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# IMPROVING ASSESSMENT COMPETENCIES IN PRIMARY SCHOOL TEACHERS: PEDAGOGICAL APPROACHES AND INNOVATIONS

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**ABSTRACT**

*This mixed-methods study examined primary school teachers' assessment competencies, with particular attention to formative assessment, digital assessment tools, culturally responsive practices, and professional development. The quantitative component analyzed survey responses from approximately 100 teachers working in urban, suburban, and rural school settings, while qualitative evidence was obtained from open-ended responses and follow-up interviews or focus groups with a purposively selected subset of participants. Descriptive findings showed that 85% of teachers reported using formative assessment regularly; verbal questioning (92%), classroom observation (75%), and peer feedback (68%) were the most common practices. However, 45% reported difficulty using assessment evidence to adjust instruction. Only 40% felt confident using digital tools for data analysis, and consistent implementation of culturally responsive assessment was reported by 36%. Teachers who had access to ongoing professional development reported substantially greater confidence in assessment design and implementation than those without such support (78% versus 45%). The findings indicate that assessment competency depends not only on teachers' knowledge of techniques but also on sustained professional learning, collaboration, time, resources, and institutional support. The article recommends practice-based training in formative assessment, digital assessment literacy, culturally responsive design, and collaborative analysis of student evidence.*

**ACCEPTED**

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***Keywords:*** *assessment competency, primary school teachers, formative assessment, digital assessment, culturally responsive assessment, professional development, learning analytics, reflective practice.*

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## Introduction

Assessment is not merely a mechanism for assigning grades; it is a central component of teaching and learning. In primary education, teachers use assessment evidence to identify what pupils understand, diagnose misconceptions, adapt instruction, provide feedback, and determine whether intended learning outcomes have been achieved. These tasks require assessment competency: the knowledge and practical ability to select, design, administer, interpret, and use assessment information appropriately and fairly.

The need for strong assessment competency has increased as primary classrooms have become more diverse and as schools have adopted competency-based curricula, digital platforms, and more personalized approaches to learning. Traditional paper-and-pencil tests remain useful for some purposes, but they cannot by themselves provide the continuous, contextual, and actionable evidence required for responsive teaching. Formative assessment, performance tasks, portfolios, peer and self-assessment, digital quizzes, and learning analytics can broaden the evidence available to teachers. Their value, however,

depends on whether teachers can align them with learning goals and interpret the resulting information accurately.

Previous scholarship has established the importance of formative assessment and feedback, but it has also warned against treating every classroom test as automatically formative. Assessment becomes formative only when evidence is used to make decisions that improve ongoing teaching and learning (Bennett, 2011; Black & Wiliam, 1998; Wiliam, 2011). In addition, equitable assessment requires sensitivity to pupils' cultural and linguistic backgrounds, while digital assessment requires technical competence and attention to privacy and ethical use of data.

The present study investigated the assessment practices and professional learning needs of primary school teachers. It addressed three research questions: (1) Which assessment practices are most commonly used by primary school teachers? (2) What barriers limit the effective use of formative, digital, and culturally responsive assessment? and (3) How are professional development and teacher collaboration associated with confidence in assessment practice?

## Literature Review

### Assessment literacy and formative assessment

Assessment literacy includes an understanding of assessment purposes, task design, validity, reliability, interpretation, feedback, and the consequences of assessment decisions. Popham (2009) argues that assessment literacy is a fundamental professional requirement because weak assessment decisions can distort both teaching and judgments about pupil learning. In primary classrooms, assessment literacy is especially important because teachers gather evidence through multiple informal and formal sources, including observation, questioning, written work, discussion, and short performance tasks.

Formative assessment is most effective when teachers clarify learning intentions, elicit evidence of understanding, provide feedback that helps pupils move forward, and adapt instruction in response to that evidence (Black & Wiliam, 1998; Heritage, 2010; Wiliam, 2011). Feedback is most useful when it addresses the task, the learning process, and the learner's next steps rather than offering only praise or grades (Hattie & Timperley, 2007). Meta-analytic evidence suggests that formative assessment can improve achievement, although effects vary by subject, implementation quality, and study design; therefore, claims of uniformly large effects should be avoided (Kingston & Nash, 2011).

### Alignment and backward design

Assessment quality also depends on alignment. In backward design, teachers first identify the desired learning outcomes, then determine acceptable evidence of learning, and only afterward plan teaching activities (Wiggins & McTighe, 2005). This sequence helps prevent a common problem in which classroom activities are engaging but the assessment does not measure the intended knowledge or skills. For primary school teachers, backward design can strengthen the coherence of lessons, success criteria, feedback, and summative judgments.

### Culturally responsive assessment

Assessment can disadvantage pupils when tasks assume cultural knowledge, language practices, or modes of expression that are not equally familiar to all learners. Culturally responsive teaching recognizes pupils' backgrounds as resources for learning rather than as deficits (Gay, 2018; Ladson-Billings, 1994). Culturally responsive assessment therefore involves reviewing task language for unnecessary bias, allowing appropriate alternative ways to demonstrate learning, and interpreting performance in relation to pupils' linguistic and cultural experiences. Teacher preparation should integrate these principles systematically rather than treating them as optional additions (Villegas & Lucas, 2002).

### Digital assessment and learning analytics

Digital tools can provide rapid feedback, automate parts of scoring, store evidence over time, and support the identification of patterns in pupil participation and performance. Learning analytics extends this capacity by using data from digital environments to support educational decisions (Siemens, 2013).


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Nevertheless, the educational value of technology depends on teachers' ability to interpret data and connect it to instructional action. Digital assessment also raises concerns about privacy, data ownership, unequal access, and overreliance on platform-generated indicators (Selwyn, 2016; Siemens, 2013).

**Professional development and reflective collaboration**

Assessment competency develops through sustained practice rather than isolated workshops. Effective professional development is content-focused, active, collaborative, supported by models and coaching, and sustained over time (Darling-Hammond et al., 2017). Reflective practice enables teachers to examine how their assessment choices affect learning and to revise those choices in light of evidence (Schön, 1983). Collaborative lesson analysis and professional learning communities can make this process more systematic by allowing teachers to compare tasks, review pupil work, and discuss scoring and feedback (Stigler & Hiebert, 1999; Timperley, 2008).

**Materials and Methods**

**Research design and participants**

The study used a cross-sectional mixed-methods design. The quantitative component consisted of approximately 100 completed questionnaires from primary school teachers working in urban, suburban, and rural educational settings. Stratified sampling was used to include teachers with different levels of experience, grade assignments, and school contexts. The qualitative component consisted of open-ended questionnaire responses and follow-up semi-structured interviews or focus groups with a purposively selected subset of the survey participants.

**Instrument and data collection**

The questionnaire examined four domains: the frequency of formative assessment practices; the use of digital assessment tools; awareness and implementation of culturally responsive assessment; and access to professional development and collaborative learning. Closed-ended items used categorical responses and Likert-type scales, while open-ended items invited participants to describe barriers and professional learning needs. Follow-up interviews and focus groups explored how teachers used assessment evidence, how they interpreted digital data, and what support they needed to design inclusive assessments.

**Data analysis**

Closed-ended responses were summarized using frequencies and percentages. Because the study was descriptive, differences between groups are reported as percentage contrasts rather than as causal effects. Open-ended responses and interview or focus-group data were reviewed thematically. Recurring themes were organized around assessment use, instructional decision-making, digital confidence, cultural responsiveness, professional development, and institutional barriers.

**Results**

**Use of formative assessment**

Most respondents (85%) reported using formative assessment regularly. Verbal questioning was the most common strategy (92%), followed by classroom observation (75%) and peer feedback (68%). These figures indicate that teachers frequently gathered evidence during instruction. However, 45% reported difficulty using the evidence to make timely changes to teaching, suggesting a gap between collecting information and interpreting it for instructional action.

**Digital assessment practices**

Teachers generally viewed digital assessment positively, but only 40% felt confident using digital tools for meaningful data analysis. Many participants reported using technology primarily to administer or score summative tasks rather than to support ongoing formative decisions. Concerns about privacy and security were reported by 31%, while 28% indicated that they had not received sufficient training to integrate digital tools effectively into classroom assessment.

**Culturally responsive assessment**



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Awareness of culturally responsive assessment was reported by 55% of participants, but only 36% said that they implemented such practices consistently. Teachers who used culturally responsive approaches most often provided multiple modes for pupils to demonstrate learning, such as oral explanations, visual projects, and written responses. Nevertheless, 63% were uncertain about how to design assessments that reflected pupils' cultural and linguistic backgrounds while maintaining clear academic expectations.

**Professional development and collaboration**

Access to ongoing professional development was descriptively associated with greater confidence. Among teachers who reported participating in sustained professional learning, 78% felt confident designing and implementing different forms of assessment, compared with 45% of those without such support. At the same time, 39% reported that assessment-focused professional development was infrequent or unavailable.

Collaboration also appeared beneficial. Among teachers who participated in professional learning communities, 62% reported that peer discussion and feedback improved their assessment practices. However, only 30% indicated that their schools regularly organized assessment-focused collaboration. These findings suggest that the perceived value of collaboration exceeded the opportunities available to engage in it.

**Table 1. Summary of reported assessment practices, barriers, and support**

| Domain | Indicator | Reported proportion |
|---|---|---|
| Formative assessment | Regular use | 85% |
| Formative assessment | Verbal questioning | 92% |
| Formative assessment | Classroom observation | 75% |
| Formative assessment | Peer feedback | 68% |
| Instructional use | Difficulty using evidence to adjust teaching | 45% |
| Digital assessment | Confidence in digital data analysis | 40% |
| Digital assessment | Privacy or security concerns | 31% |
| Cultural responsiveness | Awareness of culturally responsive assessment | 55% |
| Cultural responsiveness | Consistent implementation | 36% |
| Cultural responsiveness | Uncertainty about inclusive task design | 63% |
| Professional development | Confidence with ongoing support | 78% |
| Professional development | Confidence without ongoing support | 45% |
| Professional development | Infrequent or unavailable opportunities | 39% |
| Collaboration | PLCs improved assessment practice | 62% |
| Collaboration | Schools regularly facilitated collaboration | 30% |
| Barrier | Time constraints | 58% |
| Barrier | Large class sizes | 52% |
| Barrier | Insufficient training in data interpretation | 46% |
| Barrier | Insufficient resources | 41% |

## Discussion

The findings indicate that primary school teachers commonly use formative techniques but do not always convert the resulting evidence into instructional decisions. This distinction is central to the literature: an assessment activity is formative only when its evidence changes what teachers or pupils do next (Black & Wiliam, 1998; Heritage, 2010; Wiliam, 2011). The high use of questioning and observation therefore represents a useful foundation, but the reported difficulty with data interpretation shows that frequency alone is not an adequate indicator of quality.


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The results also support Bennett's (2011) caution that formative assessment is not a single standardized intervention. Its impact depends on task quality, domain knowledge, feedback, timing, and teacher support. The present data suggest that professional development should focus less on lists of assessment techniques and more on decision cycles: clarifying intended learning, eliciting evidence, interpreting patterns, selecting a response, and checking whether the response improved learning. Backward design can strengthen this cycle by aligning tasks and success criteria with intended outcomes (Wiggins & McTighe, 2005).

Digital assessment presented a similar pattern. Teachers were interested in digital tools but less confident in interpreting data or addressing privacy concerns. Learning analytics can make patterns visible, yet dashboards and automated scores do not replace professional judgment (Siemens, 2013). Teachers need opportunities to practice translating digital indicators into pedagogically appropriate actions and to examine the ethical implications of data collection, access, and retention (Selwyn, 2016).

The gap between awareness and consistent use of culturally responsive assessment is also important. Providing multiple modes of response can improve access, but cultural responsiveness requires more than offering alternative formats. Teachers must examine whether task content, language, scoring criteria, and assumptions about participation create unnecessary barriers. The findings therefore reinforce calls to integrate cultural and linguistic responsiveness into teacher preparation and professional learning (Gay, 2018; Villegas & Lucas, 2002).

Finally, the descriptive contrast between teachers with and without ongoing professional development is consistent with evidence that sustained, collaborative, practice-based learning is more useful than isolated workshops (Darling-Hammond et al., 2017; Timperley, 2008). Professional learning communities can support moderation of pupil work, joint task design, and reflective inquiry, but the low proportion of schools facilitating regular collaboration suggests that institutional structures remain insufficient.

### Implications for Practice

1. **Strengthen formative decision-making.** Professional development should require teachers to analyze samples of pupil work, identify misconceptions, select instructional responses, and evaluate whether those responses were effective.
2. **Develop digital assessment literacy.** Training should include not only platform operation but also data interpretation, privacy, accessibility, and the appropriate combination of digital and non-digital evidence.
3. **Integrate culturally responsive design.** Teachers should review task language, contexts, response formats, and scoring criteria for avoidable cultural or linguistic bias while preserving the intended learning standard.
4. **Create sustained collaborative structures.** Schools should allocate regular time for teachers to co-design assessments, moderate scoring, discuss feedback, and examine patterns in pupil learning.
5. **Align assessment with curriculum goals.** Backward design should be used to connect intended outcomes, success criteria, assessment tasks, teaching activities, and feedback.

## Limitations and Future Research

The study relied primarily on self-reported practices and descriptive percentages; consequently, it cannot establish that professional development caused greater assessment confidence or improved pupil outcomes. The study also did not include direct classroom observation, independent evaluation of assessment quality, or measures of pupils' achievement. Future research should combine surveys with observation, assessment-artifact analysis, and longitudinal measures of teacher practice and pupil learning. It should also report the size and composition of the qualitative sample in full and examine whether findings differ by school location, teaching experience, grade level, and access to digital infrastructure.

### Conclusion

Improving assessment competency in primary school teachers requires more than expanding the number of tools they use. Teachers must be able to align assessment with learning goals, interpret evidence, provide actionable feedback, design inclusive tasks, and use digital data responsibly. The study found widespread use of formative techniques but persistent difficulties in converting evidence into instructional action. It also identified gaps in digital confidence, culturally responsive task design, professional development, and


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structured collaboration. Sustained, practice-based professional learning and school-level support are therefore essential for turning assessment from a record of learning into a mechanism for improving learning.

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