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## TEACHERS' CLASSROOM ASSESSMENT STRATEGIES AND CURRICULUM IMPLEMENTATION IN NIGERIAN SECONDARY SCHOOLS

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### ABSTRACT

Classroom assessments are meant to evaluate students' reaction to teachers' instruction and to measure students' learning. Classroom assessment allows teachers to intervene in rectifying observed deficiencies in students' learning. They are formative in nature and speedy as they often consume just a few minutes, are flexible, anonymous for students, and can be positive learning activities measuring writing and critical thinking skills besides enhancing student motivation. This study examines secondary school teachers' use of alternative classroom assessment strategies in secondary schools in Ilorin metropolis, Nigeria. It employs a survey method using a researcher designed questionnaire. Percentages, *t*-test, and ANOVA statistics were used for data analyses. Results indicated that teachers had awareness of and used mainly paper/essay, exam/quiz/problem set, and oral assessments. Teachers' gender, qualification, and experience had no interaction effects on secondary school teachers' awareness and use of classroom assessment techniques. Based on these findings, suggestions were made for improving teacher education programs to promote alternative assessment strategy use in Nigerian schools.

**Keywords:** Classroom assessment, Teachers, Strategies, Curriculum, Education, Nigeria

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## INTRODUCTION

Assessment can be classified as classroom assessments and accountability assessments. Classroom assessments deal with the formal and informal procedures teachers use to make accurate inferences about their students' learning. Accountability assessments are measurement devices, usually standardized, used by governmental entities (levels or agencies, school district, among others) to ascertain the achievement or effectiveness of educational endeavors (Popham, 2009). Educational assessment can also be divided into formative assessment and summative assessment. Teachers use formative assessment to improve their ongoing instructional activities, or to adjust how students are trying to learn something. Summative assessment entails use of assessment based evidence to arrive at decisions about already-completed instructional events (quality of a year's worth of schooling, effectiveness of a semester-long course, movement to next level or class, terminal academic achievement in an institution, etc.) (McMillan, 2007).

The school curricula are specifications of educational ideas and practices provided for teachers to stimulate their discussion, experimentation and critique. It is a hypothesis which serves as starting point for reflection and development for effective translation into practice (Stenhouse, 1975). Assessment and evaluation are basic to curriculum implementation; this is because classroom assessment is basic to good communication within the classroom, as it serves as the basis for instructional improvement. In fact, it lies at the heart of good, interactive teaching. Assessment must be appropriate in terms of type, students' level and wording. Teachers' use of appropriate assessment would encourage students to take risks, think in divergent and creative ways in curriculum implementation. As Zhang and Burry-Stock (2003) had noted "classroom assessment embraces a broad spectrum of activities from constructing paper-pencil tests and performance measures, to grading, interpreting standardized test scores, communicating test results, and using assessment results in decision-making" (p. 324). Classroom assessments are formative, used to help students learn more, through evidence gathered from classroom activities and assessments which are meant to support students' learning. They are formal and informal processes teachers and students use to gather evidence aimed at improving learning.

Assessments are meant to inform teaching, improve learning, and assist students in achieving the highest possible standards. Assessment provides needed links among learning outcomes, content, instructional resources, and teaching and learning activities. Classroom Assessment Techniques are formative evaluation methods that help teachers assess how much students understand the course content and also provide information about the effectiveness of classroom teaching methods (Haugen, 1999). Classroom assessment is a major component of the classroom interaction process. Stiggins and Conklin (1992) opined that teachers spend from a third to a half of their professional time in assessment activities such as designing assessment tasks, grading, and communicating assessment results to their students.

Assessment questions may be classified based on Bloom's Revised Taxonomy into six categories: remembering dealing with retrieving, recognizing, and recalling knowledge from long-term memory; understanding relates to constructing meaning from oral, written, and graphic messages; while applying deals with the use of procedure through executing, or implementing. Others are analyzing that entails breaking material into constituent parts, and determining how the parts relate to one another; evaluating refers to making judgments based on criteria and



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standards; and creating that encompasses putting elements together to form a coherent or functional whole (Anderson & Krathwohl, 2001). Questions are also classified into lower cognitive questions (fact, closed, recall etc.) involving the recall of information and higher cognitive questions (open-ended, evaluative, synthesis, etc.) involving the mental manipulation of information (Ewing & Whittington, 2007).

Duncan and Mulvenon (2009) in their review on formative assessment noted among others the need to conduct research with more efficient methodologies and designs that will lead to more conclusive results and understanding of the impact of formative assessment and evaluation on student achievement. Also underscored is the need for a sound research-validated framework for best practices in formative assessment and formative evaluation (Pinchok & Brandt, 2009). Mussawy (2009) investigated the perceptions of students and teachers on higher education classroom assessment practices in Pakistan. The study revealed that students and teachers demonstrated awareness of the importance of assessment, and faculty members appreciated the need for aligning alternative assessment strategies with traditional methods. A study in Botswana revealed that students perceived that their teachers' classroom questions do not have positive impact on their learning outcomes, performance and achievements in mathematics (Adedoyin, 2010).

An investigation of professors' assessment practices as they relate to the types and cognitive levels of questions they used in college of agriculture class sessions revealed that one-third of questions they asked were remembering (lowest) level of cognition, while creating and evaluating level questions were barely asked (Ewing & Whittington, 2007). Exploratory study on using performance assessment in mathematics instruction in a high-performing secondary school in Singapore revealed that students who received performance tasks as intervention during regular mathematics lessons, for about one and a half school years, performed significantly better than their counterparts in solving conventional exam problems. Students who received performance tasks as intervention also showed more positive changes in attitudes toward mathematics and mathematics learning (Fan & Zhu, 2008).

A study was conducted to explore the ratio of lower and higher-order questions teachers asked at secondary level using Bloom's taxonomy in Pakistan. Findings indicated that teachers spent much time asking low-level cognitive questions, and very little on higher-order questions. Total percentage of questions during 445 minutes was 60 percent. Specifically, among 267 questions some 67% were knowledge based, 23% comprehension based, 7% application based, 2% analysis based, 1% was synthesis based, and no question was evaluation based (Khan & Inamullah, 2011).

A study on classroom assessment and grading practices in the Sultanate of Oman revealed that teachers use mainly short answer, completion, oral exams, extended answer, and multiple-choice item formats (Alsarimi, 2000). In a study on teachers' perceptions of classroom assessment in mathematics and their classroom assessments practices in Malawi, findings indicated that teachers perceive classroom assessment as tests given to their students at specified time intervals, so they showed limited ability to use different methods and tools to assess their students while teaching. In addition, their perceptions had influence on their classroom assessment practices while teachers' experience and education did not seem to contribute much to teachers' perceptions of classroom assessment (Susuwele-Banda, 2005).



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Alkharusi (2011) investigated teachers' self-perceived assessment skills as a function of gender, subject area, grade level, teaching experience, and in-service assessment training of teachers teaching grades six, eight, and ten in Muscat public schools in Oman. Results indicated that: female teachers perceived themselves to be more skillful in writing test items and communicating assessment results; teachers self-perceived assessment skills are reflective of the nature of the subjects and grade levels they teach; as teaching experience increases, teachers self-perceived assessment skills tend to increase; and teachers with in-service assessment training showed a higher level of self-perceived assessment skill. Generally, results showed statistically significant differences on the self-perceived assessment skills when interacted with teachers' gender, subject area, grade level, teaching experience, and in-service assessment training.

A study was conducted to evaluate classroom assessment employed by the teachers, the critical-thinking and academic performance of the students in the laboratory high schools in the Philippines. The study findings indicated that only 11 out of 50 types of classroom assessment techniques are being used in the two laboratory high schools and questions demanding low-order thinking skills. In addition, teacher-related factors of gender, marital status, employment status, and number of awards received, were significantly associated with the teachers' questioning skills (Baylon, 2014).

The preceding literature review reveals that teachers do not apply most of the assessment techniques recommended by assessment experts. Therefore, there is the need for more empirical evidence on teachers' awareness and use of assessment techniques.

## RESEARCH QUESTIONS

The main purpose of this study was to identify the types of questions asked during assessment by secondary school teachers in Kwara State. The following research questions guided the study.

1. Do teachers have the awareness of different assessment techniques?
2. What types of assessment techniques do teachers use during their classroom instruction?
3. Is there any difference between the awareness and assessment techniques used by male and female teachers?
4. Will the assessment awareness and techniques used by teachers vary based on their academic qualification?
5. Will teachers' experience influence their awareness and use of assessment techniques?

## METHODOLOGY

This study employed a cross-sectional survey method of research. The descriptive method was used to describe the different types of classroom assessments utilized by the teachers; while inferential method was employed to determine difference between male and female teachers in their use of different classroom assessment methods.



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## ***Sample and Data Collection Procedure***

The sample in this study consisted of 422 secondary school teachers in public and private schools within Ilorin metropolis in Kwara State, Nigeria. Permission was sought from the school principals for data collection from their teachers. The sampled teachers were informed about the objectives of the study and their consent sought for their participation. Brief explanation was given on the research instrument. For the study, 520 copies of questionnaire were administered, 465 were returned, and only 422 (81.15%) correctly filled copies were used for data analysis. The demographic data of the participants are as indicated in Table 1.

Table 1  
*Sample Characteristics*

	<b>Variable</b>	<b>No.</b>	<b>%</b>
Gender	Male	194	46
	Female	228	54
Qualification	First Degree	356	84.4
	Masters	58	13.7
	PhD	8	1.9
Experience	1-5	210	49.8
	6-10	136	32.2
	11 and Above	76	18

## ***Instrument***

A 27-item instrument named the Self-Perceived Awareness and Use of Assessment Techniques developed by the researcher was used in this study. On awareness participants were asked to indicate as regards specified techniques whether: *I Know about it* (rated 1) or *Don't Know* (rated 0). The use sector described by items in 3-point Likert scale ranging from *I Use this Regularly* (rated 2), *I Use this Sometimes* (rated 1), and *I Don't Intend to Use* (rated 0). The items were given to Curriculum, Test and Measurement faculty members at the University of Ilorin in Nigeria to establish content validity of the instrument, and their feedback was used for instrument refinement. The instrument was tested for reliability on 45 teachers in Offa, Kwara State, Nigeria. Cronbach alpha reliability yielded values of .86 and .83 for the awareness and use sections, respectively.



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## **Data Analysis**

Variables were examined before analysis for data entry accuracy and missing values. Research questions of teachers' awareness and use of classroom assessment techniques were performed using percentages. Thereafter, independent *t*-tests were performed to establish differences in teachers' self-perceived awareness and use of assessment techniques skills in relation to gender, while One-way analyses of variance (ANOVA) were used to investigate differences in the teachers' self-perceived awareness and use of assessment techniques skills with respect to qualification and teaching experience. Statistical analyses were done using IBM SPSS Statistics 20 software.

## **RESULTS**

The main findings of the study are reported in Tables 2 to 7 based on the five research questions stated earlier.

### ***Secondary School Teachers' Awareness of Assessment Techniques***

The results as related to secondary school teachers' awareness of the assessment techniques are as presented in Table 2 below:

Table 2  
*Teachers' Awareness about Classroom Assessment Techniques*

S/N	Items	Awareness	
		I Know About It	Don't Know
1	Minute Paper	227 (53.8%)	195 (46.2%)
2	Muddiest Point	186 (44.1%)	236 (55.9%)
3	One Sentence Summary	190 (45%)	232 (55%)
4	What's the Principle	177 (41.9%)	245 (58.1%)
5	ProCon Grid	236 (55.9%)	186 (44.1%)
6	Student Generated Test Questions	176 (41.7%)	246 (58.3%)
7	Classroom Opinion Poll	227 (53.8%)	195 (46.2%)
8	Goal Ranking and Matching	206 (48.8%)	216 (51.2%)
9	Process Analysis	186 (44.1)	236 (55.9%)
10	Chain Notes	217 (51.4%)	205 (48.6%)
11	Group Work Evaluation	171 (40.5%)	251 (59.5%)
12	Peer Evaluation	152 (36%)	270 (64%)
13	Portfolio (Individual Production)	185 (43.8%)	237 (56.2%)
14	Reflection	210 (49.8%)	212 (50.2%)
15	Project/Simulation/ Case Study	194 (46%)	228 (54%)
16	Paper/Essay	389 (92.18%)	33 (7.82%)



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17	Exam/Quiz/ Problem Set	407 (96.45%)	15 (3.55%)
18	Discussion/Chat	139 (32.9%)	283 (67.1%)
19	Application Cards	165 (39.1%)	257 (60.9%)
20	Interview and Conferences	161 (38.2%)	261 (61.8%)
21	Child Observation/ Anecdotal Record	164 (38.9%)	258 (61.1%)
22	Checklist	151 (35.8%)	271 (64.2%)
23	Oral Assessment	402 (95.26%)	20 (4.74%)
24	Self-Evaluation	272 (64.5%)	150 (35.5%)
25	Triple Jump	208 (49.3%)	214 (50.7%)
26	Patchwork Text	179 (42.4%)	243 (57.6%)
27	Application Article	185 (43.8%)	237 (56.2%)

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As reflected in Table 2 the frequencies and percentages of teachers' responses for self-perceived awareness of assessment techniques were very high for paper/essay (92.18%), exam/quiz/problem set (96.45%), oral assessment (95.26%), and self-evaluation. Also, the awareness was high, that is between 50 – 60% for pro con grid (55.9%), classroom opinion poll (53.8%), minute paper (53.8%), chain notes (51.4%) assessment techniques, and so on.

However, percentage of their awareness for the other 22 assessment techniques indicated less than 50%. For instance, discussion/chat (32.9%), checklist (35.8%), peer evaluation (36%), child observation and anecdotal record (38.9%), among others. These results indicate that majority of the teachers are only aware of the test related assessments, that focus on lower order classroom assessment. The low awareness of several classroom assessments may be a function of teachers' non-exposure to these assessment techniques, during their pre-service and in-service teacher education programs. In addition, teacher educators responsible for teacher education programs in tertiary might not have modeled good use of other assessment techniques, other than the exam/quiz/problem set, oral and paper/essay assessments.

### ***Secondary School Teachers' Use of Assessment Techniques***

Table 3 below presents the frequency and percentages as relate to secondary school teachers' use of the assessment techniques.



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Table 3

*Teachers' Use of Classroom Assessment Techniques*

S/N	Item	Use		
		I Use this Regularly	I Use this Sometimes	Don't Use
1	Minute Paper	46 (10.9%)	110 (26.1%)	266 (63%)
2	Muddiest Point	113 (26.8%)	121 (28.7%)	188 (44.5%)
3	One Sentence Summary	127 (30.1%)	103 (24.4%)	192 (45.5%)
4	What's the Principle	130 (30.8%)	128 (30.3%)	164 (38.9%)
5	ProCon Grid	78 (18.5%)	98 (23.2%)	246 (58.3%)
6	Student Generated Test Questions	122 (28.9%)	123 (29.1%)	177 (41.9%)
7	Classroom Opinion Poll	89 (21.1%)	104 (24.6%)	229 (54.3%)
8	Goal Ranking and Matching	99 (23.5%)	118 (28%)	205 (48.6%)
9	Process Analysis	123 (29.1%)	120 (28.4%)	179 (42.4%)
10	Chain Notes	88 (20.9%)	94 (22.3%)	240 (56.9%)
11	Group Work Evaluation	137 (32.5%)	121 (28.7%)	164 (38.9%)
12	Peer Evaluation	152 (36%)	113 (26.8%)	157 (37.2)
13	Portfolio (Individual Production)	122 (28.9%)	117 (27.7%)	183 (43.3%)
14	Reflection	96 (22.7%)	122 (28.9%)	204 (48.3%)
15	Project/Simulation/ Case Study	97 (23%)	133 (31.5%)	192 (45.5%)
16	Paper/Essay	388 (91.94%)	32 (7.58%)	2 (0.47%)
17	Exam/Quiz/ Problem Set	401 (95.02%)	21 (4.98%)	0 (0%)
18	Discussion/Chat	167 (39.6%)	139 (32.9%)	116 (27.5%)
19	Application Cards	147 (34.8)	142 (33.6%)	133 (31.5%)
20	Interview and Conferences	145 (34.4%)	145 (34.4%)	132 (31.3%)
21	Child Observation/ Anecdotal Record	134 (31.8%)	115 (27.3%)	173 (41%)
22	Checklist	127 (30.1)	155 (36.7%)	140 (33.2%)
23	Oral Assessment	200 (47.39%)	197 (46.68%)	25 (5.92%)
24	Self-Evaluation	154 (36.5%)	125 (29.6%)	143 (33.9%)
25	Triple Jump	103 (24.4%)	118 (28%)	201 (47.6%)
26	Patchwork Text	106 (25.1%)	134 (31.8%)	182 (43.1%)
27	Application Article	127 (30.1%)	115 (27.3%)	180 (42.7%)

The results of frequencies and percentages of teachers' responses for self-perceived use of assessment techniques are as shown in Table 3. The results reveal that the majority of teachers use paper/essay (91.94%), exam/quiz/problem set (95.02%), oral assessment techniques (47.39%) most of the time, while minute paper (63%), pro con grid (58.3%), chain notes (56.9%) and classroom opinion poll (54.3%) are not used by the majority of teachers. As for most of the other techniques (12 techniques), the results reveal that over 40%, were not using the techniques while those using them regularly or sometimes were less than 40%. These results indicate that the teachers are mainly involved in the use of test/quiz, essay paper and oral assessment techniques in their classrooms given to students at specified interval.





***Teachers' Awareness and Use of Assessment Techniques Based on Gender***

The summary of the independent samples *t*-tests on gender differences in teachers' self-perceived awareness and use of assessment techniques is shown in Table 4.

Table 4

*t*-Test Analysis on Male and Female Teachers' Awareness and Use of Assessment Techniques

	Gender	N	Mean	SD	Df	<i>t</i>	Sig. (2-tailed)
Awareness	Male	194	14.87	8.56	420	-1.103	.271
	Female	228	15.76	8.12			
Use	Male	194	24.64	14.18	420	1.923	.055
	Female	228	22.20	11.92			

As shown in Table 4 the male teachers had a lower awareness score ( $14.87 \pm 8.56$ ) compared to female teachers ( $15.76 \pm 8.12$ ),  $t(420) = -1.103$ ,  $p = .271$ , which was not statistically significant. Test for significant difference between male and female teachers' use of classroom assessment techniques revealed that male teachers had higher use score ( $24.64 \pm 14.18$ ) than female teachers with lower use score ( $22.20 \pm 11.92$ ), however, this difference was not statistically significant. These results on gender factor techniques indicate that there were no statistically significant gender difference as regards teachers' awareness and use of assessment techniques.

***Teachers' Awareness and Use of Assessment Techniques Based on Qualification***

The summary of the Analysis of Variance (ANOVA) on differences among teachers' self-perceived awareness and use of assessment techniques based on their qualification is shown in Table 5.

Table 5

ANOVA on Teachers' Awareness and Use of Assessment Techniques based on Qualification

	Source of Variation	Sum of Squares	df	Mean Square	<i>F</i>	Sig.
Awareness	Between Groups	19.235	2	9.617	.138	.871
	Within Groups	29178.860	419	69.639		
	<b>Total</b>	29198.095	421			
Use	Between Groups	121.113	2	60.556	.355	.702
	Within Groups	71563.411	419	170.796		
	<b>Total</b>	71684.524	421			



The results in Table 5 reveal that there was no significant difference among teachers with bachelor ( $15.26 \pm 8.503$ ), masters ( $15.88 \pm 7.600$ ) or PhD ( $15.50 \pm 5.606$ ) degrees as determined by one way ANOVA,  $F(2, 419) = .138$ ,  $p = .871$  in their awareness of classroom assessment techniques. Similarly, no significant difference was found among teachers with bachelor ( $23.37 \pm 12.610$ ), masters ( $22.57 \pm 15.650$ ) or PhD ( $26.63 \pm 12.850$ ) degrees,  $F(2, 419) = .355$ ,  $p = .702$ , in their use of classroom assessment techniques.

### ***Teachers' Awareness and Use of Assessment Techniques Based on Experience***

Table 6 shows the summary of the Analysis of Variance (ANOVA) on differences among teachers' self-perceived awareness and use of assessment techniques based on their teaching experience.

Table 6

*ANOVA on Teachers' Awareness and Use of Assessment Techniques based on Experience*

	Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Awareness	Between Groups	131.907	2	65.953	.951	.387
	Within Groups	29066.188	419	69.370		
	<b>Total</b>	29198.095	421			
Use	Between Groups	338.823	2	169.411	.995	.371
	Within Groups	71345.701	419	170.276		
	<b>Total</b>	71684.524	421			

As revealed in Table 6 one way analysis of variance results, there was no significant difference among teachers with 1- 5 years teaching experience ( $14.91 \pm 8.174$ ), 6 - 10 years teaching experience ( $15.41 \pm 9.089$ ) and those with 11 and above years of teaching experience ( $16.45 \pm 7.256$ ),  $F(2, 419) = .951$ ,  $p = .387$  in their awareness of classroom assessment techniques. Similarly, no significant difference was seen among teachers with bachelor ( $23.16 \pm 11.911$ ), masters ( $24.42 \pm 15.398$ ) and PhD ( $21.82 \pm 11.364$ ) degrees,  $F(2, 419) = .995$ ,  $p = .371$ , in their use of classroom assessment techniques.

### **LIMITATIONS**

The data collection for this study was based on questionnaire (self-perception), dealing with self-rating of respondents. This method has major drawbacks: restricted boundary as it confines respondents to items prepared ahead, and responses of respondents cannot be independently confirmed. These drawbacks may limit the



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generalizability of the findings of this study. Therefore, qualitative research involving longitudinal method may be suggested to provide generalized picture on classroom assessment techniques in Nigerian secondary schools.

## DISCUSSION AND CONCLUSION

Classroom assessment is central to successful classroom instruction, and teachers' perceptions of classroom assessment have been established to influence their assessment practices (Susuwele-Banda, 2005). Findings on the teachers' self-perceived awareness of assessment techniques revealed that teachers had greater awareness of paper/essay, exam/quiz/problem set, oral assessment, with lower awareness of several other assessment techniques such as discussion/chat, checklist, peer evaluation, child observation, anecdotal record, and so on. On their self-perceived use of assessment techniques, the majority of the teachers use paper/essay, exam/quiz/problem set, oral assessment techniques, while most other techniques are not used by them. These findings lend credence to earlier findings on teachers' awareness and use of assessment practices (Alkharusi, Aldhafri, Alnabhani, & Alkalbani, 2014; Alsarimi, 2000; Mussawy, 2009; Susuwele-Banda, 2005).

No statistically significant difference based on gender was established in teachers' awareness and use of classroom assessment techniques. These results disagree with the earlier finding of Alsarimi (2000) but agree with the earlier findings of Alkharusi (2011) and Mussawy (2009). Similarly, no significant difference was established among teachers based on their qualifications and years of teaching experience in their awareness and use of classroom assessment techniques. Findings on gender are contrary to that of Alkharusi (2011), which established that male instructors perceived themselves to be less skilled compared to female instructors in test items writing and communicating assessment results. However, the findings agree with results of Alsarimi (2000), Susuwele-Banda (2005) and Alkharusi et al. (2014), that teachers' variables of gender, in-service assessment training and experience were not factors explaining variance on teachers' analysis of assessment.

Overall, the results of the study highlighted that the secondary school teachers indicated limited awareness of several innovative classroom assessment strategies. Teachers' gender, qualification and experience were also found to play no role in the teachers' awareness and use of classroom assessment techniques. Teachers' low awareness and non-use of several innovative assessment techniques other than oral and paper based essay/quiz assessment are intriguing. This calls for further studies which might shed light on why teachers are unaware of several classroom assessment techniques. Such research could employ mixed method involving classroom observations and focus group interviews.

The present study contributes to existing knowledge about secondary school teachers' awareness and practices with regard to classroom assessments. It must be noted that the use of a self-report questionnaire implies that no causal inferences can be drawn from the findings on students' performance.

Based on these conclusions it was recommended that teachers' classroom assessment literacy be enhanced; therefore, teacher educational institutions and teacher educators should improve pedagogical skills of trainee teachers in classroom assessment for effective learning outcomes in Nigerian secondary schools.



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Also, in-service workshops should be provided for classroom teachers on effective use of classroom assessment techniques; head teachers and supervisory agencies should emphasize and monitor teachers' use of several assessment techniques in their classrooms. Finally, qualitative research involving longitudinal method may be carried out to provide generalized picture on classroom assessment techniques in Nigerian secondary schools.

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