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Influence of Teachers Professional Knowledge in Enhancing Teacher's Performance in Public Secondary Schools in Kajiado County, Kenya

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Abstract
Teachers are pivotal to improving educational outcomes, particularly in regions like Kajiado County, Kenya, where public secondary schools face challenges such as low Kenya Certificate of Secondary Education (KCSE) performance, with a mean score of 5.56 (C- grade) from 2021-2024. This study investigates the role of appraising teachers' professional knowledge encompassing formal education, teaching experience, and technical expertise in enhancing their performance. Employing a mixed-methods design, the research sampled 28 principals and 295 teachers from 93 public secondary schools in Kajiado County. Data was collected through questionnaires and interviews, analyzed using descriptive and inferential statistics (correlation and regression) for quantitative data, and content analysis for qualitative data. The findings revealed a statistically significant relationship between professional knowledge appraisal and teacher performance ($b=0.179$, $p=0.014<0.05$), indicating that a unit increase in appraisal leads to a 0.179-unit improvement in performance. Formal education, particularly advanced degrees, enhanced syllabus coverage, while experienced teachers demonstrated better classroom management. Technical expertise, including proficiency in digital tools, further improved instructional delivery, which was critical in the post-Covid-19 context. However, challenges such as evaluator bias, resource constraints, and logistical issues in the arid and semi-arid (ASAL) region hinder effective appraisals. The study recommended implementing structured, transparent appraisal systems focusing on professional knowledge, coupled with regular training and mentorship programs to foster continuous professional development. Addressing resource limitations and leveraging technology, such as the Teacher Performance Appraisal and Development (TPAD) system, can further enhance appraisal accuracy. These measures can elevate teacher effectiveness, improve KCSE outcomes, and contribute to better educational and socio-economic prospects for Kajiado County.
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1. Introduction

Education is a cornerstone of societal development, serving as a catalyst for economic growth, social mobility, and individual empowerment. In Kenya, the secondary education system plays a pivotal role in preparing students for higher education and the workforce, with the Kenya Certificate of Secondary Education (KCSE) serving as a critical benchmark of academic achievement. However, in Kajiado County, a region characterized by its arid and semi-arid (ASAL) landscape and unique socio-cultural dynamics, public secondary schools face persistent challenges in achieving desirable KCSE outcomes. From 2021 to 2024, the county recorded an average KCSE mean score of 5.56, equivalent to a C- grade, with 78% of candidates scoring D+ or below (Unguku, 2023). These statistics highlight a pressing need to enhance educational quality, with teachers' performance at the heart of this transformation. Teachers, as the primary facilitators of learning, are instrumental in shaping student outcomes through their professional knowledge, instructional practices, and classroom management skills. This article examines the influence of appraising teachers' professional knowledge—encompassing formal education, teaching experience, and technical expertise—on enhancing their performance in public secondary schools in Kajiado County, Kenya.

The importance of teachers' professional knowledge cannot be overstated. Professional knowledge, defined as the mastery of subject matter, pedagogical skills, and technical competencies, forms the foundation of effective teaching (Lloyd, 2021). Teachers with robust professional knowledge are better equipped to deliver the curriculum, engage diverse learners, and adapt to the evolving demands of education, including the integration of technology and innovative teaching methods. In Kajiado County, where educational challenges are compounded by resource

constraints, teacher shortages, and infrastructural limitations, enhancing teachers' professional knowledge through systematic appraisals offers a strategic pathway to improving educational outcomes. The Teachers Service Commission (TSC) in Kenya introduced the Teacher Performance Appraisal and Development (TPAD) system in 2016 to evaluate and enhance teachers' competencies, emphasizing professional knowledge as a key determinant of teaching effectiveness (TSC, 2016). By assessing areas such as subject mastery, teaching experience, and technical skills, TPAD aims to identify gaps, promote continuous professional development, and align teacher performance with national educational goals.

Kajiado County presents a unique context for studying teacher performance due to its ASAL environment and socio-cultural diversity, predominantly inhabited by the Maasai community. The county's arid climate, coupled with poor infrastructure, such as impassable roads and limited access to electricity, poses logistical challenges for educational interventions, including teacher appraisals (Nguuro, 2017). Additionally, socio-cultural factors, such as early marriages and pastoralist lifestyles, contribute to low student enrollment and retention, further straining the education system (Malack, 2025). These challenges underscore the need for targeted strategies to enhance teacher effectiveness, as teachers must navigate these complexities to deliver quality education. The appraisal of professional knowledge is particularly relevant in this context, as it equips teachers with the skills to address diverse learner needs, adapt teaching methods to local realities, and leverage available resources effectively.

The theoretical framework guiding this study integrates three complementary perspectives: Goal Setting Theory (Locke & Latham, 1979), Expectancy Theory (Vroom, 1964), and Resource-Based View Theory (Barney et al., 2011). Goal Setting Theory posits that specific, challenging goals, combined with constructive feedback, enhance performance by increasing motivation and focus. In the context of teacher appraisals, setting clear professional development goals based on knowledge assessments can drive improvements in instructional practices. Expectancy Theory suggests that teachers' motivation depends on their belief that effort will lead to improved performance and valued outcomes, such as recognition or career advancement. Appraising professional knowledge reinforces this belief by linking competency development to tangible rewards. The Resource-Based View Theory views teachers' professional knowledge as a strategic asset that enhances a school's competitive advantage, particularly in delivering quality education. Together, these theories provide a robust lens for understanding how appraisals of professional knowledge can enhance teacher performance in Kajiado County.

Empirical evidence supports the critical role of professional knowledge in teacher effectiveness. Studies by Mutua and Orodho (2016) and Ochieng and Were (2022) demonstrate that teachers' academic qualifications and experience positively correlate with performance appraisal outcomes, leading to improved curriculum delivery and student engagement. Globally, research highlights the importance of continuous professional development in sustaining teacher quality. For instance, the OECD's Teaching and Learning International Survey (2009) found that appraisals focusing on subject mastery and pedagogical skills significantly enhance teaching practices. In Kajiado County, where low KCSE performance persists, appraising professional knowledge can address gaps in teacher competencies, particularly in subjects like mathematics and sciences, which require deep content knowledge.

The introduction of TPAD in Kenya marked a significant shift toward systematic teacher evaluation. The system assesses teachers across multiple domains, including professional knowledge, instructional delivery, and learner engagement, with the goal of fostering accountability and professional growth (TSC, 2022). However, its implementation in Kajiado County faces challenges, including evaluator bias, insufficient training for appraisers, and resource constraints (Kamau et al., 2018). The ASAL context exacerbates these issues, as logistical challenges, such as poor road networks, hinder timely evaluations and feedback delivery. Moreover, the Covid-19 pandemic disrupted educational processes, highlighting the need for technical expertise in digital teaching methods (Kathula, 2020). These challenges necessitate a focused approach to appraising professional knowledge, ensuring that evaluations are fair, transparent, and aligned with teachers' developmental needs.

Big data insights from educational databases, such as those maintained by the Kenya National Bureau of Statistics (KNBS, 2020), reveal that teachers with advanced degrees and technical skills achieve better student outcomes, particularly in high-stakes examinations like the KCSE. Cognitive reasoning further supports the importance of appraisals, as teachers with strong professional knowledge exhibit higher self-efficacy, enabling them to approach teaching challenges with confidence (Bandura, 1997). By providing constructive feedback, appraisals reinforce teachers' motivation and commitment to professional growth, aligning with Expectancy Theory's principles.

This study adopted a mixed-methods approach, sampling 28 principals and 295 teachers from 93 public secondary schools in Kajiado County. Data was collected through questionnaires and interviews, analyzed using descriptive and inferential statistics for quantitative data and content analysis for qualitative data. The findings aim to provide actionable insights into how professional knowledge appraisals can enhance teacher performance, addressing the unique challenges of Kajiado County's educational landscape. By focusing on formal education, teaching experience, and technical expertise, the study seeks to contribute to the broader discourse on teacher

effectiveness and educational reform in Kenya.

In conclusion, the appraisal of teachers' professional knowledge holds significant potential for improving performance in Kajiado County's public secondary schools. By addressing gaps in competencies, fostering continuous professional development, and overcoming contextual challenges, appraisals can elevate teaching quality and student outcomes. This article provides a comprehensive analysis of these dynamics, drawing on empirical data, theoretical frameworks, and big data insights to offer evidence-based recommendations for policymakers, educators, and stakeholders in Kajiado County and beyond.

2. Literature Review

Teachers' professional knowledge, encompassing subject mastery, pedagogical skills, and technical expertise, is pivotal for enhancing performance in public secondary schools. In Kenya, the Teachers Service Commission's (TSC) Teacher Performance Appraisal and Development (TPAD) system, introduced in 2016, evaluates professional knowledge to improve teaching effectiveness (TSC, 2016). This review examines its impact in Kajiado County, where low KCSE performance (mean score 5.56, C- grade, 2021-2024) underscores the need for effective appraisals (Unguku, 2023).

Mutua and Orodho (2016) found that advanced academic qualifications correlate with better syllabus coverage and student outcomes in Kenyan schools. Ochieng and Were (2022) noted that teaching experience enhances classroom management, crucial in Kajiado's resource-constrained ASAL context. Technical expertise, particularly in digital tools, is vital post-Covid-19, as Kathula (2020) highlighted gaps in teachers' technological skills. The OECD (2019) supports that technology-proficient teachers boost engagement, relevant for Kajiado's digital divide (Nguuro, 2017).

Challenges include evaluator bias (Papay, 2012) and inadequate training (Kamau et al., 2018), with logistical issues like poor infrastructure hindering appraisals in Kajiado (Nguuro, 2017). Alube (2015) emphasized TPAD's role in identifying knowledge gaps, fostering professional growth. Goal Setting Theory (Locke & Latham, 1979) and Expectancy Theory (Vroom, 1964) suggest appraisals motivate teachers by setting clear goals and linking effort to rewards. The Resource-Based View Theory (Barney et al., 2011) views professional knowledge as a strategic asset.

Big data from KNBS (2020) shows qualified teachers improve KCSE results, while Zhang and Ng (2015) highlight data-driven appraisals' efficacy. Despite challenges like resource constraints and cultural factors (Malack, 2025), professional knowledge appraisals can enhance teacher performance in Kajiado County through structured, transparent systems.

3. Materials and Methods

3.1. Research Design

This study adopted a mixed-methods research design, integrating both quantitative and qualitative approaches to provide a comprehensive understanding of the influence of teachers' professional knowledge on their performance in public secondary schools in Kajiado County, Kenya. The mixed-methods approach was chosen to leverage the strengths of both paradigms: quantitative methods provided statistical rigor to establish relationships between variables, while qualitative methods offered in-depth insights into the contextual factors affecting teacher appraisals. Specifically, a convergent parallel design was employed, where quantitative and qualitative data were collected concurrently, analyzed separately, and then integrated to triangulate findings, ensuring a robust and holistic analysis (Creswell & Plano Clark, 2018). This design was particularly suitable for addressing the complex educational challenges in Kajiado County, an arid and semi-arid (ASAL) region with unique socio-cultural and infrastructural dynamics.

3.2. Study Area

The research was conducted in Kajiado County, located in southern Kenya, bordering Tanzania and encompassing a diverse geographical and cultural landscape. The county spans approximately 21,292.7 square kilometers and is predominantly inhabited by the Maasai community, whose pastoralist lifestyle influences educational participation (Malack, 2025). Kajiado's ASAL environment presents challenges such as poor road networks, limited electricity, and water scarcity, which impact the implementation of educational interventions, including teacher appraisals (Nguuro, 2017). The county has 93 public secondary schools, serving a student population with a mean KCSE score of 5.56 (C- grade) from 2021 to 2024, highlighting the need for improved teacher performance to enhance educational outcomes (Unguku, 2023).

3.3. Target Population

The target population comprised all public secondary school teachers and principals in Kajiado County. According to data from the Teachers Service Commission (TSC) and the Kajiado County Education Office (2023), there were 1,216 teachers and 93 principals across the 93 public secondary schools. This population was selected because

teachers are the primary implementers of the curriculum, and principals play a key role in conducting appraisals through the TPAD system. The inclusion of both groups ensured a comprehensive perspective on how professional knowledge appraisals influence teacher performance, capturing both the perspectives of those being appraised (teachers) and those administering the appraisals (principals).

3.4. Sampling Techniques

To ensure representativeness, the study employed a combination of stratified and simple random sampling techniques. Stratified sampling was used to categorize schools into three sub-counties within Kajiado County—Kajiado Central, Kajiado North, and Kajiado West—based on their geographical distribution and school type (national, extra-county, county, and sub-county schools). This stratification accounted for variations in school resources and performance levels. From the 93 schools, a sample of 30% (28 schools) was selected, as recommended by Mugenda and Mugenda (2003) for populations of this size to achieve statistical reliability.

Within each selected school, simple random sampling was used to select teachers to ensure unbiased representation. A sample size of 295 teachers was determined using Yamane's (1967) formula for finite populations:

[n = \frac{N}{1 + N(e^2)}]

Where:

- (n) = sample size
- (N) = population size (1,216 teachers)
- (e) = margin of error (5% or 0.05)

[n = \frac{1216}{1 + 1216(0.05^2)} = \frac{1216}{1 + 1216(0.0025)} = \frac{1216}{4.04} \approx 295]

For principals, all 28 principals from the sampled schools were included to provide insights into the appraisal process, given their role as primary appraisers in the TPAD system. This resulted in a total sample size of 323 participants (295 teachers and 28 principals).

3.5. Data Collection Instruments

Two primary data collection instruments were used: questionnaires for teachers and interview guides for principals.

3.5.1. Questionnaires

Structured questionnaires were administered to the 295 teachers to collect quantitative data on their perceptions of professional knowledge appraisals and their impact on performance. The questionnaire was divided into sections covering:

- Demographic information (age, gender, education level, teaching experience)
- Professional knowledge indicators (formal education, teaching experience, technical expertise)
- Appraisal processes and their perceived influence on teaching effectiveness
- Challenges faced during appraisals

The questionnaire used a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree) to measure teachers' perceptions, ensuring ease of response and quantifiable data. Open-ended questions were included to capture qualitative insights, enhancing the mixed-methods approach. The questionnaire was piloted with 10 teachers from a neighboring county (Machakos) to test for clarity and reliability, achieving a Cronbach's alpha of 0.82, indicating high internal consistency.

3.5.2. Interview Guides

Semi-structured interview guides were used to collect qualitative data from the 28 principals. The guides included open-ended questions exploring:

- The implementation of TPAD in their schools
- The role of professional knowledge in teacher performance
- Challenges and opportunities in appraising professional knowledge
- Recommendations for improving appraisal systems

Interviews were conducted face-to-face or via phone in cases where logistical challenges, such as poor road networks, prevented in-person meetings. Each interview lasted approximately 30–45 minutes and was audio-recorded with participants' consent for transcription and analysis.

3.6. Data Collection Procedure

Data collection occurred between March and June 2025, following ethical approval from the relevant institutional review board and the National Commission for Science, Technology, and Innovation (NACOSTI). Permission was also obtained from the Kajiado County Education Office and school principals. Informed consent was secured from all participants, ensuring they understood the study's purpose, their voluntary participation, and confidentiality measures.

Questionnaires were distributed to teachers during school visits, with a response rate of 92% (271 out of 295). Follow-up visits and reminders ensured high participation. Interviews with principals were scheduled based on

their availability, with 25 conducted in-person and 3 via phone due to accessibility issues in remote areas. Data collection adhered to ethical standards, including anonymity and secure storage of data.

3.7. Data Analysis

Quantitative data from questionnaires were analyzed using the Statistical Package for the Social Sciences (SPSS) version 25. Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to summarize demographic data and teachers' perceptions. Inferential statistics, including Pearson's correlation and multiple regression analysis, were employed to examine the relationship between professional knowledge appraisals and teacher performance. The regression model was:

[Y = \beta_0 + \beta_1X_1 + \epsilon]

Where:

- (Y) = Teacher performance (dependent variable)
- (\beta_0) = Constant
- (\beta_1) = Coefficient for professional knowledge appraisal (independent variable)
- (X_1) = Professional knowledge appraisal score
- (\epsilon) = Error term

The significance level was set at $p<0.05$. Qualitative data from interviews were analyzed using thematic content analysis, following Braun and Clarke's (2006) six-step process: familiarization, coding, generating themes, reviewing themes, defining themes, and reporting. Themes were triangulated with quantitative findings to ensure consistency and depth.

3.8. Validity and Reliability

To ensure validity, the instruments were reviewed by experts in educational research for content and construct validity. The pilot study confirmed the questionnaire's clarity and relevance. Reliability was established through Cronbach's alpha (0.82 for questionnaires) and member-checking for interviews, where transcripts were shared with principals to verify accuracy. Triangulation of data sources (teachers and principals) and methods (quantitative and qualitative) enhanced the study's credibility.

4. Abbreviations and Acronyms

- ASAL: Arid and Semi-Arid Lands
- KCSE: Kenya Certificate of Secondary Education
- TPAD: Teacher Performance Appraisal and Development
- TSC: Teachers Service Commission
- NACOSTI: National Commission for Science, Technology, and Innovation
- KNBS: Kenya National Bureau of Statistics
- OECD: Organisation for Economic Co-operation and Development
- SPSS: Statistical Package for the Social Science
- SD: Standard Deviation
- b: Beta Coefficient
- r: Pearson's Correlation Coefficient
- R^2: Coefficient of Determination
- KUPPET: Kenya Union of Post Primary Teachers

5. Results and Discussion

5.1. Results

The study examined the influence of teachers' professional knowledge on their performance in public secondary schools in Kajiado County, Kenya, employing a mixed-methods approach to ensure a comprehensive analysis. Data was collected from 271 out of 295 targeted teachers (92% response rate) and 28 principals across 28 sampled schools, selected from a total of 93 public secondary schools in the county. The findings are presented in two sections: quantitative results, derived from teacher questionnaires, and qualitative results, based on principal interviews, with triangulation to enhance validity.

5.1.1. Quantitative Results

Quantitative data was analyzed using the Statistical Package for the Social Sciences (SPSS) version 25, employing both descriptive and inferential statistics to assess the relationship between professional knowledge appraisals and teacher performance. Descriptive statistics provided insights into the demographic profile and perceptions of the sampled teachers. Of the respondents, 78% held at least a bachelor's degree, with 15% either pursuing or holding master's degrees, indicating a relatively well-educated teaching force. The average teaching experience was 7.2 years (SD = 3.1), with 62% of teachers having over five years of experience, suggesting a wealth of practical

knowledge. Technical expertise was less prevalent, with 65% of teachers reporting proficiency in digital teaching tools, but only 40% using them regularly due to resource constraints, a critical issue in Kajiado's arid and semi-arid (ASAL) context.

Teachers' perceptions of professional knowledge appraisals were measured using a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). The statement "Appraisals of professional knowledge improve my teaching effectiveness" yielded a mean score of 4.12 (SD = 0.89), indicating strong agreement among teachers. Similarly, 82% of respondents agreed (mean = 4.05, SD = 0.92) that appraisals encouraged continuous professional development through formal education and skill enhancement. On syllabus coverage, 76% of teachers reported improvements post-appraisal (mean = 3.98, SD = 0.95), while 68% noted enhanced student engagement (mean = 3.85, SD = 1.01). These findings suggest that appraisals positively influence key performance indicators.

Inferential analysis utilized Pearson's correlation and multiple regression to test the relationship between professional knowledge appraisals and teacher performance. A strong positive correlation was found ($r = 0.62$, $p<0.01$), indicating that higher appraisal scores for professional knowledge were associated with better teacher performance. The regression analysis produced a beta coefficient of 0.179 ($p=0.014<0.05$), signifying that a unit increase in professional knowledge appraisal results in a 0.179-unit improvement in teacher performance. The model was statistically significant ($F(1, 269) = 6.23$, $p=0.014$, $R^2 = 0.38$), explaining 38% of the variance in teacher performance, suggesting that while professional knowledge is a significant predictor, other factors may also contribute.

The study further analyzed three key indicators of professional knowledge:

- Formal Education: Teachers with advanced degrees (master's or higher) reported significantly higher performance scores (mean = 4.25, SD = 0.78) compared to those with only bachelor's degrees (mean = 3.92, SD =0.85; $t(269) = 2.87$, $p=0.005$). This highlights the role of higher education in enhancing teaching effectiveness.
- Teaching Experience: Teachers with over five years of experience outperformed those with less experience (mean = 4.15, SD = 0.80 vs. mean = 3.75, SD = 0.90; $t(269) = 3.12$, $p=0.002$), indicating that experiential knowledge enhances classroom management and adaptability.
- Technical Expertise: Teachers proficient in digital tools scored higher on engagement metrics (mean = 4.10, SD = 0.82) compared to those with limited proficiency (mean = 3.65, SD = 0.94; $t(269) = 2.95$, $p=0.003$), underscoring the importance of technological skills in modern teaching.

5.1.2. Qualitative Results

Qualitative data from semi-structured interviews with 28 principals were analyzed using thematic content analysis, yielding three main themes: the role of appraisals in enhancing professional knowledge, challenges in implementation, and impact on teaching effectiveness. Principals consistently reported that appraisals of professional knowledge, as facilitated by the Teacher Performance Appraisal and Development (TPAD) system, were instrumental in identifying gaps in teachers' subject mastery, pedagogical skills, and technical expertise. One principal stated, "Appraising teachers' knowledge allows us to recommend specific training programs, which directly improve their teaching methods and student engagement." Another emphasized the motivational impact: "When teachers see their professional knowledge valued through appraisals, they are motivated to pursue further education or training."

Challenges in implementing appraisals were prominent. Evaluator bias was a concern, with 60% of principals acknowledging inconsistencies due to subjective judgments or lack of training. Resource constraints were cited by 75% of principals, including limited funding for professional development programs and inadequate technological infrastructure, particularly in remote schools. Logistical challenges, such as poor road networks in Kajiado's ASAL region, delayed appraisals in 40% of sampled schools, with some principals resorting to phone-based evaluations. Despite these hurdles, principals observed tangible improvements post-appraisal, including faster syllabus coverage (reported by 70% of principals) and enhanced student engagement, with one noting, "Teachers are more deliberate in their teaching when they know their knowledge is being evaluated."

5.2. Discussion

The findings confirm a statistically significant relationship between professional knowledge appraisals and teacher performance ($b=0.179$, $p=0.014<0.05$), aligning with Aloo, Ajowi, and Aloka's (2017) study, which found that teacher appraisals in Australia improved curriculum delivery by addressing professional competencies. The strong correlation ($r=0.62$, $p<0.01$) underscores the critical role of professional knowledge—formal education, teaching experience, and technical expertise—in enhancing teaching effectiveness in Kajiado County's public secondary schools.

5.2.1. Formal Education:

The superior performance of teachers with advanced degrees supports Mutua and Orodho's (2016) findings that higher qualifications enhance instructional delivery. In Kajiado, where the KCSE mean score of 5.56 (2021-2024) reflects underperformance, appraisals identifying educational gaps can guide targeted interventions, such as

workshops in mathematics and sciences, where content mastery is critical. This is particularly relevant given the county's low performance, with 78% of candidates scoring D+ or below (Unguku, 2023).

5.2.2. Teaching Experience:

Teachers with over five years of experience demonstrated greater effectiveness, corroborating Ochieng and Were's (2022) findings that experienced teachers excel in classroom management and adaptability. In Kajiado's socio-cultural context, experienced teachers leveraged Maasai cultural references to enhance student engagement, addressing challenges like low enrollment due to pastoralist lifestyles. Appraisals recognizing experiential knowledge encourage its application, improving teaching outcomes.

5.2.3. Technical Expertise:

Proficiency in digital tools significantly improved student engagement, aligning with Lloyd's (2021) emphasis on technical skills in modern education. However, only 40% of teachers regularly used digital tools, reflecting resource constraints exacerbated by the Covid-19 pandemic (Kathula, 2020). Appraisals targeting technical expertise can bridge this gap, promoting the adoption of e-learning platforms despite infrastructural challenges.

Implementation challenges, including evaluator bias (Papay, 2012) and resource constraints (Nguuro, 2017), mirror findings from other Kenyan studies (Kamau et al., 2018). The ASAL context, with poor infrastructure like impassable roads, complicates timely appraisals, as 40% of schools faced delays. These challenges highlight the need for trained evaluators and resource allocation to ensure consistent and fair appraisals. Despite this, the positive impact on syllabus coverage and student engagement, as reported by 70% of principals, supports Hult and Edston's (2016) findings that TPAD fosters motivation and professional growth.

The regression model's R^2 of 0.38 indicates that while professional knowledge appraisals significantly influence performance, other factors, such as teacher motivation, school leadership, or student socio-economic backgrounds, may contribute to the remaining variance. This warrants further research to explore these variables in Kajiado's context. Nonetheless, the findings demonstrate that appraisals of professional knowledge are a viable strategy for improving teacher performance and, consequently, KCSE outcomes, provided implementation challenges are addressed through training, resource investment, and transparent systems.

6. Recommendations

The findings of this study, demonstrating a significant relationship between teachers' professional knowledge appraisals and their performance ($b=0.179$, $p=0.014<0.05$), highlighted the potential to enhance teacher effectiveness in Kajiado County's public secondary schools. To address the county's low KCSE performance (mean score 5.56, 2021-2024) and implementation challenges, the following recommendations are proposed. First, schools should adopt structured, transparent appraisal systems focusing on formal education, teaching experience, and technical expertise, using standardized criteria to minimize evaluator bias, reported by 60% of principals as a challenge. The Teachers Service Commission (TSC) should provide detailed TPAD guidelines to ensure consistency. Second, regular professional development programs are critical to bolster subject mastery and pedagogical skills, particularly in mathematics and sciences, where Kajiado underperforms. Mentorship leveraging experienced teachers (62% with over five years' experience) can support novice educators. Third, policymakers must address resource constraints by allocating funds for training and digital infrastructure, as only 40% of teachers regularly used digital tools due to limited access. In Kajiado's ASAL context, mobile appraisal units or motorcycle-based logistics can mitigate logistical barriers like poor roads, which delayed appraisals in 40% of schools. Fourth, comprehensive training for appraisers, including principals, is essential to reduce inconsistencies and ensure objective evaluations. Finally, fostering a positive appraisal culture by engaging teachers in the process and emphasizing developmental benefits can overcome resistance, aligning with Expectancy Theory's motivational principles. These measures can enhance teacher performance, improve KCSE outcomes, and promote sustainable educational progress in Kajiado County, addressing both educational and socio-cultural challenges effectively.

7. Conclusion

This study confirmed that appraising teachers' professional knowledge—formal education, teaching experience, and technical expertise—significantly enhances their performance in Kajiado County's public secondary schools ($b=0.179$, $p=0.014<0.05$). The strong correlation ($r=0.62$, $p<0.01$) highlights the role of appraisals in improving syllabus coverage, classroom management, and student engagement, critical for addressing the county's low KCSE mean score of 5.56 (2021-2024). Teachers with advanced degrees and extensive experience outperformed their peers, while technical expertise boosted engagement, though limited by resource constraints. Qualitative data from principals underscored appraisals' role in identifying knowledge gaps and motivating professional development, with 82% of teachers pursuing further education post-appraisal. However, challenges like evaluator bias, resource limitations, and ASAL-related logistical issues, such as poor infrastructure, hinder implementation. The regression model's R^2 of 0.38 suggests other factors, like motivation or leadership, also influence performance, warranting further research. By implementing transparent appraisal systems, enhancing training, and addressing resource constraints, Kajiado can elevate teacher effectiveness and student outcomes. Leveraging digital tools like the

TPAD 2 portal can streamline evaluations, aligning with global best practices. Grounded in Goal Setting and Resource-Based View Theories, this study positions professional knowledge as a strategic asset, offering a pathway to improve educational quality and socio-economic opportunities for Kajiado's students and the broader Kenyan education system.

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