



PRINCIPALS' FORMATIVE ASSESSMENT STRATEGIES AND CURRICULUM IMPLEMENTATION IN PUBLIC JUNIOR SCHOOLS IN SOTIK SUB-COUNTY, KENYA

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ABSTRACT

Effective curriculum implementation requires instructional practices that enable teachers to respond to learner needs and align teaching with curriculum expectations. Formative assessment provides a mechanism through which evidence of learner progress can inform feedback and instructional adjustment; however, evidence on its contribution to curriculum implementation in Kenya's junior secondary schools remains limited. This study examined the relationship between formative assessment and curriculum implementation in public junior secondary schools in Sotik Sub-County, Kenya. Guided by the Psychological Theory of Supervision, the study adopted a convergent mixed-methods design. Data were collected from teachers using questionnaires and from principals through interviews. Quantitative data were analysed using descriptive statistics, Pearson correlation, and simple linear regression, while qualitative data were analysed thematically. The findings revealed a strong, positive, and statistically significant relationship between formative assessment and curriculum implementation ($r = 0.661$, $p < 0.001$). Formative assessment significantly predicted curriculum implementation, accounting for 43.7% of its variance ($R^2 = 0.437$). Qualitative findings corroborated the quantitative results, showing that the use of learner performance data, feedback, and instructional adjustment supported responsive curriculum delivery. However, self-assessment and reflective practices were less consistently implemented, indicating that participatory dimensions of formative assessment remain underdeveloped. The study concludes that formative assessment contributes to curriculum implementation when assessment evidence is systematically translated into feedback and instructional action. The findings highlight the need for stronger professional and institutional support for assessment-informed instruction and reflective practice in junior secondary schools.

KEYWORDS: Formative Assessment, Curriculum Implementation, Instructional Supervision, Junior Secondary Schools, Kenya

1. INTRODUCTION

Curriculum implementation is the process through which curriculum intentions, content, pedagogical approaches, assessment practices, and learning experiences are translated into classroom practice to achieve intended learning outcomes. Its effectiveness is particularly important in competency-oriented education systems, which emphasize the development and demonstration of knowledge, skills, values, and competencies rather than the acquisition of content alone. Such systems require teachers to use learner-centred approaches, continuous assessment, feedback, differentiated instruction, and evidence from learners' performance to adjust teaching. Consequently, curriculum implementation depends not only on the curriculum design and availability of resources but also on the capacity of teachers and school leaders to translate curriculum expectations into effective classroom practice (Carvalho & Santos, 2022; Toulia et al., 2023). At the global level, formative assessment has increasingly been recognized as an important component of effective teaching and learning. It enables teachers to obtain evidence of learners' understanding during instruction, provide timely feedback, identify learning difficulties, and modify teaching accordingly. A recent systematic review of formative assessment research in K–12 education found evidence of its contribution to teaching effectiveness and learner outcomes, while also highlighting differences in teachers' understanding, implementation practices, and contextual conditions (Saad et al., 2024). Similarly, Kaur and Lim-Ratnam (2023), examining formative assessment implementation in Singapore, found that the enactment of assessment policies was influenced by teachers' understanding as well as the school context. These findings demonstrate that although formative assessment is widely promoted internationally, its contribution to curriculum implementation depends on how effectively it is translated from policy expectations into everyday instructional practice.

The international evidence also suggests that the mere presence of formative assessment practices does not guarantee improved educational outcomes. For example, an experimental study involving secondary school mathematics teachers found that changes in formative assessment practices did not automatically produce significant differences in student achievement, suggesting that the characteristics and quality of implementation are important (Boström, & Palm, 2023). This reinforces the importance of examining not simply whether formative assessment is used, but how it is supported, monitored, and integrated into instructional processes. In this



regard, school leadership becomes important because principals can facilitate the use of learner performance information, encourage feedback, support teacher reflection, and create conditions for assessment evidence to inform instructional decision-making.

In Africa, the importance of formative assessment is similarly recognized within efforts to improve teaching quality and learning outcomes. However, evidence indicates that implementation remains constrained by teacher capacity, resources, workload, and limited professional support. In Ghana, Asare and Afriyie (2023) found that despite the recognized benefits of formative assessment, teachers experienced barriers that created a gap between the intended use of formative assessment and its actual classroom implementation. In Uganda, UNICEF (2023) reported that effective teacher assessment practices are important for supporting learner progression, while gaps in teachers' assessment knowledge and practices remain a concern. These African experiences suggest that effective formative assessment requires more than assessment instruments; it requires continuous professional support and school-level mechanisms that enable teachers to interpret and use assessment evidence effectively.

The Kenyan education system has similarly shifted towards competency-oriented education, increasing the importance of assessment practices that provide evidence of learners' developing competencies. Kenya's current education reforms emphasize Competency-Based Education (CBE), while Junior Schools form an important stage within the basic education structure. The Ministry of Education has continued to emphasize the implementation of CBE, and current government programmes specifically identify the need to strengthen conditions for effective delivery of CBE and competency-based assessment in Junior Schools (Ministry of Education, 2025). The Kenya Institute of Curriculum Development also provides curriculum and assessment-related resources for Junior School within the competency-based framework (Kenya Institute of Curriculum Development, 2017).

Within this context, formative assessment provides an important mechanism for translating CBE principles into classroom practice. Unlike assessment that primarily occurs at the end of instruction, formative assessment enables teachers to continuously monitor learner progress and use the resulting evidence to modify instruction. It therefore supports the CBE expectation that learners should progressively demonstrate competencies and receive feedback that enables improvement. Thangaraj (2021) argues that formative assessment enables teachers to identify learner difficulties and make timely instructional adjustments, while Kirwa et al. (2023) similarly associate assessment-driven feedback with evidence-based instructional decision-making and improved curriculum implementation. Thus, effective use of formative assessment may strengthen the alignment between teaching, learner progress, and curriculum expectations.

The role of principals in supporting formative assessment is particularly important within this emerging CBE context. Principals influence assessment practices through instructional supervision, review of learner performance data, feedback to teachers, encouragement of reflective practice, and provision of professional support. When principals use learner performance information to guide instructional supervision, teachers can identify areas of weakness, refine their teaching strategies, and provide appropriate interventions. Conversely, where assessment is treated mainly as a means of recording learner performance rather than as evidence for instructional improvement, its contribution to curriculum implementation may be limited. Ullah et al. (2021) emphasize that formative assessment becomes meaningful when feedback is used to adjust teaching and learning processes, highlighting the importance of connecting assessment evidence with instructional action.

Kenyan evidence provides some indication that assessment and supervision remain important challenges in the implementation of competency-oriented education. A recent study in Bomet County found that although teachers were generally familiar with the competency-based approach, deficiencies remained in pedagogical knowledge, resources, and professional development opportunities, with the study recommending regular supervision to support meaningful curriculum implementation (Keter & Wabuke, 2025). However, that study focused broadly on teacher preparedness rather than specifically examining how principals' formative assessment strategies relate to curriculum implementation. This distinction is important because teacher preparedness and principal-led assessment supervision represent different dimensions of curriculum implementation.

The issue is particularly relevant in Bomet County and Sotik Sub-County, where public Junior Schools are operating within the continuing transition to CBE. Bomet is among the counties targeted under current national interventions addressing equity and quality in Junior and Senior School education, with programmes focusing on improving school conditions and the effective delivery of CBE and competency-based assessment (Ministry of Education, 2024). Nationally, the scale of the Junior School system further underscores the importance of effective school-level instructional support. A current Ministry programme identifies approximately 78,000 teachers teaching in public Junior Schools and about 19,956 headteachers in Junior Schools, illustrating the substantial number of educators and school leaders responsible for translating the competency-based approach into classroom practice (Ministry of Education, 2025).

Despite these policy and institutional efforts, a specific empirical gap remains. Existing studies have established the importance of formative assessment for teaching and learning, while other Kenyan studies have examined curriculum implementation, teacher



preparedness, or assessment practices. However, limited empirical attention has been given to the relationship between principals' formative assessment strategies and curriculum implementation in public Junior Schools, particularly within the CBE context. Much of the existing literature treats formative assessment primarily as a teacher-level classroom practice, with less attention to the role of principals in reviewing assessment evidence, providing feedback, promoting teacher self-assessment, and using assessment outcomes to support instructional improvement. Furthermore, evidence specific to Sotik Sub-County remains limited.

It is against this background that the study examined the relationship between principals' formative assessment strategies and curriculum implementation in public Junior Schools in Sotik Sub-County, Kenya. The study specifically considered principals' use of learner performance data, feedback to teachers, promotion of teacher self-assessment, performance appraisal feedback, and the use of assessment outcomes to provide targeted instructional support.

2. LITERATURE REVIEW

2.1 Theoretical Review

This study was anchored on Transformational Leadership Theory. The theory was originally advanced by Burns (1978) and subsequently developed by Bass (1985) and Bass and Avolio (1994), explains how leaders influence followers to move beyond routine expectations towards improved individual and organizational performance. Burns distinguished transformational leadership from transactional leadership by emphasizing leaders' ability to elevate followers' motivation, values, and commitment to shared organizational goals. Bass later operationalized the theory around four major dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Ellen, 2018).

The theory assumes that organizational improvement is achieved when leaders inspire a shared vision, stimulate new ways of thinking, and provide individualized support that enables followers to develop their capabilities. Idealized influence emphasizes the leader's role as a model of desired practices; inspirational motivation involves communicating clear expectations and a shared vision; intellectual stimulation encourages followers to question established practices and develop innovative solutions; while individualized consideration focuses on the professional and developmental needs of individual followers. Bass and Avolio's work further established these dimensions as central components of transformational leadership and linked them to organizational effectiveness and human-resource development (Bass, & Avolio, 1994).

The contribution of Transformational Leadership Theory to this study lies in its explanation of how principals can influence teachers' instructional practices through professional support, intellectual stimulation, shared expectations, and continuous development. In a CBE environment, teachers are expected to use assessment information continuously to monitor learner progress, provide feedback, identify learning difficulties, and modify instruction accordingly. Principals who stimulate teachers to examine learner performance data, reflect on instructional practices, and adopt assessment-informed teaching approaches therefore perform a transformational leadership function. The theory consequently provides a basis for understanding why principals' support for formative assessment may contribute to more effective curriculum implementation.

The theory is particularly relevant to the present study because formative assessment requires more than the mechanical administration of tests. It requires teachers to interpret evidence of learning, reflect on instructional effectiveness, provide timely feedback, and adjust teaching approaches. These practices are consistent with intellectual stimulation, while the professional guidance and individualized support provided by principals correspond with individualized consideration. Transformational leadership therefore provides an appropriate theoretical lens for examining the relationship between principals' use of formative assessment strategies and CBE curriculum implementation in public junior secondary schools in Sotik Sub-County.

The theory nevertheless has a limitation. Its emphasis on leadership influence and motivation may give insufficient attention to structural constraints such as workload, teacher shortages, resources, assessment demands, and institutional capacity that may also shape curriculum implementation. Moreover, transformational leadership does not by itself explain the technical processes through which formative assessment is conducted. Nevertheless, its emphasis on professional growth, innovation, intellectual stimulation, and individualized support makes it a suitable theoretical foundation for examining how principals can facilitate assessment-informed instructional practice and, consequently, CBE curriculum implementation.

2.2 Review of Related Literature

Formative assessment is a continuous instructional process through which evidence of learners' progress is generated, interpreted, and used to provide feedback and modify teaching and learning. Its significance within Competency-Based Education (CBE) arises from the emphasis placed on continuous demonstration and development of competencies rather than reliance on end-point examinations. Formative assessment enables teachers to identify learning difficulties, provide timely feedback, adjust instructional strategies, and support learners according to their emerging needs. Thangaraj (2021) emphasizes that formative assessment facilitates the identification



of learning difficulties during instruction and allows appropriate instructional adjustments. Similarly, Kirwa et al. (2023) demonstrate that formative feedback can provide evidence for instructional decision-making and contribute to curriculum effectiveness. Thus, within CBE, formative assessment represents an important mechanism through which curriculum intentions are translated into responsive classroom practices.

International literature generally supports the contribution of formative assessment to teaching and learning, although its implementation is influenced by teachers' assessment knowledge, institutional support, and the instructional context. Ullah et al. (2021) explain that formative assessment becomes effective when evidence of current learner performance is compared with expected learning standards and subsequently used to guide improvement. This perspective shifts formative assessment from simply administering tests to using assessment information as an integral part of instructional decision-making. Gerzon and Jones (2020) similarly emphasize the importance of school leadership in establishing the conditions necessary for formative assessment to become embedded in everyday teaching. They identify leadership practices such as developing a shared understanding of formative assessment, communicating expectations, facilitating professional learning, and creating a school culture in which evidence and feedback are used to improve practice. This suggests that effective formative assessment is partly dependent on the extent to which school leaders institutionalize and support its use.

Evidence from African education systems further demonstrates both the potential and challenges associated with formative assessment under competency-based curricula. In Ethiopia, Figa et al. (2020) found that formative assessment practices in public secondary schools were inconsistently implemented, with teacher competence, inadequate instructional materials, large classes, and other contextual constraints affecting implementation. The study is important because it demonstrates that the presence of formative assessment policies does not automatically result in effective curriculum implementation. Rather, the quality of implementation depends on teachers' capacity and the institutional conditions in which assessment occurs.

Comparable concerns have emerged in Uganda following the adoption of competency-based education at the lower-secondary level. Nakawuki et al. (2025) found that teachers' knowledge of CBE formative assessment practices remained an important concern in selected public secondary schools in Mpigi District. The study emphasized the need for teachers to understand how formative assessment practices can be integrated into competency-based teaching. In a related study, Nakawuki et al. (2025) examined teachers' proficiency in designing CBE formative assessment tools and reported challenges associated with teachers' ability to develop assessment tools that adequately reflect competency-based learning requirements. These findings are particularly relevant to the present study because they demonstrate that the effectiveness of competency-based curriculum implementation depends not only on the existence of assessment requirements but also on the capacity of schools and teachers to operationalize formative assessment.

Evidence from Uganda also indicates that assessment remains one of the challenging components of competency-based curriculum implementation. Atibuni et al. (2024), examining competency-based assessment following the introduction of lower-secondary CBE in Uganda, observed tensions between the competency-based approach and traditional assessment practices that emphasize recall and examination performance. This finding reinforces the argument that effective CBE implementation requires a shift from assessment primarily used for grading toward assessment used continuously to inform learning and instructional improvement.

Kenyan evidence similarly demonstrates the centrality of formative assessment to competency-based education. Macheso et al. (2024), examining competency-based assessment in selected Kenyan schools, found that the implementation of competency-based assessment involves the use of different assessment tools and approaches intended to monitor learner competencies. Their study emphasizes the transition from traditional assessment practices toward approaches more consistent with competency-based learning. However, the study primarily examined the extent and types of competency-based assessment tools used rather than the relationship between principals' supervision of formative assessment and overall curriculum implementation.

Kirwa et al. (2023) provide more direct Kenyan evidence by examining formative assessment and implementation of the English curriculum in public lower-primary schools in Nandi Sub-County. Their findings demonstrated that formative feedback supported instructional decision-making and was positively associated with curriculum effectiveness. The study provides important evidence that assessment information can facilitate curriculum implementation within the Kenyan competency-based education context. Nevertheless, its focus on lower-primary education and a single subject limits the extent to which its findings can be generalized to public junior schools implementing the broader CBE curriculum.

Other Kenyan studies have examined the relationship between instructional supervision and curriculum implementation, providing indirect support for the importance of principals' supervisory roles. Ekiru et al. (2021), for example, found that headteachers' supervision functions were relevant to curriculum implementation in public primary schools in Turkana South Sub-County. Similarly, Chepkuto et al. found that instructional supervision influences curriculum implementation in Kenyan public secondary schools in the North Rift



region. Akoth (2023) also examined headteachers' instructional supervisory practices and CBE implementation in public primary schools in Kisumu West Sub-County, including supervision of teachers' assessment practices. Although these studies establish the broader importance of instructional supervision, they generally examine supervision as a composite construct rather than isolating principals' use of formative assessment strategies as a specific supervisory practice.

The importance of the principal's role is further supported by evidence that school leadership creates the organizational conditions within which formative assessment can become part of routine instructional practice. Principals can influence formative assessment through monitoring teachers' assessment practices, reviewing learner-performance information, facilitating professional discussions, encouraging reflective practice, and ensuring that assessment results inform subsequent instruction. Gerzon and Jones (2020) argue that leadership is critical for creating the professional culture and structures necessary for sustained formative assessment. This is consistent with the broader Kenyan evidence showing that school leaders have significant responsibilities for supervising curriculum implementation and supporting teachers' instructional practices. For example, studies of principals' instructional supervision in Kenya have identified supervision of professional records, classroom practices, and teacher support as important components of curriculum implementation.

The emerging junior-school context makes this relationship particularly important. Kenya's competency-based education reforms require assessment to support the monitoring of learner progress and identification of learning gaps. The Kenya National Examinations Council's assessment framework, for example, recognizes assessment as a mechanism for monitoring competency acquisition, identifying learning gaps, and informing interventions as learners progress through the education system. At the same time, research on the implementation of competency-based education in Kenyan junior schools indicates that the transition has introduced new demands on teachers and school leaders, particularly regarding learner-centred pedagogy, assessment, resources, and instructional support. Mackatiani et al. (2023) identify implementation challenges within Kenya's junior-school CBE context, reinforcing the need to examine school-level factors that facilitate effective curriculum implementation.

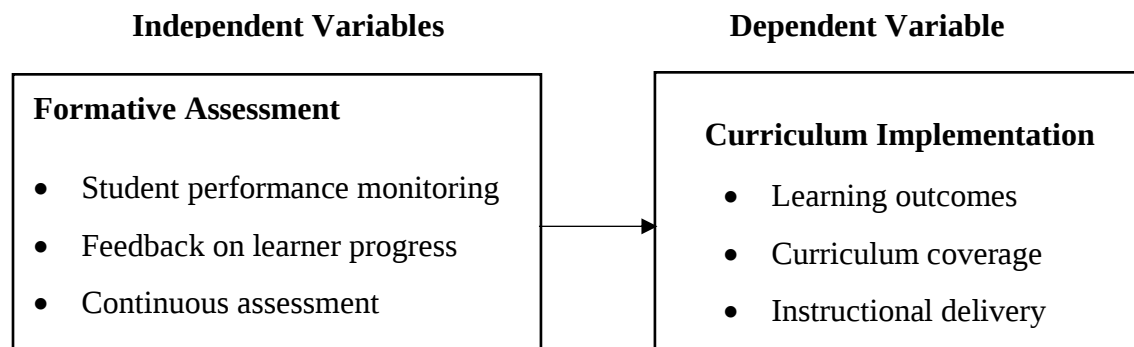
The reviewed literature generally establishes that formative assessment can strengthen curriculum implementation by providing continuous evidence of learner progress, facilitating timely feedback, and enabling teachers to modify instruction. Evidence from Ethiopia, Uganda, and Kenya further shows that the implementation of formative assessment under competency-based education is affected by teacher preparedness, assessment literacy, institutional support, and the capacity of schools to move away from traditional assessment practices. However, the evidence remains fragmented in three important respects. First, much of the Kenyan literature has focused on primary schools, individual subjects, or the general use of competency-based assessment, with limited empirical evidence from public junior schools. Second, existing studies have predominantly examined teachers' assessment practices or competencies rather than the role of principals in supervising and institutionalizing formative assessment. Third, relatively few studies have statistically established the extent to which principals' use of formative assessment strategies is associated with overall CBE curriculum implementation. The present study addresses this gap by examining the relationship between principals' use of formative assessment strategies and CBE curriculum implementation in public junior schools in Sotik Sub-County, Kenya.

3. CONCEPTUAL FRAMEWORK

The conceptual framework provides a visual representation of the presumed relationship between the study variables, based on the theoretical propositions and empirical evidence reviewed in the preceding sections. In this study, formative assessment is conceptualized as the independent variable, while curriculum implementation constitutes the dependent variable. The framework illustrates how systematic use of formative assessment practices may support effective curriculum implementation through continuous monitoring of learner progress, provision of feedback, teacher reflection, and instructional adjustment.

Figure 2.1: Conceptual Framework

Source: Adapted and modified from Cogan's (1973) Clinical Supervision Model and the empirical literature reviewed in this study





4. METHODOLOGY

The study adopted a convergent mixed-methods design, integrating a quantitative correlational component with qualitative interviews to examine the relationship between principals' use of formative assessment strategies and curriculum implementation in public junior secondary schools in Sotik Sub-County, Bomet County, Kenya. The study targeted 1,130 respondents comprising 118 principals and 1,012 teachers from 118 public junior secondary schools. Using Yamane's (1967) formula at a 5% margin of error, a sample of 295 respondents was obtained, comprising 31 principals and 264 teachers. Principals were purposively selected, while teachers were selected through proportionate and simple random sampling. Quantitative data were collected from teachers using a structured questionnaire measured on a five-point Likert scale, with items covering formative assessment practices and curriculum implementation. Qualitative data were obtained through semi-structured interviews with principals to provide contextual explanations of formative assessment practices. The instruments were reviewed by experts to establish content, construct, and face validity, while test-retest reliability produced coefficients ranging from $r = .796$ to $.863$, indicating satisfactory temporal stability. Quantitative data were analyzed using descriptive statistics, Pearson's correlation coefficient, and multiple linear regression, while qualitative interview data were analyzed thematically and used to complement the quantitative findings. The statistical analysis tested the relationship between formative assessment and curriculum implementation at the 0.05 significance level. Ethical approval and research authorization were obtained from the relevant Kenyan authorities, including NACOSTI, and participation was voluntary, with informed consent, confidentiality, and anonymity maintained throughout the study.

5. RESULTS AND DISCUSSION

This section presents the findings on the relationship between formative assessment and curriculum implementation in public junior secondary schools in Sotik Sub-County, Kenya. Quantitative data were analysed using descriptive statistics, Pearson correlation, and simple linear regression, while qualitative interview data were analysed thematically and integrated with the quantitative findings to provide contextual interpretation.

5.1 Descriptive Statistics on the relationship between formative assessment and curriculum implementation

This section presents the respondents' views on the relationship between formative assessment and curriculum implementation. The responses were measured using a five-point Likert scale, and the results are summarized in Table 1, which presents the frequencies, percentages, means, and standard deviations.

Table 1: Frequencies, mean and standard deviation for Formative Assessment and Curriculum Implementation

Statement	SD	D	U	A	SA	Mean	Std. Dev
The principal regularly reviews student performance data to guide instructional supervision and improve curriculum implementation	15 (5.2%)	11 (3.8%)	21 (7.3%)	125 (43.4%)	116 (40.3%)	4.10	1.04
Feedback provided by the principal based on student performance data helps teachers refine their teaching strategies	12 (4.2%)	9 (3.1%)	21 (7.3%)	121 (42.0%)	125 (43.4%)	4.17	0.99
The principal encourages teachers to engage in self-assessment as part of instructional supervision	104 (36.1%)	105 (36.5%)	40 (13.9%)	15 (5.2%)	24 (8.3%)	2.13	1.20
Self-assessment plays a crucial role in identifying areas for improvement in curriculum delivery	7 (2.4%)	28 (9.7%)	35 (12.2%)	140 (48.6%)	78 (27.1%)	3.88	0.99
Feedback from performance appraisals helps align teaching practices with curriculum objectives	20 (6.9%)	67 (23.3%)	57 (19.8%)	102 (35.4%)	42 (14.6%)	3.27	1.17
The principal uses performance appraisal outcomes to provide targeted support for improving curriculum implementation	16 (5.6%)	10 (3.5%)	33 (11.5%)	124 (43.1%)	105 (36.5%)	4.01	1.06



The findings indicate that formative assessment practices play a significant, though uneven, role in supporting curriculum implementation. The majority of respondents acknowledged that principals actively utilize student performance data to guide instructional supervision, with 125 (43.4%) agreeing and 116 (40.3%) strongly agreeing, yielding a high mean score of 4.10 (SD = 1.04). Only 26 (9.0%) expressed disagreement, while 21 (7.3%) remained undecided. This suggests that data-driven supervision is widely practiced and valued in enhancing curriculum delivery.

Similarly, feedback derived from student performance data was strongly endorsed, with 121 (42.0%) agreeing and 125 (43.4%) strongly agreeing, accounting for 85.4% positive responses and a mean score of 4.17 (SD = 0.99). This indicates that teachers perceive data-informed feedback as highly effective in refining instructional strategies. This finding aligns with Ullah et al., (2021) who emphasize that formative assessment becomes meaningful when feedback is used to adjust teaching and learning processes to meet learners' needs. However, a contrasting pattern emerged regarding teacher self-assessment. A substantial proportion of respondents, 104 (36.1%) strongly disagreed and 105 (36.5%) disagreed, resulting in 72.6% negative responses and a low mean score of 2.13 (SD = 1.20). This suggests that principals rarely encourage self-assessment as part of instructional supervision. Despite this, when self-assessment is perceived in practice, it is viewed positively, with 140 (48.6%) agreeing and 78 (27.1%) strongly agreeing that it helps identify areas for improvement (mean = 3.88, SD = 0.99). This inconsistency implies a gap between policy intention and implementation practice. The finding resonates with Figa et al., (2020) who reported inconsistencies in the application of formative assessment strategies due to limited teacher competencies and systemic constraints.

The role of performance appraisal feedback in aligning teaching practices with curriculum objectives received moderate support. While 102 (35.4%) agreed and 42 (14.6%) strongly agreed, a notable proportion 67 (23.3%) disagreed and 20 (6.9%) strongly disagreed, with 57 (19.8%) undecided. The resulting mean score of 3.27 (SD = 1.17) suggests variability in the effectiveness of appraisal systems. This finding reflects concerns raised by Abelha et al., (2020) who found that appraisal systems may be perceived as ineffective when they are not clearly linked to professional development or career progression.

Conversely, the use of performance appraisal outcomes to provide targeted support was positively rated, with 124 (43.1%) agreeing and 105 (36.5%) strongly agreeing, yielding a mean score of 4.01 (SD = 1.06). This indicates that, despite some reservations about appraisal processes, their outcomes are effectively utilized to enhance curriculum implementation. This finding is consistent with Kirwa et al., (2023) who established that feedback from assessment processes supports informed decision-making and improves instructional practices.

These findings suggest that while data-driven feedback and targeted support are well established and effective, gaps remain in the consistent application of self-assessment and the perceived effectiveness of appraisal systems. These results support the argument by Thangaraj (2021) that formative assessment is most effective when it is continuous, participatory, and directly linked to instructional improvement. Similarly, Mugweru (2020) underscores the importance of transparency and teacher involvement in enhancing the effectiveness of formative assessment practices.

To complement the quantitative findings, qualitative data from principals' interviews were analyzed thematically to provide deeper insights into the role of formative assessment in curriculum implementation. During the interview the following themes emerged: use of formative assessment data in decision-making, strategies for integrating formative assessment, and perceived impact on curriculum implementation and learner outcomes.

On the use of formative assessment data in instructional decision-making, majority of the principals consistently reported that student performance data plays a central role in guiding instructional supervision and improving curriculum implementation. Most indicated that they regularly analyze results from continuous assessment tests, class assignments, and classroom activities to identify learning gaps and inform targeted interventions.

One principal explained:

"We review assessment results at the end of every topic. This helps us identify weak areas and advise teachers on where to put more emphasis."

Another principal noted:

"Formative assessment data guides our discussions during departmental meetings. Teachers are able to adjust their teaching based on the performance trends."

These responses support the quantitative findings, which showed that a majority of teachers agreed that principals regularly review student performance data and use it to guide instructional supervision. The qualitative evidence further demonstrates that data-driven decision-making is actively practiced and contributes to more responsive curriculum implementation.



Regarding strategies, principals highlighted several approaches used to support teachers in integrating formative assessment into their instructional practices. These included continuous assessment tests, oral questioning, classroom discussions, peer assessment, and project-based evaluation. Principals also emphasized the importance of aligning assessment methods with competency-based Education requirements.

One principal stated that:

“We encourage teachers to use different assessment methods, not just exams. Group work, discussions, and projects help learners demonstrate competencies.”

Another principal added that:

“Teachers are advised to give regular feedback and involve learners in assessing their own work, although this is not always fully implemented.”

These responses indicate awareness of diverse formative assessment strategies. They also highlight inconsistencies in implementation, particularly in relation to self-assessment. This supports the quantitative findings, where a large proportion of teachers indicated that principals do not strongly promote self-assessment despite its perceived benefits.

On the impact of formative assessment on curriculum implementation and learning outcomes, most principals generally agreed that formative assessment has a positive impact on both curriculum implementation and student learning outcomes. They noted that continuous feedback enables teachers to adjust instructional methods, while learners become more engaged and aware of their progress.

One principal remarked:

“When teachers use continuous assessment effectively, learners improve gradually because they receive feedback early and can correct their mistakes.”

Another one shared that:

“We have seen improvement in subjects where teachers consistently use formative assessment. It helps track progress and ensures the syllabus is covered effectively.”

These views align with the quantitative findings, which indicated strong agreement that feedback based on student performance data helps refine teaching strategies and improve curriculum delivery. The qualitative findings further illustrate that formative assessment enhances not only instructional effectiveness but also learner engagement and achievement.

The integration of qualitative and quantitative findings reveals a consistent pattern. While data-driven supervision and feedback mechanisms are well established and highly valued, there are gaps in the consistent application of certain formative practices, particularly teacher self-assessment. The interviews provide important context by showing that although principals recognize the value of participatory assessment approaches, their implementation is often constrained by practical and attitudinal factors

5.2 Correlation analysis

Table 2: Correlation Analysis

		Formative Assessment	Curriculum Implementation
Formative Assessment	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	288	
Curriculum Implementation	Pearson Correlation	.661**	1
	Sig. (2-tailed)	.000	
	N	288	288

The findings presented in Table 2 reveal that formative assessment had a positive relationship with curriculum implementation ($r = 0.661$, $p < 0.01$). This finding indicates that schools that effectively utilize formative assessment practices tend to achieve higher levels of curriculum implementation. The strong association suggests that continuous learner assessment, timely feedback, and instructional adjustments enable teachers to identify learning gaps and respond appropriately to learners' needs. The implication of this finding is that formative assessment serves as a powerful mechanism for improving instructional effectiveness and ensuring that curriculum objectives are achieved. This finding is consistent with Thangaraj (2021), who emphasized that formative assessment enhances teaching and learning by identifying learner difficulties and guiding instructional improvement. Similarly, Kirwa et al. (2023) established that formative assessment provides critical feedback that informs instructional decisions and strengthens curriculum implementation.



5.3 Regression Analysis

Regression analysis was conducted to determine the extent to which formative assessment predicts curriculum implementation. The results are presented under the model summary, ANOVA, and coefficients tables.

Table 3: Model Summary for Formative Assessment

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.661	0.437	0.435	0.52821

a. Predictors: (Constant), Formative Assessment

The model summary indicates a strong positive relationship between formative assessment and curriculum implementation, as shown by an R value of 0.661. The model explained a substantial proportion of the variance in curriculum implementation, with formative assessment accounting for 43.7% of the observed variation ($R^2 = .437$; adjusted $R^2 = .435$). This indicates that formative assessment is a significant predictor of curriculum implementation.

Table 4: ANOVA for Formative Assessment

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	62.016	1	62.016	222.278	.000 ^b
	Residual	79.794	286	.279		
	Total	141.810	287			

a. Dependent Variable: Curriculum Implementation

b. Predictors: (Constant), Formative Assessment

The ANOVA results show that the regression model was statistically significant, $F(1, 286) = 222.278$, $p < .001$, indicating that formative assessment significantly predicted curriculum implementation.

Table 5: Coefficients for Formative Assessment

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.269	0.174		7.300	0.000
	Formative Assessment	0.709	0.048	0.661	14.909	0.000

a. Dependent Variable: Curriculum Implementation

The regression results indicate that formative assessment has a strong positive and statistically significant effect on curriculum implementation ($\beta = 0.447$, $p < 0.05$). This finding demonstrates that improvements in formative assessment was positively and significantly associated with curriculum implementation across schools. This finding led to the rejection of the null hypothesis that there is no statistically significant relationship between formative assessment and curriculum implementation in public junior secondary schools in Sotik Sub-County, Kenya. It implies that curriculum implementation is strengthened when instructional practice is continuously informed by learner performance evidence, rather than relying solely on end-point evaluation. This result points to the functional role of formative assessment as an embedded instructional mechanism that supports alignment between teaching, learning, and curriculum expectations. In this regard, schools that systematically apply continuous assessment, feedback, and instructional adjustment are better positioned to enhance curriculum delivery outcomes.

Interview responses from principals provide contextual explanation for this statistical relationship. Principals indicated that learner performance data from class exercises, tests, and topic-based assessments is routinely reviewed to identify learning gaps and guide instructional adjustments. Departmental meetings were frequently cited as platforms where such data is analyzed to inform teaching strategies. One principal even noted that assessment results are used after each topic to determine areas requiring reinforcement, while another emphasized that instructional decisions are increasingly guided by observed performance trends. These accounts suggest that formative assessment is operationalized as a decision-support tool within instructional supervision processes.

However, the qualitative evidence also indicates uneven implementation of participatory assessment practices, particularly learner self-assessment. While principals acknowledged the use of multiple assessment strategies, they noted that learner involvement in evaluating their own learning remains limited. This points to partial implementation of formative assessment principles, where teacher-led assessment dominates over learner-centered assessment practices.

The results align with Thangaraj (2021), who argues that formative assessment enhances instructional effectiveness by enabling timely identification of learner difficulties. Kirwa et al. (2023) similarly establish that assessment-driven feedback strengthens curriculum



implementation through evidence-based instructional adjustment. Ullah et al. further reinforce that formative assessment improves teaching effectiveness by enabling continuous instructional refinement based on learner progress.

6. CONCLUSION AND RECOMMENDATIONS

6.1 Conclusions

This study examined the relationship between formative assessment and curriculum implementation in public junior secondary schools in Sotik Sub-County, Kenya. The findings revealed a strong, positive, and statistically significant relationship between formative assessment and curriculum implementation. Regression analysis further established that formative assessment was a significant predictor of curriculum implementation, explaining a substantial proportion of variation in curriculum implementation outcomes.

The findings demonstrate that the contribution of formative assessment to curriculum implementation lies not merely in assessing learner achievement, but in the extent to which assessment information is systematically translated into instructional action. The regular use of learner performance data, timely feedback, and subsequent adjustment of teaching strategies emerged as important practices supporting curriculum delivery. Thus, formative assessment functions as an evidence-based mechanism through which instructional practices can be continuously aligned with learner needs and curriculum expectations.

However, the findings also revealed uneven implementation of formative assessment practices. While the use of learner performance data and feedback was relatively well established, teacher self-assessment and reflective practice received comparatively limited emphasis. This suggests that formative assessment remains predominantly teacher- and administrator-driven, with its participatory and reflective dimensions insufficiently integrated into instructional supervision. Overall, the study concludes that effective curriculum implementation depends not simply on the collection of assessment information, but on the capacity of schools to interpret that information and translate it into feedback, reflection, and appropriate instructional adjustment.

6.2 Recommendations

First, the Ministry of Education and the Teachers Service Commission should strengthen institutional support for formative assessment in junior secondary schools. The Ministry of Education should provide clearer implementation guidance on the systematic use of learner performance information to support curriculum delivery, while the Teachers Service Commission should strengthen continuous professional development programmes on formative assessment, interpretation of learner performance data, constructive feedback, and evidence-based instructional decision-making.

Second, school principals and other instructional leaders should institutionalise regular mechanisms for reviewing and utilising learner performance data. Assessment results should be systematically discussed through departmental meetings, subject panels, and other professional forums to identify learning gaps and guide appropriate instructional interventions. Feedback generated through assessment should also be translated into developmental support for teachers rather than being used primarily for performance monitoring.

Third, principals and teachers should strengthen self-assessment and reflective practice as integral components of formative assessment. Principals should incorporate structured self-evaluation and professional reflection into instructional supervision, while teachers should use evidence from learner performance to critically examine their instructional practices and identify areas requiring improvement. Strengthening this participatory dimension would help address the gap identified in the study and promote a more comprehensive and developmental approach to formative assessment.

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