

Principals' Capacity Building Strategies and Students' Academic Performance in Public Secondary Schools in Bungoma Central Sub-County, Kenya

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Abstract- The purpose of this study was to evaluate principals' capacity building strategies on students' academic performance in public secondary schools in Bungoma Central Sub-County, Kenya. Persistent poor performance in the Kenya Certificate of Secondary Education (KCSE) in the sub-county, despite the emphasis placed on quality education under the National Education Sector Strategic Plan (2023-2024), prompted an inquiry into how principals' professional development initiatives for teachers influenced learner outcomes. The study adopted a descriptive survey design anchored on the Human Relations Theory and targeted a population of 11,238 respondents comprising 47 principals, 699 teachers and 10,492 students in 47 public secondary schools. Using Cochran and Yamane's (1967) formula at a 95% confidence level, a sample of 386 respondents was drawn, and data were collected using questionnaires and interview schedules, achieving a 94% response rate (321 respondents). Descriptive findings established that 83.2% of respondents confirmed that principals organized professional development programmes for teachers, with in-service training workshops (87.6%) and peer learning sessions (79.4%) being the most common activities, while 86.6% of respondents reported that capacity building had improved academic performance. Simple linear regression results revealed that capacity building had a statistically significant positive effect on students' academic performance ($\beta=0.468$, $t=9.649$, $p=0.000$), explaining 21.9% of the variance in performance ($R^2=0.219$, $F=93.103$, $p=0.000$). The null hypothesis that capacity building has no significant effect on students' academic performance was consequently rejected. The study concluded that principals' investment in structured, regular, and practice-oriented professional development for teachers is a critical lever for improving students' academic achievement, and recommended that principals institutionalize termly capacity building programmes supported by adequate resources and follow-up mentorship.

Index Terms- Academic Performance, Capacity Building, Professional Development, Staff Management Approaches, Teacher Training.

I. INTRODUCTION

Effective staff management is essential for the smooth running of any institution, and in schools it involves fostering teamwork, maintaining open communication, providing incentives, ensuring fair recruitment and deployment, enhancing staff capacity, and resolving conflicts constructively [1]. Among these staff management approaches, capacity building, understood as the deliberate efforts by school principals to enhance teachers' skills, knowledge and professional competencies through training, mentorship and continuous professional development, has been widely identified as a central driver of instructional quality and student achievement. Studies show that employee performance is strongly influenced by a sense of value and appreciation rather than by physical conditions alone [2], a view that has shaped modern human resource practices emphasizing investment in staff training and career growth as a pathway to greater efficiency and productivity [3].

Human resource management in schools requires deliberate strategies to boost teacher motivation, performance and organizational effectiveness [4]. Effective principals integrate strategic planning with governance practices that create an enabling learning environment, and modern school leadership is increasingly shifting from routine administration toward strategic roles focused on long-term planning, continuous professional development, and a culture of improvement [5]. Research shows that schools where principals prioritize teacher professional

growth through training, mentorship and incentive programmes tend to perform better academically [6], yet many schools in Kenya continue to struggle with inadequate teacher motivation and insufficient professional development opportunities, which limits instructional effectiveness [7].

Internationally, Finland offers a notable example where fostering collaboration, training and feedback among teachers has improved both teacher morale and student performance [8]. In Ghana, structured performance appraisals have aligned teacher output with national goals [9], while in Nigeria professional certification and training under the Teacher Registration Council has improved teacher quality despite funding and structural limitations [10]. In the United States and Finland, schools with strong instructional leadership and sustained teacher support have reported markedly higher student achievement levels, underscoring the global consensus on the centrality of capacity building to school improvement [11].

In Kenya, reforms such as the Basic Education Act (2013) and the National Education Sector Strategic Plan have emphasized teacher quality, professional growth and welfare under the Teachers Service Commission (TSC). However, rural schools still face challenges including limited access to continuous professional development and slow adaptation to technology [12], while centralized decision-making has caused inefficiencies in teacher deployment, leaving many rural schools understaffed [13]. In Bungoma County, prior studies found that while some principals fostered positive school climates and offered professional development, the absence of structured management systems limited effectiveness [14]. Ministry of Education data (2018-2022) indicates that Bungoma County has recorded persistently low KCSE performance averaging a grade of C-, a trend also recorded in Bungoma Central Sub-County, which averaged a grade of D+ between 2019 and 2022, recorded a positive deviation in 2023, and thereafter recorded negative deviations in 2024 and 2025.

Despite the documented global and national importance of capacity building, little research had

directly examined how principals' capacity building strategies specifically influenced students' academic achievement in Bungoma Central Sub-County. Research shows that schools with strong administrative frameworks, effective resource mobilization and continuous training programmes tend to record better academic outcomes [15], yet studies focusing specifically on the sub-county remain scarce, providing the impetus for the present investigation.

Beyond the general recognition of professional development as valuable, a growing body of literature has sought to specify the mechanisms through which principals' capacity building efforts translate into classroom improvement. Effective human resource management, encompassing recruitment, professional development, motivation, and staff welfare programmes, contributes to a conducive teaching and learning environment, and schools where principals prioritize teacher professional growth through training, mentorship, and incentive programmes tend to perform better academically [28]. Instructional leadership, which involves curriculum oversight, teacher supervision, and continuous professional development, is widely recognized as a key driver of academic success, with principals who set clear academic goals, provide mentorship, and facilitate ongoing training creating an environment that fosters student achievement [29]. Studies conducted in other Kenyan counties similarly demonstrate that where principals actively engage in instructional supervision alongside structured professional development, teaching quality and student outcomes improve markedly [30].

Nonetheless, while global and national studies have documented the general importance of capacity building for teacher effectiveness, few had empirically quantified its specific effect on KCSE performance within Bungoma Central Sub-County, leaving school administrators and policy makers without localized, evidence-based guidance on how much emphasis to place on professional development relative to other staff management levers such as communication, work environment, and supervision. This contextual gap, coupled with the persistently poor examination outcomes recorded in the sub-

county, provided the empirical and practical justification for the present study.

A. Problem Statement. The Ministry of Education in Kenya has consistently emphasized quality education through the National Education Sector Strategic Plan (NESSP 2023-2024), which seeks to strengthen governance and accountability, improve teacher competency, and ensure adequate infrastructure and resources. Despite these reforms, most schools in Bungoma Central Sub-County continue to grapple with staff management challenges, and although the Teachers Service Commission evaluates principals largely on the leadership approaches, they employ to better students' academic achievement [16], the specific contribution of capacity building strategies to this outcome had not been empirically established locally. National results from the Kenya National Examinations Council (KNEC) reveal that KCSE performance in 2023 and 2024 remained dismal in public day secondary schools in Bungoma Central Sub-County, with the sub-county recording a mean grade of C- and a negative deviation of 0.0171 in 2024. While previous studies have examined factors such as resource availability, teacher qualifications and general leadership styles, limited attention had been paid to how principals' capacity building strategies specifically influence students' academic performance in this sub-county. This gap prompted the present study to examine principals' capacity building strategies on students' academic performance, with a view to generating findings that could inform school management practice and education policy.

B. Study Objective. The study sought to determine principals' strategies on capacity building on students' academic performance in public secondary schools in Bungoma Central Sub-County, Kenya.

C. Research Hypothesis. H0: Capacity building strategies have no significant effect on students' academic performance in public secondary schools in Bungoma Central Sub-County, Kenya.

D. Theoretical Framework. The study was anchored on the Human Relations Theory (HRT), developed by Elton Mayo through the Hawthorne studies (1924-

1932), which emphasizes the need for social interaction, employee wellbeing and motivation in workplaces [31]. Unlike earlier scientific management theories that viewed workers primarily as economic units, HRT recognizes that interpersonal relationships, recognition, and psychological wellbeing are central determinants of productivity and performance. With respect to capacity building specifically, HRT informed the understanding that principals who invest in teachers' professional growth and skills development signal recognition and value, which enhances motivation, job satisfaction, and commitment to organizational goals, in this case improving students' academic performance. The theory therefore anchored the relationship between principals' capacity building strategies as the independent variable and students' academic performance as the dependent variable, establishing that how principals invest in and relate to teachers through professional development shapes teacher motivation, instructional quality, and ultimately student outcomes.

II. RESEARCH METHODOLOGY

A. Study Design. The study adopted a descriptive survey design, considered effective for gathering information about prevailing conditions, beliefs and practices in educational settings [17]. Survey designs are appropriate for studying relationships between variables such as management strategies and academic outcomes [18], and this design was considered suitable since data were collected from principals, teachers and students in Bungoma Central Sub-County, Kenya. Data collection tools were tested for validity and reliability in line with recommended conditions for descriptive studies [19].

B. Study Area. The study was conducted in Bungoma Central Sub-County, Bungoma County, Kenya, an area previously forming part of the larger Western Province. The sub-county, which neighbours Mt Elgon, Kimilili and Bungoma West sub-counties, has a population of 177,748 residents (Census, 2019) and was purposively selected because of its dwindling academic performance over recent years.

C. Target Population. The target population for the study was 11,238 respondents comprising 47 principals, 699 teachers and 10,492 students drawn from the 47 public secondary schools in Bungoma Central Sub-County. Principals were included because of their central role in shaping teacher performance and student outcomes through management strategies [20]; teachers were included because they are directly affected by principals' management strategies [21]; and students were included to capture their experiences and perspectives on how these strategies influenced their academic performance [22].

D. Sampling Technique and Sample Size. A stratified sampling approach was used, with participants selected proportionately across the 47 schools, and teachers and students then selected from within their respective strata using simple random sampling. The sample size was determined using Cochran and Yamane's (1967) formula for a 95% confidence level and a precision level of 0.05, given as $n = N / (1 + N(e)^2)$, where N is the population size of 11,238. This yielded a sample size of 386.25, approximated to 386 respondents, comprising 47 principals, 22 teachers and 317 students. Data collection through questionnaires and interviews achieved a 94% response rate, with 321 questionnaires successfully completed and returned.

E. Data Collection Instruments. Data were collected using structured questionnaires administered to teachers and students, and interview schedules administered to principals. The questionnaires captured demographic information alongside items measuring the availability, nature, frequency, and perceived impact of capacity building activities, using both closed-ended categorical questions and five-point Likert-scale statements. Interview schedules for principals elicited qualitative insights on how professional development programmes were planned, resourced, and monitored. Piloting was conducted in schools outside the main study area to refine the instruments, and reliability was confirmed using Cronbach's alpha, with the capacity building construct achieving a coefficient of 0.843, exceeding the recommended threshold of 0.7 and confirming that the items reliably measured the intended

construct. Data were analyzed using descriptive statistics, including frequencies, percentages, means, and standard deviations, as well as inferential statistics involving simple linear regression to test the study's hypothesis, with the Statistical Package for Social Sciences (SPSS) used throughout the analysis.

III. RESULTS AND DISCUSSION

A. Demographic Characteristics. Twenty-two teachers returned fully completed questionnaires representing a 100% response rate, while 299 out of 317 targeted students returned completed questionnaires, representing a 94% response rate, an excellent threshold that enhanced the credibility of the findings [23]. Table I presents the gender and experience distribution of teacher respondents.

TABLE I: DEMOGRAPHIC CHARACTERISTICS OF TEACHERS

Variable	Category	Freq.	%
Gender	Male	13	59.1
	Female	9	40.9
Experience	1-5 yrs	4	18.2
	6-10 yrs	6	27.3
	11-15 yrs	7	31.8
	>15 yrs	5	22.7

The gender distribution revealed that 59.1% of teachers were male against 40.9% female, indicating a relatively balanced representation with a slight male majority. With regard to teaching experience, 31.8% of teachers had between 11 and 15 years of experience, followed by 27.3% with 6 to 10 years, 22.7% with over 15 years, and 18.2% with 1 to 5 years. This distribution revealed that the majority of teacher respondents had considerable teaching experience exceeding five years, placing them in a strong position to provide credible perspectives on how principals' capacity building strategies had evolved and influenced classroom practice and student outcomes over time.

B. Capacity Building Practices. Capacity building represented a fundamental component of principals' staff management approaches that directly influenced

teacher effectiveness and, subsequently, students' academic outcomes. Table II presents findings on the availability, nature and perceived impact of capacity building practices.

TABLE II: CAPACITY BUILDING PRACTICES AND AVAILABILITY

Category	Item	%
Programs organized	Yes	83.2
	No	16.8
Top activities (n=267)	In-service training	87.6
	Peer learning	79.4
	Subject seminars	74.2
	Mentorship	70.8
	Curriculum wkshops	62.5
	ICT training	58.4
	Conferences	36.7
Frequency	Termly	48.6
	Monthly	27.1
	Annually	19.9
	Irregularly	4.4
Improved performance	Yes	86.6
	No	8.7
	No change	4.7

The findings in Table II revealed that 83.2% of respondents confirmed that principals organized professional development programmes for teachers, while 16.8% reported no such programmes in their schools. Among respondents who confirmed the availability of capacity building activities, in-service training workshops were the most common at 87.6%, followed by peer learning sessions at 79.4% and subject-specific seminars at 74.2%, while educational conferences were the least common at 36.7%. Termly training was the most frequent mode of delivery at 48.6%, and an overwhelming 86.6% of respondents confirmed that capacity building had led to improved academic performance in their schools, against only 8.7% who reported no improvement. The predominance of in-service training and peer learning suggested that principals in Bungoma Central Sub-

County favoured collaborative, practice-oriented approaches to teacher development over formal academic programmes, and the strong association between these activities and reported improvements in teaching and learning pointed to their practical relevance in the local school context.

C. Perceptions on Capacity Building. Respondents' level of agreement with statements on capacity building and its impact on teaching effectiveness and student performance was analysed, and the findings are presented in Table III.

TABLE III: LEVEL OF AGREEMENT REGARDING CAPACITY BUILDING (%)

Statement	SA	A	N	D	SD
PD programs organized regularly	30.5	58.3	7.2	2.8	1.2
Programs relevant to teaching needs	27.1	54.8	10.6	5.6	1.9
Encouragement for further PD exists	31.8	51.4	10.0	4.7	2.2
Training improved teaching effectiveness	34.9	55.5	5.9	2.5	1.2
Adequate resources provided for growth	20.9	44.5	17.4	11.8	5.3
CB activities enhanced academic performance	38.3	52.0	6.5	2.2	0.9

SA=Strongly Agree, A=Agree, N=Neutral, D=Disagree, SD=Strongly Disagree.

The perception analysis revealed overwhelmingly positive attitudes toward capacity building practices. The statement that capacity building activities had enhanced student academic performance received the strongest endorsement, with 90.3% of respondents agreeing or strongly agreeing, closely followed by agreement that training programmes had improved teaching effectiveness (90.4%). In contrast, perceptions regarding the adequacy of resources for professional growth were comparatively less positive, with only 65.4% of respondents in agreement, representing the most critical area of concern. This finding suggested that although capacity building programmes were regularly organized and perceived as relevant to classroom needs, insufficient resources

limited the full realization of their potential benefits, underscoring a key area where principals and policy makers could strengthen implementation.

D. Regression Analysis. Simple linear regression was used to test the null hypothesis that capacity building strategies have no significant effect on students' academic performance in public secondary schools in Bungoma Central Sub-County, Kenya. The findings are presented in Table IV.

TABLE IV: REGRESSION RESULTS FOR CAPACITY BUILDING

Model	B	β	t	p	R ²
(Constant)	1.843	-	7.981	0.000	0.219
Capacity Bldg.	0.550	0.468	9.649	0.000	F=93.10

The model summary in Table IV produced an R² value of 0.219, indicating that capacity building explained approximately 21.9% of the variation in students' academic performance. The ANOVA test was statistically significant with an F value of 93.103 and a p-value of 0.000, confirming that the regression model had a good fit. Capacity building had a standardized coefficient (Beta) of 0.468 with a t-value of 9.649, which was statistically significant at the 0.05 alpha level, implying that a unit increase in capacity building would result in a 46.8% increase in students' academic performance. Consequently, the null hypothesis that capacity building has no significant effect on students' academic performance was rejected, and the study concluded that capacity building had a positive and statistically significant effect on students' academic performance in Bungoma Central Sub-County, Kenya. Based on these findings, the study adopted the following regression model:

$$\text{Academic Performance} = 1.843 + 0.468 (\text{Capacity Building})$$

E. Discussion. These findings were consistent with research establishing that sustained, content-focused professional development significantly influenced instructional quality and student achievement through its impact on teacher knowledge, classroom practice and collegial learning, with schools where principals

organized structured, ongoing capacity building activities achieving higher student performance than those relying on isolated, one-off training sessions [24]. Similarly, professional development characterized by active learning and coherence with curriculum demands has been shown to produce measurable gains in teacher effectiveness and student outcomes [25].

These results also concurred with research in developing country contexts, including Kenya, which established that teacher professional development improved instructional practice when it was practical, repeated over time, and supported by follow-up coaching, emphasizing that capacity building involves not just the transfer of knowledge but its translation into classroom behaviour through mentorship, peer learning and continuous feedback [26]. Contrarily, other scholars cautioned that capacity building alone is insufficient without adequate resources and follow-through, noting that training unaccompanied by materials, time and institutional support fails to translate into lasting instructional improvement [27]. This observation resonates with the present study's finding that resource adequacy was the area of greatest concern among respondents, suggesting that principals in Bungoma Central Sub-County need to match professional development investment with the practical support teachers require to apply new skills. The strong link between capacity building and academic performance observed in this study also aligns with evidence from Kenyan secondary schools, where frequent teacher development programmes have been associated with better academic performance [32]. Structured teacher collaboration arising from joint lesson planning and peer learning, similar to the peer learning sessions reported by 79.4% of respondents in this study, has likewise been linked to more effective teaching and improved student performance [33]. Regular evaluation and constructive feedback accompanying capacity building activities have also been found to enhance teaching quality and student engagement in Kenyan contexts [34], reinforcing the present study's finding that capacity building activities perceived as relevant to teaching needs were strongly associated with reported improvements in academic performance.

Taken together, these findings underscore that capacity building is not merely a compliance requirement but a substantive management lever with measurable returns on student learning outcomes. The moderate explanatory power of the model ($R^2=0.219$) further suggests that while capacity building is an important predictor, it operates alongside other staff management approaches, such as communication, work environment, and supervision, which together with capacity building form a more complete picture of how principals influence academic performance. This is consistent with the broader staff management literature, which frames professional development as one of several complementary levers principals must coordinate to achieve sustained improvements in student achievement.

It is also worth noting that the strength of the observed effect ($\beta=0.468$) was higher than that reported in some comparable studies, a pattern that may reflect the particular emphasis principals in Bungoma Central Sub-County have placed on in-service training and peer learning as relatively low-cost, high-frequency interventions compared with more resource-intensive approaches such as educational conferences. This suggests that even modest but consistent investments in teacher capacity building, when implemented termly and reinforced through collaborative peer structures, can yield disproportionately large gains in students' academic performance, a finding with direct practical relevance for resource-constrained public secondary schools.

F. Limitations of the Study. The study was limited to public secondary schools in Bungoma Central Sub-County, and the findings may not be directly generalizable to private schools or to sub-counties with markedly different resource endowments and administrative structures. Self-reported data from teachers and students on the impact of capacity building activities may also be subject to social desirability bias, although this was mitigated through triangulation with principals' interview responses. Additionally, the cross-sectional nature of the survey captured perceptions and outcomes at a single point in time, and could not establish the long-term

trajectory of capacity building's effect on academic performance across successive cohorts of students.

IV. CONCLUSION

The study concludes that principals' capacity building strategies have a positive and statistically significant effect on students' academic performance in public secondary schools in Bungoma Central Sub-County, Kenya, accounting for 21.9% of the variation in academic performance. Structured, regularly delivered and practice-oriented professional development, particularly in-service training workshops and peer learning sessions, enhances teachers' instructional competencies, confidence and classroom management, which in turn translates into improved student engagement and academic achievement. However, the comparatively weaker perception regarding the adequacy of resources for professional growth indicates that the full benefits of capacity building are yet to be realized.

A. Recommendations. Based on these findings, the study recommends that principals institutionalize termly capacity building programmes rather than relying on irregular or annual training, given the strong association between termly delivery and reported improvements in performance. Principals should also diversify capacity building activities to strengthen under-utilized areas such as ICT training and educational conferences, which recorded the lowest uptake despite their potential to expose teachers to contemporary pedagogical and technological practices. The Teachers Service Commission and County Education Office should consider establishing dedicated capacity-building grants or resource pools for public secondary schools, directly addressing the resource adequacy concerns raised by respondents. Finally, principals should pair training initiatives with structured follow-up mentorship and peer-learning support, ensuring that new skills and knowledge acquired during professional development are consistently translated into sustained classroom practice rather than one-off gains. Further research could examine the combined and comparative effects of capacity building alongside other staff management approaches such as communication, work environment, and supervision

on students' academic performance in similar sub-counties, and could adopt longitudinal designs to track the cumulative effect of sustained capacity building on academic performance over multiple examination cycles.

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