



Original Article

Principals' Instructional Leadership and Its Influence on Students' Academic Achievement in Public Secondary Schools in Nyeri and Nyandarua Counties in Kenya

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Article DOI: <https://doi.org/10.37284/eajes.6.1.1080>

Date Published: **ABSTRACT**

08 February 2023

Keywords:

Instructional leadership,

School principals,

Influence,

Academic performance,

Secondary schools.

The study focused on the influence of principals' instructional leadership practices on students' academic performance in public secondary schools in Nyeri and Nyandarua counties. The concern was the low and widely varied academic performance yet the principals' instructional leadership practices were not clear. The study adopted ex-post facto research design and systems theory to study instructional leadership as a determinant of learning outcomes. The sample size comprised 192 principals, 330 Heads of Department, and 352 teachers in 192 schools. The main data collection tools were the principals' questionnaire ($r = .89$), HoDs' questionnaire ($r = .92$) and teachers' questionnaire ($r = .87$). Both qualitative and quantitative data were collected. Qualitative data were analysed using thematic analysis, while quantitative data was analysed using both descriptive and inferential statistics. Due to the non-normality and ordinal nature of data, inferential statistics were done by use of the Kruskal-Wallis H-test as the non-parametric alternative to the one-way analysis of variance F-test. The study findings were that all five dimensions of instructional leadership were positively and significantly related to students' academic achievement. Strategic provision of instructional materials and promoting teacher capacity building and motivation were the two dimensions with the largest effect sizes since they explained 9.6% and 9.1% of the observed variation in academic performance, respectively. When all five dimensions of instructional leadership were considered together, the overall instructional leadership explained 16.7% of the observed variation in academic performance, implying that for principals to impact significantly on academic achievement in their schools, they must focus and prioritise all the dimensions of instructional leadership. As a major recommendation for the study, though principals have an arduous task of general school management, they need to prioritise instructional leadership to enhance academic performance in their schools. Proper capacity building and stakeholders support to the principals in this endeavour would be a move in the right direction.

APA CITATION

Gatama, S. N., Otieno, M. A., & Waweru, S. N. (2023). Principals' Instructional Leadership and Its Influence on Students' Academic Achievement in Public Secondary Schools in Nyeri and Nyandarua Counties in Kenya *East African Journal of Education Studies*, 6(1), 148-163. <https://doi.org/10.37284/eajes.6.1.1080>.

CHICAGO CITATION

Gatama, Samwel Njenga, Mary Akinyi Otieno and Samuel Ndungu Waweru. 2023. "Principals' Instructional Leadership and Its Influence on Students' Academic Achievement in Public Secondary Schools in Nyeri and Nyandarua Counties in Kenya". *East African Journal of Education Studies* 6 (1), 148-163. <https://doi.org/10.37284/eajes.6.1.1080>

HARVARD CITATION

Gatama, S. N., Otieno, M. A., & Waweru, S. N. (2023) "Principals' Instructional Leadership and Its Influence on Students' Academic Achievement in Public Secondary Schools in Nyeri and Nyandarua Counties in Kenya", *East African Journal of Education Studies*, 6(1), pp. 148-163. doi: 10.37284/eajes.6.1.1080.

IEEE CITATION

S. N., Gatama., M. A. Otieno & S. N. Waweru "Principals' Instructional Leadership and Its Influence on Students' Academic Achievement in Public Secondary Schools in Nyeri and Nyandarua Counties in Kenya", *EAJES*, vol. 6, no. 1, pp. 148-163, Feb. 2023.

MLA CITATION

Gatama, Samwel Njenga, Mary Akinyi Otieno & Samuel Ndungu Waweru. "Principals' Instructional Leadership and Its Influence on Students' Academic Achievement in Public Secondary Schools in Nyeri and Nyandarua Counties in Kenya". *East African Journal of Education Studies*, Vol. 6, no. 1, Feb. 2023, pp. 148-163, doi:10.37284/eajes.6.1.1080

INTRODUCTION

Raising the students' academic achievement as well as narrowing the performance disparities has been at the core of school reforms and improvement efforts (World Bank, 2018). In this clamour for higher and more equitable learning outcomes from schooling, accountability for students' academic performance has often been levied more on the school principals than on the classroom teachers and the students making school leadership be critical (Cox 2021; World Bank, 2018) Empirical studies focused on unravelling the proximate determinants of student performance have identified school leadership practices and particularly instructional leadership as a critical determinant in establishing conditions that are conducive for optimal teaching and learning in a school (Shaked, 2018; Krasnoff, 2015).

Instructional leadership as a terminology and concept can be attributed to having originated from the effective school movement and it directly related to specifying the characteristics or actions of principals in schools that were succeeding in educating all children at a high level irrespective of their backgrounds (Neumerski & Christine, 2012; Lezotte & Snyder, 2010). Effective school

movement emerged in the late 1960s to 1980s as a reaction to a seminal study in America termed as Equal Education Opportunity Study (EEOS) that had arrived at an infamous conclusion that familial and not school factors mattered for academic achievement of students (Coleman et al. 1966; Jencks et al., 1972). A battery of researchers mainly based in America and some from Europe like George Weber, Ronald Edmond, Michael Rutter, and Lawrence Lezotte, amongst others, set out studies that succinctly demonstrated that there were some school processes that were associated with schools where all students despite their family background limitations were learning at a high level and attaining appreciable academic achievement hence repudiating the notion that schools did not matter for learning (Leithwood, 2021; Lezotte & Snyder, 2010). These school processes have been famously regarded as 'correlates' of effective schools one of the foremost of these correlates was *strong instructional leadership* (Lezotte & Snyder, 2010). The role of Instructional leadership in facilitating students' cognitive attainment was well-articulated by Ronald Edmond in his seminal works, as embodied in this extract;

"Well performing schools have strong instructional leadership without which, the

disparate elements of good schooling cannot be put together or kept together. There may be schools out there that have strong instructional leadership, but not yet well performing, but we have never yet found a well performing school without a strong instructional leader” (Edmonds, 1972, p. 22; Lezotte, 2001, p. 5)

Hompashe (2019) avers that Instructional leadership is the practice by the principal of creating an environment conducive to effective teaching and learning and placing effective teaching and learning and continuous improvement at the forefront of decision-making such that other goals become secondary. Despite some empirical studies downplaying the significance of any school-related variables in influencing learning outcomes, with more autonomy provided to the school and more accountability for results expected, instructional leadership (as a school-related variable) is still being given a lot of focus, especially as a solution to addressing learning outcome challenges (Shaked, 2018; Alexander & Morgan, 2016). Whenever issues of addressing low and widely varied performance outcomes come to the fore (like the case in the study locale), one of the questions to be raised becomes; “what is the status of instructional leadership in the schools involved and how does it relate with the observed learning outcomes?” This is significant because Instructional leadership practices may vary widely among principals, but more perniciously, some school principals may ordinarily devote very limited time or shirk instructional leadership roles in favour of other administrative and management roles which may be inimical to learning outcomes (Shaked, 2018; Genove, 2020).

LITERATURE REVIEW

Concept of Principals` Instructional Leadership

Leadership in general is about influencing other people and being able to drive an individual or group’s effort and actions towards the accomplishment of a goal (Prachi Judeneja, 2022;

Ihama, 2016). In the school context, effective instructional leadership by the principal is about inspiring teachers, students, and parents to meeting teaching and learning goals, especially the goal of students’ cognitive development. This requires school principals to first conceive or develop a clear vision for their school, then to clear communication this vision so as to create a shared purpose, then inspire or motivate teachers, students and parents around the vision, and finally, funding or facilitating efforts and actions towards the vision. While general school management seeks to have things done through organisational power of command and control of efforts and resources and thus may result in transactional relationships in a school, instructional leadership seeks to stir purpose and passion and may best be attained through transformational relationships in a school set-up. Wajdi (2017) and Ihama (2016) assert that while both leadership and management are important for organisational success as they are complementary, the challenge of balancing the two roles often arises and most institutions (schools included) suffer from this imbalance, especially common being institutions that are over managed and under led. The managerial positions of the school principals and the bureaucratic nature of how things are done in public institutions, however, make school principals best positioned to exercise schoolwide impactful instructional leadership.

Mulfold (2008, as cited in Hou et al., 2018) indicates that instructional leadership can be viewed as a function of the principal’s actions, practices, or behaviours, which can be broadly expressed as dimensions of instructional leadership. What clearly distinguishes instructional leadership from other leadership is the principal’s focus on the core business of teaching and learning in a school and how to improve these processes. Various studies have focused on a number of dimensions to proxy instructional leadership. Robinson et al. (2008), for example, identified 1) goal setting, 2) strategic resource provision, 3) ensuring orderly climate, 4)

teaching and curriculum evaluation, and 5) developing and supporting teacher capacity development as key dimensions in their study.

Hallinger (2015), on the other hand, identified a popular framework referred to principal instructional management rating scale (PIMRS) that incorporated three dimensions: defining the school mission, managing the instructional programme, and developing a positive school climate. Hou et al. (2018) identified four dimensions: managing instruction, defining the school mission, promoting teacher capacity development, and managing public relations. The current study distilling from Robinson et al. (2008), Organisation for Economic Co-operation and Development (OECD, 2008) and Hallinger (2015) identified five dimensions of instructional leadership from which this concept has been investigated in the current study: 1) *Defining school mission*: this relate to the principal defining clear learning goals and effectively communicating them to stakeholders so as to get schoolwide stakeholder support; 2) *Managing instructional programs*: relate to practices like supervision and evaluation of teaching and learning, monitoring students' progress and proper time management; 3) *Strategic resource provision*: involve resource provision aligned to school goals; 4) *developing and supporting teacher quality and motivation*: this relate to supporting capacity building of teachers as well as provision of monetary and non-monetary incentives; 5) *Leadership engagements beyond school borders* involves principal engagement of parents on learning matters and collaboration with other schools and institutions to support stipulated learning goals.

Association between Instructional Leadership and Academic Performance

Though methodology and approach may differ, a number of studies keen on learning outcome determinants have focused on school leadership and particularly instructional leadership and its relationship with academic achievement. A study by

Vidoni et al. (2007) on the role of instructional leadership on students' academic achievement based on data from Trends in International Mathematics and Science Study (TMSS) of 2003 found that instructional leadership was very significant in improving the learning outcomes of students, particularly those from low socio-economic backgrounds. This indicated that instructional leadership could act as a lever to not only narrow the achievement gap but in some way compensates for some societal inequalities, contrary to the conservative stance of seminal studies like Coleman et al. (1966) and Jencks (1972) that school-related variables did not matter for students' academic achievement.

The findings by Vidoni et al. 2007 were corroborated by a more recent qualitative case study research by Cox (2021) on the impact of instructional leadership on the academic performance of students who were well performing but were from humble backgrounds in elementary and middle-level title 1 school in Virginia district schools in America. The study found monitoring student progress using data, allocating and making available resources for learning and facilitating teacher professional development and capacity building to be among essential practices by the principal that promoted learning outcomes. The study further asserted that the provision of all schools with principals who were effective in instructional leadership was essential for attaining equality of educational opportunities and narrowing the performance variations between student groups in American elementary and middle-level school contexts. The current study sought to establish the extent to which instructional leadership was practised in various public secondary schools and how this related to observed academic performance.

A study by Hou et al. (2019) on the impact of instructional leadership on the academic performance of secondary school students in Shenyang, China found that instructional leadership had the potential of moderating the effect of

student's cognitive entry behaviour at admission to secondary school and students' final academic achievement at the end of secondary school. This implied that students admitted with low entry behaviour but carefully nurtured through effective instructional leadership could improve tremendously in their end-of-secondary school academic performance. The study also found that in the Chinese schools' context, the considered dimensions (managing instructional programs, defining, and communicating school aims, and promoting teacher capacity development) were positive and significantly related to academic performance with the exception of only one dimension relating to principal management of public relations. A similar case study research in Changchun China, on the role of school leadership towards improving academic achievement by Telda and Kilango (2022) also found that principal behaviours and practices relating to instructional leadership promoted higher student performance in secondary schools in China.

In Malaysia, a study by Siti & Umi (2022) on the relationship between instructional leadership practices and school performance excellence that involved 433 primary school teachers found that principals' practices of defining school mission and managing instructional programs were significantly associated with high academic performance, however, promoting professional development and motivation of teachers as a way of creating positive school climate was not significantly associated with academic performance. The study also found that in the schools sampled principals were conversant with instructional leadership and were engaged in instructional leadership practices; however, what differed was the intensity with which they practised them.

In Zambia, quantitative survey research by Muyunda (2022) on the impact of instructional leadership on students' academic performance in secondary schools found that the considered practices of defining school mission, promoting a

positive school climate, and advancing teachers' interests were all positively and significantly correlated with students' academic performance. In Nigeria, a similar study by Bada et al. (2020) on teachers' perceptions of principals' instructional leadership that postulated that school effectiveness could be predicted by perceptions of teachers on their principal's instructional leadership found that principals in public secondary schools in Nigeria were involved in instructional leadership practices though at a differing degree of intensity. Defining school mission was the most practised, followed by managing instructional programs while promoting professional development and providing incentives for teachers were the least practised instructional leadership practices. The study did not, however, relate these practices with students' academic performance, which is the focus of this current research.

In Kenya, Kiptum (2018) conducted descriptive survey research focused on the correlation between teachers' instructional leadership and students' academic performance in public secondary schools in Baringo county. The study used the Spearman Correlation and found that students taught by teachers that practised high levels of instructional leadership in their classrooms had significantly high academic achievement. The study by Kiptum (2018) focused on teacher instructional leadership practices, but the current study focuses on principals' instructional leadership practices that have schoolwide influences on the overall academic achievement of the school.

In sum, a plethora of research studies across the world including recent research reviews and syntheses like Leithwood (2021) and Grisson et al. (2021), have largely confirmed that instructional leadership practices matter for students' academic achievement. Grisson et al. (2021) study for instance, arrived at a compelling conclusion that;

“Principals matter for learning outcomes not just by the magnitude of the effect sizes of their

influence but by the scope of their effects which permeates the whole school encompassing all the teachers and all the students. This consequently makes it difficult to fathom a school related variable with a higher ceiling on potential return than improving principals' instructional leadership practices" (Grissom et al., 2021, p. 43)

While most research reviewed intimately that instructional leadership is a significant variable in influencing academic achievement, studies that deviate from this finding also exist. In Northwest Tennessee, the United States, a study by Gray (2018) on the relationship between principals' instructional leadership and academic performance found no significant relationship between instructional leadership practices and the academic performance of schools which were classified into three groups above average, average and below average. In Jamaica, a phenomenological study by Heaven & Bourne (2016) on the effect of instructional leadership on students' academic performance only found a weak relationship between principal instructional leadership and students' academic performance. A study on the Trends in International Mathematics and Science Study (TMSS) data for 1999 by Suscavcevic & Blake (2004) that correlated the time principals spent on instructional leadership and other management-related activities as composite variables concluded that the time principals invested in either activity were positively but weakly associated with student academic achievement. This study, however, considered time as a composite variable and did not tease out instructional leadership practices by principals and relate this to students' academic achievement which is the focus of the current study.

In general, while some research like Gray (2018), Heaven & Bourne (2016) and Suscavcevic & Blake (2004) indicates mild or lack of significant influence between instructional leadership and learning achievement, most studies find positive and significant influence including those that have

considered the indirect influence of instructional influence on factors like teachers' job satisfaction and collaboration (Mara-Ruano et al., 2021; Beth-Ann, 2014). For the studies that do not find a significant association between instructional leadership and students' academic achievement, the conclusion may not be that instructional leadership does not matter; however, it could be that in those contexts, instructional leadership practices do not differ significantly and thus other factors may be responsible for learning outcome disparities. The current study sought to determine the level of instructional leadership practices within the schools in the study locale and related this with learning outcomes in these schools to determine the nature of the association and the extent to which instructional leadership influenced the observed learning outcomes.

MATERIALS AND METHODS

The study adopted an ex-post facto research design which was appropriate in a study where the outcome had already occurred (academic performance) and there was no manipulation of the antecedent independent variable (Instructional leadership practices) (Cresswell, 2014). The academic performance considered the average mean score of a school in Kenya Certificate of Secondary Education (KCSE) for three consecutive years (2018, 2019 and 2020). The study hinged on the systems theory using the Context-Inputs-Processes-Output (CIPO) model advanced by Jaap Scheerens (Scheerens, 1991, 2013). The study locale constituted two of the forty-seven counties in Kenya, Nyeri and Nyandarua counties. Counties are devolved administrative units formed following the promulgation of a new constitution in Kenya in 2010. The area had all four categories of secondary schools, nationals, extra-county, county and sub-county schools and the academic performance in this region was perpetually low and widely differentiated.

The study delimited its scope to focus on public secondary schools. The target population constituted 386 principals, 2316 heads of department (HoDs), and 4160 teachers in 386 schools.

The sample sizes for the study were arrived at using the Kothari (2013) formula that is appropriate for inferential statistics when the size of the target population (N) is known.

$$\text{Sample size } (n) = \frac{Z^2 \cdot p \cdot q \cdot N}{e^2(N-1) + Z^2 \cdot p \cdot q}$$

Where: Z= Z-score at 0.05 level of significance taken as 1.96, p= portion of the population bearing the characteristic of interest, in this study, it was assumed to be 50% or (0.5) which usually yields the largest sample size, q = (1-p), e = margin of error was taken as 5%.

The simplified version of the formula used was thus;

$$\text{Sample size } (n) = \frac{1.96^2 \cdot 0.5 \cdot 0.5 \cdot N}{0.05^2(N-1) + 1.96^2 \cdot 0.5 \cdot 0.5}$$

Substituting the target population (N) in the formula yielded the specific sample sizes used in this study. Target populations (N) of 386 principals, 4160 teachers and 2316 heads of department (HODs) in 386 schools yielded sample sizes of 192 principals, 352 teachers and 330 HODs in 192 schools, respectively. The fully filled and returned questionnaires were, however, 172 for principals, 330 for HoDs and 344 for Teachers from 172 schools. Questionnaires were the main data collection tools and the Validity of the questionnaire items was established by ensuring that they were guided by the objective of the study. Some items were also adopted from the Principal Instructional Management Rating scale (PIMRS) (Hallinger, 2015). The reliability of the questionnaires was established by the split-half technique and Spearman-Brown prophecy formula.

Data analysis was done in two main stages. The first stage involved the collation and summary of data from each school into a single data set that was representative of that school in relation to the five dimensions of instructional leadership as guided by the main objective of the study. The main data analysis method used for the quantitative data was descriptive statistics, mainly measures of central tendency and dispersions. For qualitative data mainly emanating from open-ended questionnaire items, thematic analysis was done. The second stage involved the establishment of a relationship between instructional leadership status and students' academic performance using the Kruskal-Wallis Analysis of variance or H test. Effective sizes were also computed to determine the strength of association between the dependent and independent variables of the study (Orcan, 2020; Tomczac & Tomczac, 2014). Analysed quantitative data was reported mainly using tables, while qualitative data were presented using narratives and a few direct verbatim quotes.

RESULTS AND DISCUSSIONS

The main objective of the study was to determine the influence of instructional leadership on students' academic performance in public secondary schools in Nyeri and Nyandarua counties in Kenya.

To address this objective, the status of instructional leadership practices was first sought so that it could be related to students' academic performance. To get the status of instructional leadership in a school, the heads of departments (HoDs) and teachers were given five-point Likert scale questions with options ranging from Almost never/Strongly disagree (1) to Almost always/Strongly agree (5). The questions related to principal practices drawn from the five dimensions are summarised in *Table 1*.

Table 1: Summary of descriptive statistics of principals` instructional leadership dimensions

Dimensions	Min	Max	Mean	SD
Clear definition and communication of the mission of the school	1	5	3.052	.9628
Proper management of instructional programs that include supervision and monitoring of students` progress.	1	5	3.110	.8682
Strategic and prompt provision of instructional materials and other required learning resources	1	5	3.145	.8697
Promotion/sponsoring of teacher capacity building& motivational initiatives.	1	5	3.075	.8516
Effective collaboration with parents and other stakeholders to support learning	1	5	2.941	.8072
Overall Instructional Leadership (Considering the average of all the five dimensions combined)	2	4	2.976	.5509

Table 1 indicates that all five dimensions were practised by principals though with varying intensity. Based on the overall means, the dimension that was most widely practised was Strategic resource provision with a mean of 3.145 ($SD = 0.869$), while the least practised was leadership beyond school borders with a mean of 2.942 ($SD = 0.551$). When all the dimensions were combined to get overall instructional leadership, the mean was 2.977 ($SD = 0.551$), which was moderated compared to all other specific dimensions considered independently as it lacked the extreme ranges of Almost Never (1) and Almost Always (5).

These findings comported with those of Bada et al. (2020) and Siti & Umi (2022), that found that in the school sampled, principals were conversant and indeed practised most of the instructional leadership practices that were examined, although what differed was the intensity with which the principals engaged or exercised the various practices. In Nigeria for example, Bada et al. (2020) found that defining the school mission ($M = 3.67$, $SD = 0.8$) was the most practiced dimension, followed by managing instructional programs ($M = 3.65$, $SD = 0.75$) while promoting professional development and providing incentives for teachers ($M = 3.62$, SD

= 0.74) were the least practiced instructional leadership practices.

Principals` Instructional Leadership Practices and Academic Performance

To determine the association between principal instructional leadership practices and academic performance. A Kruskal Wallis H-test (K-W H-test) was performed to explore the direction and magnitude of the association between students` academic performance and how the principal was engaged in the various dimensions of instructional leadership.

The null hypothesis for the K-W H-test was that;

H₀₁: Principals` Instructional leadership Practices do not have a statistically significant influence on academic performance in public secondary schools in Nyeri and Nyandarua counties in Kenya.

If Principals` instructional leadership practices do not have a significant influence on academic performance, the mean ranks of academic performance in the K-W H-test are expected to be the same across the groups.

Table 2: Principals` level of involvement in defining school mission, managing instructional programs, strategic resource provision and academic performance

Group	Define School Mission		Manage Instructional Programs		Strategic resource Provision	
	n	Mean rank	N	Mean rank	n	Mean rank
Almost Never	10	69.7	5	54.8	7	30.36
Rarely	36	82.44	34	65.15	25	64.32
Occasionally	70	83.19	77	89.73	84	93.36
Often	47	88.19	49	95.62	48	92.58
Almost Always	9	138.28	7	113.43	8	96.38
Total	172		172		172	
Test statistics	H=11.47, df=4, r ² =0.067		H=12.3, df=4, r ² =0.072		H=16.485, df=4, r ² =0.096	
P -Value	0.022*		0.015*		.002 *	

*Note: * Significance attained at p < .05 level, ** Significance attained at p < .001 Level, [NS] Not Significant*

Defining and Communicating School Mission to Stakeholders versus Academic Performance

Table 2 shows a significant difference between the groups ($X^2(4, N=172) = 11.47, p = .022$). The effect size ($r^2 = .067$) was moderate, implying this dimension explained 6.7% of the performance variation. Schools with principals that more effectively define their mission and vision and communicate the same clearly to all relevant stakeholders had higher mean ranks (88.19 and 138.28) compared to schools with less effective principals (82.44 and 69.7). We therefore reject the null hypothesis ($p = .0022$) and conclude that the groups were statistically different and thus defining and communicating the school mission to all stakeholders positively and significantly influences academic performance. This finding concurs with most studies reviewed including Siti & Umi (2021), Hou et al. (2019) and Muyunda (2022) that clarity of the school mission and its clear communication by the school mission tend to positively impact performance excellence.

Managing Instructional Programs and Academic Performance

Table 2 shows that Schools whose principals had proper management of instructional programs that included close monitoring of students' progress and

close supervision of teaching and assessments had a better mean rank (95.62 and 113.43) than those whose principals were less effective in this dimension (65.15 and 54.8). The difference between groups was statistically significant ($X^2(4, N=172) = 12.3, p = .015$). The effect size ($r^2 = .072$) was moderate, implying the dimension explained 7.2% of the performance variation. We therefore rejected the null hypothesis ($p = .015$) and concluded that the groups were statistically different and thus managing instructional programs positively and significantly influences academic performance.

To get some in-depth practical knowledge from a qualitative aspect on how principals were managing instructional programs, principals were asked in an open-ended question to give ways they were following on low achieving students or students perpetually falling below their academic potential. Two of the principals had this to say concerning measures they frequently institute in their schools to ensure individualised teaching and learning and that they catered for each child's needs, especially those falling below-set expectations or their personal capabilities in learning outcomes;

“Increasing contact time for weak learners through extra remedial lessons so that weak learners can catch up with the rest of the students” (Principal 1, School KP-24).

“Regularly calling the parents of students whose performance is falling below a certain set grade/position or is falling below the expected capability/potential of the students for academic clinics and at any other time based on need, to discuss learner’s progress” (Principal 2, School ME-19).

These two excerpts clearly indicate that measures taken by principals in supervising learning and using learning outcome data to mitigate deviations from expected performance may be beneficial for raising overall performance as well as narrowing variations in students’ academic performance in a school. The finding of principals’ crucial role in managing instructional programs and its positive and significant association with academic performance is in agreement with those from other related studies, including Mutuku (2018), Muyunda (2022), Siti & Umi (2021) & Hou, et al. (2019). This finding, however, deviated from those of Gray (2018) & Nkoroi (2017), that found no significant association between the two variables.

Strategic Resource Provision and Academic Performance

Table 2 indicates that Schools whose principals are highly strategic and prompt in providing required teaching and learning resources to facilitate optimal learning have better mean ranks (92.58 and 96.38) than those whose principals are less highly strategic and prompt in the provision of learning resources (64.32 and 30.36). The difference between groups is statistically significant ($X^2(4, N=172) = 16.485, p = .02$) with a moderate effect size ($r^2 = .096$), implying the dimension explained 9.6% of the performance variation. We therefore reject the null hypothesis ($p = .02$) and conclude that the groups are statistically different and thus strategic resource

provision positively and significantly influences academic performance. This finding comported with those from most of the reviewed studies including Cox (2021) and Leith wood (2021) that found effective, equitable and prompt provision and distribution of strategic learning resources by the principal to be a significant factor that promotes academic excellence. In the study area, though strategic resource provision was a relatively widely practised dimension, most Heads of departments (HODs) perceived that their principals’ level of strategic resource provision was moderate and thus this dimension still had great potential that principals could leverage in a bid to raise students’ academic achievement and narrow performance disparities between schools.

Association between Academic Performance and Principals’ Level of Involvement

Table 3 shows that Schools with principals that frequently focus on developing their teachers so that they can improve their teaching quality and motivation through initiatives like supporting their capacity building, induction programs, peer learning, bonding excursions and other incentives have better mean rank (105.81 and 112.20) than those who are less highly effective (75.8 and 44.64). The difference between groups is statistically significant ($X^2(4, N=172) = 15.595, p = .004$) with a moderate effect size ($r^2 = .091$), implying the dimension explained 9.1% of the performance variation. We therefore reject the null hypothesis ($p = .004$) and conclude that the groups are statistically different and thus effectively facilitating the development of teacher quality and motivation by the principal significantly influences academic performance.

Table 3: Kruskal-Wallis H -test summary table comparing developing teacher quality and motivation, leadership beyond school borders, overall instructional leadership practice and academic performance

Group	Developing Teacher Quality & Motivation		Leadership Beyond School Borders		Overall Instructional Leadership Practice	
	n	Mean rank	N	Mean rank	n	Mean rank
Almost Never	7	44.64	5	37.40	0	-
Rarely	30	75.80	40	79.13	28	42.77
Occasionally	83	81.41	93	87.62	120	91.92
Often	47	105.81	28	93.79	24	110.42
Almost Always	5	112.20	6	125.17	0	-
Total	172		172		172	
Test statistics	H=15.595, df=4, r ² =0.091		H=10.003, df=4, r ² =0.058		H=28.555, df=2, r ² =0.167	
P -Value	0.004*		0.04*		< .001* *	

Note: * Significance attained at $p < .05$ level, ** Significance attained at $p < .001$ Level, [NS] Not Significant

Developing Teacher Quality and Motivation versus Academic Performance

To get in-depth practical information about how principals were involved in developing teacher quality through professional capacity building, teachers, and Heads of Departments (HoDs) were asked to indicate whether they had been sponsored or facilitated by their school principal to attend an in-service training or capacity building in the last two years. Their responses varied, whereby a large number of them reported they had not had such an opportunity, whereas others said they had been sponsored for at least one or two workshops. Particularly, a sizeable number of HODs perceived that the opportunities for professional development available to them or to members of their departments were still inadequate. For those teachers and HODs who had been sponsored for workshops, they indicated that some of the areas they were trained on included; being trained as examiners to mark national examinations, training on information communication technology (ICT) integration in teaching and learning in their respective subjects areas including remote learning methods using technology, training on Teacher Performance Appraisal and Development (TPAD), Strengthening of mathematics and science in

secondary education (SMASSE) training, set books sensitisation as well as emerging issues in national examination including syllabus changes and implications in specific topics.

To get in-depth information concerning principals' involvement in facilitating teacher motivation and the provision of incentives for teaching, teachers were asked to indicate whether their school had a policy of rewarding and appreciating teacher excellence in work performance. Most teachers indicated that though such arrangements were available, they were inadequate and differed from one school to another. Some teachers disclosed that when their school register a good performance in the national examinations, they are usually given a fully paid-up annual motivational trip to a destination of their choice. Other motivational initiatives mentioned included non-monetary initiatives like being given certificates and appreciation or commendation letters as well as monetary rewards where teachers were given some agreed upon cash when a student scored an overall quality grade from B (plain) to A(plain). B (plain) indicates that a student score nine points out of twelve possible points, while A (plain) indicates a score of twelve points out of possible twelve points. Some schools also rewarded teachers when they coached teams of

students that excelled in inter-school games competitions. Other teachers viewed that the principal's professional support and guidance given to them in the course of their work as well as the prompt provision of teaching-learning materials was part of the motivation for them to work better. The following excerpts from two teachers (teacher one and teacher 2) clearly depict the teachers' views that close professional support and collegial relationship between the principal and teachers serve to boost teacher motivation and consequently their effectiveness.

"The principal is polite, courteous and friendly when I joined this school, I was inducted well and given a lot of professional support" (Teacher 1, School KL-12)

"Our principal recognises our efforts as teachers and is keen to appreciate every positive thing you do to improve learning, this makes us feel good. She also supports our work by ensuring all materials required for learning that we ask for are purchased and delivered on time" (Teacher 2, School KP-37)

The overall finding that students' academic performance is positively related to principals' effectiveness in developing teachers' professional development and motivation corroborated with most of the studies reviewed including Munyaka (2022), Leithwood (2021), Mutuku (2018), and Nkoroi (2017), however, the findings deviated with those from Siti & Umi (2022) that did not find a significant relationship.

Leadership Beyond School Borders and Academic Performance

Table 3 indicates that principals that practiced a high degree of leadership beyond their school borders, especially through reaching out for closer collaboration and support from parents and other resourceful stakeholders, had their schools recording a higher mean rank (93.79 and 125.17) than those schools where the principals practiced

this dimension to a lesser extent (79.13 and 37.40). The difference between the groups was statistically significant, and it explained 5.8% of the variation in academic performance. We consequently reject the null hypothesis ($p = .04$) and conclude that the principal's leadership practices beyond the school borders have a significant influence on students' academic performance. This finding comported with those of Alhuman (2021) that found that the principal's leadership role of creating and facilitating linkages between the teachers, students, parents, and community towards school improvement was essential for students' academic success. Cox (2021), Leithwood (2021) and Grissom et al. (2021) also identified supporting parent-teacher communication by the principal as a critical function for students' learning outcomes

Overall Instructional Leadership and Academic Performance

Overall instructional leadership considered the average of all the five dimensions, and this was related to academic performance. Overall instructional leadership was thus the most representative of the holistic instructional leadership practice of a principal. From table 3 it is evident that schools with principals who had a higher rating on overall instructional leadership practices also had higher mean ranks than schools whose principals had a lower rating on overall instructional leadership. The difference between the groups was statistically significant ($X^2(2, N=172) = 28.555, p < .001$). Effect size ($r^2 = .167$) was high, implying that 16.7% of the variation in academic performance was explained by variation in the overall instructional leadership practices of the school principals. We consequently reject the null hypothesis and conclude that overall instructional leadership positively and significantly influences academic performance in the schools within the study area. The findings were congruent with many other related studies including Robinson et al. (2008), Leithwood (2021), Khoza (2012) and Grissom et al. (2021). The overall findings were

also related to Hou et al. (2019) who found most of the dimensions of instructional leadership in the Chinese secondary schools' context to be significantly related to student's academic performance. Similarly, the study by Mutuku (2018) in Machakos county in Kenya arrived at a comparable conclusion that instructional leadership was positively and significantly related to academic performance based on all the dimensions the study considered.

CONCLUSIONS

From the study findings, it is noted that principals in the study area practised instructional leadership in all the five dimensions considered though at varying levels of intensity. The dimension that was practised with the highest intensity was the strategic and prompt provision of instructional materials and other learning resources (mean=3.1453, $SD = .8697$), while the dimension that was least practised was Effective collaboration with parents and other stakeholders for purposes of supporting learning (mean=2.9419, $SD = .8072$). All instructional leadership dimensions were positively and significantly related to academic performance. Strategic and prompt provision of instructional materials and other learning resources was the dimension that had the highest effect size ($r^2=.096$), meaning that it explained 9.6% of the observed variation in academic performance. To achieve the goal of keeping teachers motivated to teach, it emerged that principals in the study locale use varying approaches and incentives. The bottom line, however, (from the perspective of teachers and heads of department) was that teachers in the school must feel appreciated and respected by the principal and that their efforts are adequately recognised using any available framework meant to guide rewarding their efforts. When all the dimensions of instructional leadership were considered together, they explained learning achievement with a higher effect size than any single dimension taken separately. The overall instructional leadership explained 16.7% of the observed variation in

learning achievement. This implies that for principals to significantly influence learning outcomes in their schools, they must equitably focus on all dimensions of instructional leadership.

Recommendations

- There is need to enhance capacity building of school principals on instructional leadership so that they can be effective in their instructional leadership roles. Most principals clearly indicated that training and support on instructional leadership was not adequately available to them.
- Principals should reach out more to parents, liaise with other schools and collaborate with other institutions that can be of benefit in improving quality of teaching and learning in their schools. For instance, neighbouring schools can hold joint academic symposiums and parents can be reached to financially support infrastructure development and other programs in the schools.
- Education Ministry officials including Quality Assurance and Standards Officers (QUASOs) should devise mechanisms to support and supervise head teachers to be effective in instructional leadership as a leading principal' role among other competing management and administrative duties for enhanced learning outcomes in their schools.

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