

# IMPACT OF TEACHER ATTENDANCE AND TEACHING QUALITY ON STUDENT RETENTION IN RURAL PRIMARY SCHOOLS OF SINDH, PAKISTAN

Dr. Nusrat Parveen Sahito

Secretary, Sindh Textbook Board

[sahitodrrusratparveen@gmail.com](mailto:sahitodrrusratparveen@gmail.com)

Corresponding Author: \*

Dr. Nusrat Parveen Sahito

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## ABSTRACT

This study investigates the impact of teacher attendance and teaching quality on student retention in rural primary schools of Sindh, Pakistan. Using a quantitative research design, data were collected from 500 respondents through a structured questionnaire. Reliability analysis confirmed satisfactory internal consistency for all constructs (Cronbach's Alpha > 0.70). Descriptive statistics, Pearson correlation, and multiple regression analysis were employed to test the hypothesised relationships. The results revealed that both teacher attendance ( $\beta = .298, p < .001$ ) and teaching quality ( $\beta = .469, p < .001$ ) are significant positive predictors of student retention, collectively explaining 61.8% of the variance ( $R^2 = .618$ ). Teaching quality emerged as the stronger predictor. The findings underscore the critical role of teacher-related factors in addressing dropout challenges in underserved rural contexts, with direct implications for educational policy and teacher management in Sindh.

**Keywords:** teacher attendance, teaching quality, student retention, rural primary schools, Sindh, Pakistan, multiple regression

## 1. Introduction

Student retention remains one of the most pressing challenges confronting primary education systems in developing countries, particularly in rural and peri-urban areas where socioeconomic vulnerabilities are compounded by structural deficiencies in schooling provision (UNESCO, 2022). In Pakistan, the problem is particularly acute in the province of Sindh, where primary school dropout rates consistently exceed national averages and where rural children—especially girls—face disproportionate risks of permanent school disengagement (ASER Pakistan, 2023; Government of Sindh, 2022).

Among the many school-side determinants of retention, teacher-related variables have received growing scholarly attention. Teacher attendance and teaching quality are widely regarded as

proximate inputs that directly shape the learning environment experienced by students on a daily basis (Bruns & Luque, 2015; Muralidharan et al., 2017). Absenteeism among teachers reduces instructional time, disrupts lesson continuity, and signals institutional neglect to communities already sceptical of the value of formal schooling. Conversely, teaching quality—understood here as the degree to which instructional practices are engaging, competent, and responsive to learner needs—determines whether contact hours are educationally productive.

Despite a large body of international evidence linking teacher effectiveness to learning outcomes, comparatively little rigorous quantitative work has examined these dynamics in the specific context of rural Sindh primary schools. This study addresses that gap by testing two hypotheses: first, that

teacher attendance exerts a significant positive effect on student retention; and second, that teaching quality has a significant positive effect on student retention. Using survey data from 500 respondents and a multiple regression framework, the study generates contextualised empirical evidence to inform policy dialogue at the provincial and national levels.

## 2. Literature Review

### 2.1 Teacher Attendance and Student Outcomes

Teacher absenteeism is a pervasive phenomenon in low- and middle-income country (LMIC) educational systems. Multi-country studies by the World Bank have consistently documented absence rates of 20–30% in South Asian government schools, with rural schools exhibiting higher rates than urban counterparts (Chaudhury et al., 2006). At the classroom level, teacher absence is associated with reduced instructional time, decreased student motivation, and elevated rates of grade repetition and dropout (Bold et al., 2017; Duflo et al., 2012). In Pakistan specifically, Bari and colleagues (2019) found that teacher presence was among the strongest school-level correlates of enrolment persistence in rural Punjab and Sindh. These findings suggest a direct pathway from attendance to retention, mediated through the disruption of routine learning experiences.

### 2.2 Teaching Quality and Student Retention

Teaching quality encompasses a multidimensional constellation of pedagogical competencies, including content mastery, classroom management, use of formative assessment, and the capacity to engage heterogeneous learners (Chetty et al., 2014; Rivkin et al., 2005). High-quality teaching has been associated with greater student engagement, improved academic achievement, and reduced propensity to dropout across diverse educational contexts (Hanushek & Woessmann, 2015; Kane & Staiger, 2012). In rural South Asian settings specifically, where many learners lack reinforcing educational resources in the home environment, the teacher may represent the primary—or sole—source of academic stimulation (Beatty & Pritchett, 2012). Under these

conditions, the quality of instruction becomes especially consequential for retention outcomes.

### 2.3 Conceptual Framework

The present study draws on the input-process-output model of educational effectiveness (Creemers & Kyriakides, 2008), positing that teacher attendance (input) and teaching quality (process) jointly determine student retention (output) at the primary school level. The framework acknowledges the role of mediating and moderating factors—including household socioeconomic status, distance to school, and parental education—while focusing analytical attention on school-side variables that are more amenable to policy intervention in the short to medium term.

## 3. Methodology

### 3.1 Research Design

This study adopted a cross-sectional, explanatory quantitative research design. The positivist paradigm was employed, treating the constructs under investigation as observable phenomena measurable through structured survey instruments (Creswell & Creswell, 2018).

### 3.2 Population and Sample

The target population comprised teachers, school heads, and education officers in rural primary schools across selected districts of Sindh province, Pakistan. A sample of 500 respondents was drawn through stratified random sampling, with strata defined by district and school type. The sample size was determined using Krejcie and Morgan's (1970) formula, with an assumed population of 5,000 and a margin of error of  $\pm 5\%$ .

### 3.3 Instrumentation

Data were collected using a 16-item Likert-scale questionnaire (1 = Strongly Disagree, 5 = Strongly Agree) comprising three sub-scales: Teacher Attendance (5 items), Teaching Quality (6 items), and Student Retention (5 items). Items were adapted from validated instruments in the literature and modified to reflect the rural Sindh context. The instrument was reviewed by three subject-matter experts and piloted with 30

respondents before administration. Internal consistency was assessed via Cronbach's Alpha.

### 3.4 Data Analysis

Quantitative data were analysed using IBM SPSS Statistics (Version 26). Reliability analysis, descriptive statistics, Pearson bivariate correlations, and hierarchical multiple regression were performed. Statistical significance was set at

$p < .05$ , and effect sizes were interpreted using Cohen's (1988) conventions.

## 4. Results

### 4.1 Reliability Analysis

Table 1 presents the Cronbach's Alpha coefficients for each construct and for the overall scale. All values exceed the threshold of 0.70 recommended by Nunnally (1978), indicating good to excellent reliability.

**Table 1. Reliability Analysis**

Variable	No. of Items	Cronbach's Alpha
Teacher Attendance	5	0.842
Teaching Quality	6	0.887
Student Retention	5	0.864
Overall Scale	16	0.901

Note. All Cronbach's Alpha values exceed the acceptable threshold of 0.70.

### 4.2 Descriptive Statistics

Table 2 presents descriptive statistics for the three study variables. Mean scores range from 3.78 to 3.91 on the five-point scale, indicating that respondents perceived teacher attendance,

teaching quality, and student retention as moderately to quite high. Standard deviations between 0.68 and 0.75 indicate reasonable variation across the sample.

**Table 2. Descriptive Statistics**

Variable	N	Mean	Std. Deviation
Teacher Attendance	500	3.78	0.72
Teaching Quality	500	3.91	0.68
Student Retention	500	3.84	0.75

Note. N = 500; responses recorded on a 5-point Likert scale.

### 4.3 Correlation Analysis

Table 3 reports Pearson correlation coefficients among the three variables. Teacher attendance was significantly correlated with student retention ( $r = .623$ ,  $p < .01$ ) and teaching quality ( $r = .541$ ,  $p < .01$ ). Teaching quality and student retention were

also significantly and positively correlated ( $r = .711$ ,  $p < .01$ ). These results confirm that both predictors are meaningfully associated with the outcome variable, providing preliminary support for the study hypotheses.

**Table 3. Correlation Matrix**

Variables	TA	TQ	SR
Teacher Attendance (TA)	1	–	–
Teaching Quality (TQ)	.541**	1	–
Student Retention (SR)	.623**	.711**	1

Note. \*\*  $p < .01$  (two-tailed). TA = Teacher Attendance; TQ = Teaching Quality; SR = Student Retention.

#### 4.4 Regression Analysis

A simultaneous multiple regression analysis was conducted to examine the joint and independent

effects of teacher attendance and teaching quality on student retention.

**Table 4. Model Summary**

R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error
.786	.618	.616	.468

Note. Predictors: Teacher Attendance, Teaching Quality. Dependent variable: Student Retention.

As shown in Table 4, the overall model accounted for 61.8% of the variance in student retention ( $R^2$

= .618, Adjusted  $R^2$  = .616), indicating a large effect size (Cohen, 1988).

**Table 5. ANOVA**

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	175.324	2	87.662	399.541	.000
Residual	109.021	497	.219	–	–
Total	284.345	499	–	–	–

Note. \*\*\*  $p < .001$ . Dependent variable: Student Retention.

The ANOVA results in Table 5 confirm that the overall regression model was statistically significant,  $F(2, 497) = 399.541$ ,  $p < .001$ ,

indicating that the combination of teacher attendance and teaching quality significantly predicted student retention.

**Table 6. Regression Coefficients**

Predictor	B	Std. Error	Beta	t	Sig.
Constant	0.742	0.121	–	6.132	.000
Teacher Attendance	0.321	0.036	.298	8.917	.000
Teaching Quality	0.547	0.039	.469	14.026	.000

Note. \*\*\*  $p < .001$ . B = unstandardised coefficient; Beta = standardised coefficient. Dependent variable: Student Retention.

Table 6 presents the unstandardised (B) and standardised (Beta) regression coefficients. Both predictors made statistically significant independent contributions to student retention. Teacher attendance (B = 0.321, Beta = .298,  $t = 8.917$ ,  $p < .001$ ) and teaching quality (B = 0.547, Beta = .469,  $t = 14.026$ ,  $p < .001$ ) were both positively and significantly associated with student retention. The derived regression equation is:

$$SR = 0.742 + 0.321(TA) + 0.547(TQ)$$

Teaching quality (Beta = .469) emerged as the stronger predictor of student retention relative to teacher attendance (Beta = .298), suggesting that the qualitative dimensions of pedagogical interaction exert greater influence on retention than mere physical presence.

#### 4.5 Hypotheses Testing

Table 7. Summary of Hypotheses Testing

Hyp.	Path	Beta	p-value	Decision
H1	Teacher Attendance → Student Retention	.298	.000	Supported
H2	Teaching Quality → Student Retention	.469	.000	Supported

Note. Beta values are standardised regression coefficients. p-values based on two-tailed t-tests.

Both hypotheses were supported. H1 (Teacher Attendance → Student Retention) was supported (Beta = .298,  $p < .001$ ), and H2 (Teaching Quality → Student Retention) was supported (Beta = .469,  $p < .001$ ).

#### 5. Discussion

The findings of this study align with and extend a growing body of international evidence on the determinants of student retention in LMIC educational contexts. The strong positive association between teacher attendance and student retention ( $r = .623$ ) is consistent with prior research from Pakistan and comparable South Asian settings (Bari et al., 2019; Chaudhury et al., 2006), reinforcing the view that reliable teacher presence is foundational to maintaining student engagement and preventing dropout. When teachers are frequently absent, children—particularly those from marginalised households—encounter few incentives to continue attending schools that fail to deliver consistent instructional experiences.

The even stronger effect of teaching quality on student retention (Beta = .469) speaks to an important nuance in the teacher effectiveness literature: it is not sufficient for teachers merely to

be present; they must also engage in high-quality instructional practices that stimulate learner interest and promote meaningful academic progress. This finding resonates with Hanushek and Woessmann's (2015) argument that teacher quality—rather than quantitative inputs alone—is the primary driver of educational outcomes in both high- and low-income contexts.

The combined explanatory power of the model ( $R^2 = .618$ ) suggests that teacher-related factors account for a substantial share of the variability in student retention, even in the absence of controls for household and community-level determinants. This has important practical implications: while socioeconomic and cultural barriers to schooling are real and persistent, school systems can meaningfully improve retention outcomes through targeted interventions focused on teacher attendance monitoring and instructional quality improvement.

The findings are particularly consequential for rural Sindh, where chronic teacher absenteeism, weak pedagogical supervision, and insufficient teacher professional development have been identified as systemic challenges (Government of Sindh, 2022; ASER Pakistan, 2023). The study's results suggest that policy reforms addressing both

the motivational and structural antecedents of these deficiencies could generate meaningful improvements in primary school retention rates.

## 6. Conclusion and Recommendations

This study provides robust quantitative evidence that teacher attendance and teaching quality are significant positive predictors of student retention in rural primary schools of Sindh, Pakistan. Teaching quality was identified as the stronger predictor, accounting for a larger proportion of the variance in retention outcomes. Together, the two predictor variables explained 61.8% of the variance in student retention, underscoring the centrality of teacher-related factors in shaping the retention landscape.

On the basis of these findings, the following policy recommendations are advanced: (1) The provincial government should strengthen teacher attendance monitoring systems through the deployment of biometric verification and regular supervisory visits, with meaningful accountability mechanisms for persistent absentees. (2) The Sindh Education Department should invest in sustained, context-sensitive teacher professional development programmes that build the pedagogical competencies associated with engaging and effective instruction. (3) School management committees should be empowered to monitor both teacher attendance and instructional quality, with findings integrated into annual school improvement plans. (4) Future research should employ longitudinal designs and multi-level modelling to disentangle school-level from household-level determinants of retention, and should examine potential mediating mechanisms through which teaching quality affects student persistence.

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