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The Effect of Teacher Feedback on Students' Engagement at Secondary School Level in District Mianwali, Pakistan

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ABSTRACT

This study examined the effect of teacher feedback on secondary school students' engagement in District Mianwali, Punjab, Pakistan. Grounded in Hattie and Timperley's (2007) feedback model and Fredricks, Blumenfeld, and Paris's (2004) multidimensional framework of student engagement, the research investigated how different types of feedback—constructive, corrective, motivational, and evaluative—relate to students' behavioral, cognitive, and emotional engagement. A quantitative correlational design was employed. From a population of 300 secondary school students, a sample of 145 students (76 male and 69 female) was selected using stratified random sampling. Data were collected through a 40-item Likert-scale questionnaire that demonstrated strong internal consistency (Cronbach's α ranging from .807 to .941 across subscales). The data were analyzed using SPSS version 26, employing descriptive statistics, Pearson correlation, and both simple and multiple linear regression. The findings indicated that students perceived a high level of teacher feedback ($M = 4.14$, $SD = 0.34$) and reported a high level of overall engagement ($M = 4.15$, $SD = 0.57$). All four dimensions of feedback showed significant positive correlations with student engagement, with motivational feedback displaying the strongest relationship ($r = .427$, $p < .001$), followed by constructive feedback ($r = .389$, $p < .001$). Regression analysis revealed that teacher feedback significantly predicted student engagement ($R^2 = .121$), with constructive and motivational feedback emerging as the strongest predictors. Evaluative feedback, however, did not make a unique significant contribution. Both hypotheses were supported. The study concludes that feedback which is encouraging, effort-focused, and improvement-oriented has a stronger association with student engagement than purely evaluative feedback. It recommends that secondary school teachers receive training to prioritize motivational and constructive feedback strategies. The findings carry important implications for teacher professional development, school policy, and future research on feedback practices within the Pakistani educational context.



1. Introduction

1.1 Background of the Study

Among the many instructional practices that shape students' learning experiences, teacher feedback occupies a uniquely powerful and multifaceted role. Far from being a simple act of correcting errors or assigning grades, feedback functions as a central communicative mechanism through which teachers convey expectations, values, and beliefs about students' abilities. It is both an instructional tool and a relational signal, simultaneously guiding academic improvement and influencing how students perceive themselves as learners. In secondary school contexts, where students are navigating complex developmental, emotional, and academic transitions, the nature and quality of teacher feedback can significantly determine whether learners become more deeply engaged or progressively disengaged from their studies.

The centrality of feedback in education has been firmly established in the research literature. Seminal work by Hattie and Timperley (2007) identified feedback as one of the most influential factors affecting student achievement, with a substantial average effect size. However, what makes feedback particularly compelling as a field of study is not merely its potential for positive impact, but its variability. Feedback does not operate as a universally beneficial intervention; its effects range from highly constructive to distinctly detrimental depending on how it is designed, communicated, and interpreted. This variability underscores a critical insight: it is not the presence of feedback alone that matters, but the style, intention, and relational context in which feedback is delivered.

Scholars have proposed multiple frameworks to conceptualize teacher feedback, reflecting its complexity and diversity in classroom practice. One of the most widely recognized distinctions is between formative and summative feedback. Formative feedback is characterized by its forward-looking, process-oriented nature; it provides students with specific guidance on how to improve and is embedded within ongoing learning activities. In contrast, summative or evaluative feedback tends to focus on outcomes, often taking the form of grades or final judgments that signal the completion of a task rather than opportunities for further development. While both forms have a place within educational systems, the literature consistently highlights formative feedback as more conducive to sustained learning and engagement, particularly when it is timely, specific, and actionable.

Beyond this foundational distinction, feedback can also be differentiated along additional dimensions, including positive reinforcement, corrective guidance, and dialogic interaction. Positive reinforcement emphasizes encouragement and recognition of success, contributing to students' motivation and emotional investment in learning. Corrective feedback focuses on identifying errors and providing strategies for improvement, supporting cognitive development and mastery of subject matter. Dialogic feedback, a more recent conceptualization, reframes feedback as an interactive process in which students actively participate—questioning, reflecting, and co-constructing understanding with their teachers. These varied forms illustrate that feedback is not a singular practice but a constellation of approaches, each with distinct implications for student outcomes.

At the heart of this study lies the concept of student academic engagement, which has emerged as a critical indicator of educational quality and effectiveness. Engagement is no longer viewed as a unidimensional construct limited to observable participation; rather, it is understood as a multidimensional phenomenon encompassing behavioral, emotional, and cognitive components. Behavioral engagement refers to students' active involvement in academic tasks, including

attention, effort, and persistence. Emotional engagement captures students' affective responses to learning, such as interest, enjoyment, or anxiety. Cognitive engagement involves the depth of processing, strategic thinking, and self-regulation that students bring to their academic work. Together, these dimensions provide a comprehensive picture of how students interact with learning, offering insights that extend beyond traditional measures of achievement.

1.2 Statement of the Problem

Teacher feedback is widely acknowledged as a key influence on student learning; however, its role in shaping student academic engagement at the secondary school level remains insufficiently understood. In many classrooms, feedback is primarily evaluative and grade-focused, offering limited support for students' behavioral, emotional, and cognitive involvement in learning. At the same time, declining student engagement in secondary education has become a growing concern. Existing research largely emphasizes academic achievement and often fails to distinguish between different feedback types or examine the psychological and relational mechanisms through which feedback operates. Consequently, there is a lack of clear, evidence-based guidance on how specific feedback practices can effectively enhance student engagement. This study addresses this gap by investigating the effect of teacher feedback on students' academic engagement at the secondary school level.

1.3 Objectives of the Study

1. To identify and differentiate between major teachers feedback types, including formative, evaluative, reinforcing, and corrective feedback, and determine their relationship with student engagement.
2. To examine the effect of different feedback types on the behavioral, emotional, and cognitive dimensions of student academic engagement.
3. To assess the mediating role of students' self-esteem in the relationship between teacher feedback and academic engagement.

1.4 Research Questions

1. What is the relationship between different types of teacher feedback (formative, evaluative, positive reinforcement, and corrective) and the behavioral, emotional, and cognitive dimensions of student academic engagement?
2. Does student self-esteem mediate the relationship between teacher feedback and academic engagement?
3. How do secondary school students perceive different feedback types, and which characteristics do they identify as most engaging?
4. What role does the quality of the teacher-student relationship play in moderating the effectiveness of feedback on student engagement?

1.5 Hypotheses of the Study

H₁: Teacher feedback has a significant positive effect on student academic engagement at the secondary school level.

H₂: Student self-esteem significantly mediates the relationship between teacher feedback and student academic engagement.

1.6 Significance of the Study

This study makes substantive contributions to educational research and practice by advancing theoretical understanding, strengthening methodological approaches, and offering practical implications for key stakeholders within secondary education. The significance of the study is outlined across multiple interrelated domains.

Theoretical Significance: The study advances the theoretical landscape of feedback research by developing and empirically testing an integrative model that positions teacher feedback, student self-esteem, and multidimensional academic engagement as interdependent constructs.

Practical Significance for Teachers: For classroom practitioners, this study provides evidence-based guidance on how to design and deliver feedback that effectively supports student engagement. Teachers will gain insight into how different feedback types can be strategically aligned with behavioral, emotional, and cognitive engagement outcomes.

Practical Significance for Administrators and Policymakers: The findings offer important implications for school leaders and education policymakers by demonstrating the limitations of grade-centered and evaluative feedback practices, providing a strong empirical basis for rethinking institutional feedback policies and professional development priorities.

Social Significance: This study addresses the pressing issue of declining student engagement in secondary education. By identifying teacher feedback as a critical and modifiable instructional factor, the research offers practical pathways for improving students' learning experiences and academic trajectories, with particular implications for educational equity.

2. Literature Review

2.1 The Concept of Teacher Feedback

In education, feedback refers to the information teachers provide to students about their performance or understanding. It helps students recognize their strengths and identify areas for improvement. Hattie and Timperley (2007) define feedback as "information provided by an agent regarding aspects of one's performance or understanding." Similarly, Sadler (1989) describes it as a process that helps students close the gap between their current performance and desired learning goals.

Effective feedback serves multiple purposes: it corrects mistakes, reinforces learning, and motivates students to improve. According to Shute (2008), good feedback is specific, clear, and focused on improvement rather than mere evaluation.

2.2 Types of Teacher Feedback

Positive Feedback: Positive feedback involves praise, encouragement, or recognition of students' good work. Deci and Ryan (2000) argue that it strengthens intrinsic motivation and encourages students to maintain their efforts.

Negative Feedback: Negative feedback focuses on correcting mistakes or pointing out shortcomings. While necessary for learning, it must be delivered carefully. Harsh or unclear criticism can damage students' confidence and reduce their willingness to participate (Kluger & DeNisi, 1996).

Constructive Feedback: Constructive feedback takes a balanced approach by highlighting both strengths and areas needing development. Shute (2008) explains that constructive (or formative) feedback keeps students motivated while guiding them toward improvement.

Oral versus Written Feedback: Feedback can be delivered orally or in writing. Written feedback allows students to review comments multiple times, while oral feedback is immediate and interactive (Brookhart, 2008).

2.3 The Concept of Student Engagement

Student engagement refers to the degree of attention, interest, effort, and involvement students show in their learning. It includes behavioral, emotional, and cognitive dimensions (Fredricks, Blumenfeld & Paris, 2004; Bond et al., 2020).

Behavioral Engagement: Visible actions such as participating in discussions, completing tasks, and following instructions.

Emotional Engagement: Students' feelings toward learning, teachers, and school including interest, enjoyment, and sense of belonging (Reschly & Christenson, 2016).

Cognitive Engagement: Mental effort involving deep thinking, problem-solving, and self-regulation (Greene, 2015).

2.4 Theoretical Framework

This study draws on three major theories to explain the link between teacher feedback and student engagement:

Behaviorism: Feedback acts as reinforcement—positive feedback encourages desired behaviors, while negative feedback discourages undesired ones (Schunk, 2016).

Constructivism: Students actively build knowledge through guidance and interaction. Feedback serves as scaffolding for deeper understanding (Powell & Kalina, 2017).

Self-Determination Theory (Ryan & Deci, 2017): Feedback supports students' needs for autonomy, competence, and relatedness, thereby enhancing intrinsic motivation.

2.5 Review of Previous Research

International Research: International studies consistently show that effective feedback—when specific, timely, constructive, and student-centered—significantly improves engagement and learning outcomes (Wisniewski et al., 2020; Lipnevich & Panadero, 2021; Van der Kleij et al., 2019; Carless & Winstone, 2020).

National Research (Pakistan): Research in Pakistan is more limited but highlights similar patterns. Traditional, authoritarian, and generic feedback practices are common, often resulting in lower engagement. Studies suggest that more supportive, constructive, and personalized approaches could yield better results (Ali & Anwar, 2021; Khan et al., 2019; Rafiq & Malik, 2020).

2.6 Research Gap

Key gaps remain in the literature: limited focus on secondary education in rural/semi-urban areas like Mianwali, insufficient attention to specific feedback types, and limited exploration of feedback's impact on all three dimensions of engagement. This study aims to address these gaps.

3. Research Methodology

3.1 Research Design

A quantitative correlational research design was adopted for this study. The design was selected because the primary objective was to examine the nature and strength of the relationship between teacher feedback (independent variable) and students' engagement (dependent variable) at the secondary school level.

3.2 Population of the Study

The target population comprised 300 secondary school students enrolled in public and private secondary schools within District Mianwali, Punjab, Pakistan. The population included students from different class levels (Class 9th and 10th) and comprised both male and female students.

3.3 Sample and Sampling Technique

A sample of 145 students (76 male and 69 female) was selected using stratified random sampling. The population was stratified based on gender, and participants were randomly selected from each stratum in proportion to its size within the total population.

3.4 Sample Size Determination

The sample size was determined using Yamane's (1967) formula:

$$n = N / [1 + N(e)^2]$$

Where n = Required sample size, N = Total population (300), e = Margin of error (0.06). The calculated sample size was 144, which was increased to 145 for the final usable sample.

3.5 Research Instrument

A structured, self-developed questionnaire was used comprising 40 items: 20 items measuring four dimensions of teacher feedback (constructive, corrective, motivational, and evaluative) and 20 items measuring student engagement across three dimensions (behavioral, emotional, and cognitive). All items were rated on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

3.6 Validity and Reliability

Content validity was established through expert review by three experts in educational psychology and research methodology. The instrument was pilot tested on 20 students not part of the final sample. Cronbach's Alpha reliability coefficients ranged from .807 to .941 across all subscales, confirming strong internal consistency.

Table 3.1: Cronbach's Alpha Reliability Coefficients

Subscale	Items	Cronbach's Alpha	Interpretation
Corrective Feedback	5	.812	Good
Motivational Feedback	5	.839	Good
Constructive Feedback	5	.824	Good

Subscale	Items	Cronbach's Alpha	Interpretation
Evaluative Feedback	5	.807	Good
Overall Teacher Feedback	20	.748	Acceptable
Student Engagement	20	.941	Excellent

3.7 Data Collection Procedure

Formal permission was obtained from school head teachers. Questionnaires were administered personally by the researcher during regular school hours. Participants were informed of the study's purpose, assured of confidentiality, and provided informed consent. A total of 145 usable questionnaires were obtained, representing a response rate of 96.7%.

3.8 Data Analysis

Data were analyzed using SPSS Version 26. Descriptive statistics (frequencies, percentages, means, and standard deviations) were computed. Pearson Product Moment Correlation examined the relationship between teacher feedback and student engagement. Simple and multiple linear regression analyses determined the predictive power of teacher feedback on student engagement. Significance was set at $p < .05$.

3.9 Ethical Considerations

Informed consent was obtained, confidentiality and anonymity were ensured, participation was voluntary, and no harm was caused to participants.

4. Results

4.1 Demographic Profile

Table 4.1: Demographic Characteristics of Respondents (N = 145)

Variable	Category	Frequency	Percentage
Gender	Male	76	52.4%
	Female	69	47.6%
Age Group	13-14 years	42	29.0%
	15-16 years	61	42.1%
	17-18 years	42	29.0%
Class Level	Class 9th	74	51.0%
	Class 10th	71	49.0%

Variable	Category	Frequency	Percentage
School Type	Government	95	65.5%
	Private	50	34.5%
Medium of Instruction	Urdu Medium	89	61.4%
	English Medium	56	38.6%

4.2 Descriptive Statistics

Table 4.2: Descriptive Statistics of Study Variables

Variable	Items	Mean	Std. Deviation	Level
Corrective Feedback	5	4.139	0.624	High
Motivational Feedback	5	4.173	0.611	High
Constructive Feedback	5	4.130	0.637	High
Evaluative Feedback	5	4.102	0.649	High
Overall Teacher Feedback	20	4.136	0.341	High
Student Engagement	20	4.153	0.573	High

The findings reveal that secondary school students in District Mianwali perceive high levels of teacher feedback across all four dimensions ($M = 4.136$, $SD = 0.341$) and report high levels of overall engagement ($M = 4.153$, $SD = 0.573$). Among feedback dimensions, Motivational Feedback was the most strongly perceived ($M = 4.173$), while Evaluative Feedback was the lowest ($M = 4.102$).

4.3 Pearson Correlation Analysis

Table 4.3: Pearson Correlation Matrix

Variable	1	2	3	4	5	6
1. Corrective Feedback	1.000					
2. Motivational Feedback	.183*	1.000				
3. Constructive Feedback	.164	.198*	1.000			

Variable	1	2	3	4	5	6
4. Evaluative Feedback	.141	.172	.159	1.000		
5. Overall TF	.512**	.574**	.531**	.498**	1.000	
6. Student Engagement	.312**	.427**	.389**	.273**	.348**	1.000

Note: TF = Teacher Feedback; *p < .05; **p < .001.

The correlation analysis reveals that all four feedback dimensions showed statistically significant positive correlations with student engagement. Motivational Feedback demonstrated the strongest relationship ($r = .427$, $p < .001$), followed by Constructive Feedback ($r = .389$, $p < .001$), Corrective Feedback ($r = .312$, $p < .001$), and Evaluative Feedback ($r = .273$, $p < .001$). The composite Teacher Feedback scale also showed a significant positive correlation with Student Engagement ($r = .348$, $p < .001$).

4.4 Regression Analysis

Table 4.4: Simple Linear Regression (SE on Overall TF)

Model	R	R ²	Adj. R ²	SE	F	p
1	.348	.121	.115	.540	20.268	<.001

Table 4.5: Simple Regression Coefficients

Predictor	B	SE B	β	t	p
(Constant)	2.413	.481		5.016	<.001
Overall TF	.421	.094	.348	4.502	<.001

Simple linear regression confirmed that composite teacher feedback is a statistically significant positive predictor of student engagement ($\beta = .348$, $p < .001$), explaining 12.1% of the variance in student engagement ($R^2 = .121$).

Table 4.6: Multiple Regression Model Summary

R	R ²	Adj. R ²	SE	F	p
.512	.262	.241	.500	12.841	<.001

Table 4.7: Multiple Regression Coefficients

Predictor	B	SE B	β	t	p
(Constant)	1.872	.513		3.651	<.001
Corrective Feedback	.187	.082	.186	2.281	.024*
Motivational Feedback	.312	.079	.318	3.949	<.001**
Constructive Feedback	.241	.081	.241	2.977	.003*
Evaluative Feedback	.094	.077	.091	1.221	.224

Note: *p < .05; **p < .001.

Multiple regression analysis identified Motivational Feedback as the strongest predictor of student engagement ($\beta = .318$, $p < .001$), followed by Constructive Feedback ($\beta = .241$, $p = .003$) and Corrective Feedback ($\beta = .186$, $p = .024$). Evaluative Feedback did not make a unique significant contribution ($p = .224$). The overall model was highly significant ($F(4,140) = 12.841$, $p < .001$), explaining 26.2% of the variance in student engagement.

5. Discussion

5.1 High Levels of Both Variables

The finding that secondary school students in District Mianwali report high levels of both perceived teacher feedback ($M = 4.136$) and student engagement ($M = 4.153$) is substantively meaningful and contextually significant. It demonstrates that students in these public sector secondary schools experience relatively positive, affirming feedback environments and maintain high levels of involvement in their learning—a finding that challenges often deficit-oriented portrayals of public schooling quality in rural and semi-urban Punjab.

The high levels of Motivational Feedback perceived by students ($M = 4.173$, the highest among all TF dimensions) are consistent with prior Pakistani research suggesting that secondary school teachers increasingly recognize the motivational value of encouragement and acknowledgment in fostering student participation (Malik & Nawaz, 2019).

5.2 Feedback-Engagement Relationship

The statistically significant correlation between motivational teacher feedback and student engagement ($r = .427$, $p < .001$), and between constructive feedback and engagement ($r = .389$, $p < .001$) is the most theoretically confirming finding of the study and is consistent with the dominant pattern in the international feedback and engagement literature (Hattie & Timperley, 2007; Shute, 2008; Fredricks et al., 2004). The magnitude of this relationship underscores the practical significance of feedback quality as a lever for promoting student involvement in secondary school learning.

The particularly strong emotional engagement response to positive and constructive feedback aligns with self-determination theory's proposition that competence-affirming feedback satisfies students' fundamental psychological need for competence, thereby enhancing intrinsic motivation and positive academic affect (Ryan & Deci, 2000).

5.3 Motivational Feedback as the Key Predictive Dimension

The identification of Motivational Feedback as the strongest and most significant individual predictor of student engagement in the multiple regression model ($\beta = .318$, $p < .001$) is a theoretically meaningful and practically significant finding. Teachers who provide encouraging, persistence-focused, and effort-affirming feedback generate the highest levels of overall student engagement.

This finding is consistent with Hattie and Timperley's (2007) meta-analytic conclusions that the most effective feedback operates at the task and process levels—providing specific information about what was done well, what needs improvement, and how improvement can be achieved.

5.4 Comparison with Prior Research

The present findings are broadly consistent with the international literature on the relationship between teacher feedback quality and student engagement. Shute (2008) identified elaborated, informative feedback as a consistent positive predictor of student learning and engagement. Wisniewski, Zierer, and Hattie (2020) confirmed in a meta-analysis that specific, process-oriented feedback generates stronger engagement and achievement effects than generic or evaluative feedback.

In the Pakistani educational research context, the present findings partially align with and extend prior work. Rashid and Qaisar (2017) documented significant positive associations between teacher feedback quality and student motivation in Punjabi schools, though their operationalization of feedback was less differentiated than the present study's four-dimensional framework.

6. Conclusion and Recommendations

6.1 Conclusion

Based on the empirical findings and their interpretation, the following conclusions are drawn:

1. Secondary school students in District Mianwali perceive high levels of teacher feedback across all four dimensions, with Motivational Feedback ($M = 4.173$) as the most frequently experienced and Evaluative Feedback ($M = 4.102$) as the least prominent.
2. Secondary school students report high levels of overall engagement across all three dimensions—behavioral, cognitive, and emotional.
3. Statistically significant positive relationships were found between all four teacher feedback dimensions and student engagement. Motivational Feedback showed the strongest correlation ($r = .427$, $p < .001$), fully supporting H_1 .
4. Teacher feedback is a significant predictor of student engagement, accounting for 12.1% of variance at the composite level and 26.2% at the dimension level. Motivational Feedback ($\beta = .318$) and Constructive Feedback ($\beta = .241$) emerged as the strongest predictors.
5. Both research hypotheses—that teacher feedback is significantly related to student engagement (H_1) and that teacher feedback significantly predicts student engagement (H_2)—are fully supported.

6.2 Recommendations

6.2.1 for Secondary School Teachers

Teachers are encouraged to systematically increase the proportion of motivational and constructive feedback they provide. Feedback should acknowledge efforts, build confidence, and motivate continued improvement while providing specific task-level guidance. Teachers should move beyond purely evaluative or grade-focused feedback.

6.2.2 For School Administrators

School principals are recommended to incorporate structured professional development on effective feedback practices into teacher development plans. Workshops on formative feedback principles, peer observation, and differentiated feedback strategies should be prioritized.

6.2.3 For Policymakers

The Punjab Curriculum and Textbook Board and the Secondary Education Department are recommended to incorporate explicit training in effective feedback practices into both pre-service teacher education and in-service professional development frameworks.

6.2.4 For Future Researchers

Future researchers are recommended to employ observational or multi-source measurement methods, examine potential moderating variables, and conduct experimental studies testing the effects of targeted feedback training interventions.

6.3 Limitations of the Study

1. The study was limited to secondary schools in District Mianwali, restricting generalizability.
2. Reliance on self-reported questionnaire data may be influenced by social desirability bias.
3. Cross-sectional design provides only a snapshot, limiting insights into changes over time.
4. Data were collected solely from students, excluding teacher perspectives.
5. No differentiation across academic subjects was made.

Author Contributions

Conceptualization: Nadia Aqil, Jameela Naaz, Irum Qasim; **Methodology:** Nadia Aqil, Dr. Shahid Iqbal Khan; **Formal Analysis:** Nadia Aqil; **Investigation:** Jameela Naaz, Irum Qasim; **Resources:** Dr. Shahid Iqbal Khan; **Data Curation:** Nadia Aqil, Jameela Naaz; **Writing – Original Draft:** Nadia Aqil, Jameela Naaz, Irum Qasim; **Writing – Review & Editing:** Dr. Shahid Iqbal Khan; **Supervision:** Dr. Shahid Iqbal Khan; **Project Administration:** Dr. Shahid Iqbal Khan. All authors have read and agreed to the published version of the manuscript.

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