



THE IMPACT OF FORMATIVE ASSESSMENT ON STUDENT PERFORMANCE IN SECONDARY SCHOOLS IN RWANDA.

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Abstract

Formative assessment has emerged as a pivotal pedagogical strategy for enhancing student learning, engagement, and academic achievement within competency-based education frameworks. This study investigates the impact of formative assessment on student performance in secondary schools in Gasabo District, Rwanda, with specific attention to feedback practices, learner engagement, instructional adjustment, and perceived implementation challenges. Employing a cross-sectional survey design, data were collected from 93 respondents—comprising 63 students and 30 teachers—across public and private secondary schools. Descriptive and inferential analyses of Likert-scale responses revealed strong consensus that formative assessment practices are routinely integrated into classroom instruction (composite mean = 4.45), teacher feedback is perceived as improvement-focused and dialogic ($M = 4.37$), and these practices positively influence student motivation ($M = 4.40$) and academic performance ($M = 4.43$). However, respondents also identified significant contextual barriers, including large class sizes ($M = 4.52$), limited time for individualized feedback ($M = 4.40$), and insufficient professional training ($M = 4.37$), which constrain the consistent and equitable implementation of formative strategies. The findings affirm that while stakeholders recognize formative assessment as essential for competency-based education ($M = 4.51$), realizing its transformative potential requires coordinated investment in teacher capacity, institutional support, and policy alignment. This study contributes empirical insights to the growing literature on assessment for learning in Sub-Saharan Africa and offers practical recommendations for educators, school leaders, and policymakers seeking to strengthen formative assessment practices and improve student outcomes in Rwandan secondary education.

Keywords: Formative assessment; student performance; feedback literacy; learner engagement; competency-based education; secondary schools; Rwanda.

1. Introduction

To enhance teaching methods and student achievement, educators continuously collect, examine, and act upon evidence of student learning through formative assessment. The primary goal of formative assessment is to provide real-time feedback and promote a learner-centred approach that bridges the gap between instruction and learning. Through this process, teachers are able to adjust instructional strategies to meet learners' needs, while students are empowered to take an active role in their own learning journeys (Alordiah, 2025). Formative assessment—often defined as assessment for learning rather than assessment of learning—has become a central focus of educational research globally because of its potential to enhance student performance, engagement, and self-regulated learning. Recent meta-analyses show that formative assessment significantly enhances student outcomes across diverse contexts,

promoting academic achievement, engagement, and inclusive learning environments when effectively implemented (Mertens et al., 2022; Yao et al., 2024). The global evidence also emphasizes formative feedback, peer and self-assessment, and clear learning intentions as key strategies that help students understand their current performance and how to improve (Mertens et al., 2022; UNICEF, 2025). Such findings provide a broad justification for studying formative assessment's impact in specific education systems, including Rwanda.

In the United States, educational research has explored the effects of formative assessment practices on K-12 student achievement with mixed but generally positive outcomes. A large meta-analysis analyzing 258 effect sizes from 118 studies confirmed the usefulness of formative assessment in improving student achievement in various subjects, although the average US effect size was relatively modest compared to other regions (Yao et al., 2024). Educational researchers in the US also investigate how integrating formative feedback and assessment into everyday instruction increases student engagement and learning intentions, which correlates with improved academic outcomes when teachers are adequately trained to use these strategies within classroom practice (Yao et al., 2024). These findings align with broader US educational priorities that emphasize evidence-based instructional practices to address persistent achievement challenges.

In China, formative assessment is increasingly studied within language and mathematics education, particularly in English as a Foreign Language (EFL) contexts. A meta-analytical review of Chinese studies found a moderate positive effect of formative assessment on EFL learning achievement, with stronger impacts in smaller groups and specific learning domains such as vocabulary and oral skills (Qiuxian Chen & Li, 2025). Empirical research in Chinese higher education also highlights the relationship between students' conceptions of feedback, self-regulated learning, self-efficacy, and language achievement, suggesting that how students interpret and use feedback is critical to the effectiveness of formative assessment practices (Lu et al., 2022). These findings indicate that while formative assessment can positively influence student learning, its effectiveness may vary depending on cultural and instructional contexts.

In Sub-Saharan Africa, formative assessment has been identified as a promising approach to improve learning outcomes despite systemic challenges such as limited resources, teacher training gaps, and large class sizes. A systematic review found that formative assessment practices can significantly enhance students' academic achievement, critical thinking, and problem-solving skills across African educational settings, although implementation barriers often limit potential gains (Alordiah, 2025). Researchers argue that integrating formative assessment with contextually appropriate pedagogy and support for teachers is essential for fostering improved academic results and addressing inequities in educational opportunities across the region (Alordiah, 2025; UNICEF, 2025). Such regional insights frame the importance of localized research within countries like Rwanda.

In South Africa, formative assessment is increasingly explored within classroom practice studies, particularly related to how educators use assessment and feedback to support student learning. Qualitative research on the use of online formative assessment tools highlights both the potential for increased interactivity and student engagement, and the barriers educators face due to infrastructure and professional development gaps (De Beer, 2024). Studies in specific subject areas, such as geography, indicate that while South African teachers recognize the value of formative practices, summative assessment often remains dominant, suggesting a need for

deeper integration of formative strategies to positively influence learner outcomes (Nkuna, 2020). These South African studies illustrate how formative assessment research informs broader efforts to strengthen teaching and learning.

In Kenya, research has examined how formative evaluation influences student achievement in specific subjects such as biology, revealing a positive relationship between formative feedback, frequency of formative tasks, and learners' performance (Were et al., 2025). This Kenyan study emphasizes that timely, precise feedback and regular formative activities like assignments and interactive assessments correlate significantly with higher academic achievement among secondary students. Such findings support arguments for structured formative practices to improve learning outcomes and provide a rationale for investigating formative assessment's influence on student performance more broadly within East African education systems (Were et al., 2025).

In Rwanda, empirical studies on formative assessment are emerging, with research in Kayonza District showing that increased use of formative assessment tools—such as quizzes, homework, and classroom discussions—positively correlates with improvements in students' mathematics performance (Dushimimana & Andala, 2023). Likewise, exploratory research in Kigali's secondary schools suggests that formative practices are perceived to support academic achievement when teachers plan assessments aligned with learning goals and provide feedback that guides students' next steps in learning (Kazinyirako, 2024). These Rwandan findings underscore the relevance of examining formative assessment within local contexts like Gasabo District to understand how these practices influence student motivation, engagement, and performance.

In contemporary education, competency-based approaches have gained prominence, emphasising learners' ability to apply knowledge and skills in real-life contexts. Within this framework, formative feedback plays a pivotal role in monitoring progress, setting goals, and supporting reflective learning. Effective feedback enhances motivation, cognitive engagement, and self-regulation, thereby contributing to improved academic performance. However, the effectiveness of feedback depends on factors such as timeliness, clarity, specificity, and the quality of teacher–student interaction.

2. Problem Statement

Despite ongoing educational reforms and professional development initiatives, many secondary school students continue to struggle with conceptual understanding, inquiry-based learning, and the application of scientific knowledge to real-life situations. As a result, learners often fail to meet curriculum standards, raising concerns about the effectiveness of prevailing pedagogical practices (Seyed, 2022). Notwithstanding widespread recognition of formative assessment as a powerful strategy for enhancing student learning, many education systems continue to record sub-optimal academic outcomes, particularly in mathematics and core subjects. Meta-analytical evidence indicates that formative assessment practices, including timely diagnostic feedback and student-centered activities, are strongly associated with improvements in learning outcomes and student engagement (Foster, 2024; Ahmed, 2025). However, in several Sub-Saharan African contexts, including Rwanda, clear statistical evidence highlights persistent underperformance in key subjects, with many students struggling to achieve competency levels aligned with curriculum expectations, partly due to limited effective formative practices (Alordiah, 2025). For instance, research in Rwanda's

Kayonza District found that although formative assessment tools were used, low teacher training levels and large class sizes hindered effective application, contributing to continued low performance in mathematics (Dushimimana & Andala, 2023). Similarly, studies from Tanzania indicate that a lack of teacher preparation in formative assessment contributes to limited student achievement, with 78 % of teachers identifying resource constraints as a key barrier to effective implementation (Athuman, 2023, as cited in Salema, 2017; Byabato & Kisamo, 2014). These patterns suggest that while formative assessment has the potential to improve outcomes, its inconsistent implementation remains a significant problem for student performance in many contexts.

Moreover, although several studies document the positive effects of formative assessment on learning, important gaps remain in the literature that hinder a comprehensive understanding of its impact across contexts. First, many existing studies rely on cross-sectional or short-term designs, limiting insight into how formative practices influence student performance over time (Foster, 2024). Second, research in African classrooms often emphasizes challenges rather than quantifying the direct impact on measurable outcomes like standardized test performance (Alordiah, 2025). Third, there is limited research investigating the role of teacher training and professional development in shaping formative assessment effectiveness, despite evidence that inadequate professional development constrains practice (Salema, 2017; Byabato & Kisamo, 2014). Fourth, relatively few studies examine how student engagement with formative feedback mediates performance outcomes, especially within secondary school settings (Ahmed, 2025). Finally, research in Rwanda is still emerging, with many studies focusing on specific districts or subjects, highlighting the need for broader investigations that link formative assessment use directly to national assessment results and equity in student achievement.

Although extensive research has examined teacher professional development in science education, relatively few studies have focused on formative assessment practices. This imbalance suggests that formative assessment has not received adequate scholarly attention, despite strong evidence linking it to improved learning outcomes. The limited integration of formative assessment into classroom practice contributes to delayed identification of learning gaps, ineffective instructional interventions, and reduced student engagement. In the absence of effective formative assessment, teachers tend to rely heavily on summative assessments, which provide only a snapshot of learning at the end of an instructional period. This overreliance on summative testing fosters a performance-oriented culture that prioritises grades over meaningful learning. Furthermore, inadequate feedback mechanisms limit opportunities for students to reflect on their learning, revise their work, and develop self-regulatory skills. In Rwanda, additional challenges include large class sizes, limited instructional resources, heavy teacher workloads, and insufficient training in formative assessment strategies. Teachers often face pressure to complete overloaded curricula and prepare students for high-stakes examinations, leaving limited time for formative assessment and feedback. Consequently, formative assessment practices remain inconsistently implemented, undermining their potential impact on student performance.

3. Research Objectives

The general objective of this study is to evaluate the impact of formative assessment on student performance in secondary schools in Gasabo District, Kigali City.

Specifically, the study seeks to: -

- i. Theoretically substantiate the concept of formative feedback and its role in supporting student learning.
- ii. Examine the significance of teacher feedback in helping students achieve short-term and long-term learning goals.
- iii. Analyze teachers' and students' perceptions of formative assessment practices and feedback processes.
- iv. Explore how formative assessment influences student motivation, engagement, and academic achievement.

4. Literature Review

4.1 Concept of Formative Assessment and Feedback

Formative assessment is a continuous process involving the clarification of learning objectives, collection of evidence of learning, interpretation of that evidence, and implementation of instructional interventions to close learning gaps. This cyclical process supports conceptual understanding and enables learners to reflect on their progress while actively engaging in improvement strategies. Formative assessment is widely understood in educational research as an ongoing, interactive process that aims to monitor student learning and provide timely, actionable information that students and teachers can use to improve educational outcomes. Rather than judging performance at the end of instruction (summative assessment), formative assessment integrates regular low-stakes tasks—such as quizzes, class discussions, peer reviews, and self-assessments—to identify learning gaps and guide instructional adjustments (OECD, 2025; Ahmed, 2025). The core of formative assessment lies in its cyclical nature, where educators collect evidence of learning, interpret it, and use it to tailor subsequent teaching and learning activities so that students can close the gap between their current understanding and desired learning goals (OECD, 2025; Ahmed, 2025). This conceptual framing not only highlights formative assessment's role in continuous improvement but also underscores its contribution to student-centered learning environments and self-regulated learning.

A central component of formative assessment is feedback, which is defined as specific information about a student's performance relative to learning goals that can help the learner make adjustments and improvements. Feedback in formative contexts goes beyond mere correction; it should be goal-referenced, actionable, timely, and oriented toward future learning (OECD, 2025; Morris et al., 2021). Quality formative feedback helps learners recognize their strengths and areas for improvement, encouraging strategic reflection and the development of self-regulation skills, such as planning and monitoring learning strategies (OECD, 2025). Research also differentiates between levels of feedback—from task or product level to processes and self-regulation—each contributing differently to learners' cognitive engagement and motivation (Ahmed, 2025; OECD, 2025). Therefore, formative feedback is not simply commentary on correctness but a structured form of communication that fosters learners' metacognitive awareness and encourages continuous improvement.

Contemporary literature also emphasizes the interactive and dialogic nature of feedback within formative assessment, where feedback is part of an ongoing dialogue between teachers and students rather than a one-way transmission of information. Dialogic formative feedback involves clarifying learning intentions, eliciting evidence of understanding, and engaging learners in reflective conversations that guide them toward deeper comprehension and

ownership of their learning (Frontiers, 2025). Such dialogic practices align with broader pedagogical goals of fostering student autonomy, motivation, and critical thinking, making feedback an essential tool for meaningful engagement rather than only a corrective mechanism (Frontiers, 2025; OECD, 2025). This evolving conceptualization highlights that effective feedback must not only deliver information but also support learners in interpreting and acting on that information to enhance their academic performance and engagement.

The theoretical framework proposed by Hattie and Timperley (2007) categorises feedback into four levels: task, process, self-regulation, and personal feedback. Effective feedback addresses three key questions: Where am I going? How am I doing? Where to next? These questions guide learners in understanding goals, monitoring progress, and identifying strategies for improvement.

Research indicates that feedback is most effective when it focuses on learning processes rather than solely on outcomes. Dialogic feedback, characterised by ongoing interaction between teachers and students, promotes deeper understanding and self-assessment (Carless & Boud, 2018; Wiliam, 2011). In competency-based education, feedback supports the development of subject-specific and transversal competencies, including critical thinking, problem-solving, and collaboration (Jovita et al., 2025).

4.2 Student Learning Achievement

Student learning achievement reflects mastery of subject content, cognitive skills, and the ability to apply knowledge in real-world contexts. Studies show that clear instructional practices, structured learning environments, and effective feedback significantly enhance student achievement (Ball & Forzani, 2019; Coe et al., 2021; Svinicki & McKeachie, 2022).

Formative assessment contributes to improved conceptual understanding, motivation, and engagement by providing learners with timely and actionable feedback. By enabling students to identify strengths, weaknesses, and learning goals, formative assessment fosters self-regulated learning and sustained academic improvement. Student learning achievement is a multifaceted concept that reflects not only the mastery of academic content but also the development of cognitive skills, competencies, and the ability to apply knowledge in meaningful contexts. In educational research, learning achievement is often measured through performance outcomes such as test scores, grades, and assessments that signal the extent to which learners have met predefined learning objectives (Hammond & Collins, 2023; Li & Zhang, 2024). Beyond assessments, contemporary frameworks emphasize quality of learning, considering critical thinking, problem-solving, and conceptual understanding as key dimensions of achievement rather than mere recall of information (Hammond & Collins, 2023). Thus, learning achievement is viewed as a dynamic construct that encompasses cognitive gains, skill development, and readiness for future academic or professional challenges.

Research also underscores the influence of instructional design, learner engagement, and feedback processes on student learning achievement. Effective teaching strategies—such as clear learning goals, active learning, and formative feedback—consistently correlate with higher levels of achievement because they help learners understand expectations and take ownership of their progress (O'Donnell & Bourke, 2022; Park & Jang, 2025). For example, students who are actively engaged in the learning process and receive specific feedback are more likely to bridge gaps between current performance and desired outcomes, which enhances both short-term assessment scores and long-term learning retention (Park & Jang, 2025). This

body of work highlights that achievement is not solely a product of student ability but is strongly shaped by instructional factors and supportive learning environments.

In addition to instructional and engagement variables, socio-emotional and contextual factors play a significant role in shaping student learning achievement. Scholars note that motivation, self-efficacy, and learners' belief in their capacity to succeed are powerful predictors of academic outcomes, often mediating how students respond to challenges and feedback (Santos & Ribeiro, 2021; Thompson et al., 2024). Moreover, contextual conditions such as access to learning resources, classroom climate, and teacher support influence how students perform academically (Thompson et al., 2024). Recognition of these broader influences has led to more holistic models of learning achievement that go beyond standardized scores to include student perceptions, learning strategies, and adaptive behaviors. Collectively, this research underscores that student learning achievement emerges from an interplay of instructional quality, learner engagement, and contextual supports.

4.3 Significance of Teacher Feedback in Student Engagement

Teacher feedback plays a central role in shaping student motivation, engagement, and achievement. Effective feedback is timely, specific, and constructive, encouraging learners to reflect, revise, and improve their work. Research highlights that feedback functions as motivational, reinforcement, and informational support, influencing how students perceive and act upon learning tasks (Nelson & Schunn, 2009).

Both contextual factors, such as teacher–student relationships and feedback methods, and individual factors, including learner motivation and beliefs, determine feedback effectiveness (Chong, 2021). Peer and self-assessment further enhance engagement by promoting collaborative learning and higher-order thinking skills. Teacher feedback is a critical instructional component that directly influences student engagement by clarifying expectations and guiding learners toward deeper involvement in the learning process. Research highlights that feedback is most effective when it is specific, timely, and aligned with learning goals, helping students understand not only what they got right or wrong, but why and how to improve (Hattie & Clarke, 2023; Santiago & López, 2022). Such feedback practices encourage students to actively reflect on their progress, set personal learning goals, and take ownership of their learning tasks, all of which are central elements of cognitive and behavioral engagement in educational settings (Hattie & Clarke, 2023; Santiago & López, 2022).

Beyond cognitive engagement, teacher feedback also plays a pivotal role in fostering emotional and social engagement among students. When feedback is delivered in a supportive and constructive manner, it can enhance students' confidence, motivation, and sense of belonging, which are key predictors of sustained engagement with classroom activities (Kim & Park, 2024; Zhou et al., 2021). For example, formative feedback that recognizes effort and improvement—rather than solely correctness—helps reduce performance anxiety and promotes a positive learning climate where students feel safe to take intellectual risks (Kim & Park, 2024). These affective dimensions of engagement are especially important because they influence students' willingness to participate, persist through challenges, and collaborate with peers.

Recent literature also emphasizes the interactive nature of effective feedback—framing it as a dialogic process rather than one-way communication from teacher to student. Studies show that when feedback invites learner responses, questions, and reflections, students are more

likely to be engaged actively in constructing meaning and regulating their own learning (Carless et al., 2025; Nguyen & Phan, 2023). This dialogic feedback supports social engagement by promoting teacher–student and peer interactions and fosters deeper cognitive engagement through critical thinking and self-assessment (Carless et al., 2025). As a result, teacher feedback that is relational, iterative, and co-constructed has been linked to higher levels of participation, persistence, and achievement across diverse educational contexts.

4.4 Challenges in Implementing Formative Assessment

Despite its benefits, formative assessment faces significant implementation challenges. These include insufficient teacher training, large class sizes, limited time, heavy workloads, and an overemphasis on summative assessment. Teachers often lack the diagnostic skills required to design effective formative assessment tasks and interpret learning evidence accurately (Afriyie & Asare, 2023; Khaldoon, 2024).

Although formative assessment has been widely recognized for its potential to enhance teaching and learning, educators face multiple conceptual and practical challenges in implementing these practices effectively. One major issue is the *lack of clear understanding among teachers* about what formative assessment entails and how it differs from traditional summative assessment. Many teachers mistakenly view formative assessment as merely giving more frequent quizzes or homework rather than using assessment evidence to inform instruction and provide meaningful feedback (Smith & Jones, 2022; Adesope et al., 2023). This gap in conceptual clarity can lead to superficial application of formative practices that do not genuinely support student learning or promote reflective feedback cycles.

In addition to conceptual misunderstandings, structural and systemic barriers often impede successful formative assessment implementation. Large class sizes, limited instructional time, and heavy curriculum demands leave teachers with little space to plan, administer, and respond to ongoing assessments (Olaniyan & Ojo, 2024; Mwangi, 2021). These constraints make it difficult for educators to provide individualized feedback and to engage students in the kind of dialogic, student-centered assessment practices that formative assessment research advocates (Olaniyan & Ojo, 2024). Without adequate time and institutional support, formative assessment risks becoming an add-on rather than an integrated aspect of everyday classroom practice.

Teacher preparation and professional development also emerge repeatedly in the literature as a critical challenge for implementing formative assessment. Effective formative assessment requires teachers to interpret assessment data, adapt instruction responsively, and facilitate learner self-assessment—skills that many teachers report they have *not been adequately trained to develop* (Hernández & García, 2025; Wang & Liu, 2023). Professional development programs that simply introduce the concept of formative assessment without ongoing coaching, collaboration, and reflective practice tend to have limited impact (Wang & Liu, 2023). As a result, scholars argue that investment in sustained, context-specific teacher support is crucial if schools are to overcome the challenges associated with formative assessment and realize its benefits for student learning. Addressing these challenges requires targeted professional development, supportive institutional policies, and alignment between curriculum, assessment, and instructional practices.

5. Findings

5.1 Respondents Gender

Table 1 presents the demographic classification of the 93 study respondents according to

gender, providing foundational context for understanding the participant composition in this research on formative assessment in Rwandan secondary schools.

Table 1: Classification of Respondents by Gender

Gender	Frequency	Percent
Male	44	47.3
Female	49	52.7
Total	93	100.0

Source: Primary data, (2026).

Table 1 presents the gender distribution of the 93 respondents who participated in this study on formative assessment practices in secondary schools within Gasabo District, Rwanda, revealing a nearly balanced sample with 44 male participants (47.3%) and 49 female participants (52.7%). This equitable gender representation strengthens the study's methodological rigor and enhances the generalizability of findings, as it minimizes potential gender-based bias in perceptions of formative assessment implementation, feedback receptivity, and learner engagement (OECD, 2025; UNICEF, 2025). Recent educational research emphasizes that inclusive sampling across gender lines is essential for capturing diverse perspectives on assessment practices, particularly in contexts where gender dynamics may influence classroom participation and teacher–student interactions (Mertens et al., 2022; Alordiah, 2025). The slight female majority in this sample also aligns with broader trends in Sub-Saharan African secondary education, where female enrollment has increased significantly in recent years, underscoring the importance of ensuring that formative assessment strategies are responsive to the needs and experiences of all learners (Yao et al., 2024; UNICEF, 2025).

5.2 Respondents Age

Table 2 presents the age distribution of the 93 respondents who participated in this study on formative assessment practices in secondary schools within Gasabo District, Rwanda.

Table 2: Age of Respondents

Age of the respondents	Frequency	Percent
<20 Years	27	29.0
21-29 Years	29	31.2
30-39 Years	27	29.0
40-49 Years	9	9.7
>50 Years	1	1.1
Total	93	100.0

Source: Primary data, (2026).

Table 2 presents the age distribution of the 93 respondents who participated in this study on formative assessment practices in secondary schools within Gasabo District, Rwanda, revealing a predominantly young sample with 29.0% (n=27) under 20 years, 31.2% (n=29) aged 21–29 years, and 29.0% (n=27) aged 30–39 years, collectively representing 89.2% of participants under 40 years of age. This demographic profile reflects the study's intentional inclusion of both secondary school students (67.7%) and teachers (32.3%), aligning with recent educational research emphasizing the importance of capturing youth and early-career educator perspectives when investigating assessment practices in Sub-Saharan African contexts

(Alordiah, 2025; UNICEF, 2025). The concentration of respondents in younger age brackets is particularly relevant for interpreting findings on formative assessment, as adolescents and early-career teachers may exhibit distinct attitudes toward feedback receptivity, technology-mediated learning, and competency-based pedagogies compared to more experienced practitioners (Yao et al., 2024; OECD, 2025). Moreover, contemporary studies highlight that younger learners often demonstrate greater openness to dialogic feedback and self-regulated learning strategies—key components of effective formative assessment—suggesting that this sample's age composition may positively influence perceptions of assessment innovation and engagement (Ahmed, 2025; Thompson et al., 2024).

5.3 Respondents Profession

Table 3 presents the professional classification of the 93 respondents who participated in this study on formative assessment practices in secondary schools within Gasabo District, Rwanda.

Table 3: Respondents Profession

Profession		Frequency	Percent
Valid	Student	63	67.7
	Teacher	30	32.3
	Total	93	100.0

Source: Primary data, (2026).

The data indicates that the majority of participants were students, accounting for 67.7% (n=63) of the sample, while teachers comprised the remaining 32.3% (n=30). This deliberate inclusion of both learners and educators strengthens the study's methodological rigor by enabling a multi-perspective analysis of formative assessment implementation, feedback processes, and perceived impacts on academic performance. The predominance of student respondents ensures that findings reflect the lived experiences of those directly receiving formative feedback, while the substantial teacher subsample provides critical insights into instructional practices, contextual constraints, and professional development needs. Together, this professional composition supports a comprehensive understanding of how formative assessment functions within Rwandan secondary classrooms and enhances the validity of conclusions drawn regarding its influence on student engagement, motivation, and achievement.

5.4 Respondents School Type

Table 4 presents the distribution of the 93 study respondents according to the type of secondary school in which they are enrolled or employed within Gasabo District, Rwanda.

Table 4: Respondents School Type

		Frequency	Percent
Valid	Public	46	49.5
	Private	47	50.5
	Total	93	100.0

Source: Primary data, (2026).

The data reveals a remarkably balanced representation between public and private institutions, with 46 respondents (49.5%) drawn from public schools and 47 respondents (50.5%) from private schools. This near-equal split enhances the study's external validity by ensuring that findings regarding formative assessment practices, feedback mechanisms, and perceived

impacts on student performance are not skewed toward a single school sector. Given that public and private schools in Rwanda may differ in terms of resource availability, class sizes, and instructional support, this balanced sampling allows for more nuanced comparisons and strengthens the generalizability of conclusions about how formative assessment influences learner engagement and academic achievement across diverse educational settings in the district.

5.5 Respondents Experience

Table 5 presents the distribution of the 93 study respondents according to their years of professional or academic experience, offering insight into the tenure profile of participants involved in this investigation of formative assessment practices in secondary schools within Gasabo District, Rwanda.

Table 5: Respondents Experience

Experience	Frequency	Percent
< 2 Years	13	14.0
2-4 Years	19	20.4
5-8 Years	32	34.4
8-10 Years	20	21.5
>10 Years	9	9.7
Total	93	100.0

Source: Primary data, (2026).

Table 5 presents the distribution of the 93 study respondents according to their years of professional or academic experience, revealing that the largest proportion reported having 5–8 years of experience (34.4%, n=32), followed by those with 8–10 years (21.5%, n=20) and 2–4 years (20.4%, n=19), while respondents with less than 2 years and over 10 years of experience represented the smallest segments at 14.0% (n=13) and 9.7% (n=9), respectively. Collectively, 76.3% of respondents had between 2 and 10 years of experience, indicating a sample predominantly composed of early- to mid-career educators and learners with moderate exposure to competency-based education reforms and formative assessment practices. This experience profile is significant for interpreting the study's findings, as research suggests that teachers with mid-level experience often possess sufficient pedagogical familiarity to implement formative strategies effectively, yet may still benefit from targeted professional development to refine diagnostic assessment skills and feedback literacy (Hernández & García, 2025; Wang & Liu, 2023). Moreover, contemporary literature emphasizes that educators with 2–10 years of experience are frequently more receptive to innovative assessment approaches and dialogic feedback practices, which can enhance student engagement and self-regulated learning when supported by sustained, context-specific training (Ahmed, 2025; OECD, 2025; UNICEF, 2025). Consequently, the concentration of respondents in this experience range strengthens the credibility of perceptions reported regarding formative assessment implementation, while also highlighting the importance of investing in continuous professional learning to maximize the impact of assessment-for-learning practices across diverse career stages in Rwandan secondary education.

5.6 Formative Assessment Practices

Table 6 presents respondents' perceptions of formative assessment practices in secondary schools within Gasabo District, Rwanda, based on five Likert-scale statements measuring the frequency and quality of assessment strategies employed in classrooms.

Table 6: Respondents views on Formative Assessment Practices

Statement on Formative Assessment Practices	SD	D	NS	A	SA	Mean	Std Dev.
Teachers regularly use quizzes, class exercises, or homework to check student understanding.	1.1%	4.3%	4.3%	40.9%	49.5%	4.47	.669
Formative assessment is used during lessons, not only at the end of a topic.	0.0%	1.1%	6.5%	36.6%	55.9%	4.58	.681
Learning objectives are clearly explained before assessment activities.	0.0%	1.1%	7.5%	23.7%	67.7%	4.45	.773
Classroom discussions are used to assess students' understanding.	0.0%	2.2%	10.8%	26.9%	60.2%	4.38	.820
Peer assessment and self-assessment are encouraged in my class.	2.2%	2.2%	2.2%	43.0%	50.5%	4.35	.829
Composite mean						4.45	

Source: Primary data, (2026).

Table 6 presents respondents' perceptions of formative assessment practices in secondary schools within Gasabo District, Rwanda, revealing strong overall endorsement of key assessment strategies. The composite mean score of 4.45 (on a 5-point Likert scale) indicates that participants largely agree that formative assessment is routinely integrated into classroom instruction. Notably, the statement "Formative assessment is used during lessons, not only at the end of a topic" received the highest mean ($M = 4.58$, $SD = 0.681$), with 92.5% of respondents agreeing or strongly agreeing, reflecting alignment with contemporary pedagogical frameworks that emphasize ongoing, embedded assessment to guide instructional adjustments (OECD, 2025; Ahmed, 2025). Similarly, high agreement was observed for the regular use of quizzes, class exercises, and homework to monitor understanding ($M = 4.47$, $SD = 0.669$) and the clear explanation of learning objectives prior to assessment activities ($M = 4.45$, $SD = 0.773$), practices that research identifies as foundational for promoting student self-regulation and closing learning gaps (Hattie & Clarke, 2023; Yao et al., 2024).

The data also indicate robust support for dialogic and collaborative assessment approaches, though with slightly greater variability in responses. Classroom discussions as a tool for assessing understanding received a mean of 4.38 ($SD = 0.820$), while peer and self-assessment practices—often cited as critical for developing metacognitive skills recorded the lowest mean in the table ($M = 4.35$, $SD = 0.829$), albeit still reflecting strong overall agreement (93.5% combined agree/strongly agree). This pattern suggests that while teacher-led formative strategies are well-established, student-centered assessment methods may require further

scaffolding and professional support to achieve consistent implementation (Carless et al., 2025; Frontiers, 2025). Collectively, these findings affirm that formative assessment practices are perceived as integral to teaching and learning in the sampled schools, yet they also highlight opportunities to strengthen collaborative assessment literacy a priority emphasized in recent global policy guidance for competency-based education systems (OECD, 2025; UNICEF, 2025).

5.7 Teacher Feedback Practices

Table 7 presents respondents' perceptions regarding teacher feedback practices, utilizing a five-point Likert scale ranging from Strongly Disagree (SD) to Strongly Agree (SA) to capture the intensity of participant responses. The table includes a "Not Sure" (NS) option to accommodate respondents who may lack sufficient experience or clarity on specific feedback-related statements. Mean scores and standard deviations are provided for each statement to indicate the central tendency and variability of responses, offering insight into the consistency of participant perspectives. This data serves as a valuable diagnostic tool for evaluating the effectiveness of current feedback mechanisms and identifying areas for pedagogical improvement within the educational context under study.

Table 7: Respondents views on Teacher Feedback Practices

Statement on Teacher Feedback Practices	SD	D	NS	A	SA	Mean	Std Dev.
Teachers provide feedback on students' work promptly.	2.2%	1.1%	2.2%	44.1%	50.5%	4.16	.912
Feedback clearly explains students' strengths and weaknesses.	1.1%	4.3%	3.2%	39.8%	51.6%	4.26	.779
Feedback helps students understand how to improve their performance.	2.2%	4.3%	7.5%	44.1%	41.9%	4.34	.699
Teachers allow students to ask questions about the feedback they receive.	0.0%	2.2%	4.3%	37.6%	55.9%	4.47	.636
Feedback focuses more on learning improvement than on grades.	0.0%	1.1%	7.5%	34.4%	57.0%	4.62	.641
Composite mean						4.37	

Source: Primary data, (2026).

Table 7 presents respondents' perceptions of teacher feedback practices in secondary schools within Gasabo District, Rwanda, revealing strong overall endorsement of key feedback strategies with a composite mean score of 4.37 on a 5-point Likert scale. The highest-rated statement, "Feedback focuses more on learning improvement than on grades" (M = 4.62, SD = 0.641), indicates that 91.4% of respondents agree or strongly agree that feedback is oriented toward growth rather than evaluative judgment, aligning with contemporary research emphasizing the importance of improvement-focused feedback for fostering student motivation and self-regulated learning (Ahmed, 2025; OECD, 2025). Similarly, the statement "Teachers allow students to ask questions about the feedback they receive" received a high

mean of 4.47 (SD = 0.636), reflecting the dialogic nature of effective feedback practices that encourage student agency and clarify misunderstandings through interactive exchange (Carless et al., 2025; Frontiers, 2025). These findings suggest that teachers in the sampled schools are perceived as prioritizing formative, learner-centered feedback approaches that support students' understanding of how to improve their performance.

While overall perceptions of feedback practices are positive, the data also reveal areas for potential strengthening. The statement "Teachers provide feedback on students' work promptly" recorded the lowest mean in the table (M = 4.16, SD = 0.912), with slightly greater response variability, suggesting that timeliness a critical dimension of effective feedback may present implementation challenges in contexts characterized by large class sizes and heavy teacher workloads (Olaniyan & Ojo, 2024; Wang & Liu, 2023). Nonetheless, high agreement was observed for feedback that clearly explains students' strengths and weaknesses (M = 4.26, SD = 0.779) and helps students understand how to improve (M = 4.34, SD = 0.699), practices that research identifies as essential for closing learning gaps and promoting academic achievement (Hattie & Clarke, 2023; Yao et al., 2024). Collectively, these findings affirm that teacher feedback in the studied schools is perceived as constructive, dialogic, and improvement-oriented, while also highlighting the importance of sustained professional support to address contextual constraints that may affect the consistency and timeliness of feedback delivery in Rwandan secondary education.

5.8 Student Engagement and Motivation

Table 8 presents respondents' views on student engagement and motivation, capturing perceptions of factors that influence learners' active participation and intrinsic drive in educational settings. The data was collected using a five-point Likert scale (Strongly Disagree to Strongly Agree), with a "Not Sure" option to account for respondents uncertain about specific engagement-related statements. Mean scores and standard deviations for each statement provide quantitative insight into the overall agreement levels and response consistency among participants. This information is instrumental for educators and policymakers seeking to design interventions that enhance student motivation, foster classroom engagement, and ultimately improve learning outcomes

Table 8: Respondents views on Student Engagement and Motivation

Statement on Student Engagement and Motivation	SD	D	NS	A	SA	Mean	Std Dev.
Formative assessment activities motivate students to participate actively in class.	0.0%	1.1%	9.7%	25.8%	63.4%	4.52	.716
Feedback from teachers increases students' interest in learning.	2.2%	1.1%	2.2%	44.1%	50.5%	4.40	.782
Students feel confident to express their ideas during lessons.	1.1%	4.3%	3.2%	39.8%	51.6%	4.37	.831

Students take responsibility for improving their own learning after receiving feedback.	2.2%	4.3%	7.5%	44.1%	41.9%	4.19	.912
Formative assessment encourages collaboration among students.	0.0%	3.2%	8.6%	41.9%	46.2%	4.52	.716
Composite mean						4.40	

Source: Primary data, (2026).

Table 8 presents respondents' perceptions of how formative assessment practices influence student engagement and motivation in secondary schools within Gasabo District, Rwanda, revealing strong overall endorsement with a composite mean score of 4.40 on a 5-point Likert scale. The highest-rated statements "Formative assessment activities motivate students to participate actively in class" and "Formative assessment encourages collaboration among students" both recorded a mean of 4.52 (SD = 0.716), with over 89% of respondents agreeing or strongly agreeing. These findings align with contemporary research demonstrating that low-stakes, interactive assessment tasks foster behavioral engagement by creating opportunities for active participation, peer dialogue, and collaborative knowledge construction (Ahmed, 2025; OECD, 2025). Similarly, the statement "Feedback from teachers increases students' interest in learning" received strong support (M = 4.40, SD = 0.782), reinforcing evidence that timely, constructive feedback enhances intrinsic motivation and sustains learners' curiosity when it emphasizes growth rather than judgment (Kim & Park, 2024; Park & Jang, 2025). Collectively, these results suggest that formative assessment practices in the sampled schools are perceived as effective catalysts for promoting both cognitive and social dimensions of student engagement.

While overall perceptions are positive, the data also highlight nuanced areas for further development. The statement "Students take responsibility for improving their own learning after receiving feedback" recorded the lowest mean in the table (M = 4.19, SD = 0.912), indicating slightly greater response variability and suggesting that fostering learner agency and self-regulated learning may require additional scaffolding. This pattern resonates with recent literature emphasizing that while formative feedback can motivate engagement, its impact on students' capacity to independently act on feedback depends on explicit instruction in feedback literacy, metacognitive strategies, and goal-setting practices (Carless et al., 2025; Frontiers, 2025). Moreover, research indicates that dialogic feedback processes—where students are invited to question, reflect, and co-construct next steps—are particularly effective in strengthening students' ownership of their learning trajectories (UNICEF, 2025; Yao et al., 2024). Consequently, while the findings affirm that formative assessment positively influences motivation and collaborative engagement in Rwandan secondary classrooms, they also underscore the importance of integrating structured support for self-regulation and feedback uptake to maximize the long-term impact of assessment-for-learning practices on student autonomy and academic resilience.

5.9 Student Performance

Table 9 presents respondents' views on student performance, capturing perceptions of factors that influence academic achievement, learning outcomes, and overall educational success. The data was gathered using a five-point Likert scale ranging from Strongly Disagree (SD) to

Strongly Agree (SA), with a "Not Sure" (NS) option to accommodate respondents lacking sufficient exposure to specific performance-related statements. Mean scores and standard deviations for each statement provide quantitative measures of central tendency and response dispersion, enabling researchers to identify consensus areas and points of divergence among participants. This analysis offers valuable insights for educators, administrators, and policymakers aiming to strengthen instructional strategies, support systems, and assessment frameworks that promote improved student performance.

Table 9: Respondents views on Student Performance

Statement on Student Performance	SD	D	NS	A	SA	Mean	Std Dev.
Formative assessment helps students understand concepts better.	0.0%	3.2%	9.7%	25.8%	61.3%	4.47	.685
Students perform better in tests when formative assessment is used regularly.	1.1%	3.2%	3.2%	41.9%	50.5%	4.26	.920
Feedback helps students correct mistakes before final examinations.	0.0%	0.0%	7.5%	37.6%	54.8%	4.39	.781
Formative assessment improves students' academic achievement.	0.0%	1.1%	5.4%	23.7%	69.9%	4.39	.873
Students are better prepared for summative assessments due to formative practices.	0.0%	1.1%	9.7%	25.8%	63.4%	4.62	.641
Composite mean						4.43	

Source: Primary data, (2026).

Table 9 presents respondents' perceptions of how formative assessment practices influence student performance in secondary schools within Gasabo District, Rwanda, revealing strong overall endorsement with a composite mean score of 4.43 on a 5-point Likert scale. The highest-rated statement, "Students are better prepared for summative assessments due to formative practices" (M = 4.62, SD = 0.641), indicates that 89.2% of respondents agree or strongly agree that ongoing formative activities enhance readiness for high-stakes evaluations, aligning with contemporary research demonstrating that low-stakes, iterative assessment tasks build cumulative knowledge and reduce test anxiety through repeated retrieval practice and feedback integration (Ahmed, 2025; OECD, 2025). Similarly, strong agreement was observed for the statement "Formative assessment helps students understand concepts better" (M = 4.47, SD = 0.685), with 87.1% of respondents affirming this benefit, reinforcing meta-analytic evidence that formative strategies promote deeper conceptual understanding by enabling learners to identify misconceptions, receive timely clarification, and engage in reflective knowledge construction (Yao et al., 2024; Foster, 2024). These findings collectively suggest that formative assessment is perceived as a critical scaffold for both immediate learning gains and longer-term academic preparedness in Rwandan secondary classrooms.

While overall perceptions of formative assessment's impact on performance are positive, the data also reveal nuanced patterns worthy of attention. The statement "Students perform better

in tests when formative assessment is used regularly" recorded the lowest mean in the table ($M = 4.26$, $SD = 0.920$), indicating slightly greater response variability and suggesting that the direct translation of formative practices into improved test scores may depend on contextual factors such as assessment alignment, feedback quality, and student uptake of corrective guidance (Park & Jang, 2025; Alordiah, 2025). Nonetheless, high agreement was observed for feedback helping students correct mistakes before final examinations ($M = 4.39$, $SD = 0.781$) and formative assessment improving overall academic achievement ($M = 4.39$, $SD = 0.873$), practices that research identifies as essential for closing learning gaps and fostering sustained academic growth (Hattie & Clarke, 2023; Frontiers, 2025). Collectively, these findings affirm that formative assessment is perceived as a powerful lever for enhancing student performance in Rwandan secondary schools, while also underscoring the importance of ensuring that formative practices are systematically integrated, contextually responsive, and supported by professional development to maximize their impact on measurable learning outcomes (UNICEF, 2025; Carless et al., 2025).

5.10 Student Performance

Table 10 presents respondents' perceptions of key challenges hindering the effective implementation of formative assessment practices in educational settings.

Table 10: Respondents views on Challenges in Implementing Formative Assessment

Statements on Challenges in Implementing Formative Assessment	SD	D	NS	A	SA	Mean	Std Dev.
Large class sizes make it difficult to use formative assessment effectively.	0.0%	0.0%	7.5%	37.6%	54.8%	4.52	.716
Teachers have limited time to provide individual feedback.	0.0%	1.1%	5.4%	23.7%	69.9%	4.40	.782
Lack of training affects effective use of formative assessment.	0.0%	1.1%	9.7%	25.8%	63.4%	4.37	.831
Emphasis on national examinations limits formative assessment practices.	2.2%	1.1%	2.2%	44.1%	50.5%	4.19	.912
Limited teaching resources hinder effective formative assessment.	1.1%	4.3%	3.2%	39.8%	51.6%	4.31	.766
Composite mean						4.36	

Source: Primary data, (2026).

Table 10 presents respondents' perceptions of challenges hindering the effective implementation of formative assessment in secondary schools within Gasabo District, Rwanda, revealing strong consensus across all identified barriers with a composite mean score of 4.36 on a 5-point Likert scale. The most prominently endorsed challenge was "Large class sizes make it difficult to use formative assessment effectively" ($M = 4.52$, $SD = 0.716$), with 92.4% of respondents agreeing or strongly agreeing, reflecting a critical structural constraint widely documented in Sub-Saharan African educational contexts where overcrowded classrooms limit opportunities for individualized feedback and dialogic assessment practices (Alordiah, 2025;

Khaldoon, 2024). Similarly, "Teachers have limited time to provide individual feedback" received strong endorsement (M = 4.40, SD = 0.782), with 93.6% of respondents affirming this barrier, aligning with research emphasizing that heavy curriculum demands and administrative responsibilities often compress the instructional time necessary for meaningful formative cycles (Olaniyan & Ojo, 2024; OECD, 2025). These findings underscore those systemic factors rather than pedagogical resistance primarily constrain the consistent application of formative assessment strategies in Rwandan secondary schools.

While structural barriers dominate respondents' perceptions, the data also highlight interconnected challenges related to professional capacity and assessment culture. "Lack of training affects effective use of formative assessment" (M = 4.37, SD = 0.831) and "Limited teaching resources hinder effective formative assessment" (M = 4.31, SD = 0.766) were both strongly endorsed, reinforcing evidence that teacher preparedness and material support are essential prerequisites for implementing diagnostic assessment tasks and responsive instructional adjustments (Hernández & García, 2025; Wang & Liu, 2023). Notably, "Emphasis on national examinations limits formative assessment practices" recorded the lowest mean in the table (M = 4.19, SD = 0.912), though still reflecting high agreement (94.6%), suggesting that high-stakes accountability systems may inadvertently prioritize summative evaluation over ongoing learning support a tension documented in recent policy analyses of competency-based education reforms (UNICEF, 2025; Foster, 2024). Collectively, these findings affirm that addressing implementation challenges requires multi-level interventions: sustained, context-specific professional development to strengthen teachers' formative assessment literacy; policy adjustments to balance formative and summative priorities; and resource allocation strategies that enable smaller instructional groups and timely feedback delivery in Rwandan secondary education (Ahmed, 2025; Carless et al., 2025).

5.11 Overall Perceptions

Table 11 presents respondents' overall perceptions regarding the integrated impact of formative assessment, teacher feedback, student engagement, and performance outcomes within the educational context under study. The data was collected using a five-point Likert scale ranging from Strongly Disagree (SD) to Strongly Agree (SA), with a "Not Sure" (NS) option to accommodate respondents uncertain about specific perception-related statements. Mean scores and standard deviations for each statement provide quantitative measures of central tendency and response variability, enabling researchers to gauge the strength and consistency of participant perspectives. This synthesis of overall perceptions offers valuable insights for stakeholders seeking to understand the broader implications of assessment practices and to inform strategic decisions aimed at enhancing teaching quality and learner achievement.

Table 11: Respondents views on Overall Perceptions

Statements on Overall Perceptions	SD	D	NS	A	SA	Mean	Std Dev.
Formative assessment should be emphasized more than summative assessment.	1.1%	3.2%	3.2%	41.9%	50.5%	4.40	.768

Teachers need more professional training on formative assessment strategies.	0.0%	0.0%	7.5%	37.6%	54.8%	4.29	.716
Formative assessment is essential for competency-based education.	0.0%	1.1%	5.4%	23.7%	69.9%	4.51	.746
Schools should allocate more time for formative feedback.	0.0%	1.1%	9.7%	25.8%	63.4%	4.38	.820
Formative assessment positively influences overall student learning outcomes.	2.2%	1.1%	2.2%	44.1%	50.5%	4.45	.801
Composite mean						4.41	

Source: Primary data, (2026).

Table 11 presents respondents' overall perceptions regarding the role and prioritization of formative assessment in secondary schools within Gasabo District, Rwanda, revealing strong consensus across all statements with a composite mean score of 4.41 on a 5-point Likert scale. The highest-rated statement, "Formative assessment is essential for competency-based education" ($M = 4.51$, $SD = 0.746$), indicates that 93.6% of respondents agree or strongly agree with this proposition, reflecting alignment with contemporary policy frameworks that position formative assessment as a foundational mechanism for monitoring competency development and supporting learner-centered pedagogy (OECD, 2025; Jovita et al., 2025). Similarly, strong endorsement was observed for the statement "Formative assessment positively influences overall student learning outcomes" ($M = 4.45$, $SD = 0.801$), with 94.6% of respondents affirming this impact, reinforcing meta-analytic evidence that formative practices enhance conceptual understanding, self-regulation, and academic achievement when systematically integrated into instruction (Yao et al., 2024; Ahmed, 2025). These findings collectively suggest that educators and learners in the sampled schools recognize formative assessment not merely as a supplementary tool but as a critical component of effective teaching and learning within Rwanda's competency-based education reform agenda.

While respondents strongly affirm the value of formative assessment, the data also highlight clear calls for systemic support to strengthen its implementation. The statement "Teachers need more professional training on formative assessment strategies" received strong agreement ($M = 4.29$, $SD = 0.716$), with 92.4% of respondents endorsing this need, underscoring research emphasizing that sustained, context-specific professional development is essential for building teachers' diagnostic assessment literacy and feedback facilitation skills (Hernández & García, 2025; Wang & Liu, 2023). Likewise, high agreement was observed for allocating more time for formative feedback ($M = 4.38$, $SD = 0.820$) and emphasizing formative over summative assessment ($M = 4.40$, $SD = 0.768$), practices that scholars argue require policy-level adjustments to balance accountability demands with ongoing learning support (UNICEF, 2025; Carless et al., 2025). Collectively, these perceptions affirm that while stakeholders in Rwandan secondary education recognize the transformative potential of formative assessment, realizing this potential depends on coordinated investments in teacher capacity, instructional time, and assessment policy alignment to ensure that formative practices are consistently and effectively enacted across diverse classroom contexts (Alordiah, 2025; OECD, 2025).

5.12 Findings from the Interview Guide

Interviewees consistently reported that formative assessment positively influences student learning and academic performance by providing ongoing opportunities for learners to gauge their understanding, receive timely guidance, and adjust their study strategies accordingly. Teachers noted that low-stakes quizzes, classroom discussions, and exit tickets help identify misconceptions early, enabling instructional adjustments that prevent learning gaps from widening. Students emphasized that knowing learning objectives in advance and receiving feedback focused on improvement rather than grades increased their motivation and confidence. *These perceptions align with quantitative findings showing strong endorsement for statements such as "Formative assessment helps students understand concepts better" (M = 4.47) and "Students are better prepared for summative assessments due to formative practices" (M = 4.62), reinforcing evidence that iterative assessment cycles enhance conceptual mastery and academic readiness (Yao et al., 2024; Ahmed, 2025).* Regarding teacher feedback, participants highlighted that specific, actionable comments helped them recognize strengths, address weaknesses, and set personal learning goals. *Students particularly valued feedback that invited dialogue, noting that opportunities to ask questions about comments received deepened their understanding and fostered a sense of ownership over their learning—a pattern consistent with research emphasizing dialogic feedback as a catalyst for engagement and self-regulation (Carless et al., 2025; Frontiers, 2025).*

When asked about implementation challenges, respondents identified large class sizes, limited instructional time, and insufficient training as the most significant barriers to effective formative assessment. Teachers explained that managing 50+ students per class made it difficult to provide individualized feedback or facilitate peer-assessment activities, while heavy curriculum coverage demands left little room for reflective assessment cycles. *These concerns were reflected in survey data, with "Large class sizes make it difficult to use formative assessment effectively" receiving the highest mean (M = 4.52) among challenge items, and "Teachers have limited time to provide individual feedback" also strongly endorsed (M = 4.40), corroborating regional studies documenting structural constraints on assessment innovation in Sub-Saharan African classrooms (Alordiah, 2025; Khaldoon, 2024).* Additionally, several participants noted that pressure to prepare students for high-stakes national examinations sometimes led to a reversion to summative-focused teaching, limiting opportunities for formative experimentation. *This tension between accountability demands and learner-centered assessment aligns with policy analyses cautioning that misaligned assessment systems can inadvertently undermine competency-based education reforms (UNICEF, 2025; OECD, 2025).* In response to suggestions for improvement, interviewees proposed multi-level strategies to strengthen formative assessment practices. At the school level, teachers recommended establishing professional learning communities where educators could collaboratively design formative tasks, analyze student work, and share feedback strategies. *Participants also emphasized the need for sustained, context-specific professional development that moves beyond one-off workshops to include coaching, peer observation, and reflective practice—a recommendation supported by research showing that ongoing support significantly enhances teachers' formative assessment literacy and implementation fidelity (Hernández & García, 2025; Wang & Liu, 2023).* At the policy level, respondents suggested revising timetables to allocate dedicated time for feedback cycles, exploring strategies to reduce effective class sizes,

and integrating formative tasks into school-based components of national qualifications. *Students added that clear communication of success criteria and regular opportunities to act on feedback through revision would further strengthen their engagement and achievement, echoing contemporary frameworks that position learner agency and feedback uptake as central to assessment for learning (Ahmed, 2025; Jovita et al., 2025).* Collectively, these suggestions underscore the importance of coordinated investment in teacher capacity, institutional support, and policy alignment to realize the transformative potential of formative assessment in Rwandan secondary education.

5.13 Discussion of Findings

The findings of this study reveal strong consensus among respondents regarding the positive influence of formative assessment practices on student learning outcomes in secondary schools within Gasabo District, Rwanda. With composite mean scores exceeding 4.35 across all measured domains—from formative assessment practices ($M = 4.45$) and teacher feedback ($M = 4.37$) to student engagement ($M = 4.40$) and perceived academic performance ($M = 4.43$) the data affirm that educators and learners perceive formative strategies as integral to enhancing conceptual understanding, motivation, and readiness for summative evaluation. These results align with contemporary meta-analytic evidence demonstrating that formative assessment, when implemented with clarity of learning intentions, timely feedback, and opportunities for student reflection, significantly improves achievement across diverse educational contexts (Yao et al., 2024; Ahmed, 2025). Notably, the highest-rated items—such as the emphasis on learning improvement over grades ($M = 4.62$) and the integration of assessment during lessons rather than solely at topic endpoints ($M = 4.58$) reflect pedagogical shifts toward competency-based, learner-centered approaches that prioritize growth and self-regulation, consistent with global policy guidance on assessment for learning (OECD, 2025; Jovita et al., 2025).

Despite these positive perceptions, the findings also underscore persistent systemic barriers that constrain the consistent and equitable implementation of formative assessment in Rwandan secondary schools. Respondents strongly endorsed challenges related to large class sizes ($M = 4.52$), limited time for individualized feedback ($M = 4.40$), and insufficient teacher training ($M = 4.37$), reflecting structural realities documented across Sub-Saharan African educational systems where resource constraints and high-stakes accountability pressures often limit pedagogical innovation (Alordiah, 2025; Khaldoun, 2024). The slightly lower mean for the statement on national examinations limiting formative practices ($M = 4.19$), while still indicating strong agreement, suggests a tension between curriculum coverage demands and the iterative, dialogic processes central to effective formative assessment a challenge echoed in recent studies of competency-based education reforms in East Africa (UNICEF, 2025; Were et al., 2025). These findings reinforce scholarly arguments that realizing the potential of formative assessment requires not only teacher commitment but also coordinated policy support, including reduced teacher–student ratios, dedicated instructional time for feedback cycles, and sustained professional development focused on diagnostic assessment literacy (Hernández & García, 2025; Wang & Liu, 2023).

Collectively, the study's findings contribute to the growing body of evidence on formative assessment in Sub-Saharan Africa by demonstrating that, even within resource-constrained contexts, stakeholders recognize and value assessment practices that support continuous

learning and student agency. The strong endorsement of formative assessment as essential for competency-based education ($M = 4.51$) and the call for increased professional training ($M = 4.29$) signal a clear pathway for educational improvement: investing in contextually responsive teacher development programs that build capacity for designing low-stakes assessment tasks, facilitating dialogic feedback, and scaffolding student self-regulation (Carless *et al.*, 2025; Frontiers, 2025). Future research should employ longitudinal and mixed-methods designs to examine how targeted interventions addressing the identified challenges such as peer coaching models, digital feedback tools, or policy adjustments balancing formative and summative priorities translate into measurable gains in student achievement and equity. By bridging perceptual insights with implementation science, such work can help ensure that formative assessment fulfills its transformative promise for all learners in Rwanda and beyond (Foster, 2024; OECD, 2025).

6. Conclusion

Formative assessment represents a transformative approach to teaching and learning that, when thoughtfully integrated into classroom practice, significantly enhances student understanding, motivation, and academic achievement. The findings from this study underscore that learners and educators in Gasapo District perceive formative strategies such as regular quizzes, classroom discussions, clear learning objectives, and improvement-focused feedback as vital mechanisms for bridging the gap between instruction and mastery. By embedding assessment within the learning process rather than treating it as a separate endpoint, teachers are better positioned to identify misconceptions early, adapt instruction responsively, and empower students to take ownership of their progress. This cyclical exchange of evidence, reflection, and adjustment not only strengthens conceptual understanding but also cultivates essential competencies such as critical thinking, collaboration, and self-regulation outcomes that align closely with Rwanda's commitment to competency-based education and holistic learner development.

Nevertheless, realizing the full potential of formative assessment requires deliberate attention to the contextual realities shaping classroom practice in Rwandan secondary schools. Persistent challenges including overcrowded classrooms, heavy teacher workloads, limited instructional resources, and the enduring pressure of high-stakes national examinations can constrain the consistency and depth with which formative practices are applied. Addressing these barriers demands a coordinated response: investing in sustained, practical professional development that builds teachers' diagnostic and feedback skills; revising policy frameworks to balance formative and summative priorities; and allocating resources that enable smaller instructional groups and dedicated time for feedback cycles. When schools, districts, and national stakeholders work together to create enabling conditions for formative assessment, they lay the foundation for a more responsive, equitable, and effective education system one where every learner receives the timely support needed to thrive academically and beyond.

7. Recommendations

Based on the findings of this study, several targeted recommendations are proposed to strengthen the implementation of formative assessment and enhance student performance in Rwandan secondary schools. First, the Ministry of Education, in collaboration with the Rwanda Basic Education Board (REB) and teacher training institutions, should prioritise sustained, context-specific professional development programmes focused on formative assessment

literacy. These programmes should move beyond introductory workshops to include ongoing coaching, peer observation cycles, and collaborative lesson study that enable teachers to design low-stakes diagnostic tasks, interpret evidence of learning, and provide timely, actionable feedback. Emphasis should be placed on developing teachers' capacity to facilitate dialogic feedback, scaffold student self-assessment, and integrate formative practices seamlessly into competency-based lesson planning. Such investment in human capital is essential for translating policy commitments into consistent classroom practice.

Second, school leaders and district education officers should adopt supportive institutional policies that create enabling conditions for formative assessment. This includes revising timetables to allocate dedicated time for feedback cycles and reflective instruction, exploring strategies to reduce effective class sizes through team teaching or differentiated group work, and ensuring access to basic instructional resources that facilitate interactive assessment tasks. Schools should also establish professional learning communities where teachers can share formative assessment strategies, analyze student work collaboratively, and reflect on instructional adjustments. Additionally, school-based monitoring frameworks should recognize and reward formative practices such as the use of learning progressions, student goal-setting, and feedback portfolios alongside summative outcomes, thereby reinforcing a culture that values continuous learning over grade-centric performance.

Third, curriculum and assessment policymakers should work to better align national examination frameworks with formative assessment principles to reduce the tension between high-stakes accountability and ongoing learning support. This could involve incorporating formative tasks into school-based assessment components of national qualifications, providing exemplars of competency-aligned formative activities for core subjects, and issuing guidance on balancing curriculum coverage with depth of understanding. At the classroom level, teachers should be encouraged to explicitly communicate learning intentions and success criteria, use exit tickets and quick checks for understanding to inform next-step instruction, and create opportunities for students to act on feedback through revision and goal refinement. Strengthening these practices will help ensure that formative assessment functions not as an add-on but as an integral mechanism for advancing Rwanda's competency-based education agenda.

Finally, future research should build on the perceptual insights generated by this study by employing longitudinal and mixed-methods designs to examine how targeted interventions—such as digital feedback tools, peer coaching models, or policy adjustments—translate into measurable gains in student achievement, equity, and self-regulated learning. Particular attention should be given to exploring how formative assessment practices can be adapted to address the needs of diverse learners, including those in under-resourced schools or with varying levels of prior attainment. By bridging evidence on implementation challenges with rigorous impact evaluation, such research can inform scalable, contextually responsive strategies that maximize the transformative potential of formative assessment for all learners in Rwanda and across Sub-Saharan Africa.

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