senior secondary schools in South-South Nigeria.

6. Discussion of Findings

The findings of this study indicate that principals in public senior secondary schools in South-South Nigeria predominantly exhibit task-centred leadership behaviours. This result aligns with earlier studies by Bello et al. (2016), Wilson (2017), and Wanyoko and Muchanje (2021), which reported that principals emphasize goal attainment, task execution, and instructional supervision as core leadership practices. Evidence from Taraba State (Bello et al., 2016), Rivers State (Wilson, 2017), and Kenya (Wanyoko & Muchanje, 2021) similarly confirms the prevalence of task-oriented leadership among secondary school principals, underscoring its relevance in achieving organizational objectives.

The study also revealed that principals demonstrate people-centred leadership behaviours to a considerable extent. This finding corroborates the works of Obama et al. (2016), Akpan (2016), Wilson (2017), Bello et al. (2016), and Wanyoko and Muchanje (2021), which collectively emphasize principals' concern for staff welfare, motivation, and interpersonal relationships. Studies conducted in Kenya, Akwa Ibom State, Rivers State, and Taraba State consistently report that people-oriented leadership enhances cooperation and supports effective teaching and learning environments.

Furthermore, the findings show that principals exhibit transactional leadership behaviours in public senior secondary schools in South-South Nigeria. This outcome is consistent with the findings of Obama et al. (2016), Mwove et al. (2023), Duraku and Hoxha (2021), Wilson (2017), and Wanyoko and Muchanje (2021). These studies, conducted across Nigeria, Kenya, and Kosovo, indicate that principals frequently rely on reward-sanction mechanisms to reinforce performance, ensure compliance, and maintain organizational structure within schools.

The study equally established that principals adopt transformational leadership behaviours. This result supports the findings of Obama et al. (2016), Opara (2016), Duraku and Hoxha (2021), Wilson (2017), and Wanyoko and Muchanje (2021), which identified transformational leadership as a common practice among school principals. Empirical evidence from Kenya, Imo State, Rivers State, and Kosovo demonstrates that transformational leadership fosters motivation, innovation, and commitment among teachers, thereby enhancing school effectiveness.

With respect to teachers' continuing professional development, the findings indicate that, to a high extent, educational workshops, mentoring, post-qualification courses, collaborative activities, action research, and educational conferences are available to teachers in public senior secondary schools in South-South Nigeria. This finding is consistent with previous studies by Akpan and Ita (2015), Oyebanji and Faremi (2016), Oluwole et al. (2017), Musa (2016), Ilori (2021), Mezieobi et al. (2023), and Hussaini (2019). These studies, conducted across Lagos, Oyo, Benue, Nasarawa, Adamawa, Abuja, Imo, and Kogi States, affirm that structured professional development opportunities are increasingly provided to enhance teachers' instructional competence and professional growth.

The study further revealed a very good trend in students' academic performance in SSCE results from 2013 to 2022 in public senior secondary schools in South-South Nigeria. This finding is in agreement with Aniekop (2023), who reported a strong upward trend in SSCE performance in the South-South region between 2012 and 2021, suggesting gradual improvement in academic outcomes over time.

Additionally, the findings demonstrate a significant relationship between principals' leadership behaviours and students' academic performance. This result aligns with the studies of Osagie and Momoh (2019), Okeze et al. (2018), Brown and Weli (2019), Wanyoko and Muchanje (2021), and Mwove et al. (2023), which established that leadership behaviours—particularly transformational, task-centred, and transactional styles—are significant predictors of students' academic outcomes. However, the present findings contrast with those of Bello et al. (2016) and Obama et al. (2016), who reported no significant relationship between principals' leadership styles and students' academic performance, suggesting that contextual and systemic factors may moderate leadership effectiveness.

Finally, the study found a significant relationship between teachers' continuing professional development and students' academic performance. This finding is strongly supported by earlier studies including Oyebanji and Faremi (2016), Oluwole et al. (2017), Olawoyin and Isuku (2019), Filgona and Sakiyo (2020), and Amadi and Amadi (2019). These studies consistently show that teachers' qualifications, participation in workshops and conferences, adherence to professional ethics, and engagement in continuous training significantly enhance students' academic achievement across different subject areas and educational contexts.

7. Conclusion

The findings of the study indicate that school principals in public senior secondary schools in South-South, Nigeria demonstrate task-centred, people-centred, transformational, and transactional leadership behaviours. The results further show a high level of teachers' continuing professional development, evidenced through participation in educational workshops, collaborative activities, conferences, mentoring programmes, action research, and post-qualification courses. In addition, students' academic performance in the SSCE examinations between 2013 and 2022 reflects a consistently strong trend.

Based on these findings, the study concludes that a statistically significant relationship exists among principals' leadership behaviours, teachers' continuing professional development, and students' academic performance in public senior secondary schools in South-South, Nigeria.

8. Recommendations

The following recommendations were made in view of the findings of the study:

1. Principals should critically identify and continuously demonstrate leadership behaviours that enhance their administrative competences, facilitate teachers' professional development and satisfactory academic outcomes of secondary school students in South-South, Nigeria.
2. School principals should endeavour to support their teachers to undergo further acquisition of relevant degrees in their areas of specialization in order to equip them with the requisite pedagogical knowledge, skills, values and attitudes required to implement curricula objectives towards achievement of secondary school educational goals.
3. School principals should prioritize the harmonization of the task centred, people centred, transactional and transformational leadership behaviours in the management of secondary schools in order to foster greater participation of teachers in continuing professional development programmes and further enhance the academic excellence of secondary school students in external examinations.
4. The State Post Primary Education Boards in Edo and Delta State should periodically organize strategic leadership oriented workshops for school principals in order to expand

their administrative knowledge of leadership behaviours and promote dynamism in their approach to leadership responsibilities.

5. Policy makers and educational planners in Edo and Delta States should prioritize the development and implementation of education policies that sustain the continuing professional development of teachers in order to further improve the academic performance of students in public examinations.

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