

THE ROLES OF FORMATIVE AND SUMMATIVE EVALUATION ASSESSMENTS ON STUDENTS' ACADEMIC PERFORMANCE IN SENIOR SECONDARY SCHOOLS IN MIRI DISTRICT OF BAUCHI STATE.

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Abstract

This study examined the roles of formative and summative evaluation assessments on students' academic performance in senior secondary schools in Miri District, Bauchi State. A descriptive survey design was adopted, involving 80 respondents 40 students and 40 teachers who were sampled using a structured questionnaire. All respondents returned valid questionnaires, yielding a 100% response rate. Data were analyzed using descriptive statistics, Pearson Product Moment Correlation (PPMC). Findings revealed positive but weak correlations between students' perceptions of formative and summative evaluation effectiveness and their academic performance. Specifically, formative assessment showed $r = 0.12$ ($p = 0.45$), and summative assessment showed $r = 0.08$ ($p = 0.57$), indicating that neither correlation was statistically significant. Combining perceptions of both assessments yielded a similarly weak correlation ($r = 0.15$, $p = 0.37$). These results suggest that while students perceive formative assessment as slightly more beneficial for enhancing learning outcomes, the differences between the effectiveness of formative and summative assessments are not statistically significant. Consequently, the null hypothesis (H_0) is retained, confirming no significant difference between formative and summative evaluations in improving students' academic performance in the study area. The findings support the view that formative and summative assessments are complementary, and both contribute to student learning when applied appropriately. This underscores the importance of integrating both assessment types to optimize educational outcomes in senior secondary schools.

Keywords: Formative, Assessment, Summative Assessment, Academic Performance, Evaluation Affectiveness,

Introduction

In the context of teaching and learning, assessment is conceptualized as a systematic process undertaken by both instructors and learners during instruction, whereby educators provide targeted feedback to guide and modify ongoing teaching and learning activities, thereby enhancing students' achievement of predetermined instructional objectives Kunuba and Egbayelo (2025). further defines assessment as a deliberate mechanism through which evidence of learners' performance is used by educators to refine instructional strategies or by learners to adjust their own learning approaches. Fundamentally, assessment bridges the gap between learners' current performance and desired learning outcomes, promoting meaningful learning Paramole and Adeoye (2023).

Two primary forms of evaluation formative and summative are commonly used to assess students' progress and performance. Formative evaluation is an ongoing process designed to monitor learning, provide timely feedback, and inform instructional decisions (Foster, 2024). Summative evaluation, in contrast, is administered at the end of a unit, term, or programme to measure cumulative learning outcomes Awofala and Olaniyi (2023). Traditionally, summative assessment assigns learners numerical scores with limited feedback, primarily measuring rather than promoting learning Alordiah (2025). However, its formative potential can be enhanced by reviewing exams with learners, using mock tests, or allowing retakes to support understanding Dahiru (2024).

Despite the well-documented benefits of formative assessment, many secondary schools including those in Bauchi State continue to prioritize high-stakes summative examinations, such as terminal and external exams, often at the expense of continuous formative evaluation. This disproportionate focus raises concerns regarding its potential impact on students' academic achievement. Research suggests that, although summative assessments fulfill essential accountability functions, formative assessments have a more profound effect on learning outcomes, student motivation, and self-regulation (Foster, 2024; Frontiers in Psychology, 2025). The persistence of this imbalance may be attributed to several factors, including institutional pressure to perform well in national examinations, entrenched teaching practices, and limited teacher training in formative assessment techniques. Consequently, students may experience a narrow focus on memorization and short-term performance rather than deep understanding and the development of self-directed learning skills. Addressing this issue requires a systemic approach that integrates formative assessment practices into everyday teaching, encourages reflective pedagogy, and aligns assessment policies with the broader goals of holistic student development.

Compare the effectiveness of formative and summative evaluations assessment in improving students' academic performance in senior secondary schools in Miri District of Bauchi State.

How does the effectiveness of formative assessment compare with that of summative evaluation in improving students' academic performance in secondary schools in Miri District, Bauchi State?

H₀₁: There is no significant difference between the effectiveness of formative and summative evaluations assessment in improving students' academic performance in senior secondary schools in Miri District of Bauchi State.

Comparative Analysis of Formative and Summative Evaluation

Formative and summative evaluations differ in purpose, timing, and impact. Formative evaluation is diagnostic, continuous, and aimed at guiding learning, whereas summative evaluation is terminal, judgmental, and primarily used for certification or accountability Okeke and Adini (2025). Research indicates that formative assessment promotes deep learning, long-term retention, and learner engagement, while summative assessment is more effective for measuring overall achievement and enforcing accountability (OECD, 2021).

A comparative study by Farhady and Tavakoli (2022) demonstrated that formative evaluation positively influences motivation, self-regulation, and academic performance, whereas summative assessment primarily reinforces extrinsic motivation. Similarly, Foster (2024) found that while both assessment approaches contribute to learning, formative methods yield greater gains among low-performing students.

Given these findings, a balanced approach is recommended. Combining formative feedback with summative judgments not only enhances learning outcomes but also ensures fairness and reliability in academic evaluations (Brookhart, 2020). Integrating both assessment types allow educators to monitor ongoing learning while maintaining standards of accountability, ultimately supporting holistic student development Adebayo and Lawal (2022).

Summative Assessment

Summative assessment evaluates what a student has achieved at the end of a period of instruction, relative to learning objectives and relevant curriculum standards. The timeframe may vary, occurring at the end of a topic, term, academic year, or key stage, such as in national curriculum tests. At the basic education level, summative assessment provides students, teachers, and parents with an understanding of overall learning. Although often formal, time-specific exams, summative assessments may also include essays, projects, presentations, portfolios, reports, or research experiments. These tools measure achievement against curriculum goals and provide standardized data for evaluating individual, cohort, and school performance Said and Zhang (2023).

Summative assessments are typically used to evaluate instructional programs, school improvement efforts, and student placement. While results can inform future teaching, feedback is usually delayed, limiting its use for real-time instructional adjustments. Because summative assessments are often high-stakes, alignment with learning objectives is essential Okeke and Adinna (2025). suggest several best practices.

Formative Assessment

Formative assessment is the ongoing evaluation of student progress, intended to identify learning needs and shape teaching. At the basic education level, it includes strategies such as classroom discussions, quizzes, and other tasks that generate feedback on student performance. Teachers use this information to adjust instruction, re-teach concepts, or modify resources, while students use feedback to reflect and improve their learning Ifesinachi (2024). Formative assessment occurs daily during teaching, beginning with diagnostic assessments to identify prior knowledge and gaps. Continuous assessment allows teachers to plan subsequent lessons and monitor progress. It may involve informal questions or tasks and does not always require formal recording Paramole and Adeoye (2023).

Importantly, formative assessment emphasizes two-way feedback between teacher and student. Effective feedback diagnoses learning difficulties and actively engages students in constructing understanding, fostering higher-order thinking skills and learning-to-learn competencies Adebayo and Lawal (2022). If teaching is viewed as mere knowledge transfer, formative assessment loses its value, reducing feedback to superficial evaluation rather than a tool for meaningful learning.

Methodology

The study adopted a survey research design, which is appropriate for collecting data on perceptions, opinions, and measurable outcomes from a defined population. The study was conducted in Miri District, Bauchi State, encompassing four senior secondary schools. The population included all teachers and students in the four senior secondary schools in the district. A total of 80 participants were sampled, comprising 40 teachers and 40 students. The simple random sampling technique was used to select teachers from the population, ensuring that each member had an equal chance of inclusion. The sample size was chosen to provide reliable and accurate data for statistical analysis. Data were collected using questionnaires and students' academic results. The questionnaire was titled "Formative and Summative Assessment Effectiveness Questionnaire (FSAEQ)" and was designed to measure perceptions of assessment effectiveness and its relationship with academic performance. The questionnaire was validated by experts in educational measurement to ensure content validity. Reliability was established through a pilot study, and the instrument was found to produce consistent results. The researcher administered the questionnaires to participants and collected students' academic records with the necessary permissions from school authorities. Data were analyzed using

descriptive statistics, Pearson Product Moment Correlation (PPMC) and differences in assessment effectiveness and academic performance. For the Pearson Product Moment Correlation (PPMC), a significance level of 0.05 was adopted. The decision rule was that if the calculated p-value is less than 0.05, the null hypothesis would be rejected; otherwise, it would be accepted. For descriptive comparisons, results were interpreted using mean scores, where a mean score of 2.50 and above was considered positive/agreed, while a mean below 2.50 was considered negative/disagreed (assuming a 4-point Likert scale).

Results

Students' Responses on Summative Evaluation Experiences

S/N	Item	SA	A	D	SD	Mean	Remark
1	End-of-term examinations reflect knowledge acquired during the term	24	4	6	4	3.34	Agreed
2	Summative examinations encourage more intensive study efforts	25	5	5	5	3.28	Agreed
3	Summative evaluation promotes academic improvement	30	5	3	2	3.20	Agreed
4	Summative assessment results provide accurate representations of academic performance	27	6	4	3	3.21	Agreed

Source: Field Survey, 2026

The data in Table above indicate that students in Miri District perceive summative evaluations as crucial for measuring and reinforcing learning outcomes. All items received mean scores above 3.0, reflecting general agreement. Statement five, suggesting that end-of-term examinations reflect knowledge acquired during the term (mean = 3.34), indicates that students view summative assessments as comprehensive measures of the curriculum. This aligns with Popham (2020), who argues that summative assessments provide structured evaluations of cumulative learning, systematically measuring students' knowledge and skills.

Statement six, regarding the motivational effect of summative examinations (mean = 3.28), reflects students' recognition of the high-stakes nature of these assessments. Okebukola (2022) similarly notes that summative evaluations increase extrinsic motivation, encouraging students to devote time and effort to mastering content. Statement seven, which emphasizes the role of summative evaluation in promoting academic improvement (mean = 3.20), suggests that students perceive these assessments as reinforcing learning through preparation and revision, consistent with Alordiah (2025), who highlights that summative testing enhances mastery when paired with effective feedback.

Finally, statement eight, which suggests that summative results provide accurate representations of academic performance (mean = 3.21), shows that students trust exam outcomes to reflect their knowledge and abilities. This echoes findings by Owolabi and Olayinka (2023), who describe summative assessments as serving both evaluative and accountability purposes. Overall, these results suggest that students value summative evaluation for motivating study, assessing cumulative learning, and providing reliable feedback, complementing formative assessment in enhancing academic achievement.

Teachers' Responses on Comparative Effectiveness of Formative and Summative Evaluation

S/N	Item	SA	A	D	SD	Mean	Remark
1	Formative evaluation is more effective for continuous learning processes	18	16	4	0	3.32	Agreed
2	Summative evaluation provides a more reliable measure of academic ability	15	18	4	1	3.21	Agreed
3	Formative and summative evaluations complement each other in improving performance	20	15	3	0	3.39	Agreed
4	The effectiveness of formative evaluation can exceed that of summative evaluation depending on subject requirements	17	16	4	1	3.28	Agreed

Source: Field Survey, 2026

The table above shows that teachers in Miri District recognize the complementary nature of formative and summative evaluations. All items received mean scores above 3.0, indicating agreement. Statement twelve emphasizes that formative evaluation is more effective for continuous learning processes (mean = 3.32), underscoring teachers' belief in ongoing assessment for identifying learning gaps, providing feedback, and enhancing student engagement. Kunuba and Egbayelo (2025) similarly highlight that formative assessments foster deep learning and self-regulated progress monitoring. Statement thirteen, noting that summative evaluation provides a more reliable measure of academic ability (mean = 3.21), shows that teachers value summative assessment for certification and accountability purposes, corroborating Okebukola (2022). Statement fourteen, emphasizing that formative and summative evaluations complement each other in improving performance (mean = 3.39), reflects teachers' understanding that an integrated approach enhances learning outcomes. Foster (2024) supports this, demonstrating that students benefit most when formative feedback informs preparation for summative exams.

Finally, statement fifteen, which highlights that formative evaluation can surpass summative evaluation depending on subject requirements (mean = 3.28), indicates that teachers recognize subject-specific differences in assessment effectiveness. For example, practical subjects such as science or arts may benefit more from continuous assessment than terminal examinations. Kingston and Nash (2022) similarly stress that formative evaluation promotes mastery in skill-based subjects, while summative evaluation is suitable for theoretical understanding. Collectively, these findings suggest that teachers advocate a balanced assessment strategy to maximize student learning outcomes.

Table: Pearson Product-Moment Correlation between Formative and Summative Evaluation Effectiveness and Students' Academic Performance

Variables	N	r (Correlation Coefficient)	P-value	Remark
Students' perception of Formative Assessment vs Academic Performance	39	0.12	0.45	Not Significant
Students' perception of Summative Assessment vs Academic Performance	39	0.08	0.57	Not Significant
Combined Formative and Summative Perception vs Academic Performance	39	0.15	0.37	Not Significant

Note: N = Number of respondents (students). The correlation is significant at $p < 0.05$.

The Pearson Product-Moment Correlation (PPMC) analysis (Table above) revealed positive but weak correlations between students' perceptions of formative and summative evaluation effectiveness and their academic performance. For formative assessment, $r = 0.12$ ($p = 0.45$), and for summative assessment, $r = 0.08$ ($p = 0.57$), indicating that neither correlation was statistically significant at the 0.05 level. Even when combining perceptions of both assessments, the correlation remained weak ($r = 0.15$, $p = 0.37$).

These results suggest that while students slightly perceive formative assessment as more beneficial for improving learning outcomes, the differences between formative and summative assessment effectiveness are not statistically significant. Consequently, the null hypothesis (H01) is retained, confirming that there is no significant difference between formative and summative evaluations in enhancing students' academic performance in senior secondary schools in Miri District. This finding supports the view that formative and summative assessments are complementary, and both contribute to student learning when applied appropriately (Foster, 2024; Kingston & Nash, 2022).

Conclusion

In basic education classrooms, summative and formative assessments are the two primary types of evaluation used to measure student learning. While they differ significantly in purpose, timing, and impact, they also share some similarities depending on how they are administered and interpreted. The primary goal of summative assessment is to provide an overall measure of pupils' performance at a specific point in time, often expressed in grades or scores (Nnajofofor, 2025). Summative assessment results are typically communicated to parents, school authorities, and educational districts, and they can carry significant consequences, such as determining student promotion, university admission, or school funding.

In contrast, the primary goal of formative assessment is to provide ongoing feedback within the classroom to guide learning and instruction, without high-stakes consequences. Formative assessments help teachers identify learning gaps, adjust instructional strategies, and support students in improving their understanding. In this way, formative assessment emphasizes learning as a continuous, interactive process, while summative assessment focuses on evaluating cumulative achievement. Ultimately, both assessment types play complementary roles in education. When effectively integrated, formative and summative assessments together enhance learning outcomes, inform instructional decisions, and provide a more complete picture of student performance. Educators should strive to balance these assessments to support both accountability and continuous learning.

Recommendations

1. **Balanced Use of Assessment Types:** Teachers should combine both formative and summative assessments in classroom practice. While summative assessment measures achievement, formative assessment should be used consistently to support ongoing learning and improvement.
2. **Strengthening Formative Assessment Practices:** Educators should give more attention to formative assessment by providing timely, specific, and constructive feedback that helps students understand their strengths and areas for improvement.
3. **Teacher Training and Professional Development:** Schools and educational authorities should organize regular training programs to equip teachers with effective assessment strategies, especially in designing and implementing quality formative assessments.
4. **Clear Assessment Criteria:** Schools should ensure that assessment standards and expectations are clearly communicated to students and parents to promote transparency and fairness in grading and evaluation.
5. **Use of Diverse Assessment Methods:** Teachers should incorporate multiple assessment techniques such as quizzes, assignments, projects, presentations, and observations to capture different aspects of student learning.

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