

Influence of instructional supervision on students' performance in Twelve Years Basic Education (12YBE) in Rwandan rural schools

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ABSTRACT

This study aims to examine the effects of instructional supervision on student performance, focusing on rural schools in Rwanda. The study was guided by two theories: systems theory and the theory of educational supervision. This study was conducted using a descriptive survey design with a mixed approach, integrating both quantitative and qualitative data. The target population consisted of teachers and head teachers of secondary schools in the rural area of Rubavu District. A simple random sampling method was used to select 164 teachers, while purposive sampling was used to select 17 head teachers from 17 schools. Data collection involved questionnaires and interviews, while document analysis was conducted on students' performance as secondary data. Quantitative data was analyzed using descriptive and inferential statistics in SPSS, and qualitative data was analyzed thematically. The findings revealed that inadequate instructional supervision—characterized by infrequent and irregular classroom visits, inconsistent feedback, and a lack of professional development opportunities—was the root cause of poor student performance in rural schools. Correlation and regression analyses showed a strong positive relationship ($R = 0.705$), with instructional supervision accounting for 49.7% of the variance in student outcomes. The ANOVA results ($F = 7.907$, $p = 0.023$) confirmed the model's statistical significance. Regression coefficients indicated that a one-unit increase in instructional supervision improves student performance by 0.565 units, with this relationship being highly significant ($p = 0.023$). These findings suggest that strengthening instructional supervision can significantly enhance student achievement, highlighting its critical role in educational quality and policy development for rural school improvement. The study recommended that NESA and policymakers adopt virtual instructional supervision to ensure adequate supervision and to develop a comprehensive instructional supervision policy. It also advised school leaders to plan professional development for teachers and implement regular instructional supervision through classroom visits and constructive feedback. Adopting these strategies could improve students' academic performance in rural schools.

Keywords: Instructional Supervision, Rural Schools, Students' Performance, Twelve Years of Basic Education

I. INTRODUCTION

Education is a fundamental pillar of societal development, and improving the quality of education remains a priority for educational stakeholders. likewise, the quality of education often hinges on the effectiveness of instructional supervision, a process that involves monitoring, evaluating, and supporting teachers to ensure they deliver curriculum content effectively and foster students' learning outcomes. In rural schools, where resources are often scarce and the teachers face numerous challenges, effective instructional supervision can play a vital part in ensuring quality education by guiding teachers toward improved instructional practices. However, inadequate instructional supervision in schools remains a pervasive challenge worldwide, particularly in rural areas where resource limitations, logistical challenges, and systemic inefficiencies are prevalent. In rural Ghana, for example, more supervisory visits were made to the urban junior high schools by the external supervisors than to the rural ones (Appiah, 2009). Similarly, in Latin American rural areas, supervisors are often unable to visit schools frequently due to transportation challenges and budget constraints (Vasconcellos, 1997).

In regions such as South Asia, research has shown that inadequate supervision leads to poorer teaching quality, as teachers in rural schools are often left without sufficient oversight or feedback (Hossain, 2018). The study of Buch et al (2022) in Sub-Saharan Africa found that the head teachers concentrated more on other administrative activities than instructional activities, which could limit students' achievement.

In the Rwandan context, the research of Nirere et al (2023) found that instructional supervision was rarely done by school leaders. On the other hand, the research conducted by Nsengimana (2024) identified the significant challenges

faced by head teachers to conduct regular instructional supervision, including inadequate training, reported by 83.1% of respondents, insufficient time for supervision due to heavy workloads (79.1%), and limited resources and support from educational authorities. While the relationship between instructional supervision and student academic performance has been widely studied, with research consistently revealing a strong correlation between the two (Makau et al., 2016), (Comighud et al., 2020), (Ndayambaje, 2024) and (Hanshi, 2023). However, the key research gap remains in the lack of empirical studies focusing on the current state of supervisory practices in response to the poor performance of students in rural schools of Rwanda. But what is commonly known is poor students' academic performance in Nine- and Twelve-Years Basic Education schools, especially in rural areas. For instance, the study of Nizeyimana et al. (2020) found that there is no quality education in these schools due to difficulties in school management. In this regard, this research aimed to explore the current state of supervisory practices and their influences on the academic performance of students for Nine- and Twelve-Years Basic Education in rural schools of Rubavu District, Rwanda. This study is therefore useful for understanding the need for regular instructional supervision and its importance for improving student performance and success in schools struggling with numerous challenges and overall quality of education as well.

1.1 Statement of the Problem

According to ESSP 2018-2024, Rwanda's hope relies on the education sector to elevate the country to upper-middle-income status by 2035. Despite efforts by the government of Rwanda to improve the quality and importance of education, the Nine and Twelve-Years Basic Education in rural schools continues to show lower student performance compared to urban schools. Inadequate instructional supervision and limited teacher support may contribute to this gap. The National Examinations and Schools Authority (NESA), DEOs, SEIs, and head teachers are responsible for ensuring that all schools in Rwanda meet academic standards, follow the prescribed curriculum, and maintain an effective learning environment. However, challenges such as heavy workload for head teachers, personnel shortages in educational supervision authorities, geographic isolation, and poor transportation infrastructure make it difficult for supervisors to perform regular, consistent supervision and provide timely support to rural schools (Nsengimana, 2024).

This lack of consistent supervision results in poorer student performance in rural Rwanda. A clear indicator of the urban-rural divide is the difference in performance on national exams. As noted in the report, urban schools consistently outperform rural ones in the Primary Leaving Examinations (PLE) and Secondary School Examinations (S6). In the 2022 PLE, urban schools had an 84% pass rate, compared to 71% in rural schools. Similar patterns are seen in Senior 6 exams, where urban students achieved pass rates of 78% in subjects like math and science, compared to 65% in rural regions (NESA, 2023). These results underscore the ongoing achievement gap. Urban students also perform better in English proficiency than rural students.

Consequently, the lack of adequate instructional supervision impacts teachers, school administration, and students. Teachers often lack guidance and support, hindering their professional growth and instructional effectiveness, which affects students' academic success and prospects. Additionally, inconsistent supervision hampers the implementation of new teaching methods, curriculum updates, and extracurricular activities that support a well-rounded education. This can lead to disconnection between school administration, teachers, and the local community, making it harder to address rural students' specific needs. The seriousness of this issue requires urgent attention and strategic interventions.

1.2 Research Objectives

- i. To investigate whether the classroom visitation by supervisors is carried out in rural schools
- ii. To examine the impact of feedback provided during instructional supervision on teaching practices and professional development of teachers in rural schools.
- iii. To investigate the provided professional development opportunities to teachers in rural schools.
- iv. To assess the relationship between instructional supervision on the performance of the students in rural schools

1.3 Research Questions

- i. To what extent is classroom visitation carried out in rural schools?
- ii. What are the impacts of feedback provided by supervisors on teachers' performance in rural schools?
- iii. What are the professional development opportunities provided to teachers in rural schools?
- iv. What is the relationship between instructional supervision and students' academic performance in rural schools?

II. LITERATURE REVIEW

2.1 Theoretical Review

This study was guided by two theories that provide insight into the relationship between supervision, resource allocation, and educational outcomes. Some of such frameworks are the Systems Theory and the Theory of Educational Supervision.

2.1.1 Systems Theory

This theory emphasizes the relationships, interactions, and interdependencies within a system and between the system and its components. In the field of education, systems theory emphasizes the interconnectedness of all components within the educational system, recognizing that changes or actions in one area can impact others. It provides a holistic framework for understanding and improving how education functions as a dynamic and complex system. It implies that schools function as systems where each component: teachers, resources, policies, and administrative support play a role in achieving educational goals. When one element, such as supervision, is inadequate, it can disrupt the entire system, negatively affecting outcomes like student performance. By viewing education as a dynamic system, stakeholders and policymakers can better understand and navigate its complexities to foster meaningful change by recognizing the interdependence of components, leveraging feedback loops, and ensuring that improvements are both effective and enduring (Khuzwayo, 2020).

2.1.2 Theory of Educational Supervision

Another relevant theory is the Theory of Educational Supervision by Sergiovanni and Starratt (1993). The Theory of Educational Supervision provides a conceptual framework for guiding and improving teaching and learning practices through structured oversight, support, and development of educators and educational systems. It emphasizes the role of supervision as a means to enhance instructional effectiveness, professional growth, and overall school improvement. It emphasizes that effective supervision requires a supportive, collaborative approach where supervisors serve as guides to teachers. This theory emphasizes the significance of consistent oversight and feedback to empower teachers and improve educational outcomes. Applying this theory to the context of the supervisor's role in rural schools highlights the necessity for a supportive supervisory approach to foster academic improvement in these areas.

2.2 Empirical Review

2.2.1 Classroom Visitation and Students' Outcomes

Classroom visits are a core element of instructional supervision. However (Anyango, 2019) argue that the extent to which they are meaningful and impactful depends on Frequency. In other words, the regular and structured visits are more effective than occasional, evaluative ones. Moreover, the purpose of instructional supervision should be to identify strengths and areas for improvement, rather than just serve as an administrative requirement (Andrews, 1991). The research indicates that frequent and structured classroom visits positively impact teacher performance by providing targeted support and ensuring adherence to instructional standards (Yosief et al. 2022). Similarly, another study found that teachers who receive frequent classroom visits coupled with constructive feedback show improvements in their instructional strategies and student engagement levels (Wilczenski, 1987). Despite its benefits, the effectiveness of classroom visitation largely depends on how it is perceived by teachers. When conducted in a supportive and developmental manner, it fosters a culture of continuous improvement. However, when seen as evaluative or punitive, it may lead to teacher resistance and anxiety, ultimately reducing its impact (Zepeda, 2013). Thus, ensuring that classroom visits focus on professional growth rather than mere performance assessment is crucial to students' success.

Class visitation is one of the school leaders' practices that can contribute to the students' academic performance. The study conducted by Ndagijimana and Uwimbabazi (2025) revealed that numerous techniques employed by school leaders to improve their students' academic performance formed a clear vision of academic achievement, as reported by 61.11% of teachers and 51.17% of students who participated in the study. Furthermore, school leaders may employ additional strategies to improve their students' academic achievement, such as creating a welcoming environment, encouraging leadership in others, and improving education. The findings demonstrate the impact of school leaders' practices on students' academic performance, as reported by respondent students (96.55%) and instructors (100%).

2.2.2 Provision of Feedback and Teacher Performance

Feedback serves as an essential tool for improving instructional practices and enhancing teacher effectiveness. Empirical studies suggest that timely, specific, and actionable feedback significantly influences teacher motivation, instructional quality, and student learning outcomes. According to Hattie (2008), effective feedback contributes to a 0.79 effect size in student learning gains, highlighting its importance in educational improvement. Similarly, Hattie (2007) emphasizes that feedback should be formative rather than summative, guiding teachers toward best practices rather than solely evaluating their performance, further supporting the idea that feedback should be constructive, emphasizing growth and improvement rather than criticism. Thus, Effective feedback mechanisms have been found to enhance teacher self-efficacy and instructional effectiveness.

2.2.3 Professional Development and Teacher Performance

The study conducted recently on Effects of head teachers' professional development programs on effective school leadership, revealed that head teachers in Rubavu District have access to several professional development programs, including the Diploma in Effective School Leadership (DEL) by Rwanda Basic Education Board (REB) and Flemish Association for Development Cooperation and Technical Assistance (VVOB), Head Teacher Capacity Building Workshops, Peer Learning Communities (PLCs), and School Leadership Forums and Conferences. Statistical analysis showed a strong positive relationship between participation in professional development programs and effective school leadership practices ($R = 0.992$, $R^2 = 0.983$, $p < 0.01$). Among these, Peer Learning Communities (PLCs) were found to have the most significant influence, followed by School Leadership Forums and Capacity Building Workshops (Nzarugarura & Ndagijimana, 2025). This emphasized the effective school leadership, including the ability of school leaders to supervise the teaching and learning, to target the teachers' performance. The same study concludes that well-structured and continuous professional development programs significantly enhance the leadership effectiveness of head teachers (Nzarugarura & Ndagijimana, 2025).

Professional development is a cornerstone of teacher effectiveness and continuous learning. Research highlights that ongoing professional learning opportunities equip teachers with the skills and knowledge necessary to improve their instructional strategies and adapt to changing educational demands. (Ibaba, 2024) found that well-structured professional development programs lead to improved teacher knowledge, refined instructional practices, and enhanced student learning outcomes. Instructional supervision should go beyond observation and include professional development opportunities. (Desimone, 2009) emphasize that professional development should be aligned with teacher needs and based on classroom observations. Peer coaching and mentoring should be integrated into supervision models to foster a supportive learning environment for teachers. (Desimone, 2009) identified five key features of effective professional development: content focus, active learning, collaboration, coherence, and sustained duration. Programs incorporating these elements have been linked to long-term improvements in teaching practices. In other words, the effectiveness of professional development programs depends on their relevance to teachers' needs and their ability to provide practical, classroom-applicable strategies. A lack of follow-up support and implementation mechanisms often reduces the impact of these programs, making it essential to integrate continuous learning opportunities with ongoing mentorship and coaching.

III. METHODOLOGY

3.1 Research Design

This study was conducted using a descriptive survey design with a mixed approach, integrating both quantitative and qualitative data. A mixed approach was used to collect and analyze data through the questionnaire, interviews, and group discussions. This was appropriate for this research to investigate the influence of instructional supervision on students' performance for Nine and Twelve Years Basic Education (12YBE) in Rwandan rural schools

3.2 Study Population and Sampling Methods

The total population consists of teachers and head teachers from 9YBE and 12YBE schools in the rural area of Rubavu District: Bugeshi, Busasamana, Cyanzarwe, Kanzenze, and Mudende. From these sectors, all 17 schools were selected, which resulted in a population of 17 head teachers and 164 teachers. This study primarily focused on 9YBE and 12YBE schools. A purposive sampling method was utilized to choose school leaders from rural areas, ensuring representation from various rural regions. Within each school, simple random sampling was employed to select teachers.

3.3 Instruments used for Data Collection

Structured questionnaires were distributed to secondary teachers to gather quantitative data on the frequency, effectiveness, and perceived impact of instructional supervision. The questionnaire included both closed-ended and Likert-scale questions to measure responses systematically. Semi-structured interviews were conducted with school leaders to explore their perspectives on the role and challenges in conducting instructional supervision. These interviews provided qualitative insights that enrich the statistical findings from the questionnaires. The document analysis was also conducted on students' Performance Reports, such as national examination results, test scores, and pass rates, to track trends of student performance among rural schools.

3.4 Data Collection Procedures

The structured questionnaire was first administered to teachers from secondary schools in rural areas, and interviews were conducted with head teachers to collect their responses on instructional supervision

3.5 Data Analysis

To analyze the processed data effectively, appropriate computer programs were employed. Statistical Package for the Social Sciences (SPSS) was used for analyzing quantitative data, including descriptive statistics such as means, standard deviations, and percentages, as well as inferential statistics like correlation and regression analysis to determine relationships between instructional oversight and student performance. Qualitative data from interviews were analyzed thematically to identify key patterns and insights from respondents.

3.6 Ethical Consideration

According to Ndagijimana et al (2025), before data collection, the authors sought approval from the schools investigated. At school, before data collection, participants were informed about the study's purpose. All participants were given a consent form to sign and participated voluntarily in the study. Confidentiality and privacy standards were upheld throughout the process of data collection. In this study, there's no conflict of interest.

IV. FINDINGS & DISCUSSION

4.1 The findings on classroom visitation

The first question guided this study was about the extent to which classroom visitation is carried out in rural schools. Figure 1 presents the findings on how frequently the selected teachers were visited by supervisors in the class during the academic year 2024-2025.

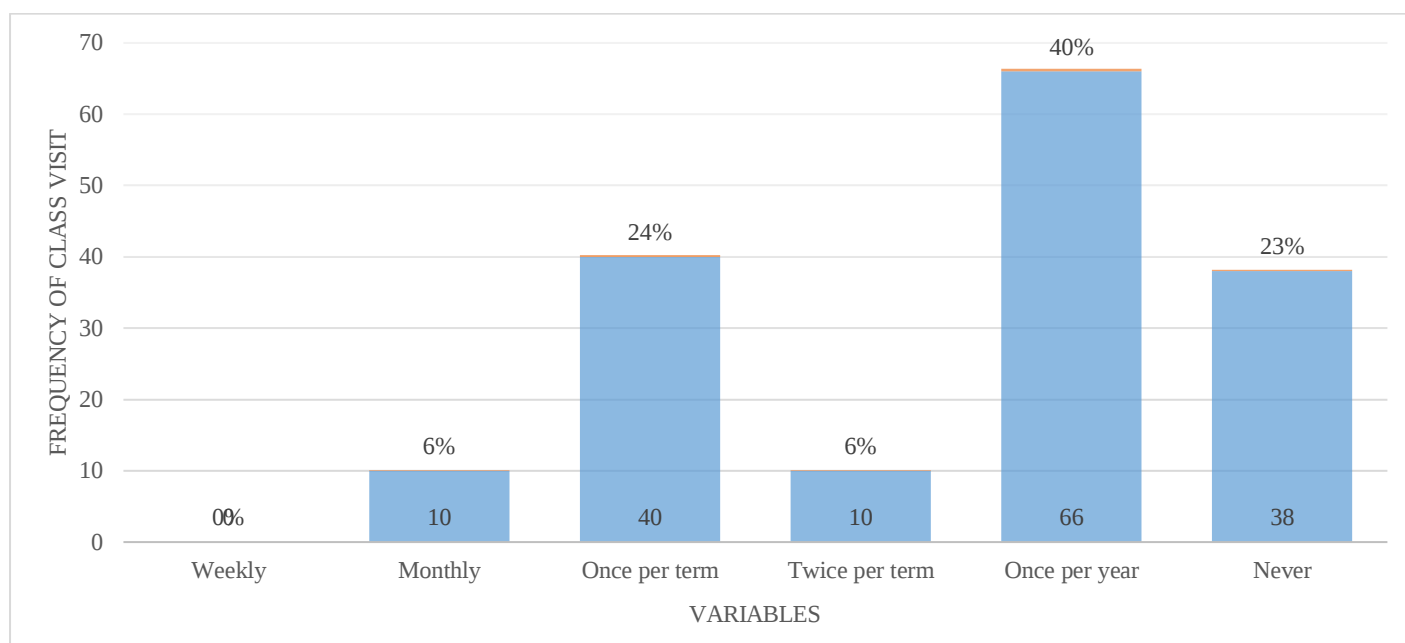


Figure 1
Class Visitation Frequency

Classroom visitation is a crucial component of instructional supervision that ensures teaching quality, provides professional support to educators, and enhances student-learning outcomes. However, as indicated in Figure 3, the data collected from 164 selected teachers regarding classroom visitation frequency highlights significant gaps during the oversight process. The findings reveal that no teachers experienced weekly classroom visits, 6% were visited monthly, 24% received supervision once per term, 6% had two visits per term, 40% were visited annually, and 23% did not receive any visits throughout the year.

These findings suggest an overall lack of consistent instructional supervision, which could negatively impact teaching effectiveness and student achievement. Among the most concerning aspects of these findings is the absence of weekly classroom visits. Regular supervision is essential for continuous professional development and the early identification of instructional challenges. Without weekly monitoring, teachers may struggle to address their weaknesses promptly, potentially leading to persistent ineffective teaching methods. In many effective education systems, weekly supervision is a standard practice to maintain high teaching standards and provide timely intervention where necessary.

Similarly, the fact that only 6% of teachers received monthly visits highlights a missed opportunity for more structured instructional support. Monthly supervision allows for a balance between oversight and teacher autonomy, ensuring that educators receive periodic feedback while still having time to implement suggested improvements.

However, given the low percentage of teachers benefiting from this frequency, it is clear that most educators lack regular guidance and mentorship. The most common frequent classroom visitation, as reported by 24% of teachers, is once per term. While this is an improvement compared to less frequent visits, it may not be sufficient to provide consistent and meaningful instructional support. Classroom dynamics and student needs evolve continuously, and a single visit per term may not capture the full scope of a teacher's strengths and areas that need development. The 6% of teachers who received two visits per term likely had a more structured support system, but this percentage remains low and suggests that a majority of teachers are still under-supervised.

More alarming is the insight that 40% of teachers received supervision only once per year. A once-per-year visitation is inadequate for fostering professional growth and maintaining high teaching standards. Effective teaching requires ongoing reflection and improvement, which cannot be adequately addressed through infrequent observations. Teachers who receive annual visits may lack the necessary guidance to refine their instructional strategies and adapt to the evolving requirements of their students.

Perhaps the most concerning statistic is that 23% of teachers did not receive any classroom visitation for the entire year. The absence of classroom visitation raises serious concerns about the quality of teaching and learning in these classrooms. Without any form of feedback, teachers may not receive feedback on their teaching methods, classroom management strategies, or student engagement techniques. This lack of accountability can contribute to poor student performance and a decline in overall educational standards.

Table 1

Mean Frequency of Classroom Visitation

Variable	Frequency per year	Number of teachers	Total visit occurrence
No visit (Never)	0	38	0
Monthly visit	12	10	120
Once per term	3	40	120
Twice per term	6	10	60
Once per year	1	66	66
Total		164	366

$$\text{Mean} = \frac{366}{164} \approx 2.23 \text{ visits per year}$$

According to Michl (2006) Instructional supervisors should conduct class visits at least once per term for each teacher to ensure consistency in monitoring and support. In a good manner, newly recruited or struggling teachers may require monthly or twice-monthly visits to help them adapt and improve their instructional skills. However, as indicated in Table 5, on average, this study revealed that the teachers from selected rural schools receive about two class visits per year, which is less than three classroom visits annually and suggests insufficient instructional supervision. This was supported by the findings from interviews, where the heavy workload of head teachers was the recurring theme. Many head teachers reported that administrative responsibilities limit their ability to conduct regular instructional supervision. This further exacerbates the issue of inadequate teacher support and accountability.

4.2 The Impacts of Provided Feedback on Teachers' Performance

The second question guided this study was about how the feedback provided by supervisors affects the performance of teachers.

Table 2

The Impacts of the Provided Feedback on Teacher Performance

Items	N	Mean	Std. Dev.
I always receive feedback after a class visit	164	2.56	1.35
Provided Feedback was constructive guidance for improving my teaching quality	164	2.10	1.43
I always receive negative and critical feedback	164	3.37	1.41
A follow-up is made after feedback to check whether I have implemented the feedback	164	2.39	1.44
Always, the feedback is only for signing marks, without real discussion	164	3.51	1.45

Table 2 presents findings on teachers' perceptions of the feedback they receive after class visits. The responses were categorized into Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A), and Strongly Agree (SA), with their corresponding average and standard deviation values. These statistical measures provide insights into the general trends and variations in responses.

Concerning the provision of Feedback after a Class Visit (2.56, SD = 1.40), the low mean indicates that feedback is not systematically provided to all teachers. Some may receive frequent feedback, while others do not, leading to

disparities in professional support. Concerning the Constructive Feedback, the mean of 2.10 (SD = 1.35) shows that even when feedback is given, it lacks meaningful guidance. This means teachers are not receiving the necessary support to enhance their instructional practices. Concerning the characteristic of Feedback (Negative or Supportive), the relatively high mean (3.37, SD = 1.42) indicates that the responses of supervision are often perceived as judgmental and discouraging rather than developmental and supportive. The standard deviation of 1.42 indicates a moderate variation, meaning that while some teachers may receive balanced feedback, many perceive it as overly critical. When feedback is negative, teachers may resist it instead of using it to improve their teaching. Concerning follow-up on Feedback Implementation, the mean (2.39, SD = 1.38) shows that supervisors rarely conduct follow-ups to ensure that the suggested improvements have been implemented. Without follow-up, feedback loses its effectiveness. Concerning the provision of feedback as a Mere Formality, the highest mean (3.51, SD = 1.45) highlights a serious issue, as many teachers perceive feedback as just evaluative rather than an opportunity for professional growth. This significantly reduces the impact of supervision, in which the teacher feels anxious when it comes to supervision.

Overall, the high standard deviation values (1.35 - 1.45) across all items further highlight the inconsistency in how feedback is delivered. While some teachers might be receiving valuable feedback, many others are not. This variability suggests a lack of standardized feedback mechanisms across schools, meaning that the helpfulness of feedback largely depends on individual supervisors rather than a clear national framework.

4.3 The Professional Development Opportunities given to Teachers in Rural Schools

The third question guided this study was about what professional development opportunities are given to teachers in rural schools. According to Michl (2006), professional development activities for teachers can be categorized into formal and informal types. Formal activities include structured programs such as courses, workshops, and education conferences or seminars, which are typically organized by educational institutions or external organizations.

The following graph presents the findings regarding the types of professional development opportunities given to rural teachers and the extent they participate.

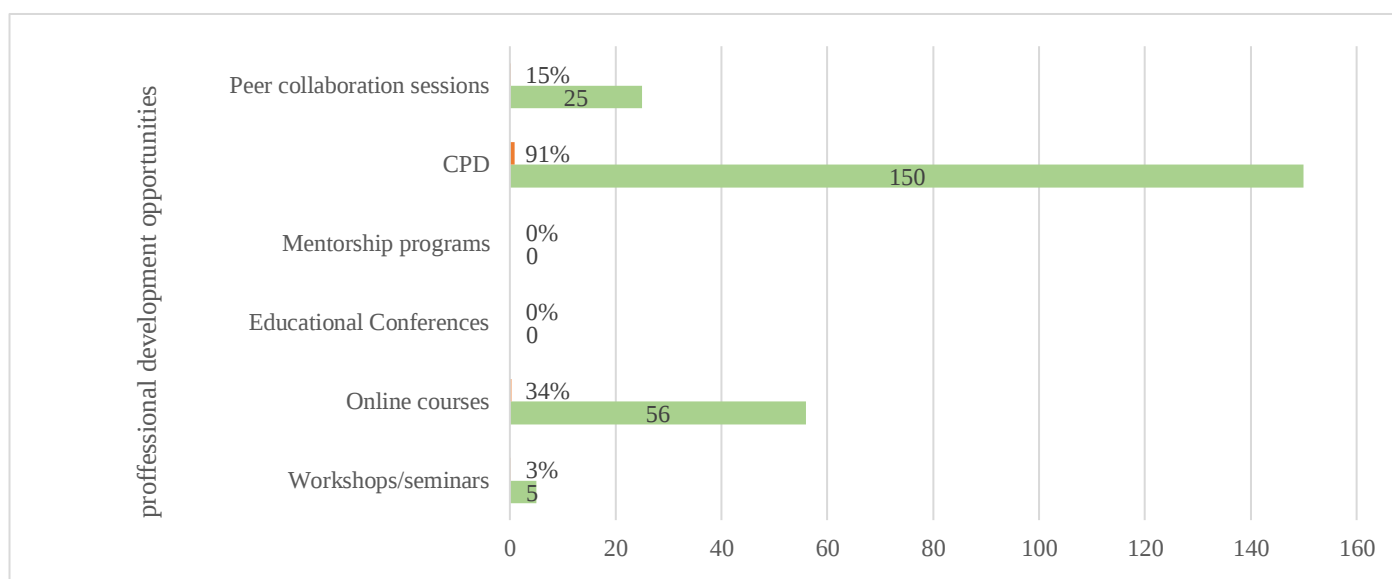


Figure 2

Bar Chart for Providing Professional Development Opportunities

The data presented highlights the various professional development opportunities provided to 164 selected teachers. The results show that Continuing Professional Development (CPD) was provided by 91%. Online courses were provided by 34%, and workshops and seminars have a remarkably low provision rate, with only 3%. Interestingly, no educational conferences or mentorship programs were provided. The results also show a low level of organization of Peer collaboration sessions, with only 15% of respondents benefiting from it.

The results from the survey on professional development participation align closely with insights from teacher interviews, concerning the implementation of CPD. While CPD records the highest provision rate (91%), interviews with teachers highlight that much of the CPD time is often repurposed by school administrators for other agenda items, limiting its intended impact on professional growth. This suggests that, despite high participation, the quality and effectiveness of CPD may be compromised when it does not focus on meaningful teacher development. The issue points to a need for stricter enforcement of CPD guidelines to ensure that allocated time is used effectively for training rather than administrative discussions.

Additionally, concerning the preparation of training, the recurring theme from interviews was that head teachers rely on the Rwanda Education Board (REB) to organize their training sessions, rather than proactively seeking professional development opportunities. This passive approach may contribute to the lack of engagement in workshops, educational conferences, and mentorship programs, all of which recorded little to no participation in the survey. The dependency on REB trainings suggests that school leaders may not have sufficient autonomy or initiative to drive continuous learning within their schools. Without independent engagement in professional development, head teachers may struggle to support their staff effectively, reinforcing the need for policies that encourage proactive participation in training programs.

Furthermore, the low engagement in peer collaboration (15%) suggests that teachers may not have sufficient time or structured opportunities for meaningful professional dialogue. If CPD sessions are often diverted to administrative matters, likely, peer learning and mentorship programs are similarly overlooked. This disconnect between policy and practice indicates that while professional development opportunities exist in theory, their implementation is often hindered by administrative priorities as well as a deficiency of institutional support.

4.4 The Relationship between Instructional Supervision and Student Performance in Rural Schools

To assess the extent to which instructional supervision influences student performance, correlation and regression analysis were conducted. The findings from this analysis provide valuable insights into the strength, significance, and implications of this relationship.

4.4.1 Model Summary and Relationship Strength

Table 2

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.705 ^a	.497	.434	.42188

a. Predictors: (Constant), instructional supervision

The regression model produced a correlation coefficient ($R = 0.705$), indicating a strong positive relationship between instructional supervision and student performance. This suggests that as the quality and frequency of instructional supervision improve, student performance also tends to increase. Furthermore, the R^2 value of 0.497 indicates that 49.7% of the variation in student performance is explained by instructional supervision alone. The remaining 50.3% may be attributed to other factors. Although R^2 provides an estimate of explanatory power, the adjusted R^2 value of 0.434 accounts for model complexity, confirming that instructional supervision remains a significant predictor even when considering potential biases. The standard error of the estimate (0.42188) further suggests that the predicted student performance scores are relatively close to actual values, enhancing the reliability of the model.

4.4.2 Significance of the Model (ANOVA Results)

Table 3

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.407	1	1.407	7.907	.023 ^b
	Residual	1.424	8	.178		
	Total	2.831	9			

a. Dependent Variable: students' performance

b. Predictors: (Constant), instructional supervision

To determine whether instructional supervision has a statistically significant effect on student performance, an ANOVA (Analysis of Variance) test was conducted. The results indicated an F-statistic of 7.907 and a p-value of 0.023. Since the p-value is less than 0.05, the regression model is deemed statistically significant. This means the observed relationship between instructional supervision and student performance is unlikely to have occurred by chance. Schools and policymakers can, therefore, be confident that efforts to improve instructional supervision will likely result in better student outcomes.

4.4.3 Regression Coefficients

Table 4
Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.240	.569		3.936	.004
	Instructional supervision	.565	.201	.705	2.812	.023

a. Dependent Variable: students' performance

A deeper analysis of the regression coefficients provides further insights into the direct effect of instructional oversight. The constant term ($B = 2.240$, $p = 0.004$) represents the baseline level of student performance when instructional supervision is absent. More importantly, the coefficient for instructional supervision ($B = 0.565$, $p = 0.023$) suggests that for every one-unit increase in instructional supervision, student performance improves by 0.565 units. The standardized Beta coefficient (0.705) further confirms that instructional supervision has a strong and substantial impact. The statistical significance of the instructional supervision variable ($p = 0.023$) highlights its importance in shaping student success. Since this value is below the standard threshold of 0.05, it confirms that the observed effect is meaningful and not due to random variability. Schools that prioritize structured and consistent instructional supervision are, therefore, likely to see noticeable improvements in student achievement.

4.5 Discussion

4.5.1 Frequency of Classroom Visitation

The findings reveal an infrequent and inconsistent practice of classroom visitation in rural schools. On average, teachers received only 2.23 visits per year, far below the minimum once-per-term threshold recommended by scholars like Michl (2006). The data shows that 23% of teachers received no visits at all, while 40% were visited only once annually. In light of high-performing education systems, this is inadequate. For instance, in Singapore and Finland, countries with high-performing education systems, supervision is not merely administrative but developmental, with weekly or biweekly classroom observations coupled with collaborative reflection sessions (Schleicher, 2022). Similarly, in the United States, formative supervision models encourage frequent walkthroughs and instructional coaching (Tee, 2023).

By contrast, the findings from this study resemble trends observed in other Sub-Saharan African contexts, where instructional supervision is often minimal due to logistical constraints, inadequate training of supervisors, and heavy administrative workloads (Bush, 2022). This aligns with the qualitative data in the current study, where headteachers reported being overburdened with administrative tasks, limiting their ability to provide effective oversight.

4.5.2 Nature and Impact of Feedback

The findings of this study indicate that feedback following supervision is inconsistent, often critical, and largely procedural. The high mean score of 3.51 on the item “feedback is only for signing marks without real discussion” suggests a perception of supervision as a compliance activity rather than a developmental process. Meanwhile, a lower mean of 2.10 for “constructive feedback” highlights a gap in qualitative guidance that could support teachers' professional growth.

This is echoed by studies in Kenya and Nigeria, where feedback is often perceived as punitive rather than constructive, leading to anxiety and resistance among teachers (Bush et al., 2022). Conversely, in countries like Australia and the UK, instructional feedback is designed to be collaborative and formative, focusing on teacher agency, instructional goals, and student learning outcomes (Pont et al., 2008). The lack of follow-up means a score of 2.39 further reduces the effectiveness of feedback. Research confirms that sustained support and follow-up actions are necessary for feedback to translate into improved teaching practices (Hattie, 2007).

4.5.3 Professional Development

While 91% of teachers reported receiving Continuing Professional Development (CPD), qualitative data suggests that CPD sessions are often repurposed for administrative matters, limiting their instructional value. Opportunities for workshops (3%), online courses (34%), and peer collaboration (15%) are minimal. Moreover, no mentorship or conference participation was reported. This finding reflects patterns observed in other low-resource contexts, where CPD is frequently delivered in a top-down manner, lacks contextual relevance, and is not aligned with classroom challenges (Moon, 2007). On the contrary, effective systems such as in Canada, South Korea, and Finland integrate teacher-led CPD, mentorship, and reflective practice communities into school routines, leading to sustainable improvements in teacher performance and student learning (Schleicher, 2011).

4.5.4 The relationship between instructional Supervision and Student Performance

The regression analysis demonstrated a statistically significant and strong positive relationship between instructional supervision and student performance ($R = 0.705$, $p = 0.023$). This aligns with international studies emphasizing that consistent, supportive, and well-structured instructional supervision positively correlates with student achievement (Khan, 2024), (Ibaba, 2024). A similar study in Ghana found that schools with frequent instructional supervision and structured feedback mechanisms reported higher pass rates in national exams. Locally, studies conducted in Rwanda by Ndayambaje (2024) have also highlighted that schools with stronger supervision mechanisms tend to have better performance in learning outcomes. Similarly, the study of Livingstone (2023) discovered that there is a significantly high degree of positive correlation between instructional supervision and students' academic performance, with a Pearson coefficient of correlation of 0.529 and a p-value of 0.0000.01. However, with 49.7% of student performance variability explained by instructional supervision, the data also suggests that other factors such as teacher competence, learning materials, parental support, and socioeconomic context contribute significantly to learner achievement. Hence, improving instructional supervision must go hand-in-hand with comprehensive educational reforms.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

This study investigated the role and effectiveness of instructional supervision in rural schools, focusing on classroom visitation, feedback practices, professional development opportunities, and the relationship between supervision and student performance. The results reveal significant inadequate provision of effective instructional supervision practices in selected rural schools.

Firstly, the frequency of classroom visitation is markedly low and inconsistent. Teachers received an average of only 2.23 visits per year, with nearly a quarter receiving no visits at all. This falls far short of the minimum once-per-term recommendation and indicates a systemic deficiency in ongoing instructional support. The absence of regular supervision undermines teachers' ability to receive timely feedback, reflect on their teaching practices, and improve their instructional effectiveness.

Secondly, while some teachers reported receiving feedback after class visits, the nature of this feedback is often viewed as formalistic, negative, and lacking in constructive value. The absence of follow-up actions further reduces its impact on teacher performance. This suggests that supervision is perceived more as a compliance requirement rather than a professional development tool, which can demotivate teachers and limit their growth.

Thirdly, professional development opportunities provided to rural teachers are limited both in variety and quality. Although CPD participation is high, the actual content of these sessions is often diverted to administrative matters. Opportunities for workshops, mentorship, peer collaboration, and conferences are rare, limiting teachers' access to meaningful learning experiences. This reflects a broader issue of weak institutional support and a lack of initiative in fostering continuous learning.

Lastly, the regression analysis demonstrates a strong and statistically significant relationship between instructional supervision and student performance ($R = 0.705$, $p = 0.023$). This indicates that effective supervision plays a crucial role in improving learning outcomes. This underscores the critical importance of structured, supportive, and consistent instructional supervision in enhancing teacher effectiveness and improving student performance. Thus, its inadequacy or inconsistency significantly weakens the student performance. Therefore, without improvement in instructional supervisory practices, its benefits are not fully realized in rural schools.

5.2 Recommendations

The study shows that inadequate instructional supervision greatly affects student performance in rural schools. To improve education quality, policymakers, NESA, and school leaders should implement strategies to ensure regular and consistent supervision. Policymakers need to create an instructional supervision policy to ensure schools follow national standards and deliver quality instruction. NESA should also adopt virtual instructional supervision to increase efficiency. School leaders should focus on instructional supervision by regularly visiting classrooms, offering constructive feedback, and guiding teachers. Consistent implementation of CPD programs and organizing teacher collaboration sessions are essential. More research is needed to examine differences in supervision frequency and strategies between urban and rural areas and to identify challenges that hinder supervisors from conducting regular and effective supervision.

REFERENCES

- Andrews, R. L. (1991). Instructional leadership: Supervision that makes a difference. *Theory into Practice*, 30(2), 97–101.
- Anyango, A. G. (2019). Influence of internal instructional supervision on teaching effectiveness in English in secondary schools in Kakamega County, Kenya (Doctoral dissertation). Maseno University.
- Appiah, M. R. (2009). A study of supervision in rural and urban junior high schools in the Akuapem North district (Doctoral dissertation). University of Cape Coast. <http://hdl.handle.net/123456789/1706>
- Bush, T., Fadare, M., Chirimambowa, T., Enuorah, E., Musa, D., Nur, H., ... & Shipota, M. (2022). Instructional leadership in sub-Saharan Africa: Policy and practice. *International Journal of Educational Management*, 36(1), 14–31.
- Comighud, S. M. T., Futralan, M. C. Z., & Cordevilla, R. P. (2020). Instructional supervision and performance evaluation: A correlation of factors. *UBT International Conference*, 193. https://knowledgecenter.ubt-uni.net/conference/2020/all_events/193
- Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational Researcher*, 38(3), 181–199. <https://doi.org/10.3102/0013189X08331140>
- Hanshi, A. D. (2023). Influence of instructional supervision practices on academic performance in public secondary schools in Mandera East Sub-County, Mandera County, Kenya. *African Journal of Emerging Issues*, 5(6), 151–165.
- Hattie, J. (2008). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. Routledge.
- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81–112. <https://doi.org/10.3102/003465430298487>
- Hossain, M. (2018). The effects of governance reforms on school supervision: An analysis of six developing and emerging economies. In *Cross-nationally comparative, evidence-based educational policymaking and reform* (pp. 127–160). Emerald Publishing Limited.
- Ibaba, G. B. (2024). Teacher supervision and students' academic output: Performance assessment of the Bayelsa State Post Primary School Board. *Journal of Contemporary Research in Educational Administration and Management*, 1(1), 87–95.
- Khan, N. P.-3. (2024). Role of supervisory instructions: Effect on school improvement. *Journal of Development and Social Sciences*, 5(3), 368–375.
- Khuzwayo, Q. O. (2020). The systems theory conceptualized and pasted to teaching and learning. *International Journal for Innovation Education and Research*, 8(10), 01–16.
- Livingstone, M. J. (2023). Instructional supervision and student academic performance in the history subject in public schools in Rwanda. *Journal of Education*, 6(5), 77–93.
- Makau, N. N., Ronoh, A., & Tanui, E. (2016). Relationship between principals' instructional supervision and students' academic achievement in sciences in secondary schools. *International Journal of Scientific & Engineering Research*, 7(9), 1585–1607.
- Michl, R. W. (2006). Supervision and evaluation of probationary teachers: Policies and practices in class II and class III Nebraska school districts (Unpublished doctoral dissertation). University of Nebraska-Lincoln. <https://digitalcommons.unl.edu/cehsedaddiss/3>
- MINEDUC. (2018). *Education sector strategic plan 2018–2024*. Ministry of Education, Rwanda. https://www.mineduc.gov.rw/fileadmin/user_upload/education_sector_strategic_Plan_2018_2024.pdf
- Moon, B. (2007). Research analysis: Attracting, developing and retaining effective teachers: A global overview of current policies and practices. UNESCO Section for Teacher Education. http://www.emergency.am/res/Virtual%20Library/DRR%20in%20Education/Attracting_developing_and_keeping_Teachers1.pdf
- Ndagijimana, J. B., & Uwimbabazi, C. (2025). Contribution of school leaders' practices to students' academic performance in selected nine-year basic education (9YBE) schools in Rwanda. *African Quarterly Social Science Review*, 2(2), 183–197.
- Ndagijimana, J. B., Musengimana, J., Mushimiyimana, H., Mukama, E., Habimana, O., Manirakiza, P., ... & Lakin, E. (2025). Contribution of an instructional module incorporating PhET simulations to Rwandan students' knowledge of chemical reactions, acids, and bases through social interactions. *Chemistry Education Research and Practice*, 26(1), 289–299.
- Ndayambaje, I. N. (2024). Instructional supervision and teachers' professional practices in public secondary schools in Gasabo District. *Rwandan Journal of Education*, 7(2), 71–84.

- NESA. (2023). Report on analysis of general education, TTCs, and TVET national examination results for 2019–2022. *National Examination and School Inspection Authority*. <https://www.nesa.gov.rw/>
- Nirere, J., Ntawiha, P., & Buhigiro, J. L. (2023). Influence of primary school head teachers' instructional leadership on teachers' professional practices in Musanze District, Rwanda. *East African Journal of Education and Social Sciences*, 4(3), 143–150. <https://doi.org/10.46606/eajess2023v04i04.0312>
- Nizeyimana, G., Nzabalarwa, W., Mukingambeho, D., & Nkiliye, I. (2020). Hindrances to quality of basic education in Rwanda. *Rwandan Journal of Education*, 5(1), 53–67.
- Nsengimana, A. S. (2024). Head teacher's instructional supervision in public primary schools of Nyaruguru District, Rwanda: Challenges and mitigations. *African Journal of Empirical Research*, 5(3), 629–639.
- Nzarugarura, M. E., & Ndagijimana, J. B. (2025). Effects of head teachers' professional development programs on effective school leadership: A case of secondary schools in Rubavu district, Rwanda. *African Journal of Empirical Research*, 6(2), 504–521.
- Pont, B., Nusche, D., & Moorman, H. (2008). *Improving school leadership, volume 1: Policy and practice*. OECD Publishing. <https://doi.org/10.1787/9789264044715-en>
- Schleicher, A. (2022). Lessons from high-performing school systems. In *International Handbook on Education Development in Asia-Pacific* (pp. 1–19). Springer Nature Singapore.
- Schleicher, A. E. (2011). *Building a high-quality teaching profession: Lessons from around the world*. OECD Publishing. <https://doi.org/10.1787/9789264113046-en>
- Sergiovanni, T. J., & Starratt, R. J. (1993). *Supervision: A redefinition*. McGraw-Hill Inc.
- Tee, A. (2023). Establishing trust in principal supervision: Qualitative exploration of walkthroughs for instructional leadership. American College of Education.
- Van Bertalanffy, L. (1998). *General system theory: Foundations, development, applications*. George Braziller.
- Vasconcellos, E. A. (1997). Rural transport and access to education in developing countries: Policy issues. *Journal of Transport Geography*, 5(2), 127–136.
- Wilczenski, F. L.-A. (1987). Feedback to teachers on student engagement as a consultation tool. *Professional School Psychology*, 2(4), 261.
- Yosief, Y., Okemasisi, K., & Mesmer, P. (2022). Establishing how head-teachers' classroom visitation practice influences students' performance in public junior schools in Keren Sub-Zone, Eritrea. *European Journal of Special Education Research*, 9(6), 150–172. <http://dx.doi.org/10.46827/ejse.v8i3.4342>
- Zepeda, S. J. (2013). *Instructional supervision: Applying tools and concepts* (3rd ed.). Routledge. <https://doi.org/10.4324/9781315855523>