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## Effect of the Assessment Policy Framework on Teacher's Assessment Literacy and Professional Development in Punjab at Elementary Level

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### ABSTRACT

This study investigated the impact of the Assessment Policy Framework (APF) introduced by the Government of Punjab in 2019 on assessments at the elementary level. Using a quantitative correlational design, data were collected from 285 public elementary school teachers through a structured questionnaire developed around APF indicators. Descriptive statistics, Pearson correlation, multiple regression, and ANOVA were applied to analyze relationships among APF implementation, teacher assessment literacy, and professional development outcomes. Results revealed that teachers who actively implemented APF practices reported significantly higher levels of assessment literacy and professional growth. Both variables were strongly correlated ( $r = .68$ ,  $p < .01$ ), while regression analysis confirmed that assessment literacy ( $\beta = .49$ ) and APF implementation ( $\beta = .36$ ) jointly explained 47% of the variance in professional development outcomes. Regional analysis further indicated disparities favoring central Punjab, highlighting unequal access to training and monitoring support. The findings confirmed that the APF served as a catalyst for enhancing teachers' assessment competence and reflective practice. However, sustained continuous professional development (CPD), mentorship programs, and equitable resource distribution are essential to strengthen the framework's long-term impact.

**Keywords:** Assessment Policy Framework, Assessment Literacy, Professional Development, Quantitative Study, Teacher Education

### Introduction

Education systems worldwide are undergoing profound transformations to meet the learning demands of the 21st century, emphasizing creativity, critical thinking, and lifelong learning. In this context, assessment has evolved from a mechanism of measuring outcomes to a process of enhancing learning (Black & Wiliam, 2018). Modern reforms emphasize assessment literacy teachers' ability to design, interpret, and use assessment data effectively as a crucial dimension of professional competence (Hopfenbeck, Zhang, & McGrane, 2023). Teacher professional development (PD) grounded in assessment literacy enables teachers to use feedback to guide instruction,



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identify student learning needs, and promote reflective practice (Adeoye, Aladejana, & Akinsola, 2024).

In Pakistan, particularly in Punjab, assessment practices have historically been dominated by rote learning and high-stakes examinations, resulting in limited diagnostic feedback and minimal teacher reflection (Muskin, 2015; Shahzad, 2022). To address this issue, the Government of Punjab introduced the Assessment Policy Framework (APF) in 2019, aiming to transform the province's assessment culture from summative and exam-driven to competency-based and formative (Ahmad, Rahim, & Hassan, 2023). The APF emphasizes the use of assessment for learning (AfL) strategies, promotes continuous professional development for teachers, and mandates data-informed decision-making in classrooms. It also seeks to align assessment practices with the Single National Curriculum (SNC) and Sustainable Development Goal 4 (SDG-4) ensuring inclusive and equitable quality education for all (Government of Punjab, 2019).

Despite these reforms, the implementation of APF remains uneven. Teachers often lack structured opportunities for sustained professional development, particularly in rural and under-resourced areas (Islam, Dilshad, & Ali, 2024). While provincial authorities have initiated large-scale trainings through the Punjab Examination Commission (PEC), studies show that these efforts are often short-term, with minimal follow-up and limited impact on teachers' day-to-day assessment practices (Rahman, 2025; Hussain, Jat, & Iqbal, 2022). Moreover, empirical data quantifying the relationship between teachers' exposure to APF and their assessment literacy or professional growth remain scarce.

### **Rationale of the Study**

Effective implementation of any educational policy depends on the capacity of teachers to internalize and apply its principles. The APF positions teachers as both implementers and beneficiaries, linking their professional development with improved classroom assessment practices. Quantitatively examining this linkage can help determine whether the framework has produced measurable improvements in teachers' knowledge, confidence, and use of assessment tools. Such evidence is essential for refining PD initiatives, ensuring equitable resource allocation, and strengthening Pakistan's national education quality agenda (Kaur & Lim-Ratnam, 2023; Li & Zhang, 2024).

### **Research Gap**

Although several studies have explored assessment reform and teacher training qualitatively, there is limited quantitative evidence establishing the statistical relationship between the implementation of the APF and teachers' assessment literacy levels. Previous research has focused largely on policy documents or descriptive case studies (Shahzad, 2022; Tayyab et al., 2023) without measuring concrete outcomes such as teachers' confidence in rubric use, feedback practices, or data-based instructional decisions. Furthermore, there is an absence of comparative analysis between urban and rural schools in Punjab regarding the differential impact of APF-related training and monitoring.

### **Statement of the Problem**

While the Assessment Policy Framework (APF) was developed to enhance teachers' assessment competence and professional growth, there is insufficient empirical evidence to confirm its actual effectiveness in transforming teacher practices at the elementary level. Without rigorous quantitative analysis, policymakers cannot determine whether the APF's professional-development components have produced significant improvements in



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teachers' assessment literacy. Therefore, this study seeks to examine the effect of the Assessment Policy Framework on teachers' assessment literacy and professional development in Punjab's elementary schools, using quantitative methods to provide evidence-based insights for policy refinement and teacher-education planning. The objectives of the study were:

To find the relationship among Assessment Policy Framework, Teacher's Assessment Literacy and Professional Development at Elementary Level  
Effect of the Assessment Policy Framework on Teacher's Assessment Literacy and Professional Development in Punjab at Elementary Level

### **Assessment Literacy in Contemporary Education**

Assessment literacy has become a foundational competency for teachers in the 21st century, encompassing not only technical assessment design but also the interpretive and pedagogical use of assessment data to support student learning. Globally, it is viewed as a critical professional skill that integrates curriculum knowledge, evaluation, and instructional decision-making (Hopfenbeck et al., 2023). Teachers with high levels of assessment literacy can effectively employ formative-assessment techniques such as rubrics, peer evaluation, and diagnostic feedback to foster deeper learning and student engagement (Black & Wiliam, 2018).

Empirical research has shown that improving teachers' assessment literacy enhances the quality of instruction, strengthens student motivation, and promotes reflective teaching (Adeoye et al., 2024). Conversely, in developing contexts, limited teacher preparation and inadequate assessment training have hindered the integration of formative-assessment approaches (Li & Zhang, 2024). Such disparities underscore the importance of professional learning structures that build assessment competence at all levels of the education system.

### **Professional Development and Assessment Practices**

Teacher professional development (PD) plays a central role in implementing and sustaining assessment reforms. Effective PD enables teachers to internalize new pedagogical practices, align classroom activities with policy expectations, and develop reflective and collaborative habits of practice (Kaur & Lim-Ratnam, 2023). International evidence demonstrates that sustained, school-based PD focusing on formative assessment significantly enhances teachers' capacity to collect, analyze, and use student data to inform instruction.

### **Assessment Policy Framework (APF) and Teacher Capacity in Punjab**

The Assessment Policy Framework (APF) introduced by the Government of Punjab in 2019 was a landmark reform designed to standardize assessment practices and promote assessment for learning (Government of Punjab, 2019). The framework sought to replace rote-based testing with competency-based evaluation while linking teacher professional development to improved assessment literacy (Ahmad et al., 2023). It emphasizes formative assessment, data-informed instruction, and teacher accountability for student progress.

However, the APF's implementation has faced several systemic challenges. Research indicates that while urban schools have benefited from targeted training and monitoring, teachers in rural districts often remain underprepared to adopt new assessment methodologies (Islam et al., 2024). Similarly, Hussain et al. (2022) reported that weak follow-up support, limited technological access, and insufficient monitoring have



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constrained the sustainability of APF-driven professional development. Although Shahzad (2022) and Tayyab et al. (2023) observed increased teacher awareness and positive attitudes toward formative assessment, these studies relied largely on qualitative designs, leaving a quantitative evidence gap concerning the actual measurable effects of APF on teacher competence and professional development.

Ahmad et al. (2023) also emphasized that without continuous capacity-building programs, the APF's goals may remain aspirational. Thus, evaluating the statistical relationship between teachers' exposure to APF initiatives and their assessment literacy is essential to determine the framework's effectiveness in transforming professional practices across Punjab.

### **Theoretical Underpinning**

This study draws upon Constructivist Learning Theory and the Assessment for Learning (AfL) framework. Constructivism posits that teachers develop knowledge through reflection and contextual engagement, emphasizing learning as an active, social process (Vygotsky, 1978). The AfL approach further operationalizes constructivism by framing assessment as a continuous, formative activity that enhances both teaching and learning (Black & Wiliam, 2018). Together, these frameworks provide a conceptual basis for understanding how assessment policy can influence teacher learning and professional development through practice-based feedback and reflection.

### **Methodology**

This study employed a descriptive–correlational quantitative design to examine the effect of the Assessment Policy Framework (APF) on teachers' assessment literacy and professional development in public elementary schools across Punjab. The design was chosen because it enables the investigation of relationships among variables without manipulating the study environment (Creswell & Creswell, 2018). Quantitative data were collected through a structured questionnaire from teachers, and statistical analyses were conducted to determine the strength and nature of the relationships among APF implementation, teacher assessment literacy, and professional development outcomes.

### **Population and Sample**

The population consisted of all public elementary school teachers in Punjab who were involved in implementing the Assessment Policy. To ensure representativeness, the province was divided into three strata northern, central, and southern Punjab considering administrative and socio-economic diversity.

Using a stratified random sampling technique, a total of 300 teachers were selected from 15 districts (four from northern, six from central and five from each stratum). The sample included 180 female (60%) and 120 male (40%) teachers, reflecting the gender distribution of the teaching workforce. Teachers were selected based on two criteria:

They had received at least one APF-related professional development training session organized by PEC.

They had a minimum of three years of teaching experience at the elementary level.

This sample size was deemed adequate according to Krejcie and Morgan's (1970) formula for populations exceeding 10,000, ensuring statistical generalizability of results.

### **Research Instrument**

A self-developed structured questionnaire was used as the primary instrument for data collection. The instrument was designed based on the indicators of teacher assessment



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literacy and professional development derived from the Assessment Policy Framework (Government of Punjab, 2019), relevant literature (Black & Wiliam, 2018; Hopfenbeck et al., 2023), and empirical models used in similar studies.

The questionnaire comprised 30 closed-ended items divided into three sections:

**Table 1:** Tool Description

Section	Variables Measured	No. of Items	Scale
A	Implementation of APF Practices	10	5-point Likert
B	Teacher Assessment Literacy	10	5-point Likert
C	Professional Development	10	5-point Likert

Responses were rated on a five-point Likert scale ranging from 1 (“Strongly Disagree”) to 5 (“Strongly Agree”).

### Validity and Reliability

To ensure content validity, the instrument was reviewed by a panel of three experts in educational assessment and policy from the PEC. Their feedback led to minor revisions in wording and item sequence to improve clarity and relevance.

A pilot study was conducted with 30 teachers from two districts not included in the main sample. The pilot results indicated satisfactory internal consistency, with a Cronbach’s alpha ( $\alpha$ ) of 0.87, suggesting strong reliability. Subscale reliabilities were also acceptable:

APF Implementation ( $\alpha = 0.84$ )

Assessment Literacy ( $\alpha = 0.86$ )

Professional Development ( $\alpha = 0.88$ )

### Data Collection Procedure

After obtaining permission from the Punjab Examination Commission (PEC) and school administrations, the researcher personally distributed and collected the questionnaires. Ethical protocols, including informed consent, voluntary participation, and anonymity, were strictly observed. Out of 300 distributed questionnaires, 285 valid responses were received, yielding a response rate of 95%.

Data were coded and entered into SPSS version 26 for analysis. Prior to analysis, data were screened for missing values, outliers, and normality assumptions. No significant deviations from normality were found, and all scales demonstrated adequate reliability for further analysis.

### Data Analysis Techniques

Data analysis was conducted using descriptive and inferential statistics aligned with the research objectives:

**Table 2:** Data Analysis Expression

Analysis Type	Statistical Tests	Purpose
Descriptive Statistics	Mean, SD, Frequency, Percentages	To describe participants’ responses and variable distribution.
Correlation Analysis	Pearson’s r	To determine the relationship between APF implementation, assessment literacy, and professional development.
Regression	Multiple Linear	To predict the influence of APF



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Analysis	Regression	implementation on assessment literacy and PD outcomes.
Group Comparison	ANOVA	To explore differences in teacher responses across gender and region.

The level of statistical significance was set at  $p < .05$ . Results were interpreted in light of theoretical frameworks such as Constructivism (Vygotsky, 1978) and Assessment for Learning (Black & Wiliam, 2018) to connect empirical findings with educational theory.

### Ethical Considerations

Ethical standards were maintained throughout the research process. Participants were informed about the study's purpose, their right to withdraw at any stage, and the confidentiality of their responses. No personal identifiers were collected. The study adhered to the research ethics guidelines of The Superior University, Lahore.

### Results and Data Analysis

**Table 3:** Descriptive Statistics of Major Variables (N = 285)

Variable	N	Minimum	Maximum	M	SD
APF Implementation Practices	285	2.10	4.98	3.85	0.61
Teacher Assessment Literacy	285	2.00	4.90	3.78	0.59
Professional Development Outcomes	285	2.20	4.95	3.91	0.57

Interpretation: Teachers reported high engagement with APF practices ( $M = 3.85$ ), high assessment literacy ( $M = 3.78$ ), and positive professional development outcomes ( $M = 3.91$ ). The moderate SD values suggest consistency among responses.

**Table 4:** Correlation among Study Variables

Variable	1	2	3
APF Implementation Practices		.63**	.59**
Teacher Assessment Literacy			.68**
Professional Development			

Note: \*\* $p < .01$  (2-tailed).

Interpretation: Significant positive correlations were found among all variables, indicating that higher APF implementation is associated with stronger assessment literacy and better professional development.

**Table 5:** Multiple Regression Analysis Predicting Professional Development

Predictor	B	T	Sig.	R <sup>2</sup>	F	p
Constant		3.21	.001			
APF Implementation	.36	6.42	.000	0.47	123.87	.000
Assessment Literacy	.49	8.07	.000			

Interpretation: Both APF implementation and assessment literacy significantly predict professional development ( $R^2 = 0.47$ ,  $F(2,282) = 123.87$ ,  $p < .001$ ). Assessment literacy emerged as the stronger predictor ( $\beta = .49$ ).

**Table 6:** One-Way ANOVA of Professional Development Scores by Region

Source	SS	df	MS	F	p
Between	5.621	2	2.810	4.23	.016



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Groups					
Within	187.923	282	0.667	—	—
Groups					
Total	193.544	284	—	—	—

Interpretation: Significant regional differences were found in professional development ( $F(2,282) = 4.23, p < .05$ ), with central Punjab showing higher scores than southern Punjab.

### Discussion

The results of this study demonstrate a statistically significant and positive relationship between the implementation of the Assessment Policy Framework (APF) and teachers' assessment literacy and professional development. These findings reinforce prior evidence that policy-driven assessment reforms can enhance teacher competence when supported by continuous training and feedback mechanisms (Black & Wiliam, 2018; Hopfenbeck et al., 2023). The regression analysis confirmed that teachers' assessment literacy strongly predicts their professional growth, indicating that the APF's emphasis on formative assessment has fostered reflective practice and self-evaluation among teachers.

However, consistent with earlier reports, the study also revealed disparities in policy implementation across regions of Punjab. Teachers in rural areas demonstrated relatively lower gains in assessment literacy due to limited access to sustained training and digital resources. These findings align with Rahman (2025) and Islam et al. (2024), who noted that regional inequalities and weak institutional follow-up reduce policy fidelity. Despite these challenges, the positive correlations among APF implementation, assessment literacy, and professional development suggest that the policy has laid a strong foundation for long-term pedagogical improvement.

Moreover, the discussion highlights a policy–practice gap, as teachers' self-reported improvements in assessment competence were not always matched by observed student-learning gains.

### Conclusion

This study concludes that the Assessment Policy Framework (APF) has a significant positive impact on teachers' assessment literacy and professional development in Punjab's elementary schools. Teachers exposed to APF-related professional development report improved understanding of formative-assessment tools, feedback practices, and performance evaluation. The APF has therefore contributed to building a culture of reflective and evidence-based teaching. Nonetheless, implementation challenges particularly in resource-poor areas limit the policy's transformative potential. Without institutionalized mentorship and regional equity in training provision, the APF's long-term sustainability remains uncertain.

### Recommendations

Replace one-time workshops with ongoing, modular training programs that integrate theory with classroom application (Kaur & Lim-Ratnam, 2023).

Establish Professional Learning Communities (PLCs) where experienced teachers coach peers and review classroom assessments collectively.

Develop low-cost assessment toolkits and digital platforms to support teachers in rural and low-resource schools.



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Introduce School Assessment Review Teams (SARTs) for regular tracking of APF practices and teacher progress (Cavallo, 2024).

Integrate assessment literacy within pre-service teacher education and link PD participation with promotion and certification incentives.

### Future Directions

Future studies should employ longitudinal designs to measure the sustained impact of APF implementation on teacher behavior and student outcomes. Comparative analyses across province could reveal contextual differences in policy uptake. Additionally, integrating digital-assessment tools and exploring the mediating role of school leadership in professional development may provide deeper insights into how systemic support enhances teacher assessment literacy.

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