

Do “Older” Public Secondary Schools Predict Better Teacher Performance Appraisal and Development Scores in Kenya?

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Abstract

This paper contributes empirical research evidence on the association between school age (years since inception) and Teacher Performance Appraisal and Development (TPAD) grades in public secondary schools in Kenya’s Kakamega North subcounty. Multivariate multiple regression was employed using data collected from schools to model the effect of school age on TPAD grades (2016–2019). This is suitable modelling for multiple outcome variables (TPAD scores from 2016–2019) with multiple explanatory variables. Controlling for school type, with boarding schools coded as 1 (reference category), mixed day as 2, and mixed day/boarding as 3, the results suggest that an additional year since the establishment of a school is associated with an increase of 0.23 per cent in the TPAD score for 2019 ($p = .048$), while the results for the other years are statistically insignificant. Policy implications from the results are discussed.

Key terms: Kakamega North sub-county, Kenya, public secondary schools, school age, TPAD scores.

1.0 INTRODUCTION

Performance appraisal is an established part of the Human Resource Management (HRM) system to have a systematic way of assessing the performance of employees and promoting organisational performance. Performance appraisal in HRM literature is not only perceived as an evaluation instrument, but also as a developmental tool that enhances the connection between individual efforts and organisational objectives (Armstrong and Taylor, 2020). In educational institutions, the importance of teacher performance appraisal is especially important since teachers are important in the learning environment. Teacher performance appraisal has therefore been institutionalised by education institutions in many countries to facilitate teacher responsibility, improve the quality of instruction, and ultimately, student academics (OECD, 2013).

Teacher performance appraisal practices are diverse, with common goals of accountability and professional development. In the United Kingdom, as an example, the performance management systems that were set in the late 1980s associated teacher appraisal with accountability and student academic achievement. More recent policies revolve around a balance between accountability and lifelong learning, and acknowledge the necessity of lifelong learning in a dynamic setting (Department for Education, 2012; Tymms and Merrell, 2017). In comparison, Finland is less formal in its approach to appraisal with a culture of professional trust, collegial co-operation, and feedback. Finland has not had a high-stakes appraisal system, yet it still has achieved high marks in global tests like the Programme for International Student Assessment (PISA), which is evidence that professional trust and autonomy can achieve high educational results (Sahlberg, 2011). In France and Germany, performance reviews are also part of more general professional standards, and these emphasise mentorship and professional dialogue (Organisation for Economic Cooperation and Development, 2019).

Appraisal systems in the Asia-Pacific are indicative of the more comprehensive education quality reforms that governments pursue. The Enhanced Performance Management System (EPMS) used by Singapore is commonly referred to as a best-practice example because it is based on a combination of appraisal and career progression with ongoing professional learning (Ng, 2019). Teacher appraisal in China is closely related to the national standards that focus on the subject knowledge, the innovativeness in pedagogy, and professionalism (Guo and Guo, 2017). Lesson study and peer-based assessment have been marked as components of professional development in Japan, with appraisal and collective capacity development (Takahashi, 2014). The Australian Professional Standards of Teachers make teacher appraisal entrenched in Australia, where teacher appraisal relates to accreditation and professional learning (Australian Institute for Teaching and School Leadership, 2017). India, although following the same models, is facing an unequal enforcement system due to institutional differences among states and low institutional capacity (Sharma & Kaur, 2018).

In the past, teacher assessment in Kenya was performed through inspection of schools with emphasis on compliance instead of professional development (Republic of Kenya, 1998). Realising the shortcomings of this model, the Teachers Service Commission (TSC) launched the Teacher Performance Appraisal and Development (TPAD) system in 2016. The TPAD was to be used not only to empower accountability but also to improve the quality of instruction and facilitate the development of teachers (Republic of Kenya, 2013; Kagema & Irungu, 2018). In TPAD, teachers can be rated on different dimensions, such as lesson planning, classroom management, co-curricular participation, learner protection, and professional knowledge (Ngeno et al., 2013). It is empirically observed that TPAD has enhanced teacher accountability

and lesson preparedness, and teachers are more committed to professional development (Mutune & Orodho, 2016).

School age has been found to predict student academic achievement. A study by Sifuna (2019) found a significant positive relationship between the age of an institution and the learners' academic achievement. Several other researchers, such as Kagema and Irungu (2018), have analysed the parameters of performance appraisal, views of heads of institutions on performance appraisal, and the impact of appraisal on the school and academic performance. Other research evidence suggests that teacher absenteeism, inconsistent classroom learning, incomplete coverage of the syllabus, ineffective classroom management, poor interpersonal relationships, and inappropriate working environments are still live challenges to be dealt with (Wanjiru, 2018). Given these mixed results, it is clear that more research on TPAD is needed, as it aligns with Kenya's Vision 2030 and Competency-Based Curriculum (CBC), which focus on accountability, innovation, and skills.

Despite the implementation of the TPAD system by the Teachers Service Commission (TSC) in 2016, there remains limited empirical evidence on the factors influencing TPAD scores in Kenyan public secondary schools. In particular, the relationship between school age (years since establishment) and teacher performance appraisal outcomes has received scant attention in the Kenyan context. Despite the international and regional studies indicating that older institutions benefit from institutional maturity, established routines, and accumulated experience, it is not clear that this pattern is repeated in Kenya's public secondary schools, particularly in resource-constrained sub-counties, e.g. Kakamega North. Local research primarily investigates teacher perceptions regarding TPAD or general implementation challenges. Hence, there is a gap in the existing literature since school age could predict TPAD score. The essence of the current proposal is to fill this gap by establishing whether older public secondary schools in Kakamega North Sub-County post better TPAD performance.

The main objective of this study is to determine the relationship between school age and TPAD scores in public secondary schools in Kakamega North Sub-County, Kenya. Specifically, the study seeks to establish the correlation between school age and TPAD scores from 2016 to 2019, and to determine the effect of school age on TPAD scores while controlling for school type and number of Form 4 streams.

2.0 LITERATURE REVIEW

The relationship between school age (years since establishment) and teacher performance has attracted research interest, particularly the performance appraisal system. Literature that exists can be grouped into three thematic clusters: (1) evidence of a positive association between school age and teacher performance, (2) the moderating role of infrastructure and resources, and (3) context-specific findings from Sub-Saharan Africa with a particular focus on Kenya.

Positive Association Between School Age and Teacher Performance

Teachers in older schools receive higher assessment scores than those in newer schools, as per multiple studies. In Canada, Greany (2018) noted that older secondary schools attained better teacher performance outcomes as these institutions had more access to resources and more established professional development opportunities. In the UK, very old schools (over 50 years) get more marks by teacher appraisals, Khan (2018) reported. These schools have well-established institutions, management systems

and teaching culture. Similarly, Amuedo-Dorantes (2018) findings from Spain suggest that the more experienced teachers and stable institutions in the older schools maintained their higher rankings.

Sub-Saharan Africa also shows similar patterns. In Nigeria, Ofoegbu (2016) and Akinloye and Okuonu (2019) established that teacher performance appraisal scores of the older secondary schools were significantly higher than those of the new ones. The authors linked the advantage to having a steady institution, better resource allocation operation, and already having mentorship systems. Nsengimana (2017) in Rwanda have similarly found that the schools which are over 40 years old are producing better outcomes in teacher evaluations. And it occurs because of an administrative practice that is more mature and a stronger professional culture.

The Moderating Influence of Infrastructure and Resources

Some studies have shown a positive relationship, but others qualify. According to Amuedo-Dorantes (2018), older schools tend to perform better than newer schools. However, schools with dilapidated physical infrastructure recorded lower teacher performance scores. So, they came to the conclusion that the age of schools alone would not suffice without investment in the facility. This viewpoint reflects the findings from around the world, including the recognition that the condition of ageing school facilities affects teachers' morale, attitude, and effectiveness.

Some studies suggest that institutional maturity can offset infrastructural constraints. According to Ali et al. (2020), in Pakistan, well-maintained older schools enhance academic performance and teacher quality. It means that organisational routines and institutional experience are more important than physical age.

Evidence from the Kenyan Context

Kenya is witnessing similar results to those found in Africa, according to growing research. In cases like Mwangi (2019) in Nyeri County, Attallah and Musera (2020) in Bondo Sub-County, and Ondari (2023) in Gucha Sub-County, older public secondary schools have generally earned higher TPAD scores than newer schools. Older schools have been found to be more successful in instituting the TPAD system. Older schools have more sophisticated mechanisms, experienced staff, operational professional development programs, and effective institutional arrangements.

Research conducted in Kenya still demonstrates challenges of implementation. The non-attendance of teachers at school, improper management of TPAD classes, and poor working conditions affect the effectiveness of TPAD implementation (Wanjiru, 2018). Newer schools have more problems, according to studies. The evidence shows that being of school-going age is positively correlated with well-being, but the benefits may be mediated by contextual factors relating to resources and leadership capacity.

Evidence suggests that, on average, older schools do better on teacher performance ratings, as they have more institutional memory and systems in place. Rephrased: (20 words)

On the other hand, research findings are varied on the extent to which the infrastructural decline of old schools could prevent these benefits. Several studies undertaken in Kenya were confined to being small-scale, focusing only on counties or sub-counties. In Kakamega North Sub-County, there is a lack of robust multivariate analyses of the information that school age influences TPAD scores, controlling for school type and other institutional variables. The present study seeks to bridge this gap.

3.0 METHODOLOGY

This research adopted a correlational survey design to establish the correlation between the institutional-level variables and the school TPAD scores (Sullivan, 2021). Thirty of the 50 public secondary schools in Kakamega North subcounty in 2023 (Teachers Service Commission, 2023) were stratified into 1=Boarding school (10), 2=Day mixed (27), and 3=Day/Boarding Mixed (13) out of which six, 16, and eight were randomly sampled respectively using probability proportion to size (PPS). For instance, for 1=Boarding school (10), $(10/50)*30 = 6$. The sample for the other two was worked out similarly. Questionnaires were then administered to the 30 school Principals for school-level data. The data collection instrument was a semi-structured questionnaire designed specifically for school principals. The questionnaire consisted of two main sections. Section A captured demographic and institutional information, including school name, year of establishment (to calculate school age), school type (boarding, day mixed, or day/boarding mixed), total number of TSC teachers, total student enrolment, and number of Form 4 streams. In Section B, the directors were required to give the average TPAD scores of their school, per term, for the years 2016, 2017, 2018 and 2019 from the records of the school and the TSC TPAD.

The questionnaire was piloted on five principals of public secondary schools in neighbouring Kakamega Central sub-county to determine clarity, relevance and appropriateness of the items. The recommendations provided in response to the pilot study were implemented.

Content validity of the instrument was established through expert review by two senior education researchers and one TSC officer. Their suggestions were incorporated into the final version. Reliability of the instrument was assessed using Cronbach's Alpha. The overall reliability coefficient was 0.82, which is considered acceptable for social science research (Tavakol & Dennick, 2011).

TPAD scores were collected (the outcome variables) from school documents kept for that purpose from 2016 through 2019. The respondents provided interval-scaled data for the first, second, and third school terms for the four years in response to "Kindly indicate the TPAD scores for your school per term and year in the table hereunder". The average of the three school terms for each of the four years of data for four outcome variables was calculated. The school TPAD score for a particular school term is the average of individual teacher TPAD scores uploaded onto the Teachers Service Commission (TSC) database. With four years of data on the outcome variable, multivariate regression modelling was preferred (Breiman and Friedman, 1997). The explanatory variable "age" of the school was measured on the interval scale as the number of years since its establishment. The question posed to the respondents for these data was "When was this school established/ began? DD/MM/YYYY". The difference between the date of the interview and the date of school establishment yielded "school age" in years. Approval and licensing were issued by Kenya's National Commission for Science, Technology and Innovation (NACOSTI).

4.0 FINDINGS AND DISCUSSION

Univariate Statistics

Table 1 presents the univariate statistics for the variables in the analysis. The TPAD scores ranged between Means of 79.23 in 2016 and 83.03 in 2019. with standard deviations around 4.7, indicating moderate variability. School age (p203a, years since school establishment) had a Mean of 24.77, with the minimum value at 11 and the maximum at 54. The number of Form 4 streams averaged 1.47, while more than half of the schools were mixed-day.

Table 1: Description of Variables Used in the Analysis

Variable	Variable Label	Scale	\bar{x}	σ	Min	Max
p208_tp~2016	TPAD 2016	Interval	79.23	4.67	70	86
p208_tp~2017	TPAD 2017	Interval	80.17	5.49	65	87
p208_tp~2018	TPAD 2018	Interval	78.03	4.69	68	89
p208_tp~2019	TPAD 2019	Interval	83.03	4.70	69	90
p203a	Age of school	Interval	24.77	8.66	11	54
p204ab	Total TSC teachers	Interval	16.50	4.20	10	27
p207ab	Total school enrolment	Interval	485.50	182.52	43	874
p206d_f4str	Number of F4 streams	Interval	1.47	0.73	1	3
	Nominal-scale Variable		Freq.	Percent	Cum.	
p202	p202 School Type	Nominal				
	1=Boarding school		6	20	20	
	2=Day mixed		16	53.33	73.3	
	3=Day/Boarding Mixed		8	26.67	100	

Note. n=30; Freq. =Frequency; Min=Minimum; Max=Maximum; F4=Form 4

Bivariate Statistics

Since both the outcome and explanatory variables are interval-scaled, we prefer a Pearson pair-wise correlation matrix. From Table 2, school age (p203a) is only statistically correlated with the 2019 TPAD score ($r=.358$, $p=.032$). School type (p202) is significantly correlated statistically with the 2017 and 2018 TPAD scores, while the number of Form 4 streams (p206d_f4str) is correlated with 2018.

Table 2: Pair-Wise Correlation Matrix: TPAD Scores 2016-2019, Year of School Establishment and Control Variables

Variable	Variable		2016	2017	2018	2019	p204ab	p201	p202
p208_tpad_2016	p208 TPAD 2016		1						
p208_tpad_2017	p208 TPAD 2017	a	0.303	1					
		b	0.104						
p208_tpad_2018	p208 TPAD 2018	a	-0.455	0.084	1				
		b	0.012	0.658					
p208_tpad_2019	p208 TPAD 2019	a	0.037	-0.080	0.186	1			
		b	0.845	0.673	0.325				
p203a	p203a Sch. Est.	a	0.119	0.073	-0.300	0.358	1		
		b	0.531	0.700	0.108	0.032			
p202	p202 Sch type	a	0.155	-0.430	-0.394	0.116	0.202	0.013	1
		b	0.413	0.018	0.031	0.542	0.285	0.945	
p206d_f4str	p206d F4 Streams	a	0.240	-0.201	-0.378	0.066	0.202	0.462	0.346
		b	0.201	0.288	0.040	0.731	0.284	0.010	0.061

Note. Pair-wise correlation: ≤ 0.35 = Weak correlation; $0.36-0.67$ = Moderate correlation; $0.68-0.89$ =Strong correlation; ≥ 0.90 = Very strong correlation; Adapted from "Interpretation of Correlation Coefficient, " by R. Taylor, 1990, Journal of Diagnostic Medical Sonography, 6(1), p. 37

a Pearson correlation coefficient; b p-values ($\alpha=.05$)

Multivariate Statistics

Four outcome variables estimate two multivariate multiple linear regression models for the effect of school age on TPAD scores between 2016 and 2019, controlling for the type of school and number of Form 4 streams in the final model. An equation was modelled as a multiple response variable modelled by multiple predictors. It predicts response variables using predictors across observations, where is the coefficient matrix and is the error matrix, so that:

$Y(n \times m)$ Matrix of outcome variables for n observations.

$X(n \times (k + 1))$ Matrix of explanatory variables, including a column of ones for the intercept.

$B((k + 1) \times m \text{ matrix})$ Regression coefficients (slopes and intercepts) to be estimated.

$E(n \times m \text{ matrix})$ Model errors (residuals).

Table 3 presents the multivariate multiple regression results for TPAD scores (2016–2019) as outcome variables. Model 1 includes only school age (p203a), while Model 2 adds controls (school type and Form 4 streams). In Model 1, an extra year in school age is associated with an increase of 0.29 percentage points in TPAD scores for 2019 ($p=.032$), but drops slightly to 0.23 ($p=.048$) in Model 2 with the control variables. Both the Constant values for the two models for the 2019 equations are statistically significant ($p<.001$).

Table 3: Multivariate Regression Coefficients of the Effect of School Establishment on TPAD Scores 2016–2019

Equation	Obs	Parms	RMSE	R-sq	F	p				
p208_TPAD 2016	30	5	4.762	0.102	0.710	0.593				
p208_TPAD 2017	30	5	4.787	0.345	3.287	0.027				
p208_TPAD 2018	30	5	4.425	0.231	1.881	0.145				
p208_TPAD 2019	30	5	4.885	0.069	0.465	0.761				
Variable	Variable label	Model 1 (TPAD 2016–2019)				Model 2 (TPAD 2016–2019)				
		Coef	Std. Err.	p	95% CI	Coef	Std. Err.	p	95% CI	
TPAD 2016										
p203a		0.06	0.10	0.531	-0.14, 0.27	0.02	0.11	0.842	-0.21, 0.26	
p202 Sch type	1 = Bdng sch (Ref.)									
	2 = Day mixed					2.02	2.38	0.405	-2.89, 6.93	
	3 = Day/Bdg Mixed					0.91	2.76	0.745	-4.78, 6.60	
p206d_f4str						1.82	1.58	0.259	-1.43, 5.07	
Constant		77.64	2.65	<.001	72.22, 83.07	74.67	3.77	<.001	66.90, 82.43	
TPAD 2017										
p203a		0.05	0.12	0.700	-0.20,	0.16	0.11	0.159	-0.07,	

					0.29				0.40
p202 Sch type	1 = Bdg sch (Ref.)								
	2 = Day mixed					1.12	2.35	0.638	-3.72, 5.96
	3 = Day/Bdg Mixed					-7.14	2.73	0.015	-12.76, -1.53
p206d_f4str						0.50	1.56	0.752	-2.71, 3.70
Constant		79.01	3.13	<.001	72.61, 85.42	76.67	3.72	<.001	69.01, 84.33
TPAD 2018									
p203a		-0.16	0.10	0.108	-0.36, 0.04	-0.08	0.10	0.437	-0.30, 0.13
p202 Sch type	1 = Bdng sch (Ref.)								
	2 = Day mixed					-1.23	2.17	0.574	-5.70, 3.23
	3 = Day/Boarding Mixed					-4.12	2.51	0.114	-9.30, 1.06
p206d_f4str						-1.04	1.43	0.473	-4.00, 1.91
Constant		82.05	2.56	<.001	76.82, 87.28	83.36	3.43	<.001	76.30, 90.43
TPAD 2019									
p203a		0.29	0.10	0.032	0.00, 0.39	0.23	0.11	0.048	0.00, 0.46
p202 Sch type	1 = Bdg sch (Ref.)								
	2 = Day mixed					2.12	2.29	0.365	-2.60, 6.84
	3 = Day/Bdg Mixed					1.14	2.66	0.672	-4.34, 6.62
p206d_f4str						-0.36	1.52	0.813	-3.49, 2.76
Constant		78.21	2.51	<.001	73.08, 83.35	76.45	3.63	<.001	68.98, 83.92

Note. Coef = Coefficient; RMSE = Standard deviation of the regression model (the closer to zero, better the fit); Std. Err. = Standard Error; CI = Confidence Interval; Parm = Permutations; Obs = Observations.

Postestimation Diagnostics Tests

Table 4 shows the correlation matrix of residuals from the model. Residual correlations were generally weak (e.g., 2016–2017: 0.2968), suggesting limited cross-equation dependence. The Breusch-Pagan test for independence yielded $\chi^2(6) = 12.536$, $p = 0.0510$, marginally above 0.05, supporting the independence of errors.

Table 4: Model Diagnostics: Correlation Matrix of Residuals

	2016	2017	2018	2019
p208_tpad2016	1			
p208_tpad2017	0,297	1		
p208_tpad2018	-0,442	0,112	1	
p208_tpad2019	-0,006	-0,115	0,330	1

Note. Breusch-Pagan test of independence: $\chi^2(6) = 12.536$, $p=0.0510$

Test of Hypothesis

The null hypothesis states that there is no statistically significant relationship between school age and school TPAD scores in public secondary schools in Kakamega North sub-county, Kenya. Table 5 presents the joint significance test for p203a across all equations: $F(4, 25) = 3.10$, $p < 0.0333$. Since $p < 0.05$, the null hypothesis was rejected, and it is concluded that there is a statistically significant overall relationship between school age and TPAD scores.

Discussion

The findings indicate a statistically significant positive relationship between school age (years since establishment) and school TPAD scores across 2016–2019, as evidenced by the significant joint F-test ($p = 0.0333$). Bivariate correlations showed a marginally significant positive association for 2019 ($r = 0.3584$, $p = 0.0518$), which persisted in multivariate models (Model 2: Coef = 0.229, $p = 0.048$), suggesting that older schools tend to have higher teacher appraisal scores, even after controlling for school type and Form 4 streams. According to the coefficients, with the exception of 2018 (which was negative but not significant), they still tend to be positive. The schools that have been around for a while may be benefiting from experience, with a reasonable culture and settled professional practice that enhances assessments of teacher performance. A significant positive relationship exists between school age and TPAD scores. (11 words) Since this connection is quite strong in 2019, one may not be less aware. According to many researchers, older schools have conditions that undermine the performance of teachers and the achievement of students. Nonetheless, certain research studies state otherwise. Some studies reveal how institutional maturity generates payoffs. As such, the current literature was mixed with debates. The study at hand provides a more sophisticated picture of school achievement. Registration Rates of Students and Teachers in 2019; SNP Variables and Facilities Upgradation.

The findings reaffirm the viewpoints set forth in institutional theories, which state that with time, organisations cultivate strong routines and social capital. Consequently, these institutions show better performance indicators. This is why professional development and appraisal compliance are emphasised. Older schools in the Kakamega North region of Kenya have more experienced staff with ties to the community or historically valuable resources. They are able to leverage their strengths to achieve higher TPAD ratings despite the challenges that come with infrastructure.

According to Gunter and Shao (2016), Virginia students who are housed in new facilities scored 5 per cent and 11 per cent higher on standardised tests compared to the other students. The findings were attributed by the authors to improved air quality and daylighting (Maria et al. 2012). Such things can keep teachers attentive and lead to enhanced efficacy. Uline and Tschannen-Moran (2015) examined the relationship between the quality of the school facility and student achievement. A study in Chicago public schools involving over 100 schools found that contemporary buildings showed increased teacher morale and efficiency, which in turn led to improved instruction.

In Ghana, Asodike and Onyeike (2016) researched the physical environment of schools in senior high schools and found that outdated and inadequate facilities hardly affect students' achievement and the needed renovation of these facilities to increase teacher productivity. According to an analysis by Stafford (2018) of urban mid-Atlantic schools, there is an association between poor environmental conditions in older buildings and lower academic performance and higher absenteeism. The study used data from 236 schools. The study also suggests that upgrades to the facilities may enhance teacher-student interactions.

A 2024 AIA study mentions how modernised schools lead to improvement in educational outcomes due to high-quality environments. However, little was mentioned about the methodology of the study. It can be assumed that newer schools improve teacher performance through improvement in their well-being.

Furthermore, Maxwell (2016) reviewed the literature related to the condition of school buildings. He concluded that newer buildings positively affect student engagement and teacher retention. There is an empirical link to higher test scores in a number of districts in the United States. According to Asiyai (2012), a study on secondary schools in Nigeria found that the lack of facilities in old buildings affects academic performance. The study surveyed 200 teachers and students, suggesting that investing in infrastructure can enhance teacher efficiency. Finally, in 2023, Earthman and Lemasters conducted a study in Iran that investigated the effects of the design of the school on the learning performance of 150 students. The results were that modern designs allowed for performance improvements of 10-15 per cent because of better ergonomics. The study indicates that older designs limit learning capacity and performance.

According to Ali et al (2020), a research conducted using regression analysis with 100 students and 50 teachers sampling from secondary schools in Pakistan showed that well-maintained bigger old buildings were positively correlated to academic achievement (71% of students agreed); the school will not cause harm to academic performance if it is in good condition but if it is damaged and the facilities are outdated, it will negatively affect academic achievement. This partially supports the current finding that the TPAD is higher in older schools (joint $p=0.0333$); Kakamega North may have more experience with older schools, so some may be better maintained. Care must also be taken that the neglect of infrastructure is not a short-term effect that is also overlooked in the TPAD assessment for SZ.

In the same breath, Khudadad and Asadullah (2021) used multilevel modelling on a dataset of 72,843 Pakistani students to demonstrate that positive built environment features, such as the availability of electricity and sanitation, enhanced achievement. Moreover, there were benefits based on gender, such as females benefiting from access to water. On the other hand, older schools often lack these features and thus may have an indirect negative effect. Unlike this study, which has a positive coefficient for year 2019 (Coef = 0.229; $p = 0.048$), the results show that in the Kenyan case, age of school differencing may be a

proxy for a stable professional culture rather than deterioration of school facilities. The findings also provide evidence that such deterioration does not significantly influence teacher assessment measures.

The current finding and other similar ones' alleged contradiction with the infrastructure-focused literature can be understood in terms of a number of study-specific contextual factors. To begin, TPAD mainly assesses teacher processes (lesson planning, classroom management, professional knowledge and development) and not the physical learning environment or student achievement. Older schools in Kakamega North Sub-County with long-serving experienced teachers and systems established may have an advantage in TPAD documents despite having sub-optimal infrastructure.

Also, the effect size is relatively small and significant in 2019 only, which shows that institutional age provides an advantage, but not an automatic all-rounder advantage for every year. Thirdly, a lot of older Kenyan public schools may have either received periodic government support or had more robust administrative capacity for implementing TPAD compared to newer schools still developing systems (Wanjiru, 2018).

Thus, although the age of school appeared favourable for TPAD scores in this context, it does not negate the infrastructure investment need underscored in the overall literature. The presence of institutional maturity and physical facilities is more likely to be complementary than an alternative behaviour of a teacher.

5.0 CONCLUSION AND RECOMMENDATIONS

Conclusion: To summarise, older schools benefit from teacher performance appraisals, which newer schools should be strategically supported; nonetheless, ageing schools should be maintained in infrastructure. These initiatives will enhance the overall effectiveness of the TPAD framework, thereby improving the quality of education in Kenya.

Recommendations: In light of the conclusions, several recommendations are made. It is recommended that the Teachers Service Commission (TSC) benchmarks TPAD scores across schools while taking into account contextual factors such as school age. This would promote greater equity in the evaluation and comparison of institutions. Principals of newly established schools should also prioritise the early development of strong administrative systems, mentorship structures, and continuous professional development frameworks in order to accelerate improvements in TPAD performance. In addition, the government should continue investing in the maintenance and upgrading of physical facilities in older schools to ensure that the advantages of institutional maturity are not undermined by deteriorating infrastructure.

Further research is recommended using larger, nationally representative samples and improved methodological approaches that incorporate objective measures of school quality, including infrastructure, leadership effectiveness, and teacher experience.

The findings also suggest important policy implications. The duration of a school's existence is significantly associated with its TPAD scores, with older schools tending to record higher performance appraisal outcomes. This may be attributed to established routines, experienced and long-serving staff, and stronger community linkages, all of which contribute to improved performance appraisal results. The evidence

therefore suggests that institutional maturity, rather than resource intensity alone, plays an important role in influencing TPAD outcomes, although with some exceptions. Consequently, the Teachers Service Commission, as the custodian and primary user of TPAD data, should consider controlling for school age when utilising the data for policy formulation and decision-making.

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