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PROFESSIONAL DEVELOPMENT AND MANAGERIAL EFFECTIVENESS OF SCHOOL ADMINISTRATORS IN SECONDARY SCHOOLS IN ABIA STATE, NIGERIA

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ABSTRACT

This study examined the relationship between professional development and the managerial effectiveness of school administrators in public secondary schools in Abia State, Nigeria. Three objectives, three research questions and three null hypotheses guided the enquiry, which treated in-service training; workshops, seminars and conferences; and mentoring and coaching as the working dimensions of professional development. Anchored on Human Capital Theory and Andragogy, the study adopted a correlational survey design. The population comprised 732 school administrators (244 principals and 488 vice principals) across the Aba, Umuahia and Ohafia education zones, from which a sample of 259 was drawn through proportionate stratified random sampling using the Taro Yamane formula. Data were gathered with two researcher-developed instruments, the Professional Development Questionnaire (PDQ) and the Managerial Effectiveness of School Administrators Questionnaire (MESAQ), which were validated by three experts and yielded Cronbach's alpha coefficients of 0.84 and 0.87 respectively. Of the 259 copies administered, 241 (93.1%) were retrieved in usable form. Pearson product-moment correlation answered the research questions, while the hypotheses were tested at the 0.05 level of significance through simple linear regression, with a multiple regression model estimating the joint contribution of the three dimensions. Results revealed high positive relationships between managerial effectiveness and both in-service training (r = 0.68) and mentoring and coaching (r = 0.72), and a moderate positive relationship with workshops, seminars and conferences (r = 0.59); all three null hypotheses were rejected. Mentoring and coaching accounted for the largest share of variance in managerial effectiveness (51.8%). The study concluded that sustained, practice-embedded professional development is a strong correlate of how well administrators plan, supervise, manage resources and relate with host communities.

INTRODUCTION

Secondary schools rise or fall on the quality of the people who run them. According to Grissom et al. (2021), the effect of an effective principal on student learning is almost as large as that of an effective teacher, except that the principal's influence spreads across every classroom in the building. Leithwood et al. (2020) arrived at a similar position after revisiting two decades of evidence, arguing that school leadership remains second only to classroom teaching among the school-level factors that shape learning. Nevertheless, leadership quality is not an accident of personality. It is built, sharpened and sustained through deliberate learning, and this is where professional development enters the discussion. Professional development, in the context of school administration, refers to the planned and continuous learning experiences through which principals and vice principals acquire, update and apply the knowledge, skills and dispositions required to manage schools. In line with Darling-Hammond et al. (2022), such learning is most productive when it is sustained, grounded in real school problems and supported by mentoring from experienced practitioners. Moreover, the OECD (2019) reported that school leaders who engage regularly in collaborative and job-embedded learning tend to report stronger instructional leadership practices. Hence, professional development is better understood as a career-long process than as a one-off certificate course attended on promotion. Managerial effectiveness, on the other hand, captures the extent to which school administrators achieve institutional goals through efficient planning, staff personnel management, instructional supervision, resource management, student welfare and school-community relations (Bush, 2020). Because the Nigerian secondary school principal combines the roles of chief executive, instructional leader, accounting officer and community liaison, managerial effectiveness in this setting is both broad and demanding. Kanyip and Ogon (2022) observed that administrative roles performed well by principals translate into teacher job effectiveness, whereas Okoye and Ogwurumba (2023) linked principals' administrative strategies to the job performance of teachers in Anambra State. Thus, what administrators know and can do is reflected, sooner or later, in what happens inside classrooms.

However, the Nigerian route to school leadership has long relied on seniority. Umar et al. (2021) noted that appointment to principalship in Nigeria rests heavily on teaching experience rather than demonstrated leadership preparation, a practice that leaves many new principals to learn the job by trial and error. Although agencies such as the National Institute for Educational Planning and Administration (NIEPA) and state secondary education management boards run periodic training, participation is often irregular, poorly funded and weakly linked to the actual problems administrators face. UNESCO (2024) similarly reported that many education systems, particularly in sub-Saharan Africa, lack clear preparation and continuing development requirements for school leaders. As a result, administrators frequently confront new curricula, digital record systems, security concerns and rising enrolment with managerial tools acquired decades earlier. Abia State offers a pointed case. The state's public secondary schools are organised under the Aba, Umuahia and Ohafia education zones and are administered by principals and vice principals who manage large staff, limited funds and increasingly complex community expectations. Meanwhile, stakeholders continue to raise concerns about indiscipline, weak supervision of instruction, poor record keeping and uneven academic outcomes in some schools. These concerns raise a direct question about whether the professional development available to administrators is actually connected to how effectively they manage. Accordingly, this study examined the relationship between professional development and the managerial effectiveness of school administrators in secondary schools in Abia State, Nigeria.

Statement of the Problem

Public secondary schools in Abia State are expected to be managed by administrators who plan strategically, supervise instruction closely, manage human and material resources prudently and maintain productive relationships with host communities. The reality appears less settled. Reports of poorly supervised lessons, inadequate record keeping, misapplication of school funds, strained staff relations and

weak community partnerships suggest that some administrators are not performing at the level their positions demand. Since most administrators are appointed on the basis of long teaching service, many assume office without structured preparation in school management. Furthermore, the professional development opportunities that exist are often sporadic and generic. In-service training may be offered only when funds allow, workshops and conferences are frequently attended at personal cost, and structured mentoring of newly appointed principals by experienced colleagues is largely informal. Consequently, it remains unclear whether participation in these activities is associated with measurable differences in managerial effectiveness. Although several Nigerian studies have examined principals' administrative skills and teachers' performance (Elizabeth et al., 2023; Opatunde & Oredein, 2023), empirical evidence that directly relates specific dimensions of professional development to the managerial effectiveness of administrators in Abia State is scarce. The problem of this study, therefore, is: what is the relationship between professional development and the managerial effectiveness of school administrators in public secondary schools in Abia State, Nigeria?

Objectives of the Study

The main purpose of the study was to examine the relationship between professional development and the managerial effectiveness of school administrators in public secondary schools in Abia State. Specifically, the study sought to:

1. determine the relationship between in-service training and the managerial effectiveness of school administrators in secondary schools in Abia State;
2. ascertain the relationship between attendance at workshops, seminars and conferences and the managerial effectiveness of school administrators in secondary schools in Abia State; and
3. examine the relationship between mentoring and coaching and the managerial effectiveness of school administrators in secondary schools in Abia State.

Research Questions

1. What is the relationship between in-service training and the managerial effectiveness of school administrators in secondary schools in Abia State?
2. What is the relationship between attendance at workshops, seminars and conferences and the managerial effectiveness of school administrators in secondary schools in Abia State?
3. What is the relationship between mentoring and coaching and the managerial effectiveness of school administrators in secondary schools in Abia State?

Research Hypotheses

The following null hypotheses were tested at the 0.05 level of significance:

H01: There is no significant relationship between in-service training and the managerial effectiveness of school administrators in secondary schools in Abia State.

H02: There is no significant relationship between attendance at workshops, seminars and conferences and the managerial effectiveness of school administrators in secondary schools in Abia State.

H03: There is no significant relationship between mentoring and coaching and the managerial effectiveness of school administrators in secondary schools in Abia State.

2. LITERATURE REVIEW

Concept of Professional Development

Professional development for school administrators is not a single event. It is a sequence of planned learning experiences that runs from pre-appointment preparation through induction into the continuing growth of serving principals and vice principals. According to Daniëls et al. (2019), leadership development in educational settings draws on formal programmes, informal learning in the workplace and self-directed learning, and the three rarely operate in isolation. Their review showed that administrators learn as much from reflecting on daily problems and from colleagues as they do from classroom-style courses. Thus, a narrow definition that equates professional development with certificate courses misses much of how school leaders actually grow. In line with this broader view, Darling-Hammond et al. (2022) described high-quality principal learning as programmes that are coherent, grounded in authentic leadership problems, supported by mentoring or coaching, and organised around cohorts that allow peer learning. Their synthesis linked such features to stronger principal practices, better teacher retention and improved student outcomes. Furthermore, the OECD (2020) found that school leaders across TALIS countries valued professional learning that was collaborative and embedded in school improvement priorities, whereas they reported that isolated lectures had limited influence on their practice. Hence, the design of professional development appears to matter as much as its quantity.

However, the consensus on what makes professional development effective has not gone unchallenged. Sims and Fletcher-Wood (2021) argued that the widely cited list of features, such as duration, collaboration and content focus, rests on weaker evidence than is often assumed. They proposed instead that effective professional learning should be judged by the mechanisms it activates, such as building insight, motivating goal-directed action and developing techniques that are rehearsed and embedded into practice. Although their review focused on teachers, the argument is directly relevant to administrators, because a principal who attends a workshop on financial management gains little unless the learning is practised and embedded in the routines of the school. In the Nigerian context, professional development for administrators occurs through several channels. These include in-service training organised by state ministries of education and secondary education management boards, programmes of the National Institute for Educational Planning and Administration (NIEPA), workshops and conferences of professional bodies such as the All Nigeria Confederation of Principals of Secondary Schools (ANCOPSS), postgraduate study in educational management, and informal mentoring by senior colleagues. Nevertheless, Umar et al. (2021) observed that formal leadership preparation remains limited, with appointment still tied largely to teaching experience. UNESCO (2024) reached a comparable conclusion at the continental level, reporting that many African systems lack clear requirements for preparation and continuing development of school leaders. Accordingly, professional development in this study refers to the in-service training, workshops, seminars and conferences, and mentoring and coaching experiences that school administrators in Abia State participate in while in service.

Concept of Managerial Effectiveness

Managerial effectiveness refers to the degree to which an administrator achieves the goals of the school through the efficient use of human, material, financial and time resources. Bush (2020) distinguished management, which concerns maintaining efficient and effective systems, from leadership, which concerns influencing others towards a vision. Nevertheless, he maintained that both functions must be performed by the same person in most schools, because a visionary principal who cannot manage the timetable, finances or records will struggle to realise any vision. Therefore, managerial effectiveness is treated here as an outcome that encompasses both the maintenance and the improvement functions of school administration. The components of managerial effectiveness have been operationalised in various ways. Liebowitz and Porter (2019) grouped principal behaviours into instructional management, internal relations, organisational

management, administration and external relations, and found that several of these behaviours were associated with student achievement, teacher well-being and school climate. Similarly, Grissom et al. (2021) identified four clusters of principal practice that matter most: engaging in instructionally focused interactions with teachers, building a productive climate, facilitating collaboration and professional learning communities, and managing personnel and resources strategically. In the Nigerian setting, Kanyip and Ogon (2022) described the administrative roles of principals as covering staff personnel administration, student personnel administration, instructional supervision, financial management and school-community relations.

Drawing on these perspectives, managerial effectiveness in the present study was measured through five indicators: planning and goal setting; staff personnel management; instructional supervision; financial and physical resource management; and school-community relations. Each indicator reflects a concrete demand placed on principals and vice principals in Abia State. For instance, instructional supervision requires the administrator to observe lessons, examine lesson notes and give feedback, whereas financial management requires accurate budgeting, record keeping and accountability for funds received from government and parents. Because these tasks draw on distinct bodies of knowledge and skill, they are logically sensitive to the quality of professional development an administrator has received. Moreover, managerial effectiveness is shaped by context. Harris and Jones (2020) showed how the COVID-19 disruption forced school leaders to manage uncertainty, rapid digital transition and staff well-being simultaneously, exposing gaps in the preparation of many principals. In Nigeria, administrators must additionally contend with insecurity, overcrowded classrooms, infrastructural decay and delayed release of funds. Hence, effectiveness here is not measured against an ideal environment but against the realistic demands of managing public secondary schools with constrained resources.

In-service Training and Managerial Effectiveness

In-service training refers to structured courses, retraining programmes and capacity-building sessions organised by employers or approved agencies for serving personnel. For school administrators, such training typically covers school law, financial management, instructional supervision, conflict management, record keeping and, increasingly, the use of information and communication technology in administration. According to Tingle et al. (2019), leadership development programmes for serving principals produce the strongest gains when they are aligned with the problems participants face in their own schools and when participants are required to apply new skills between sessions. The link between in-service training and managerial practice rests on the simple logic that administrators cannot apply what they do not know. Pont (2020) reviewed school leadership policy reforms across OECD systems and noted that many countries had moved from voluntary, ad hoc training towards structured continuing development frameworks precisely because unstructured provision failed to change practice. Conversely, where training is irregular, generic or poorly funded, its effect on managerial behaviour tends to dissipate quickly. In Nigeria, Ukozor and Edet (2024) linked principals' managerial conceptual skills to teacher job performance, which implies that the skills targeted by in-service training have consequences beyond the principal's office. Nevertheless, the mere availability of in-service training does not guarantee transfer. Sims and Fletcher-Wood (2021) cautioned that professional learning which is not rehearsed and embedded rarely alters routine practice. Thus, the relationship between in-service training and managerial effectiveness is expected to depend on the relevance, frequency and follow-up of the training provided to administrators in Abia State.

Workshops, Seminars and Conferences and Managerial Effectiveness

Workshops, seminars and conferences are shorter, often event-based forms of professional learning. Workshops tend to be hands-on and skill-oriented, seminars are more discursive, and conferences expose participants to a wide range of ideas, research findings and professional networks. For school administrators, these platforms offer opportunities to learn about policy changes, share practical solutions

with peers from other schools and remain current with developments in educational management. Harris and Jones (2019) argued that professional learning has its greatest impact when it connects leaders into networks through which ideas can be tested and refined collectively, a function that well-organised conferences and seminars can perform. However, the effectiveness of event-based learning has been questioned. The OECD (2019) reported that school leaders frequently cited conflicts with work schedules and cost as barriers to participation in such activities, which implies that attendance is uneven. Furthermore, short events are more likely to raise awareness than to change practice. Daniëls et al. (2019) noted that formal leadership learning is more influential when it is combined with opportunities to experiment in the workplace. As a result, workshops and seminars may contribute to managerial effectiveness mainly when their content is followed by application and feedback. In Nigeria, workshops and conferences organised by ANCOPSS, state ministries and universities remain an important channel for updating administrators on curriculum reforms, examination regulations and financial guidelines. Nevertheless, many administrators attend at personal expense, and the selection of participants is sometimes based on seniority rather than need. Hence, the relationship between attendance at such events and managerial effectiveness is likely to be positive but weaker than that of more sustained forms of development.

Mentoring and Coaching and Managerial Effectiveness

Mentoring is a relationship in which an experienced administrator supports the professional growth of a less experienced colleague through guidance, advice and role modelling, whereas coaching is more focused, structured and goal-directed, often centred on specific aspects of performance. Both approaches are job-embedded and personalised, which distinguishes them from classroom-style training. According to Darling-Hammond et al. (2022), mentoring and coaching were among the features most consistently associated with effective principal development programmes, particularly for newly appointed principals navigating their first years in office. The strength of mentoring lies in its ability to convert abstract knowledge into situated practice. A newly appointed vice principal who is uncertain about managing a disciplinary case or preparing a school budget can learn directly from a mentor who has handled similar situations. Campbell et al. (2019) found that principals' growth as instructional leaders depended heavily on collegial dialogue and support, while Bellibaş et al. (2022) showed that leadership influences teacher practice partly through shared practice and collective learning. Moreover, mentoring supports the emotional side of administration, helping new leaders cope with isolation and pressure. In Nigerian secondary schools, mentoring is largely informal. Vice principals often learn by observing principals, and newly appointed principals may seek advice from senior colleagues within ANCOPSS zonal networks. Although such informal mentoring is valuable, its quality varies considerably from one school to another. Thus, the extent to which administrators in Abia State experience structured mentoring and coaching is expected to be an important correlate of their managerial effectiveness.

Theoretical Framework

Human Capital Theory

Human Capital Theory, associated with the work of Theodore Schultz and Gary Becker, holds that the knowledge, skills and competencies of workers constitute a form of capital that raises productivity in the same way as investment in physical assets. Applied to school administration, the theory implies that resources committed to training principals and vice principals should translate into more efficient planning, better supervision, prudent resource management and improved school outcomes. Grissom et al. (2021) provided indirect support for this reasoning by showing that differences in principal quality produce measurable differences in student learning and teacher retention, which means that raising the capability of administrators is a high-leverage investment for education systems. However, the theory has been criticised for assuming a linear and automatic link between education and productivity. Marginson (2019) argued that Human Capital Theory underplays the social, institutional and relational conditions under which knowledge

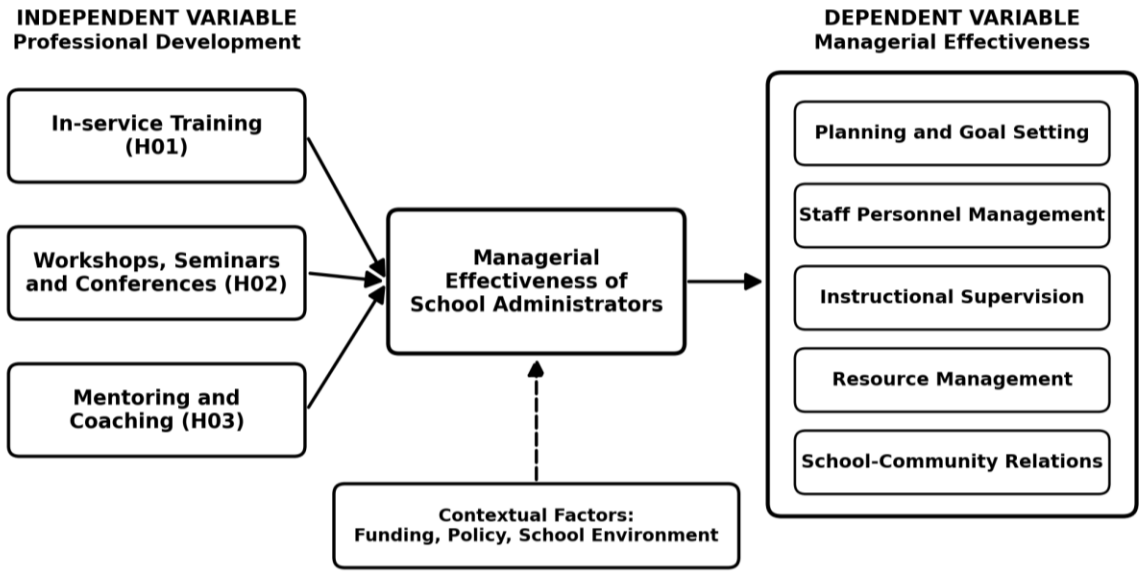
becomes productive, and that it treats human capability too narrowly as an economic input. This critique is relevant to Abia State, where an administrator's newly acquired skills may be constrained by delayed funding, political interference in postings or weak supervisory structures. Nevertheless, the theory remains useful for this study because it frames professional development as an investment whose returns can be assessed empirically, which is precisely what the correlational design sought to do.

Andragogy (Adult Learning Theory)

Andragogy, as developed by Malcolm Knowles and elaborated in Knowles et al. (2020), proposes that adults learn most effectively when learning is self-directed, draws on their prior experience, addresses immediate problems and is oriented towards application rather than abstract content. The theory further holds that adults need to understand why they are learning something and are motivated more by internal factors, such as professional satisfaction, than by external pressure. For school administrators, who typically come to leadership after many years of teaching, these assumptions are highly pertinent. Andragogy offers a lens for explaining why different forms of professional development might relate differently to managerial effectiveness. Mentoring and coaching, which are personalised and problem-centred, align closely with andragogical principles, whereas lecture-based workshops that ignore participants' experience align poorly. In line with Daniëls et al. (2019), leadership learning that connects formal input with workplace experimentation is more likely to be retained and applied. Hence, the theory predicts that the more job-embedded and experience-based the form of professional development, the stronger its association with managerial effectiveness should be.

Taken together, Human Capital Theory explains why professional development should matter, while Andragogy explains which forms of it are most likely to matter. The relationships examined in the study are summarised in the conceptual framework in Figure 1.

Figure 1: Conceptual Framework of Professional Development and Managerial Effectiveness of School Administrators



Source: *Researcher's conceptualisation (2026), adapted from Darling-Hammond et al. (2022) and Grissom et al. (2021).*

Figure 1 shows the three dimensions of professional development examined (in-service training; workshops, seminars and conferences; and mentoring and coaching) as independent variables, each linked to managerial effectiveness, which is measured through planning and goal setting, staff personnel management, instructional supervision, resource management and school-community relations. The contextual factors of funding, policy and school environment moderate these relationships, in line with the critique of Human Capital Theory offered by Marginson (2019).

Review of Related Empirical Studies

Grissom et al. (2019) analysed longitudinal administrative data from Tennessee to study the relationship between principal preparation programmes and principal outcomes. They found meaningful variation across programmes in the job placement, retention and effectiveness ratings of graduates, which suggests that the quality of leadership preparation is not uniform and that it is associated with later performance. Although the study focused on pre-service preparation, it established a clear link between structured leadership learning and managerial outcomes. In a meta-analysis, Liebowitz and Porter (2019) synthesised 51 empirical studies on the effects of principal behaviours on student, teacher and school outcomes. They reported that instructional management, internal relations and organisational management were positively related to student achievement, and that several behaviours were also associated with teacher well-being and practice. Similarly, Tan et al. (2022) conducted a second-order meta-analysis of existing meta-analyses and confirmed that school leadership is associated with a range of school outcomes, although effect sizes varied with the type of leadership and outcome considered. These syntheses establish that what principals do matters, which makes the question of how principals learn to do it well all the more important. On the specific question of professional development, Darling-Hammond et al. (2022) reviewed studies of principal learning conducted between 2000 and 2021 and concluded that high-quality preparation and in-service development featuring applied learning, mentoring and cohort structures were associated with stronger principal practices, more positive teacher perceptions and better student outcomes. Tingle et al. (2019) similarly reviewed leadership development programmes and found that programmes grounded in practice and sustained over time were more likely to produce changes in principal behaviour. In Turkey, Bellibaş et al. (2022) surveyed teachers and found that instructional leadership influenced teacher practices partly through shared practice and teacher agency, underscoring the collaborative channels through which leaders' learning spreads.

In Nigeria, Umar et al. (2021) surveyed 154 principals, 269 heads of department and staff of the Secondary Education Board in Niger State. They found high levels of principal leadership practices and school effectiveness, and multiple regression indicated that leadership practices explained about 14% of the variation in school effectiveness. The authors attributed part of the remaining gap to the absence of formal leadership training for principals. Elizabeth et al. (2023) examined principals' administrative skills and teachers' productivity in public senior secondary schools in Alimosho, Lagos State, and associated principals' administrative skills with teacher productivity. Likewise, Opatunde and Oredein (2023) examined principals' leadership styles and administrative effectiveness in public senior secondary schools in Oyo State and reported that leadership style was related to administrative effectiveness. Furthermore, Kanyip and Ogon (2022) investigated the relationship between principals' administrative roles and teachers' job effectiveness in Akwa Ibom State and found a positive relationship, while Okoye and Ogwurumba (2023) related principals' administrative strategies to teachers' job performance in Anambra State. Ukozor and Edet (2024) focused on managerial conceptual skills and associated them with teacher job performance in Nigerian secondary schools. Although these studies differ in focus, they converge on the view that the managerial capacity of principals is consequential for teachers and schools. Nevertheless, none of them directly measured the dimensions of professional development that build such capacity.

3. RESEARCH METHODOLOGY

The study adopted a correlational survey design. This design was considered appropriate because the study sought to establish the direction and magnitude of the relationship between professional development and managerial effectiveness without manipulating any variable. Since both variables already existed among serving administrators, the design allowed data on them to be collected at a single point in time and related statistically. The study was carried out in Abia State, one of the five states in the South-East geopolitical zone of Nigeria. The state's public secondary schools are administered by the Abia State Secondary Education Management Board (SEMB) through three education zones, namely Aba, Umuahia and Ohafia. The zones combine urban, semi-urban and rural schools, with Aba being largely commercial and densely populated, Umuahia serving as the administrative capital and Ohafia being predominantly rural. This diversity made the state a suitable setting, because administrators work under varied managerial conditions.

The population comprised 732 school administrators in the 244 public secondary schools in Abia State, made up of 244 principals and 488 vice principals (one vice principal for administration and one for academics in each school). Vice principals were included because they share directly in the managerial functions of the school and are the pool from which future principals are drawn. The distribution of the population by education zone is shown in Table 1. A sample of 259 administrators was determined with the Taro Yamane formula at a 0.05 margin of error. Proportionate stratified random sampling was then used to allocate the sample across the three education zones, so that each zone was represented in proportion to its share of the population. Within each zone, schools and administrators were selected through simple random sampling by balloting.

Table 1: Distribution of Population, Sample and Questionnaire Return Rate by Education Zone

Education Zone	No. of Schools	Population (Principals + Vice Principals)	Sample	Copies Returned	Return Rate (%)
Aba	86	258	91	85	93.4
Umuahia	90	270	96	90	93.8
Ohafia	68	204	72	66	91.7
Total	244	732	259	241	93.1

Source: *Field Survey (2026)*

However, two researcher-developed instruments were used. The first was the Professional Development Questionnaire (PDQ), which contained 24 items grouped into three clusters of eight items each: in-service training; workshops, seminars and conferences; and mentoring and coaching. The second was the Managerial Effectiveness of School Administrators Questionnaire (MESAQ), which contained 25 items spread across five indicators: planning and goal setting, staff personnel management, instructional supervision, resource management and school-community relations. Both instruments were structured on a four-point scale of Strongly Agree (4), Agree (3), Disagree (2) and Strongly Disagree (1), and each opened with a section on respondents' background information.

The face and content validity of the instruments were established by three experts, two in Educational Management and one in Measurement and Evaluation, from Abia State University, Uturu. The experts examined the clarity, relevance and coverage of the items in relation to the purpose, research questions and hypotheses of the study. Following their comments, ambiguous items were reworded, four items were removed for overlapping content and two items were added to the mentoring and coaching cluster. A pilot test was conducted with 30 principals and vice principals in public secondary schools in Imo State, which lies outside the study area but shares similar administrative structures. The internal consistency of the

instruments was estimated with Cronbach's alpha. The PDQ yielded an overall coefficient of 0.84, with cluster values of 0.81, 0.78 and 0.83, while the MESAQ yielded an overall coefficient of 0.87, with indicator values ranging from 0.79 to 0.85. These coefficients indicated that the instruments were sufficiently reliable for the study.

The instruments were administered directly to respondents in their schools with the help of three research assistants, one in each education zone, who had been briefed on the purpose of the study and on the procedure for administration. Fieldwork took place between February and April 2026. Respondents were allowed up to one week to complete the questionnaires, after which the copies were retrieved. Not all questionnaires were returned. Of the 259 copies administered, 247 were retrieved; six of these were discarded because they were incompletely filled, leaving 241 copies (93.1%) that were used for analysis. The 18 copies not accounted for were attributed mainly to administrators who were on official assignments, on leave or unavailable during the retrieval visits. Since the return rate exceeded 90% and was balanced across the three zones, as shown in Table 1, it was judged adequate for valid analysis. Data were analysed with the Statistical Package for the Social Sciences (SPSS) version 27. Pearson product-moment correlation coefficient (r) was used to answer the research questions, while the coefficient of determination (r^2) indicated the proportion of variance in managerial effectiveness explained by each dimension of professional development. The magnitude of each relationship was interpreted as follows: 0.00 to 0.19, very low; 0.20 to 0.39, low; 0.40 to 0.59, moderate; 0.60 to 0.79, high; and 0.80 to 1.00, very high. The null hypotheses were tested at the 0.05 level of significance with simple linear regression, reporting the model summary (R, R^2, adjusted R^2 and standard error of estimate), the analysis of variance (F-ratio) and the regression coefficients (B, standard error, 95% confidence interval, β and t). Cohen's f^2 was computed as a measure of effect size, interpreted as small (0.02), medium (0.15) or large (0.35). In addition, a multiple regression model was fitted to estimate the joint and relative contributions of the three dimensions, with the variance inflation factor (VIF) used to check multicollinearity. A hypothesis was rejected where the p-value was less than 0.05, and not rejected where the p-value was equal to or greater than 0.05.

4. ANALYSIS AND FINDINGS

The analysis was based on the 241 copies of the questionnaire that were properly completed and returned. Descriptive statistics of the study variables are presented first, followed by the results for each research question and each null hypothesis.

Table 2: Descriptive Statistics of Professional Development Dimensions and Managerial Effectiveness (N = 241)

Variable	No. of Items	Mean	Standard Deviation	Remark
In-service training	8	2.71	0.64	Agree
Workshops, seminars and conferences	8	2.58	0.71	Agree
Mentoring and coaching	8	2.46	0.69	Disagree
Managerial effectiveness	25	2.83	0.58	Agree

Source: *Field Survey (2026). Criterion mean = 2.50.*

Table 2 shows that administrators agreed that they participated in in-service training (M = 2.71, SD = 0.64) and in workshops, seminars and conferences (M = 2.58, SD = 0.71), since both means exceeded the criterion mean of 2.50. However, mentoring and coaching recorded a mean of 2.46 (SD = 0.69), falling just below the criterion, which indicates that structured mentoring was the least experienced form of professional development among the respondents. Managerial effectiveness, with a mean of 2.83 (SD = 0.58), was rated above the criterion, suggesting that administrators generally regarded their management as effective. The relatively large standard deviation for workshops, seminars and conferences also points to uneven

participation across the sample, consistent with the observation that attendance often depends on personal funding and selection by seniority.

Research Question One

What is the relationship between in-service training and the managerial effectiveness of school administrators in secondary schools in Abia State?

Table 3: Pearson Correlation between In-service Training and Managerial Effectiveness

Variables	N	r	r^2	Variance Explained (%)	Remark
In-service training × Managerial effectiveness	241	0.68	0.462	46.2	High positive relationship

Source: *Field Survey (2026)*

Table 3 shows a correlation coefficient of 0.68 between in-service training and the managerial effectiveness of school administrators. Based on the interpretation scale adopted, this coefficient indicates a high positive relationship. The coefficient of determination ($r^2 = 0.462$) shows that in-service training accounted for 46.2% of the variance in the managerial effectiveness of principals and vice principals in public secondary schools in Abia State. Therefore, administrators who reported more frequent and relevant in-service training also tended to report more effective planning, supervision, staff management, resource management and community relations. The remaining 53.8% of the variance is attributable to other factors not captured by this dimension, such as experience, school size, funding and the other forms of professional development examined in the study.

Research Question Two

What is the relationship between attendance at workshops, seminars and conferences and the managerial effectiveness of school administrators in secondary schools in Abia State?

Table 4: Pearson Correlation between Workshops, Seminars and Conferences and Managerial Effectiveness

Variables	N	r	r^2	Variance Explained (%)	Remark
Workshops, seminars and conferences × Managerial effectiveness	241	0.59	0.348	34.8	Moderate positive relationship

Source: *Field Survey (2026)*

Table 4 reveals a correlation coefficient of 0.59 between attendance at workshops, seminars and conferences and the managerial effectiveness of school administrators. This value falls at the upper boundary of the moderate range and indicates a moderate positive relationship. The coefficient of determination ($r^2 = 0.348$) shows that attendance at such events explained 34.8% of the variance in managerial effectiveness. Thus, administrators who attended workshops, seminars and conferences more often tended to manage their schools more effectively, although the strength of this association was noticeably lower than that recorded for in-service training. The weaker relationship is consistent with the short, event-based nature of these activities, which often raise awareness without sustained follow-up in the school.

Research Question Three

What is the relationship between mentoring and coaching and the managerial effectiveness of school administrators in secondary schools in Abia State?

Table 5: Pearson Correlation between Mentoring and Coaching and Managerial Effectiveness

Table 4: Pearson Correlation between Workshops, Seminars and Conferences and Managerial Effectiveness

Variables	N	r	r^2	Variance Explained (%)	Remark
Mentoring and coaching × Managerial effectiveness	241	0.72	0.518	51.8	High positive relationship

Source: *Field Survey (2026)*

Table 5 shows a correlation coefficient of 0.72 between mentoring and coaching and the managerial effectiveness of school administrators, indicating a high positive relationship. The coefficient of determination ($r^2 = 0.518$) reveals that mentoring and coaching accounted for 51.8% of the variance in managerial effectiveness, the largest share among the three dimensions examined. Hence, administrators who received guidance from experienced colleagues or structured coaching reported noticeably stronger managerial performance. This result is striking when read alongside Table 2, where mentoring and coaching recorded the lowest mean participation (M = 2.46). In other words, the form of professional development most strongly associated with managerial effectiveness was also the one least available to administrators in the state.

Test of Hypotheses

Each null hypothesis was tested with simple linear regression at the 0.05 level of significance. For each hypothesis, the first table reports the model summary and analysis of variance, while the second reports the regression coefficients.

H01: There is no significant relationship between in-service training and the managerial effectiveness of school administrators in secondary schools in Abia State.

Table 6: Model Summary and Analysis of Variance for the Regression of Managerial Effectiveness on In-service Training

Panel A: Model Summary

Model	R	R^2	Adjusted R^2	SE of Estimate	Cohen's f^2
In-service training	.680	.462	.460	.426	0.86

Panel B: Analysis of Variance (ANOVA)

Source	Sum of Squares	df	Mean Square	F	p
Regression	37.332	1	37.332	205.57	< .001
Residual	43.404	239	0.182		
Total	80.736	240			

Note. N = 241. Dependent variable: managerial effectiveness. Critical F(1, 239) = 3.88 at α = .05. Decision: H0 rejected. 95% CI for r: [.606, .743]. Source: Field Survey (2026).

Table 7: *Regression Coefficients for In-service Training Predicting Managerial Effectiveness*

Predictor	B	SE	95% CI for B	β	t	p
(Constant)	1.160	0.120	[0.924, 1.396]		9.69	< .001
In-service training	**0.616**	0.043	[0.532, 0.701]	**.680**	**14.34**	**< .001**

Note. B = unstandardised coefficient; SE = standard error; β = standardised coefficient; CI = confidence interval. Critical t(239) = 1.970 at α = .05. Source: Field Survey (2026).

Tables 6 and 7 show that in-service training produced R = 0.680, R^2 = 0.462 and adjusted R^2 = 0.460, with a standard error of estimate of 0.426. The F-ratio of 205.57 at 1 and 239 degrees of freedom exceeded the critical F-value of 3.88, and the p-value (< .001) was below 0.05. The unstandardised coefficient was B = 0.616 (SE = 0.043, 95% CI [0.532, 0.701]), with β = 0.680 and t = 14.34. Since the confidence interval excluded zero, H01 was rejected. Thus, every one-point rise in administrators' rating of in-service training was associated with a 0.62-point rise in managerial effectiveness. Cohen's f^2 of 0.86 confirms a large effect.

H02: There is no significant relationship between attendance at workshops, seminars and conferences and the managerial effectiveness of school administrators in secondary schools in Abia State.

Table 8: Model Summary and Analysis of Variance for the Regression of Managerial Effectiveness on Workshops, Seminars and Conferences

Panel A: Model Summary

Model	R	R^2	Adjusted R^2	SE of Estimate	Cohen's f^2
Workshops, seminars and conferences	.590	.348	.345	.469	0.53

Panel B: Analysis of Variance (ANOVA)

Source	Sum of Squares	df	Mean Square	F	p
Regression	28.104	1	28.104	**127.62**	**< .001**
Residual	52.632	239	0.220		
Total	80.736	240			

Note. N = 241. Dependent variable: managerial effectiveness. Critical F(1, 239) = 3.88 at α = .05. Decision: H0 rejected. 95% CI for r: [.501, .667]. Source: Field Survey (2026).

Table 9: *Regression Coefficients for Workshops, Seminars and Conferences Predicting Managerial Effectiveness*

Predictor	B	SE	95% CI for B	β	t	p
(Constant)	1.160	0.120	[0.924, 1.396]		9.69	< .001
In-service training	**0.616**	0.043	[0.532, 0.701]	**.680**	**14.34**	**< .001**

Note. B = unstandardised coefficient; SE = standard error; β = standardised coefficient; CI = confidence interval. Critical t(239) = 1.970 at α = .05. Source: Field Survey (2026).

Tables 8 and 9 reveal that workshops, seminars and conferences yielded R = 0.590, R^2 = 0.348 and adjusted R^2 = 0.345, with a standard error of estimate of 0.469. The F-ratio of 127.62 at 1 and 239 degrees of freedom was greater than the critical value of 3.88, while the p-value (< .001) fell below 0.05. The coefficient was B = 0.482 (SE = 0.043, 95% CI [0.398, 0.566]), with β = 0.590 and t = 11.30. Hence, H02 was rejected.

Although this was the weakest of the three models, a one-point rise in attendance was still associated with a 0.48-point rise in managerial effectiveness. Cohen's f^2 of 0.53 indicates a large effect.

H03: There is no significant relationship between mentoring and coaching and the managerial effectiveness of school administrators in secondary schools in Abia State.

Table 10: Model Summary and Analysis of Variance for the Regression of Managerial Effectiveness on Mentoring and Coaching

Panel A: Model Summary

Model	R	R^2	Adjusted R^2	SE of Estimate	Cohen's f^2
Mentoring and coaching	.720	.518	.516	.403	1.08

Panel B: Analysis of Variance (ANOVA)

Source	Sum of Squares	df	Mean Square	F	p
Regression	41.854	1	41.854	**257.26**	**< .001**
Residual	38.882	239	0.163		
Total	80.736	240			

Note. N = 241. Dependent variable: managerial effectiveness. Critical F(1, 239) = 3.88 at α = .05. Decision: H0 rejected. 95% CI for r: [.653, .776]. Source: Field Survey (2026).

Table 11: *Regression Coefficients for Mentoring and Coaching Predicting Managerial Effectiveness*

Predictor	B	SE	95% CI for B	β	t	p
(Constant)	1.341	0.096	[1.151, 1.531]		13.91	< .001
Mentoring and coaching	**0.605**	0.038	[0.531, 0.680]	**.720**	**16.04**	**< .001**

Note. B = unstandardised coefficient; SE = standard error; β = standardised coefficient; CI = confidence interval. Critical t(239) = 1.970 at α = .05. Source: Field Survey (2026).

Tables 10 and 11 show that mentoring and coaching produced the strongest model, with R = 0.720, R^2 = 0.518 and adjusted R^2 = 0.516, and the smallest standard error of estimate (0.403). The F-ratio of 257.26 at 1 and 239 degrees of freedom far exceeded the critical value of 3.88, and the p-value (< .001) was below 0.05. The coefficient was B = 0.605 (SE = 0.038, 95% CI [0.531, 0.680]), with β = 0.720 and t = 16.04. Accordingly, H03 was rejected. A one-point rise in mentoring and coaching was associated with a 0.61-point rise in managerial effectiveness, and Cohen's f^2 of 1.08 marks the largest effect among the three dimensions.

Joint Contribution of Professional Development Dimensions

Table 12: Means, Standard Deviations and Intercorrelations of the Study Variables (N = 241)

Variable	M	SD	1	2	3	4
1. In-service training	2.71	0.64	—			
2. Workshops, seminars and conferences	2.58	0.71	.52**	—		
3. Mentoring and coaching	2.46	0.69	.55**	.48**	—	
4. Managerial effectiveness	2.83	0.58	.68**	.59**	.72**	—

Note. N = 241. M = mean; SD = standard deviation on a four-point scale. ∗∗p < .01 (two-tailed). Source:

Field Survey (2026).

Table 13: Multiple Regression of Managerial Effectiveness on the Three Dimensions of Professional Development

Predictor	B	SE	β	t	p	VIF
(Constant)	0.673	0.105		6.44	< .001	
In-service training	0.300	0.044	**.331**	6.87	< .001	1.63
Workshops, seminars and conferences	0.169	0.037	**.207**	4.52	< .001	1.48
Mentoring and coaching	0.368	0.039	**.438**	9.34	< .001	1.55
Model fit: R = .814, R^2 = .663, Adjusted R^2 = .659, SE of Estimate = .339, F(3, 237) = 155.50, p < .001						

Note. N = 241. Dependent variable: managerial effectiveness. VIF = variance inflation factor. Critical F(3, 237) = 2.64 at α = .05. Source: Field Survey (2026).

Table 12 shows that all intercorrelations were positive and significant at $p < .01$, with the three predictors correlating moderately with one another ($r = 0.48$ to 0.55), which ruled out redundancy. Table 13 reveals that, jointly, the three dimensions produced $R = 0.814$ and explained 66.3% of the variance in managerial effectiveness (adjusted $R^2 = 0.659$), $F(3, 237) = 155.50$, $p < .001$. Each predictor remained significant after controlling for the others. Mentoring and coaching made the largest unique contribution ($\beta = 0.438$, $t = 9.34$), followed by in-service training ($\beta = 0.331$, $t = 6.87$) and workshops, seminars and conferences ($\beta = 0.207$, $t = 4.52$). The VIF values (1.48 to 1.63) fell well below 5, so multicollinearity did not distort the estimates.

Summary of Findings

1. In-service training had a high, positive and significant relationship with the managerial effectiveness of school administrators ($r = 0.68$, $R^2 = 0.462$, $F(1, 239) = 205.57$, $p < .001$).

2. Attendance at workshops, seminars and conferences had a moderate, positive and significant relationship with managerial effectiveness ($r = 0.59$, $R^2 = 0.348$, $F(1, 239) = 127.62$, $p < .001$).

3. Mentoring and coaching had a high, positive and significant relationship with managerial effectiveness ($r = 0.72$, $R^2 = 0.518$, $F(1, 239) = 257.26$, $p < .001$) and explained the largest share of variance (51.8%), despite being the least experienced form of professional development.

4. Jointly, the three dimensions explained 66.3% of the variance in managerial effectiveness ($R^2 = 0.663$, $F(3, 237) = 155.50$, $p < .001$), with mentoring and coaching as the strongest unique predictor ($\beta = 0.438$), followed by in-service training ($\beta = 0.331$) and workshops, seminars and conferences ($\beta = 0.207$).

5. Discussion of Findings

The first finding established a high, positive and significant relationship between in-service training and managerial effectiveness ($r = 0.68$). This result fits the logic of Human Capital Theory: administrators who receive structured training in finance, supervision, school law and record keeping have more tools with which to manage. It also agrees with Tingle et al. (2019), who reported that leadership development programmes aligned with participants' real problems produce measurable changes in principal behaviour, and with Pont (2020), whose review traced the shift towards structured continuing development frameworks

to the failure of ad hoc training to change practice. In the Nigerian context, the finding extends Ukozor and Edet (2024), who linked principals' managerial conceptual skills to teacher performance, by showing that the training through which such skills are built is itself tied to managerial effectiveness. Nevertheless, 53.8% of the variance remained unexplained, which is a reminder, in line with Marginson (2019), that training does not operate in a vacuum and that funding and institutional conditions also shape what administrators can achieve.

The second finding revealed a moderate, positive and significant relationship between attendance at workshops, seminars and conferences and managerial effectiveness ($r = 0.59$). The relationship was real but weaker than those of the other two dimensions. This pattern is consistent with Sims and Fletcher-Wood (2021), who argued that professional learning changes practice only when it is rehearsed and embedded, something short events rarely guarantee. It also aligns with Daniëls et al. (2019), who found that formal leadership learning is more influential when combined with workplace experimentation. Moreover, the relatively high standard deviation for this dimension ($SD = 0.71$) mirrors the barriers identified by the OECD (2019), namely cost and conflicts with work schedules, which make attendance uneven. On the other hand, the significant relationship affirms the view of Harris and Jones (2019) that professional networks built through such platforms have value, particularly for exposing administrators to new policies and practical solutions from peers.

The third finding showed that mentoring and coaching had the strongest relationship with managerial effectiveness ($r = 0.72$), explaining 51.8% of its variance. This result directly supports the andragogical principle that adults learn best through problem-centred, experience-based learning (Knowles et al., 2020). It also corroborates Darling-Hammond et al. (2022), who identified mentoring and coaching among the most consistent features of effective principal development, and Campbell et al. (2019), who highlighted the role of collegial support in the growth of instructional leaders. Furthermore, the finding resonates with Bellibaş et al. (2022), whose work showed that shared practice is a key channel through which leadership learning spreads. The more telling point, however, lies in the contrast with Table 2: mentoring and coaching was the least experienced form of development ($M = 2.46$), yet the most strongly related to effectiveness. This mismatch echoes the concern raised by Umar et al. (2021) and UNESCO (2024) that African school systems rely on seniority and informal learning rather than on structured support for new leaders.

6. Implications of the Study

The findings carry implications for policy, practice and theory. For policy, the Abia State Secondary Education Management Board and the State Ministry of Education cannot treat professional development as an occasional welfare item, since all three dimensions examined were significantly associated with managerial effectiveness. Because mentoring and coaching showed the strongest relationship but the lowest participation, the current allocation of professional development effort appears misaligned with what matters most. For practice, principals and vice principals need to regard continuous learning as part of the job rather than as a reward for seniority. Senior principals, in turn, hold a resource that is underused: their experience, which could be channelled into structured mentoring of newly appointed colleagues. For theory, the results lend empirical support to both Human Capital Theory and Andragogy in the Nigerian context, while the unexplained variance confirms the critique that returns on investment in human capability depend on the conditions in which that capability is exercised (Marginson, 2019).

7. Conclusion

Professional development and managerial effectiveness are closely connected among school administrators in public secondary schools in Abia State. In-service training and mentoring and coaching showed high, positive and significant relationships with managerial effectiveness, while workshops, seminars and conferences showed a moderate but significant one. The strongest relationship belonged to mentoring and

coaching, which was also the least available form of development. The picture that emerges is of a system in which administrators learn to manage schools largely through formal events and seniority, whereas the evidence points to sustained, job-embedded support from experienced colleagues as the more powerful route to effective school management.

8. Recommendations

Based on the findings, the following recommendations were made:

1. The Abia State Secondary Education Management Board should institutionalise a structured mentoring and coaching scheme in which experienced principals are formally paired with newly appointed principals and vice principals for at least the first two years in office.

2. The State Ministry of Education, in collaboration with NIEPA, should organise regular, needs-based in-service training for administrators, with follow-up visits to support the application of new skills in schools.

3. Funding for attendance at workshops, seminars and conferences should be provided by government and school management, and participants should be selected on the basis of identified needs rather than seniority, with a requirement to share learning with colleagues on return.

4. Appointment and promotion to principalship should be tied to evidence of completed leadership development, rather than to years of teaching service alone.

5. The All Nigeria Confederation of Principals of Secondary Schools (ANCOPSS), Abia State chapter, should establish zonal peer-learning networks through which administrators can share practical solutions to common managerial problems.

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