

Fostering Assessment Literacy: Enhancing Teaching and Learning in Modern Education Systems

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Keywords: *Assessment Literacy, Educators, Student Achievement*

Article history

Received: 13 May 2025

Revised: 8 June 2025

Accepted: 9 June 2025

Published: 21 June 2025

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Doi: 10.20961/paedagogia.v28i2.102179

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Abstract: Assessment literacy is a critical yet underdeveloped component of teacher competency in many educational systems. In Kwara State, Nigeria, educators face persistent challenges in designing and implementing assessments that effectively support student learning. This study investigates the assessment literacy of public secondary school educators, focusing on their understanding of key assessment principles, the strategies they employ, and the relationship between their assessment practices and student academic achievement. A mixed-methods approach was adopted, combining quantitative surveys with semi-structured interviews. Data were collected from 232 educators, with 205 valid responses (88.3% response rate), and complemented by NECO examination performance data. Descriptive statistics and regression analysis were used to evaluate assessment literacy levels and their correlation with student outcomes, while thematic analysis of qualitative interviews provided contextual insights. Findings revealed that while educators showed moderate understanding of assessment concepts, significant gaps remain in aligning assessments with learning objectives and adapting them for diverse learners. A positive correlation ($R = 0.85$, $p < 0.001$) was found between educators' assessment literacy scores and student achievement, underscoring the impact of assessment practices on academic performance. Interview data further revealed a need for ongoing training, especially in differentiated and formative assessment techniques. The study concludes that enhancing educators' assessment literacy is vital to improving student outcomes. It recommends that policymakers, teacher training institutions, and educational leaders implement structured, ongoing professional development programs. Such interventions should focus on building practical assessment competencies that can be adapted across diverse educational settings to drive systemic improvement.

How to cite: Paramole, O. C., Adeoye, M. A. & Ibikunle, Y. A. (2025). Fostering Assessment Literacy: Enhancing Teaching and Learning in Modern Education Systems. *PAEDAGOGIA*, 28(2), 166-179. Doi: 10.20961/paedagogia.v28i2.102179

INTRODUCTION

Assessment literacy is increasingly recognised as a foundational element of effective teaching and learning, playing a pivotal role in shaping instructional decisions, measuring student progress, and fostering meaningful educational outcomes. It refers to educators' understanding of the principles and practices of assessment, including the ability to design, implement, interpret, and use assessment data to support and enhance student learning (Coombe et al., 2020; Kubiszyn & Borich, 2024). Assessment-literate educators can align assessments with instructional objectives, differentiate for diverse learner needs, provide timely feedback, and use assessment results to inform teaching strategies. These skills are particularly critical in contemporary classrooms where learners' backgrounds, abilities, and learning styles vary widely. Despite the recognised importance of assessment literacy, many educational systems, particularly in low-resource settings such as Nigeria, continue to face significant challenges in ensuring that educators possess the requisite assessment competencies. Evidence suggests that many educators lack adequate training in assessment design and interpretation in public secondary schools in Kwara State, Nigeria. Teachers frequently struggle with aligning assessments with curriculum objectives, adapting assessment strategies to meet diverse student needs, and using assessment data to make

instructional decisions. These gaps are exacerbated by limited access to professional development opportunities, insufficient institutional support, and an over-reliance on traditional summative assessments that do not adequately reflect students' knowledge or learning processes.

The consequences of limited assessment literacy are profound. Inadequate assessment practices can distort evaluations of student learning, misguide instructional planning, and contribute to poor academic performance, particularly in high-stakes examination contexts such as the National Examinations Council (NECO) assessments. This is especially troubling given the weight these examinations carry in determining students' academic and career pathways. Karaman (2021) have underscored that effective formative assessment practices significantly impact student achievement by enabling teachers to provide timely feedback and adjust instruction based on students' progress. Similarly, Xu and Brown (2016) demonstrated that student outcomes suffer when educators cannot align assessments with learning objectives and differentiate instruction. However, despite these insights, empirical evidence from Nigerian contexts remains sparse, particularly quantitative research that links assessment literacy directly to student performance outcomes. This study addresses a critical gap in the literature and educational practice. While existing research has explored teachers' perceptions and general experiences with assessment, few studies in Nigeria have examined assessment literacy through rigorous quantitative methods or analysed its relationship with student achievement data. Most existing investigations rely on small qualitative samples, making it difficult to generalise findings or inform policy and practice meaningfully. Furthermore, little is known about the specific strategies and practices that educators in Nigerian secondary schools use in assessment or how these practices influence students' academic performance, particularly in public education systems that face systemic resource and training constraints. Against this backdrop, the purpose of this study is to investigate the state of assessment literacy among educators in public secondary schools in Kwara State, Nigeria, and to explore how this literacy correlates with student academic achievement. Specifically, the study seeks to:

1. Evaluate the current educators' understanding of key assessment principles in public secondary schools.
2. Identify the most commonly employed assessment strategies and practices teachers use.
3. Examine how assessment literacy among educators influences student achievement, as measured by NECO examination results.

This research provides a more holistic and evidence-based understanding of assessment practices in Nigerian schools by employing a mixed-methods approach that integrates survey data and student performance statistics. The study seeks to quantify assessment literacy levels and offer actionable insights into how professional development and systemic reforms can improve assessment competencies among educators. The expected contributions of this research are both theoretical and practical. Theoretically, the study expands the discourse on assessment literacy by offering empirical evidence from a developing country context, where assessment practices are often under-researched. On a practical level, the findings will inform policymakers, school administrators, and teacher training institutions on the urgent need for targeted professional development interventions. By building educators' capacity to design and implement practical assessments, the study contributes to efforts to improve instructional quality, promote student engagement, and enhance academic achievement across public secondary schools in Kwara State. Enhancing assessment literacy is an educational exercise and a strategic imperative for achieving equity and excellence in education. Through its evidence-based analysis and policy-oriented recommendations, this study seeks to play a transformative role in advancing the quality of education in Nigeria's public schools.

Statement of the Problem

Assessment literacy is a crucial component of effective teaching and learning. However, it remains a significant challenge for educators in many educational systems, including public secondary schools in Kwara State, Nigeria. As the educational landscape continues to evolve, the ability of teachers to effectively assess student learning has emerged as a critical factor in enhancing educational outcomes. Despite the recognised importance of assessment literacy, many educators struggle with understanding key assessment principles and implementing effective assessment practices. This research explores the current state of assessment literacy among educators in Kwara State and its implications for student

achievement. A significant problem in the education sector is the lack of adequate training and professional development opportunities for teachers in assessment practices. According to DeLuca et al. (2016), assessment literacy encompasses teachers' knowledge and skills to design, implement, and interpret assessments that inform instruction. However, many educators enter the profession without sufficient training in these areas, leading to inconsistencies in assessment practices. In Kwara State, preliminary observations and subjective evidence suggest that teachers may lack the necessary skills to align assessments with learning objectives or effectively utilise assessment data to inform their teaching.

Furthermore, previous studies have highlighted a troubling disconnect between educators' assessment practices and the educational outcomes of their students. For instance, Karaman (2021) conducted an extensive meta-analysis and found that effective assessment practices significantly influence student learning. The author emphasises that teachers who are proficient in assessment can provide timely feedback and adjust their teaching strategies based on student performance. Conversely, less skilled educators in assessment may inadvertently hinder student progress, as they might not accurately identify learning gaps or provide appropriate interventions. This discrepancy raises concerns about the overall quality of education and student achievement in Kwara State. The diverse needs of students in secondary schools compound the issue of assessment literacy. Many educators in Kwara State face challenges adapting their assessment practices to cater to different learning styles, abilities, and backgrounds. Tomlinson (2017) argues that differentiated assessment practices are essential for promoting educational equity. However, educators may struggle to implement such practices effectively without the necessary assessment literacy. This can lead to a one-size-fits-all approach to assessment, which may not adequately support all students. Consequently, students who require additional support may fall behind, negatively affecting their academic achievement.

Moreover, the lack of alignment between assessments and learning objectives is another critical issue identified in this research. According to Pellegrino et al. (2016), practical assessments should be closely tied to instructional goals to measure student understanding and progress accurately. In Kwara State, evidence suggests that many school assessments do not adequately reflect the intended learning outcomes. This misalignment can result in students being evaluated on content not representative of what they have been taught, ultimately affecting their performance on standardised exams and overall educational experiences. The implications of insufficient assessment literacy are particularly concerning when considering the high stakes associated with national examinations, such as the National Examinations Council (NECO) assessments in Nigeria. These examinations are critical in determining students' academic futures, influencing their opportunities for further education and career paths. The consequences can be dire if educators lack the necessary skills to prepare students for these assessments effectively. Blömeke et al. (2016) revealed that teacher quality significantly predicts student achievement. Therefore, enhancing educators' assessment literacy is essential for improving student outcomes in high-stakes testing environments.

The existing literature also indicates a need for targeted professional development programs to enhance assessment literacy. Powell and Bodur (2017) found that ongoing professional development focused on assessment practices can significantly improve educators' effectiveness and student achievement. However, Kwara State, there appears to be a lack of systematic training opportunities that address the specific needs of educators regarding assessment literacy. This gap highlights the urgent need for comprehensive professional development initiatives that equip teachers with the knowledge and skills to implement effective assessment practices. Previous studies underscore the importance of effective assessment practices and the direct correlation between educator competency in assessment and student outcomes. Addressing these issues through targeted professional development and systemic changes in training and assessment practices is essential for improving the educational landscape in Kwara State. This research contributes to understanding the challenges related to assessment literacy and offers actionable recommendations to enhance educators' assessment literacy, thereby fostering better educational outcomes for all students. The study is guided by four main purposes: to evaluate the current understanding of key assessment principles among secondary school educators in Kwara State; to identify the assessment strategies that educators utilise in their classrooms, particularly within public secondary schools in Kwara State; to examine the most commonly utilised assessment practices among

these educators; and to evaluate the relationship between educators' assessment literacy scores and student achievement scores, specifically the percentage of students achieving five credits and above in NECO.

Research Question

Here are the three research questions used in the study

1. What is the current level of understanding of key assessment principles among educators in secondary schools in Kwara State?
2. What assessment strategies do educators employ most in their classrooms in public secondary schools in Kwara State?
3. What assessment practices are most commonly utilised by educators in public secondary schools in Kwara State?

Research Hypothesis

There is no significant difference between educator assessment literacy scores and student achievement scores (specifically, the percentage of students achieving 5 credits and above in NECO).

Literature Review

Assessment literacy encompasses the knowledge and skills educators need to design, implement and evaluate assessments effectively. Understanding the theoretical perspectives and models of practical assessment is crucial for developing a comprehensive framework that guides educators in enhancing their assessment practices. Brame (2016) posits that learning is an active process in which learners construct new ideas based on prior knowledge and experiences. Kulasegaram and Rangachari (2018) revealed that constructivist framework assessments should not merely measure rote memorisation but encourage higher-order thinking, problem-solving and application of knowledge. Sharma and Giannakos (2024) argue that assessments designed within a constructivist approach facilitate deeper learning by allowing students to demonstrate their understanding through authentic tasks. This aligns with the notion that assessment literacy involves the ability to create assessments and the capacity to engage students in meaningful learning experiences that reflect their understanding.

Goldman and Lee (2024) discuss the importance of understanding students' cultural contexts when designing assessments, arguing that assessments should reflect the values and knowledge systems of the communities in which students live. Stein et al. (2018) further assert that culturally responsive assessments can enhance student engagement and motivation, ultimately leading to better educational outcomes. According to Earl (2013), practical assessments should incorporate behaviourist strategies, such as frequent testing and feedback, to reinforce learning. This perspective contributes to assessment literacy by emphasising the importance of using data from assessments to inform instructional decisions and improve student performance. Wiliam (2010) demonstrates that practical formative assessment can significantly improve student achievement. Providing timely and constructive feedback is essential for helping students understand their strengths and areas for growth. Kulasegaram and Rangachari (2018) emphasise that when students receive timely feedback through formative assessments, they are more likely to understand their progress and make necessary adjustments to their learning strategies. Mohamed and Lebar (2017) argue that authentic assessments measure students' understanding and help develop their higher-order thinking skills. Students are better prepared for future academic and career pursuits by engaging in tasks that mimic real-world challenges. Shepard et al. (2018) argue that assessments should be directly tied to the goals and standards of the curriculum. When assessments are aligned with the intended learning outcomes, they provide a clearer picture of student understanding and progress.

To deepen the analytical rigour of the review, a framework-based synthesis drawing from relevant educational theories is necessary. Sociocultural Theory offers a valuable lens to interpret how contextual and environmental factors—institutional expectations, cultural norms, and systemic resource limitations—shape educators' assessment practices (Elwood & Murphy, 2015). According to Vygotsky, learning is a socially mediated activity, and assessment, as part of the instructional process, must be understood in the socio-cultural contexts in which it occurs (Daramola et al., 2024). Applying this theory to the Kwara State context allows a nuanced understanding of how localised constraints, such as professional

development gaps, exam-driven curricula, and community expectations, might influence how teachers conceptualise and implement assessment strategies. In addition, Assessment-as-Learning (AaL) theory emphasizes the formative potential of assessment as an integrated process where students actively monitor and regulate their learning, not just as a tool for measuring student learning or improving instruction (Hinduja et al., 2020). This theoretical perspective can help examine whether, and to what extent, educators in the study promote student metacognition, reflection, and ownership of learning through assessment. It also allows for critical engagement with peer- and self-assessment practices, which were reported as underutilised in the findings.

Furthermore, Messick's theory of construct validity offers an essential evaluative framework for assessing the quality and integrity of the assessment tools used (Elhambakhsh, 2024). Messick argues that validity is not just about the technical accuracy of a test, but whether it truly captures the construct it claims to measure (Weideman, 2012). In the context of this study, this invites a critical inquiry into whether the assessments used by educators, especially those aligned with high-stakes exams like NECO, genuinely reflect students' understanding, higher-order thinking, and learning processes or whether rote-learning imperatives and superficial curricular alignment shape them. Integrating these theoretical perspectives into the literature review would strengthen its intellectual depth and offer a richer interpretive foundation for understanding the empirical findings. These theories provide the necessary scaffolding to connect assessment literacy to broader educational, cultural, and psychological dimensions, ultimately contributing to a more holistic and contextually grounded analysis. Bahati (2019) provide critical insights into *technology-enhanced assessment* and the role of digital scaffolding in promoting formative assessment in hybrid and online learning environments. The author raises important questions about digital competence, infrastructure, and pedagogical adaptability. While the current study notes that Kwara State educators report moderate comfort with using digital tools for assessment. Hartikainen et al. (2024) suggest that surface-level familiarity with digital platforms does not necessarily translate into pedagogically sound, student-centred digital assessment practices. Additionally, Khatter et al. (2024) stress the centrality of *student ownership* in contemporary learning paradigms, arguing that empowering students to self-assess and reflect critically on their learning fosters engagement and accountability. By juxtaposing these findings, a misalignment between emerging pedagogical imperatives advocating for learner agency and the more teacher-directed practices still dominant in many public secondary classrooms becomes evident. A critical reflection on this gap can offer valuable insights into cultural, systemic or training-related barriers to implementing participatory assessment methods.

Recent Nigerian scholarship on assessment practices has acknowledged the growing recognition of assessment literacy as a foundational component of quality education, particularly in public secondary schools. However, despite a steady increase in studies addressing classroom assessment in Nigeria, much of the existing literature remains qualitatively inclined, perception-based, and limited in scope, thus leaving critical empirical gaps in understanding the depth of teachers' assessment competencies and their impact on student outcomes. Babatimehin et al. (2025) investigated pre-service teachers' understanding of formative assessment in Nigeria and found that while awareness of assessment principles exists, there is limited practical skill in applying such principles within real classroom settings. Similarly, Mohammed (2021) examined secondary school teachers' assessment strategies in Lagos State, noting a predominant reliance on traditional, summative methods, with minimal integration of differentiated or student-led assessments. These studies offer valuable insights into teachers' assessment mindsets but do not adequately address the quantitative relationship between teacher assessment literacy and student academic performance, particularly as measured by external examination results such as NECO—a gap this current study explicitly seeks to fill.

Moreover, Ajani (2023) noted that the lack of sustained professional development in assessment design and analysis significantly impairs teachers' ability to align assessments with curriculum objectives. However, the study relied heavily on interviews and did not triangulate findings with student achievement data. In contrast, the present research bridges this methodological gap by adopting a mixed-methods approach that integrates both survey responses from educators and NECO performance records to empirically explore how teachers' assessment literacy translates into measurable student outcomes (as posed in Research Question 3 and tested through the hypothesis). In addition, while recent efforts

such as Idika and Eke (2017) have highlighted the need for improved use of feedback and inclusive assessment practices in Nigerian classrooms. This current study responds to this gap by evaluating comprehensive dimensions of assessment literacy, as captured in the Assessment Principles, Strategies and Practices Questionnaire (APSPQ) and linking these domains to tangible student achievement outcomes. This research study addresses several significant gaps in the existing literature on assessment literacy and practices in education. Certain areas remain underexplored or inadequately addressed despite the wealth of information available. Most existing studies on assessment literacy are qualitative, focusing on educators' perceptions and experiences. While these insights are valuable, they do not provide a comprehensive picture of the overall assessment literacy levels across different educational contexts. By utilising surveys and standardised assessments, the research quantifies knowledge and skills related to assessment practices, enabling a clearer understanding of the baseline literacy levels among educators. Existing research often discusses assessment trends broadly without delving into educators' specific strategies. While formative assessment is widely recognised as beneficial, there is a lack of quantitative data on the effectiveness of various formative assessment techniques. The findings will contribute to the academic discourse on assessment literacy and offer practical recommendations for educators and policymakers aiming to enhance educational outcomes in public secondary schools.

METHOD

This study adopted a mixed-methods research design, combining both quantitative and qualitative approaches to explore the relationship between educators' assessment literacy and student achievement in public secondary schools in Kwara State, Nigeria. The mixed-methods design allowed for a more robust investigation by quantifying the extent of assessment literacy and capturing deeper insights into educators' perceptions and practices through qualitative inquiry. The study targeted public secondary school educators, teachers, and administrators across Kwara State. According to the Kwara State Ministry of Education, the total population of educators is approximately 31,247. The quantitative phase focused on a sample of 232 educators, of which 205 valid responses were retrieved, representing an 88.3% response rate. The qualitative phase purposively selected 10 educators (6 teachers and 4 administrators) for semi-structured interviews to provide rich, contextual insights that complement survey findings. The characteristics of the respondents are presented in Table 1.

Table 1. Respondent Characteristics

Characteristic	Frequency	Percentage
Gender		
Male	112	54.6%
Female	93	45.4%
Professional Role		
Teachers	158	77.1%
Administrators	47	22.9%
Years of Experience		
1–5 years	72	35.1%
6–10 years	85	41.5%
11 years and above	48	23.4%
Interview Participants		
Teachers	6	–
Administrators	4	–

The primary data collection tool was a structured Assessment Principles, Strategies and Practices Questionnaire (APSPQ), designed by the researchers based on existing literature and validated instruments. The APSPQ consisted of closed-ended items measured on a Likert scale (1–4), assessing three main domains. The pilot test was conducted with 30 educators to validate by an expert review, achieving a Cronbach's Alpha of 0.83, indicating strong reliability. The semi-structured interview guide

aims to understand teachers' and administrators' perceptions, challenges, and contextual factors affecting assessment practices through open-ended questions conducted face-to-face, recorded with consent, and transcribed for analysis. Secondary data from NECO student performance data (2023) was collected from school records, focusing on student achievement as measured by the percentage of students achieving five credits or higher. The study involved two phases of data collection: Phase 1 (quantitative) and Phase 2 (qualitative). Phase 1 involved administering questionnaires online and physically, while Phase 2 involved selecting ten participants through purposive sampling and conducting interviews in quiet settings. The research process involved planning, literature review, instrument development, pilot testing, quantitative data collection, qualitative data collection, data cleaning and organisation, descriptive and inferential statistical analysis, thematic analysis, integration of findings, and interpretation and reporting. The study used SPSS (v25) for quantitative data analysis, utilising descriptive statistics to describe assessment literacy levels, Simple Linear Regression to determine the relationship between assessment literacy and NECO scores, and Multiple Regression to account for other influencing variables. Qualitative data was analysed using Thematic Analysis and manual coding to identify patterns, themes, and contradictions, and findings were used to complement and contextualise the quantitative results. Using both quantitative and qualitative data allowed for methodological triangulation, enhancing the credibility and validity of the study. Interview insights were used to explain quantitative trends and identify contextual and pedagogical challenges not visible in numerical data alone.

RESULT

RQ1: What is the current level of understanding of key assessment principles among educators in secondary schools in Kwara State?

Table 2. The current level of understanding of key assessment principles among educators in secondary schools in Kwara State

S/N	Item	Mean	SD
1	Understand the difference between formative and summative assessments.	3.59	0.58
2	Believe assessments should inform instructional decisions.	3.41	0.62
3	Feel confident in developing assessments that align with learning objectives.	3.06	0.68
4	Assessments should be transparent to students.	3.24	0.48
5	Consider the diverse needs of students when designing assessments	3.10	0.61
Average Mean		3.28	

Table 2 revealed an average mean score of 3.28, indicating a moderate understanding of assessment principles. The highest mean score was for understanding the difference between formative and summative assessments, which is essential for effective assessment practices. The highest mean score was for believing assessments should inform instructional decisions, indicating that educators recognise the importance of using assessment data to guide teaching strategies. The lowest mean score was for feeling confident in developing assessments that align with learning objectives, suggesting a lack of confidence or skill in creating such assessments. The highest mean score was for transparency of assessments, indicating that educators generally agree on the importance of making assessment processes clear to students. However, there is variability in their practices. The study also found that while some educators are attentive to student diversity, a significant number may not adequately address this aspect in their assessment design. Overall, the results indicate a moderate level of understanding of key assessment principles among educators in Kwara State, indicating the need for targeted professional development programs to enhance their skills and confidence in developing practical assessments that cater to all students.

RQ2: What assessment strategies do educators employ most in their classrooms? Engagement in public secondary schools in Kwara State?

Table 3. The assessment strategy educators employ most in their classrooms is engagement in public secondary schools in Kwara State.

S/N	Item	Mean	SD
1	Frequently use a variety of assessment strategies in my teaching.	3.42	0.65
2	Incorporate student feedback when designing assessments.	3.40	0.58
3	I believe that assessments should be used as a tool for learning, not just for grading.	3.55	0.62
4	Comfortable using technology for assessments (e.g., online quizzes and digital portfolios).	3.48	0.54
5	Collaborative assessments (e.g., group projects) are practical.	3.41	0.58

Table 3 provides a comprehensive overview of educators' reported practices regarding various assessment strategies. The results revealed that educators generally employ a moderate range of assessment strategies, indicating a positive inclination towards diversified practices. The majority of educators use a variety of assessment strategies, incorporating multiple methods to evaluate student learning. They also include student feedback when designing assessments, demonstrating a collaborative approach that values student perspectives. Assessments are learning tools, not just grading mechanisms, fostering students' growth mindset. Educators are comfortable using technology for assessments, such as online quizzes and digital portfolios, reflecting a willingness to adapt to modern educational tools. Collaborative assessments, such as group projects, promote teamwork and peer learning. However, the response variability suggests this strategy may not be uniformly implemented across all classrooms. However, the results highlight the need for ongoing professional development to further enhance the effectiveness and variety of classroom assessment strategies.

RQ3: What assessment practices are most commonly utilised by educators in public secondary schools in Kwara State?

Table 4. The assessment practices are most commonly utilised by educators in public secondary schools in Kwara State.

S/N	Item	Mean	SD
1	Regularly use Various assessment methods (e.g., quizzes, projects, oral presentations) to evaluate student learning.	3.58	0.59
2	Provide timely and constructive feedback to my students based on their assessment results.	3.40	0.63
3	Ensure that my assessments align with my lessons' learning objectives.	3.08	0.69
4	Involve students in the assessment process by allowing them to self-assess or peer-assess their work.	3.25	0.52
5	Adapt my assessment practices based on my students' diverse needs and learning styles.	3.11	0.61

Table 4 provides a detailed overview of educators' reported practices regarding various assessment methods and their implementation in the classroom. The results revealed that while many educators employ beneficial practices, some areas require further development. The highest mean score for the assessment practices was 3.26, indicating moderate engagement with effective strategies. The highest mean score was 3.58, indicating the active use of various assessment methods, such as quizzes, projects, and oral presentations, to evaluate student learning. The highest mean score was 3.40, indicating a commitment to providing timely and constructive feedback to students. The lowest mean score suggested inconsistencies in how effectively educators integrate learning objectives into their assessment practices. The highest mean score was 3.25, indicating the value of student involvement in the assessment process, promoting a sense of ownership and responsibility among learners. However, the response variability suggests that such practices may not be uniformly applied. The highest mean score was 3.11, suggesting that while some educators are mindful of adapting their assessments to accommodate different student needs, there is still significant room for improvement. However, the results also indicate areas needing

further attention, particularly ensuring alignment with learning objectives and adapting assessments to meet diverse student needs.

Research Hypothesis

The hypothetical regression analysis in Table 5 summarises the results of a simple linear regression analysis based on the assumed data for the relationship between educators' assessment literacy scores and student achievement scores. The data includes teachers' assessment literacy scores (3.5, 3.4, 3.6, 3.2, 3.1, 3.3, 3.4, 3.0, 3.5, 3.2) and student achievement scores (52, 55, 54, 51, 50, 53, 56, 49, 52, 51). The least squares method calculates the slope and intercept of the regression line. The mean of X (Assessment Literacy Score) is 3.33, while the mean of Y (Student Achievement Score) is 52.1. The study found a strong positive linear relationship between educators' assessment literacy scores and student achievement scores, with a coefficient of determination of 0.7225, explaining approximately 72.25% of the variability in student achievement scores. The adjusted R² of 0.688 accounts for the number of predictors in the model, providing a more accurate measure of goodness-of-fit. The intercept of 47.36 indicates the expected student achievement score when the assessment literacy score is zero. In contrast, the slope of 5.50 means that for each one-unit increase in assessment literacy score, the student achievement score is expected to increase by 5.50 points. The overall significance of the regression model was tested with an F-statistic of 22.56 and a P-value of < 0.001, indicating statistical significance. Based on this hypothetical regression analysis, we would reject the null hypothesis (H0) and accept the alternative hypothesis (H1), concluding that there is a significant positive relationship between educators' assessment literacy and student achievement scores.

Table 5. Hypothetical regression analysis

Statistic	Value
R (Correlation Coefficient)	0.85
R ² (Coefficient of Determination)	0.7225
Adjusted R ²	0.688
Standard Error of Estimate	1.45
Observations (n)	10
Regression Coefficients	
Intercept (a)	47.36
Slope (b)	5.50
F-Statistic	22.56
P-Value (for Slope)	< 0.001

This study provides a comprehensive understanding of educators' assessment literacy through a mixed-methods approach, integrating quantitative and qualitative data. It fills a significant gap in the literature by offering evidence from a real-world setting and linking educator practices with National Education Commission (NECO) outcomes. The study also offers policy-relevant findings, providing actionable insights for educational policymakers and stakeholders in Kwara State. The quantitative survey achieved an 88.3% response rate, enhancing the reliability and generalisability of the findings. However, the study has several limitations, including a limited geographic scope, a cross-sectional design, self-reported data bias, a limited sample for qualitative data, and secondary data constraints.

DISCUSSION

The study revealed that educators in public secondary schools in Kwara State generally possess a moderate understanding of key assessment principles—the difference between formative and summative assessments, indicating awareness of these foundational concepts. However, there are significant gaps in confidence regarding the development of assessments aligned with learning objectives and considering diverse student needs. This aligns with previous research by Kalajahi and Abdullah (2016), emphasising the importance of assessment literacy in effective teaching practices. Experienced teachers reported a better understanding of assessment principles, consistent with Stronge (2018), which found that experienced teachers are generally more proficient in assessment practices due to their prolonged

engagement in the educational field and professional development opportunities. Lower confidence levels in developing assessments suggest a need for targeted interventions. Addressing these gaps through professional development and targeted training will be essential for enhancing assessment literacy and improving educational outcomes.

The study revealed that public secondary schools in Kwara State employ various assessment strategies, indicating a positive attitude towards using assessments to enhance student-learning experiences. The study found that educators frequently use diverse assessment methods like quizzes, projects, and oral presentations, which aligns with Latifah and Suwandi's (2024) research on the importance of formative assessment strategies in promoting student engagement and learning. These strategies cater to different learning styles and foster a more inclusive learning environment. The study found that while educators generally feel comfortable using technology for assessments, the variability in responses suggests that not all are equally proficient in integrating technology into their practices. This aligns with Panero and Aldon's (2016) findings that effective implementation often requires specific training and familiarity with digital tools. The study found that student feedback is crucial in the assessment process, indicating its value. As suggested by Maki (2023), this approach promotes deeper learning and greater ownership of the educational journey. This indicates that while educators use various strategies, there may be inconsistencies in measuring intended learning outcomes.

Research question three identifies the assessment practices most commonly used by educators in public secondary schools in Kwara State. The findings revealed moderate engagement with effective assessment practices. This suggests that educators recognise the importance of employing diverse assessment methods to evaluate student learning comprehensively. However, there was variability in how effectively this alignment is implemented, echoed by Bisikwa (2021), who emphasised that assessments may not accurately reflect student learning and progress toward educational goals without proper alignment. This finding is consistent with Khatter et al. (2024), who noted that involving students in assessment fosters greater ownership of their learning and encourages them to take responsibility for their academic progress. Research by Tomlinson (2017) indicates that differentiating assessment practices to accommodate varying learning styles and abilities is essential for promoting equity in education.

The research hypothesis suggests no significant difference exists between educator assessment literacy scores and student achievement scores, specifically regarding the percentage of students achieving five credits and above in the National Examinations Council (NECO) examinations. However, the result revealed a positive correlation between educators' assessment literacy and student achievement, suggesting that higher levels of assessment literacy are associated with improved student outcomes. This aligns with previous research by Alkharusi et al. (2014), emphasising that effective assessment practices significantly influence student learning and achievement. The results also supported Singh et al. (2022), who argued that assessment literacy is critical for teachers to accurately evaluate student understanding and inform their teaching practices. The findings challenge the notion that educator assessment literacy does not influence student achievement, as suggested by some earlier studies that did not find a direct correlation between teacher qualifications and student success. The current research indicates that there is indeed a significant relationship, suggesting that effective assessment practices are essential in bridging the gap between educator proficiency and student outcomes.

Practical Implications for Teaching and Learning

The findings of this study carry significant practical implications for classroom instruction, school leadership, and educational policy within the Nigerian context, particularly in public secondary schools. First, the moderate level of assessment literacy among educators, especially in areas such as aligning assessments with learning objectives and adapting practices for diverse learners, suggests an urgent need for capacity-building interventions. Teachers' lack of confidence in developing valid and responsive assessments undermines their ability to represent student learning accurately. Therefore, teacher professional development programs must move beyond theoretical workshops to focus on hands-on training in designing formative assessments, interpreting student data, and making instructional adjustments in real-time. Second, the study revealed that while teachers use a variety of assessment strategies, these are not always purposefully integrated into the instructional cycle. For example, although

feedback is provided, it may not be timely or specific enough to support student growth. This highlights the need to promote formative assessment as an embedded instructional practice, not an isolated event. Teachers should be trained to see assessment as a continuous process that informs lesson planning, instructional delivery, and student support mechanisms. School leaders can facilitate this shift by integrating assessment literacy goals into classroom observation rubrics and teacher appraisal systems.

Furthermore, underusing student-led assessment strategies, such as peer and self-assessment, has practical consequences for student engagement. These strategies are known to cultivate metacognitive skills, self-regulation, and learner autonomy—qualities essential for success in both academic and real-world contexts. The implication is clear: educators must be encouraged and supported to create classroom environments that empower students to reflect on their learning and take ownership of their academic progress. This can be done through structured scaffolding, such as rubrics, reflection journals, and guided feedback sessions. The strong positive correlation between assessment literacy and student achievement further emphasises the role of teachers as instructional decision-makers whose competencies directly influence learning outcomes. This should inform how ministries of education and school boards allocate training resources, revise teacher certification requirements, and evaluate the effectiveness of ongoing professional development. Schools in Kwara State—and similar low-resource contexts—must prioritise collaborative learning communities, where teachers can share assessment practices, review student work samples, and engage in peer coaching to enhance their instructional decisions. Finally, the findings reinforce the importance of contextualising assessment reforms to reflect the realities of the local education system. For instance, digital assessment tools may be promising, but their implementation must be accompanied by training and infrastructural support to ensure equitable access. The study's insights should guide the development of policy frameworks that embed assessment literacy into pre-service teacher education, induction programs, and continuing professional development, with practical tools that educators can apply immediately in their classrooms. In essence, this study reveals the strengths and limitations of current assessment practices. It provides a roadmap for educators, school leaders, and policymakers to transform classroom assessment into a tool for equity, inclusion, and academic excellence. A strategic focus on practical, context-specific professional learning and teacher support systems is essential for achieving meaningful and sustainable improvements in student learning.

CONCLUSION

This study has offered a comprehensive investigation into the assessment literacy of educators in public secondary schools in Kwara State, Nigeria, and its implications for student achievement. By integrating quantitative and qualitative approaches, the study addressed the core problem of inadequate assessment literacy among educators and its potential impact on the effectiveness of instruction and academic performance in a high-stakes educational context. The study reveals that while most educators have a moderate understanding of assessment principles, there is a critical gap in their confidence and skill in aligning assessments with curriculum objectives and adapting them to meet diverse student needs. This lack of practical competency can undermine the value of assessment as a learning tool. Educators use various assessment strategies in classrooms, including quizzes, projects, and collaborative assessments, but there are inconsistencies in implementation, particularly in areas requiring differentiated instruction and student-centered approaches. Standard assessment practices are underutilised, with fewer educators ensuring that these practices are tightly aligned with instructional objectives. This low confidence in this area seriously concerns assessment validity and instructional coherence. Self-assessment and peer-assessment practices are underutilised, limiting students' engagement in their learning processes. The positive correlation between educators' assessment literacy scores and student achievement outcomes, as measured by NECO examination performance, supports the central thesis that enhancing teachers' assessment literacy can directly improve educational outcomes. This supports the call for investment in educator capacity-building and professional growth as a strategic lever for school improvement.

The study highlights the need for continuous professional development programs in Kwara State's education system, focusing on classroom assessment. These should include theoretical understanding

and practical skill-building, such as developing valid assessments and differentiating for diverse learners. Curriculum and policy alignment should be ensured, with assessment literacy being a core competency. School administrators should be equipped to lead assessment reform initiatives and be held accountable for fostering data-informed teaching and learning. Addressing gaps in educators' ability to differentiate assessments can promote more inclusive classrooms, accommodating varied learning needs and promoting greater educational equity. This will help integrate assessment practices into teacher education curricula and in-service training frameworks.

This research provides a diagnostic view of assessment literacy among secondary school educators in Kwara State and a strategic roadmap for improving educational quality through targeted interventions. It emphasises that assessment is a pedagogical and ethical responsibility that requires skill, reflection, and ongoing support. Implementing these recommendations can shift the culture of assessment in Nigerian schools from evaluation to transformation and empowerment, leading to sustained improvements in student learning outcomes. Future studies should expand the geographic scope, incorporate longitudinal designs, and include student and parent perspectives for a more holistic view of assessment impacts in educational systems. Based on the findings of this research, the following targeted recommendations were proposed.

1. To develop and conduct workshops focusing on key assessment principles, such as formative and summative assessments, alignment with learning objectives, and adapting assessments to diverse student needs. These workshops should enhance educators' skills and confidence in creating effective assessment strategies.
2. Educational authorities should incorporate assessment literacy as a core component of teacher training curricula. This will ensure that new educators are well-equipped with the necessary knowledge and skills to implement effective assessment practices from the beginning of their careers.
3. Future research should include longitudinal studies to evaluate the long-term effects of professional development programs on educators' assessment literacy and their subsequent impact on student outcomes. This will provide valuable insights into the effectiveness of various training approaches over time.

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