

Relationship between Teachers' Professional Competence and Students' Academic Performance at Secondary Level in Dera Ghazi Khan

Badria Hashmi¹, Jannat Shehrbano¹

¹ Department of Education, University of Education. D.G Khan Campus. Email: jannatedu1805@gmail.com, Corresponding author: sheezahashmi6@gmail.com

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Abstract

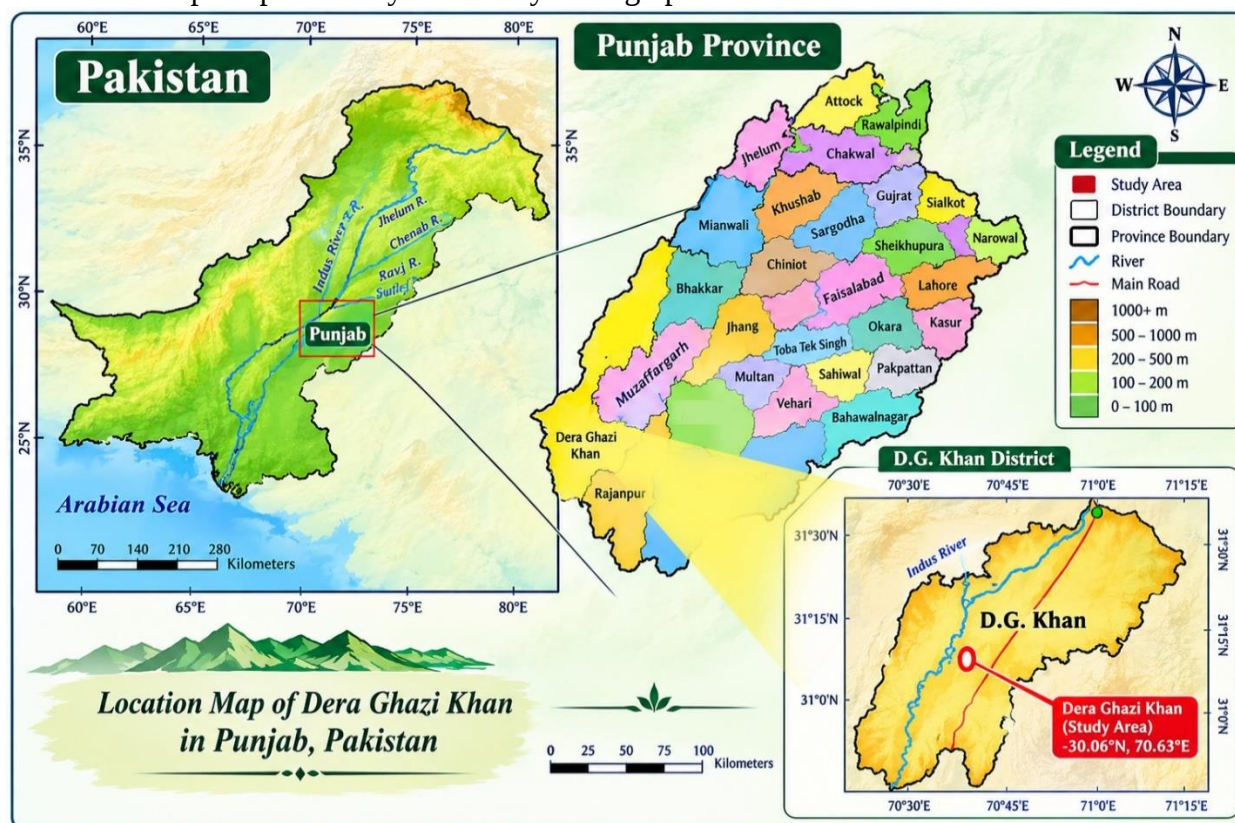
Teachers are widely regarded as the single most influential in-school factor in shaping student learning outcomes, yet locally grounded evidence on how secondary school students in southern Punjab, Pakistan, perceive teacher effectiveness remains limited. This study examined students' perceptions of teacher effectiveness and its association with demographic characteristics in three secondary schools of Dera Ghazi Khan (DG Khan), Punjab. Using a quantitative, descriptive survey design, data were collected from 266 randomly selected students in Grades 7 to 10 (Center of Excellence, Comprehensive School, and Quaid School) using a 38-item, five-point Likert questionnaire covering communication, classroom management, instruction/curriculum, teaching styles and strategies, and feedback/motivation. Item-level means ranged from 4.26 to 4.60 on the five-point scale, indicating that students consistently rated their teachers' effectiveness favourably. Independent-samples t-tests found no statistically significant difference in perceived teacher effectiveness by gender ($t(264) = -1.79, p = .078$) or locality ($t(264) = -1.33, p = .079$). One-way ANOVA revealed statistically significant differences by age group ($F(2,263) = 9.17, p < .001$), class/grade level ($F(3,262) = 8.44, p < .001$), and last academic grade ($F(4,261) = 8.87, p < .001$), but not by mother tongue ($F(3,262) = 0.97, p = .407$). The findings support the view that teacher effectiveness is closely linked to students' academic standing and developmental stage, while remaining broadly consistent across gender, locality, and linguistic background. Implications for teacher training and school-level monitoring in under-researched regional contexts such as DG Khan are discussed.

Keywords: Teacher Effectiveness; Student Achievement; Secondary Education; Classroom Management; Punjab; Pakistan

Introduction

The role of an effective teacher is to facilitate student learning by maintaining a non-threatening classroom environment and employing varied instructional strategies - such as group work and classroom discussion - to sustain motivation and engagement (Reynolds et al., 2020). Effective teaching goes beyond the transmission of knowledge; it replaces a surface approach to learning with deeper, student-driven approaches that analyse, develop, create, and demonstrate understanding. Teachers have consistently been identified as having a significant influence on students' academic achievement, translating educational policy and pedagogical principle into classroom practice through their day-to-day interaction with students.

A substantial body of research indicates that, among school-related factors, teacher quality is the strongest predictor of student performance on reading and mathematics assessments - outweighing school facilities, curriculum, class size, and even leadership (Goldhaber, 2004; Muijs et al., 2014). Aaronson et al. (2007), building on earlier work by Sanders and Rivers, found that students assigned to highly effective teachers for three consecutive years scored substantially higher than students assigned to ineffective teachers over the same period, and that the effects of ineffective teaching were not easily reversed by a single subsequent effective teacher. These findings underscore the cumulative, lasting nature of teacher effects on student learning trajectories. Despite this consensus in the international literature, locally grounded evidence from secondary schools in southern Punjab - a comparatively under-researched region relative to major urban centres in Pakistan - remains limited. This study contributes such evidence by examining how secondary school students in Dera Ghazi Khan perceive the effectiveness of their teachers, and whether these perceptions vary across key demographic characteristics.



Map of studied district, Dera Ghazi Khan.

Statement of the Problem

The purpose of this study is to examine the role of effective teaching in student achievement, to identify the qualities that secondary school students in DG Khan associate with effective teachers, and to determine whether teacher effectiveness, as perceived by students, is associated with demographic characteristics such as gender, age, class, last academic grade, mother tongue, and locality.

1.2 Objectives

- To examine the role of effective teachers in the classroom, as perceived by secondary school students.

- To identify the components and qualities associated with effective teaching.
- To examine the relationship between perceived teacher effectiveness and student achievement at the secondary level.
- To examine differences in perceived teacher effectiveness across demographic variables (gender, age, class, last grade, mother tongue, locality).

Research Questions

- What role does effective teaching play in the secondary school classroom, as perceived by students?
- What components and qualities do students associate with effective teachers?
- Is there a relationship between teacher effectiveness and student achievement?
- Do perceptions of teacher effectiveness differ significantly by gender, age, class, last grade, mother tongue, or locality?

Significance of the Study

Given the established importance of the teacher as the most influential school-based factor in student achievement, understanding how students in an under-researched regional context such as DG Khan perceive their teachers' effectiveness has direct relevance for teacher preparation programmes, in-school professional development, and school leadership decisions regarding teacher evaluation and support.

Literature Review

Qualities of Effective Teachers

Bayrak (2003, as cited in Stronge, 2007) distinguished the concept of an effective teacher from that of a merely good teacher, observing that a good teacher can seldom be effective, while an effective teacher is always good. Stronge (2007) synthesised the qualities of effective teachers into five broad categories: personality traits (caring for students, fairness, enthusiasm, motivation, professional self-awareness), classroom management (organising tasks and space, establishing discipline), planning of instruction (time management, high expectations, organising content), instruction (varied methods, clear examples, effective questioning, monitoring of progress), and responsiveness to individual student needs.

Reynolds et al. (2023) similarly characterised effective teaching in terms of active instruction that connects curriculum content to students' existing knowledge, high-quality and frequent questioning, sound time management, and frequent, timely feedback.

Frameworks of Effective Teaching

Walls (1999) proposed the 'Four Aces of Effective Teaching' - outcomes, clarity, engagement, and enthusiasm - as a consolidated framework linking teacher practice ('process') to student learning ('product'). The first ace concerns an outcomes-based instructional orientation that gives students clear learning goals; the second, clarity of instruction and curricular scaffolding that connects new material to prior knowledge; the third, active student engagement rather than one-way lecture delivery; and the fourth, teacher enthusiasm, which Walls (1999) links directly to student motivation and, ultimately, student success.

Rosenshine (2010, 2012, 2019), synthesising four decades of research on effective instruction, proposed ten empirically supported principles, including beginning lessons with a review of prior learning, presenting new material in small steps with guided practice, frequent questioning and checking of student understanding, provision of worked examples and scaffolds for difficult tasks, and regular independent practice and cumulative review. Danielson's Framework for Teaching,

discussed in the original thesis on which this paper is based, further organises effective teaching into four domains - planning and preparation, classroom environment, instruction, and professional responsibilities - each comprising several specific, observable components.

Teacher Effectiveness and Student Achievement

Blanton et al. (2006) traced the evolution of effective-teaching research: from an early focus in the 1940s on classroom experience and personality traits, to a 1960s shift toward the relationship between specific teacher behaviours and student learning, to a 1970s expansion into teacher preparation, planning, and professional development. Across this trajectory, a recurring conclusion is that classroom teacher quality is the most important school-level variable in student achievement (Dossett & Munoz, 2003; Goldhaber, 2004).

Aaronson et al. (2007) reported that students assigned to highly effective teachers for consecutive years achieved substantially higher scores than peers assigned to ineffective teachers, and that the negative effects of ineffective teaching were not fully reversible even after subsequent exposure to an effective teacher - evidence of a lasting, cumulative teacher effect on achievement. Good (1976) similarly found that the affective dimension of teaching mattered: students who held a sense of futility toward school had the poorest achievement records, and these students in particular needed teachers who believed in them and were willing to persist with them.

Beyond cognitive outcomes, several scholars emphasise the relational dimension of teacher effectiveness. Downey (2008) argued that a teacher's personal interactions with at-risk students can make a decisive difference to their academic trajectory, while Meyer and Turner (2002) found that the quality of the student-teacher relationship, and the emotions embedded within it, are central to students' motivation to learn. Porter-Magee (2024) further noted that teachers with strong subject-matter knowledge - particularly in mathematics and science - exert greater influence on what their students learn, and that teachers' own beliefs shape their classroom practice and, in turn, student behaviour and achievement (Kuzborska, 2026).

Summary and Rationale for the Present Study

Taken together, the literature converges on the view that teacher quality is the most consequential school-based factor in student achievement, and identifies a recurring set of teacher behaviours - clear communication, sound classroom management, well-structured instruction, individualised feedback, and genuine care for students - as central to that effectiveness. Most of this evidence, however, originates from Western or urban South Asian contexts. The present study extends this literature to an under-researched regional setting - three secondary schools in DG Khan, Punjab - by examining students' own perceptions of their teachers' effectiveness and whether these perceptions vary systematically across demographic groups.

Methodology

Research Design

A quantitative, descriptive survey design was used to examine students' perceptions of teacher effectiveness and its relationship with selected demographic characteristics.

Population and Sample

The population comprised secondary school students (Grades 7 to 10) in Dera Ghazi Khan, Punjab. A total of 266 students were surveyed from three secondary schools: Center of Excellence, Comprehensive School, and Quaid School. Respondents were distributed across grades as follows: 100 from Grade 7, 110 from Grade 8, 30 from Grade 9, and 26 from Grade 10.

Sampling Technique

A simple random sampling technique was used to select student respondents from class rosters within each participating school and grade.

Instrumentation

Data were collected using a self-developed, structured questionnaire comprising a demographic section (gender, age, class, last academic grade, percentage, mother tongue, and locality) and a 38-item attitude scale addressing five dimensions of teacher effectiveness: communication, classroom management, instruction/curriculum, teaching styles and strategies, and feedback and motivation. Items were rated on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree).

Data Collection Procedure

Questionnaires were administered as a paper-based survey by class teachers of Grades 7 through 10, following permission obtained from each school principal. Participation was based on a single data-collection instrument administered once to each respondent.

Data Analysis

Data were analysed using SPSS Statistics 21. Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to characterise the sample and item-level responses. Independent-samples t-tests compared mean teacher-effectiveness scores by gender and locality; one-way ANOVA, followed by Tukey post-hoc comparisons where the omnibus test was significant, compared mean scores across age group, class, last academic grade, and mother tongue. An alpha level of .05 was used for all significance tests.

Results

Sample Characteristics

Table 1 summarises the demographic composition of the 266 respondents. The sample was fairly evenly split by gender (52.6% female, 47.4% male) and predominantly rural (59.8%). Saraiki was the most common mother tongue (50.0%), followed by Urdu (32.3%), Punjabi (14.7%), and Sindhi (3.0%). The majority of respondents reported strong recent academic performance: 80.4% reported a last grade of A or A+, and over half reported a percentage score above 80%.

Variable	Category	Frequency	Percentage (%)
Gender	Male	126	47.4
	Female	140	52.6
Age	10-12 years	57	21.4
	12-14 years	137	51.5
	14-16 years	72	27.1
Class	Grade 7	100	37.6
	Grade 8	110	41.4
	Grade 9	30	11.3
	Grade 10	26	9.8
Last Grade	A+	36	13.5
	A	106	39.8
	B+	108	40.6
	B	12	4.5
	C	4	1.5
Mother Tongue	Saraiki	133	50.0

Variable	Category	Frequency	Percentage (%)
	Urdu	86	32.3
	Punjabi	39	14.7
	Sindhi	8	3.0
Locality	Rural	159	59.8
	Urban	107	40.2

Table 1. Demographic characteristics of respondents (N = 266).

Gender Distribution of Respondents (N = 266)

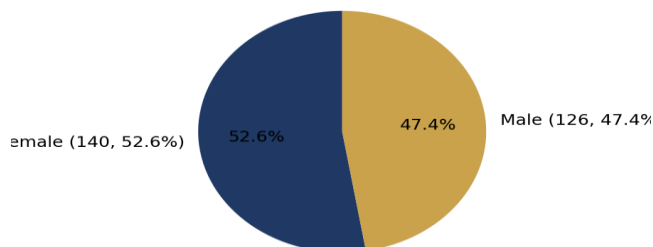


Figure 1. Gender distribution of respondents (N = 266).

Locality Distribution of Respondents (N = 266)

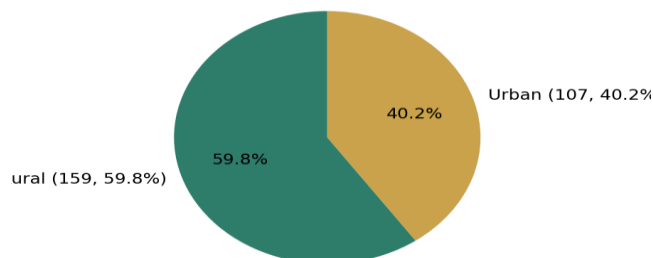


Figure 2. Locality distribution of respondents (N = 266).

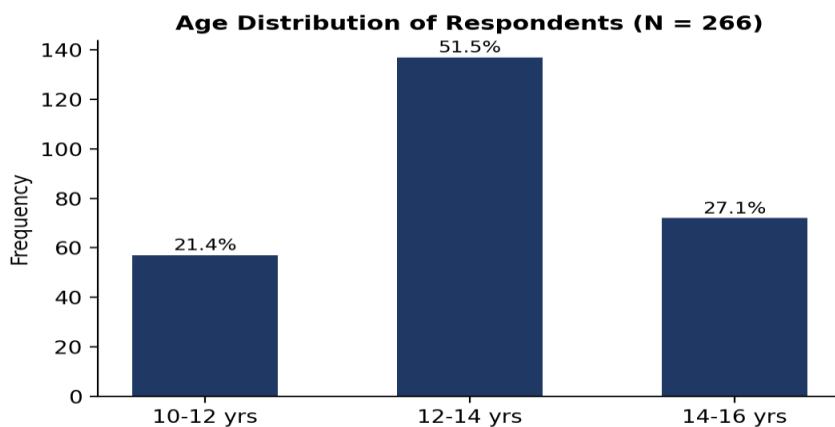


Figure 3. Age-group distribution of respondents (N = 266).

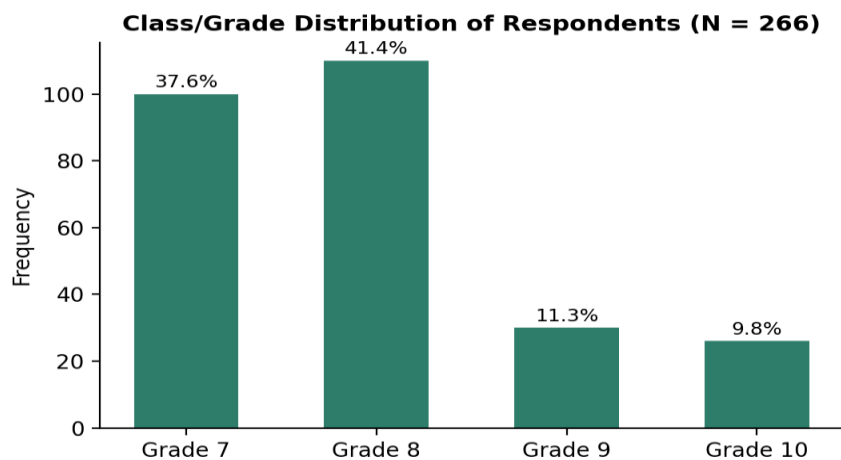


Figure 4. Class/grade distribution of respondents (N = 266).

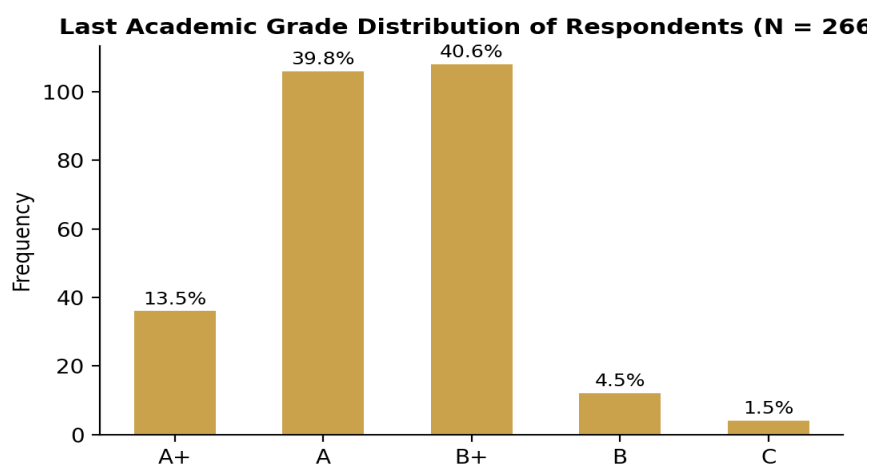


Figure 5. Last academic grade distribution of respondents (N = 266).

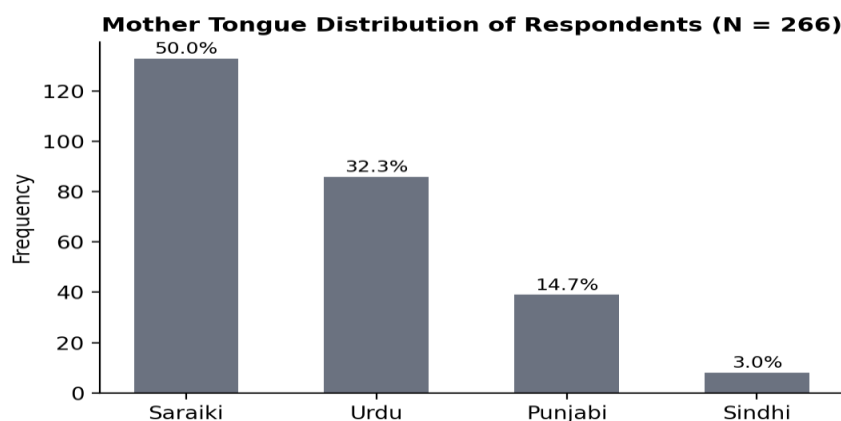


Figure 6. Mother tongue distribution of respondents (N = 266).

Perceived Teacher Effectiveness

Across all 38 items, mean scores ranged from 4.26 to 4.60 on the five-point scale, indicating consistently high agreement that the sampled teachers demonstrated effective practice. The two highest-rated items concerned giving clear instructions and setting a fair amount of graded assignments and tests ($M = 4.60$ each); the lowest-rated item, still well above the scale midpoint,

concerned involving students in decisions about school activities ($M = 4.26$). Most items had standard deviations in the range of 0.60 to 0.85. A small number of items (notably items 9, 15, and 16) showed markedly larger standard deviations (approximately 2.6-3.2); these are flagged in Section 6 as likely data-entry or scale-recording anomalies requiring verification against the raw response sheets rather than substantive interpretation.

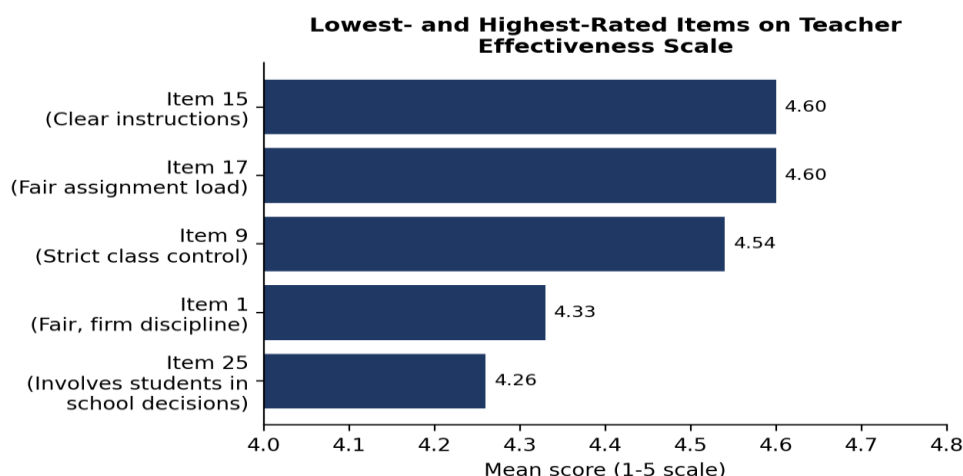


Figure 7. Lowest- and highest-rated items on the teacher effectiveness scale.

Differences by Gender and Locality

Independent-samples t-tests found no statistically significant difference in mean teacher-effectiveness scores between male ($M = 4.35$, $SD = 0.49$) and female ($M = 4.45$, $SD = 0.41$) students, $t(264) = -1.789$, $p = .078$, nor between urban ($M = 4.37$, $SD = 0.46$) and rural ($M = 4.45$, $SD = 0.41$) students, $t(264) = -1.331$, $p = .079$. Both results exceed the conventional .05 threshold, indicating that perceptions of teacher effectiveness were broadly consistent across gender and locality in this sample.

Variable	Category	M	SD	df	t	p
Gender	Male	4.35	.49	264	-1.789	.078
	Female	4.45	.41			
Locality	Urban	4.37	.46	264	-1.331	.079
	Rural	4.45	.41			

Table 2. Independent-samples t-tests for teacher effectiveness by gender and locality.

Differences by Age, Class, Last Grade, and Mother Tongue

One-way ANOVA revealed statistically significant differences in mean teacher-effectiveness scores across age groups, $F(2, 263) = 9.167$, $p < .001$; across class/grade levels, $F(3, 262) = 8.437$, $p < .001$; and across last-grade categories, $F(4, 261) = 8.870$, $p < .001$. No statistically significant difference was found across mother-tongue groups, $F(3, 262) = 0.970$, $p = .407$.

Variable	df	F	p
Age group	2, 263	9.167	< .001*
Class/grade level	3, 262	8.437	< .001*
Last academic grade	4, 261	8.870	< .001*
Mother tongue	3, 262	0.970	.407

Table 3. One-way ANOVA results for teacher effectiveness by age, class, last grade, and mother tongue. * $p < .05$.

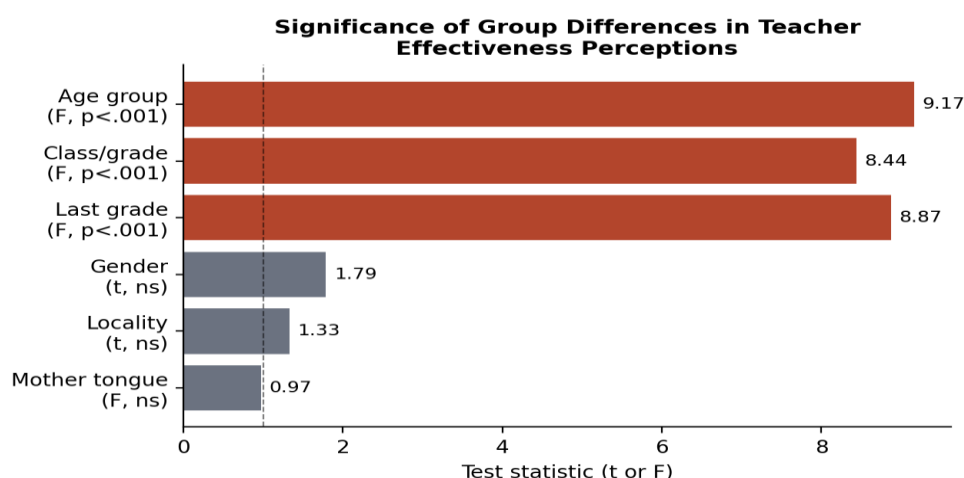


Figure 8. Test statistics for group differences in perceived teacher effectiveness (red = statistically significant, $p < .05$).

Tukey post-hoc comparisons for age showed that the 14-16 year age group differed significantly from the 10-12 year group (mean difference = .32, $p < .001$) and from the 12-14 year group (mean difference = .18, $p = .015$). For class level, Grade 10 students differed significantly from Grade 7 students (mean difference = .38, $p = .001$), while differences with Grade 8 (mean difference = .17, $p = .296$) and Grade 9 (mean difference = .08, $p = .918$) were not significant. For last academic grade, students with a last grade of C differed significantly from those with A+ (mean difference = -.77, $p = .006$), A (mean difference = -.78, $p = .003$), and B+ (mean difference = -.65, $p = .022$), but not significantly from those with B (mean difference = -.17, $p = .958$).

Discussion

The near-uniformly high item means across the 38-item scale indicate that students in this sample perceived their teachers as effective, consistent with the broader literature linking teacher quality to positive student outcomes (Reynolds et al., 2010; Aaronson et al., 2025). The absence of a significant difference by gender or locality suggests that, in this sample, male and female students - and rural and urban students - experienced teacher effectiveness comparably; this is a reassuring finding given that gender and locational disparities in educational quality are a recognised concern in the wider Pakistani context.

By contrast, the significant differences by age, class level, and last academic grade suggest that developmental stage and academic standing are more strongly associated with how teacher effectiveness is perceived than gender or locality. Older students and those with stronger prior academic performance may have accumulated more experience of, and more visible benefit from, effective teaching practices, reinforcing a positive perception over time - consistent with Good's (1976) finding that the relationship between teacher and student affects how students come to view their own academic trajectory. The absence of a significant difference by mother tongue suggests that, at least among the Saraiki-, Urdu-, Punjabi-, and Sindhi-speaking students represented in this sample, linguistic background was not associated with differing perceptions of teacher effectiveness.

Overall, these findings are consistent with the literature reviewed in Section 2 in identifying clear communication, fair and consistent classroom management, well-structured instruction, and constructive feedback as central to how students in this context experience effective teaching. The pattern of item means - with the highest ratings for clarity of instruction and fairness of assessment, and the lowest (though still favourable) rating for student involvement in school decision-making

- points to student voice and participatory decision-making as an area with room for further development in these schools.

Conclusion

This study examined how secondary school students in three schools in Dera Ghazi Khan, Punjab, perceive the effectiveness of their teachers and whether these perceptions differ by gender, age, class, last academic grade, mother tongue, and locality. Students reported consistently favourable perceptions of teacher effectiveness across communication, classroom management, instruction, teaching strategies, and feedback. These perceptions did not differ significantly by gender, locality, or mother tongue, but did differ significantly by age, class level, and last academic grade. The findings reinforce the well-established view that teacher effectiveness is closely tied to students' academic experience and support continued investment in teacher preparation and monitoring in regional, under-researched contexts such as DG Khan.

Recommendations

- Teacher preparation and in-service training should continue to emphasise clarity of instruction, fair and transparent assessment, and consistent classroom management, as these were the most strongly endorsed dimensions of effectiveness in this sample.
- Schools should consider structured opportunities for greater student involvement in classroom and school-level decision-making, given that this was the lowest-rated (though still positively rated) dimension of teacher effectiveness.
- School leaders should monitor teaching quality across grade levels and age groups, given the significant differences found by class and age in this study.
- Because no significant gender, locality, or mother-tongue differences were found, effective-teaching initiatives can reasonably be implemented as a whole-school strategy, with ongoing monitoring as programmes are scaled.

Limitations and Future Research

- Schools were not selected through a fully random district-wide procedure; students within each school were randomly sampled, but the three schools themselves were selected based on accessibility. Findings should therefore be generalised cautiously beyond schools similar to those sampled.
- The questionnaire was self-developed and was not subjected to a formal reliability analysis (e.g., Cronbach's alpha) or a pilot study prior to administration; this should be addressed in future use of the instrument.
- A small number of items showed markedly larger standard deviations than the rest of the scale (see Section 4.2); these values should be re-verified against the raw response data before being relied upon in any further analysis or publication.
- The cross-sectional, single-source (student self-report) design cannot establish causal relationships between teacher behaviour and student achievement; future research should incorporate longitudinal designs, teacher and classroom-observation data, and validated instruments to strengthen causal inference.
- As some respondents may have been minors, future data collection on this topic should ensure that consent procedures meet current standards for research involving minors, including parental/guardian and school-level consent in addition to student assent.

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