

Research Article

Effect of Staff Development Practice on Academic Performance in Public Primary Schools in Endebess Sub-County, Kenya

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Abstract

This study investigates the influence of leadership and management practices on student achievement in public primary schools in Endebess Sub-County, Trans Nzoia County, where academic performance remains below the national average despite infrastructural improvements and increased teacher deployment. Drawing on Transformational Leadership and Social Interdependence theories, the research focuses on vision setting, collaboration, staff development, and stakeholder communication as key drivers of academic outcomes. Using a quantitative survey and correlational design, data was collected from 331 education leaders and analyzed through descriptive and regression methods. The findings aim to inform school leadership strategies and enhance institutional effectiveness. The study findings on staff development indicated that respondents generally held favourable views regarding the relevance and impact of professional training, particularly in enhancing their teaching or administrative roles and contributing to student achievement. The study concluded that staff development had a statistically significant positive relationship with academic performance. The study recommended that, The Ministry of Education, in collaboration with the Teachers Service Commission, should establish uniform staff development frameworks that ensure equitable access to quality training across all zones of Endebess Sub-County. It was also recommended that school leadership should periodically assess staff development needs to tailor training content to specific instructional and administrative gaps.

Keywords: Academic Performance, Staff Development Practices, Public Primary Schools.

Introduction

The head teachers' leadership skills play a pivotal role in fostering the professional growth and instructional effectiveness of teachers (Karaköse *et al.*, 2025). In turn, when teachers are supported and perform at high levels, student learning is more likely to thrive. For this reason, the leadership behaviors exhibited by head teachers must align with the demands of a teaching and learning environment that is focused on clear educational goals. A study conducted by Pardosi and Utari (2021) explored the impact of principal leadership styles on both teacher performance and student academic achievement. The findings indicated a clear and positive link: as head teachers exhibited more effective leadership behaviors, teacher performance improved correspondingly. This enhancement in teacher performance, in turn, was associated with better student learning outcomes. Shava and Sibanda (2021) investigated the effects of school leadership on learners' achievement in South African rural schools. The study concluded that effective school leadership, characterized by clear vision, community involvement, and supportive teaching environments, significantly enhances learner achievement. The research highlights the unique challenges faced by rural schools and the pivotal role of leadership in addressing these challenges to improve academic outcomes.

Sengendo and Musinguzi (2024) conducted a study on private secondary schools in Uganda, focusing on head teachers' transformational leadership attributes. The findings indicated that idealized influence positively impacted academic performance at the Uganda Certificate of Education (UCE) level, while inspirational motivation had a negative effect. Bett and Bett (2021) carried out research in Kericho County to explore how strategic leadership practices influence academic performance in public secondary schools. The findings revealed a strong positive link between aspects of strategic leadership-namely leadership approaches, stakeholder participation, effective resource management, and compliance with school policies-

and students' academic achievement. Karema and Mutilu (2024) investigated the influence of head teachers' leadership approaches on academic achievement in public primary schools within Ganze Sub-County, Kilifi. Their study revealed that transactional leadership-defined by setting clear expectations and rewarding performance-was strongly linked to better academic results. Transformational leadership was also beneficial, especially when it involved personalized support and professional development sessions. Among the styles, participative leadership proved most effective, as it fostered a supportive psychological climate that contributed to higher academic performance. Alwala *et al.*, (2023) illustrate that the leadership approaches adopted by head teachers significantly influence pupils' academic achievement in primary schools. Their research indicates that effective leadership creates a learning-friendly atmosphere, with strategies such as transformational and instructional leadership directly contributing to improved student outcomes. These findings highlight the need for leadership development programs and policy initiatives that equip school leaders with the competencies required to maximize academic performance.

Purpose of the Study

The purpose of the study was to evaluate the effect of staff development practice on academic performance in public primary schools in Endebess Sub-County.

Literature Review

Bada and Prasad (2019) present a thorough empirical review of teacher in-service professional development (PD) in Andhra Pradesh, drawing on findings from various studies, including those by Desimone *et al.*, (2009) and Egert *et al.*, (2018). Their analysis emphasizes that effective PD is characterized by several key features: collaborative learning environments that foster peer interaction and knowledge sharing; extended duration to allow for sustained engagement and gradual implementation of new practices; opportunities for reflective practice, enabling teachers to critically assess and refine their instructional methods; and content-focused strategies that align professional learning directly with subject-specific teaching. A study by Mahlangu and Mampane (2021) investigated the influence of continuous professional development (CPD) on teacher efficacy and learner outcomes in Gauteng province. The study revealed a strong positive correlation between staff participation in CPD programs and improvements in teaching strategies, learner engagement, and overall academic performance. The findings highlighted that well-structured and needs-based development programs equipped teachers with modern pedagogical skills that translated into measurable improvements in student achievement.

Ngcobo and Dube (2022) conducted a mixed-method study on the role of instructional leadership in facilitating staff development in underperforming schools. They concluded that the presence of collaborative staff development initiatives, such as peer coaching and mentoring, significantly enhanced educators' instructional quality, which in turn contributed to improved learner performance. The study emphasized the importance of leadership in supporting and sustaining these professional development initiatives. Odeke (2024) investigated the influence of support supervision-comprising collaborative culture, needs assessment, and monitoring and evaluation (M&E)-on teachers' professional development in Katakwi public secondary schools. Employing a mixed methods, cross-sectional design with input from 132 teachers and key informants, the study found that M&E ($\beta = .636$, $p < .05$) and needs assessment ($\beta = .211$, $p < .05$) significantly predicted teacher development, while collaborative culture, though positively related, did not uniquely contribute.

Tiguryera *et al.*, (2024) explored the relationship between instructional leadership and academic staff self-efficacy in four Ugandan public universities using a quantitative correlational design and Partial Least Squares Structural Equation Modeling (PLS-SEM). Their findings revealed that while professional development (PD) had a positive yet statistically insignificant effect on self-efficacy, curriculum coordination and student monitoring had stronger and statistically significant impacts. Fillette and Andala (2023) conducted a study on mathematics teacher training in Karongi District, employing a descriptive-correlational design with 484 participants. Their findings revealed a strong and statistically significant positive correlation ($r = 0.498$, $R^2 = 0.248$) between teacher training and student academic performance in mathematics, indicating that nearly a quarter of the variance in student performance could be attributed to teacher training.

Louis and Andala (2023) conducted a study on continuous professional development (CPD) among secondary school teachers in Rusizi District, using a sample of 373 participants. Their findings revealed a significant positive correlation between CPD and several key educational outcomes, including improved student academic performance ($p < .05$), enhanced classroom management, and the adoption of diverse

pedagogical strategies. The study also linked CPD to measurable improvements in student outcomes, such as higher test scores and graduation rates, highlighting the critical role that ongoing teacher development plays in fostering effective teaching and learning environments. Arasa and Kinyili (2022) conducted a study in Machakos County, revealing that teaching staff training and development positively and significantly influenced the academic performance of secondary schools. The study emphasized the need for inclusive and comprehensive training programs to enhance academic outcomes.

Dawo *et al.*, (2012) evaluated academic staff development practices in selected public universities in Kenya. The study found that staff development enhances job performance among PhD holders. However, challenges such as a low percentage of PhD-qualified staff and high lecturer-to-student ratios were noted, indicating a need for invigorated staff development initiatives. Serem and Ongesa (2023) assessed the influence of advancement opportunities on non-academic staff performance at the University of Eldoret. The study concluded that providing opportunities for advancement significantly improves performance, suggesting that universities should invest in professional development for non-teaching staff. Wanyonyi (2020) explored human resource practices in Bungoma County's public schools, finding that training and development positively impact academic performance. The study highlighted the importance of continuous professional development and effective performance management systems in enhancing educational outcomes.

Materials and Methods

The study adopted a quantitative approach using a survey and correlational research design to examine the relationship between leadership practices and student achievement. Data were collected from a sample of 331 participants, comprising head teachers, deputy head teachers, senior teachers, and curriculum support officers. Structured questionnaires served as the primary data collection tool, enabling the capture of standardized responses across key variables. The data were analyzed using descriptive statistics to summarize trends and regression analysis to determine the strength and significance of relationships. This methodology provided robust insights into how leadership and management practices influenced academic performance and institutional effectiveness. The study analysis was based on a response rate of 168 out of 331 questionnaires sent out for data collection. Their responses were recorded in Table 1.

Results

The study sought to examine the effect of staff development practices on academic performance as captured in Table 1.

Table 1. Staff development and academic performance.

Statement	N	Minimum	Maximum	Mean	Standard deviation
I have attended a sufficient number of staff development sessions in the past year.	168	1	5	3.75	1.177
The types of training offered are relevant to my teaching or administrative role.	168	1	5	3.92	1.072
Staff development programs improve my ability to support student academic performance.	168	1	5	3.83	1.143
There is a clear link between the training I receive and student achievement outcomes.	168	1	5	3.88	1.112
Staff development enhances collaboration among staff, leading to better instructional practice.	168	1	5	3.73	1.261
I feel motivated and empowered after attending professional development sessions.	168	1	5	3.69	1.243
The quality of training provided in this sub-county meets professional standards.	168	1	5	3.61	1.440
There are enough opportunities for continuous professional development in this region.	168	1	5	3.53	1.362
My participation in staff development has resulted in noticeable improvements in students' performance.	168	1	5	3.57	1.361

The data on staff development reveals generally positive perceptions among the 168 respondents, with mean scores across all items ranging between 3.53 and 3.92 on a five-point scale. The statement with the highest mean (3.92), "The types of training offered are relevant to my teaching or administrative role," indicates that most staff members find the training they receive applicable and beneficial to their specific job functions. This suggests that the professional development programs are well-aligned with staff needs. Similarly, the statement "There is a clear link between the training I receive and student achievement outcomes" has a relatively high mean of 3.88, showing that staff perceive a tangible connection between training efforts and student success, which underscores the effectiveness of the development programs.

The mean score of 3.83 for the statement "Staff development programs improve my ability to support student academic performance" reinforces the idea that professional learning positively influences instructional quality. However, slightly lower means were recorded for items related to motivation (3.69), collaboration (3.73), and opportunities for continuous professional development (3.53). This implies that while staff values the training content, there may be gaps in sustaining engagement, teamwork, or access to on-going learning opportunities. The lowest mean (3.53) in particular suggests that some staff feel opportunities for professional growth are limited in their region.

The relatively high standard deviations (ranging from 1.072 to 1.440) across items suggest variability in perceptions, meaning not all participants share the same level of satisfaction with staff development. For instance, the high standard deviation (1.440) for "The quality of training provided in this sub-county meets professional standards" indicates differing experiences and possibly unequal access to quality training. Overall, the findings point to a generally favourable view of staff development as relevant and impactful, though with room for improvement in consistency, motivation, and continuous access to training opportunities.

Staff Development Practices

The inferential analysis was carried out to examine the relationship between staff development and academic performance. This section presents the statistical results and their implications for understanding how professional growth initiatives influence educational outcomes.

Table 2. ANOVA for staff development and academic performance.

Model		Sum of squares	df	Mean square	F	Significance
1	Regression	3.179	1	3.179	15.674	.000 ^b
	Residual	33.668	166	.203	-	-
	Total	36.847	167	-	-	-
a. Dependent variable: Academic performance						
b. Predictors: (Constant), Staff development						

The ANOVA table indicates that the regression model examining the effect of SD (the predictor) on academic performance (the dependent variable) is statistically significant. The F-value of 15.674 with a significance level ($p = .000$) shows that the model explains a significant portion of the variance in academic performance beyond what would be expected by chance. The regression sum of squares (3.179) compared to the residual sum of squares (33.668) suggests that while SD contributes meaningfully to predicting academic performance, most of the variability remains unexplained by this single predictor. Overall, the results imply that SD has a statistically significant, though moderate, impact on academic performance.

Table 3. Model summary for staff development and academic performance.

Model	R	R-square	Adjusted-R-square	Standard error of the estimate	Durbin-Watson
1	.694 ^a	.686	.681	.45035	1.669
a. Predictors: (Constant), Staff development					
b. Dependent variable: Academic performance					

The regression results indicate a strong positive relationship between staff development and academic performance, as shown by the correlation coefficient ($R = .694$). The R-square value of .686 suggests that approximately 68.6% of the variation in academic performance can be explained by staff development alone, which reflects a high explanatory power of the model. The adjusted R-square (.681), which adjusts for the number of predictors, remains close to the R-square value, confirming the model's reliability and minimal overfitting. The standard error of the estimate (.45035) indicates a moderate level of variability around the

regression line. Finally, the Durbin-Watson statistic (1.669), which tests for autocorrelation in the residuals, falls within an acceptable range (approximately 1.5–2.5), suggesting that the residuals are relatively independent. Overall, the regression model demonstrates that staff development is a strong and significant predictor of academic performance.

Table 4. Coefficients of regression for staff development and academic performance.

Model		Unstandardized coefficients		Standardized coefficients	t	Significance
		B	Standard error	Beta		
1	(Constant)	1.585	.114	-	13.889	.000
	Staff development	.116	.029	.294	3.959	.000
a. Dependent variable: Academic performance						

The regression results indicate that staff development has a positive and statistically significant effect on academic performance. The unstandardized coefficient ($B = 0.116$) suggests that for every one-unit increase in staff development, academic performance is expected to increase by 0.116 units, holding other factors constant. The standardized coefficient ($Beta = 0.294$) shows a moderate strength of the relationship, meaning staff development contributes meaningfully to variations in academic performance. The t-value of 3.959 and the significance level ($p = 0.000$) confirm that this relationship is statistically significant at the 0.05 level. The constant value (1.585) represents the baseline level of academic performance when staff development is zero. Overall, the analysis implies that enhancing staff development initiatives can lead to measurable improvements in academic performance.

Discussion

The study findings on staff development indicated that respondents generally held favourable views regarding the relevance and impact of professional training, particularly in enhancing their teaching or administrative roles and contributing to student achievement. Staff members recognize the value of development programs in improving instructional quality, yet express moderate concerns about sustained motivation, collaborative engagement, and the availability of continuous learning opportunities. Notably, the variability in responses suggests uneven experiences across the sub-county, with some participants perceiving limitations in the quality and accessibility of training. These insights underscore the need for more consistent, inclusive, and motivating staff development initiatives.

Inferential statistics revealed a clear and statistically significant positive relationship between staff development and academic performance, indicating that improvements in staff training are associated with corresponding gains in student outcomes. The analysis demonstrates that staff development contributes meaningfully to explaining variations in academic performance, even when other factors are held constant. This suggests that investment in professional growth not only enhances educators' competencies but also translates into tangible academic benefits for learners. The results affirm the strategic importance of staff development as a lever for improving educational quality and underscore its role in driving performance within academic institutions.

Conclusion

The study concludes that staff development significantly influences academic performance in public primary schools within Endebess Sub-County, Kenya since the educators generally perceive professional training as relevant and impactful, particularly in enhancing instructional quality and promoting student achievement.

Recommendations

- ☞ The Ministry of Education, in collaboration with the Teachers Service Commission, should establish uniform staff development frameworks that ensure equitable access to quality training across all zones of Endebess Sub-County.
- ☞ The Ministry of Education should embed professional development metrics into teacher appraisal systems and school performance contracts to institutionalize its role in driving academic outcomes.
- ☞ The Ministry of Education should allocate dedicated funding within county education budgets for on-going professional development, prioritizing underserved schools and regions.
- ☞ The school leadership should periodically assess staff development needs to tailor training content to specific instructional and administrative gaps.
- ☞ Establish school-based professional learning communities (PLCs) and inter-school exchange forums to foster collaborative engagement and shared pedagogical practices.

Declarations

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