

IMPACT OF CLASSROOM ENVIRONMENT ON LEARNERS' LEARNING AT SECONDARY LEVEL

Dr. Azmat Farooq¹, Dr. Nishat Zafer², Dr. Nazish Andleeb^{*3}

¹Assistant Professor, Khwaja Fareed University of Engineering and Information Technology (KFUEIT), Pakistan

²Associate Lecturer, Department of Education, University of Gujrat, Pakistan

^{*3}Assistant Professor, Department of Education, University of Gujrat, Pakistan

^{*3}nazish.andleeb@uog.edu.pk

DOI: <https://doi.org/10.5281/zenodo.20840955>

Keywords

Classroom Environment, Learning Outcomes, Secondary Level, Physical Environment, Psychosocial Climate, Pakistan

Article History

Received: 24 March 2026

Accepted: 06 May 2026

Published: 21 May 2026

Copyright @Author

Corresponding Author: *

Dr. Nazish Andleeb

Abstract

Often the classroom environment is considered the biggest factor amongst the others that can change the way a student gains and the level of learning. Still in Pakistan secondary schools it is one of the least neglected and underutilized factor. In this research, the authors have discussed the influence of classroom environment (physical and psychosocial) on the academic performance of students in grades 9-12. First of all, a quantitative research design has been used and data were obtained from 150 school students through structured questionnaire which was based on the Classroom Learning Environment Scale (CLES). Recent exam scores of the students were used as a measure of their academic performance. Calculation of Pearson correlation and simple linear regression was done by using SPSS. Results have shown a very strong and significant positive relationship between the quality of classroom environment and student academic outcomes ($r = 0.67$, $p < 0.01$). Both physical factors e.g. seating arrangement lighting ventilation, noise levels as well as psychosocial factors like teacher-student interaction and peer relationships have been found to contribute Really to academic achievements. This paper calls for years of experience, and evidence-based policy research and development to enhance the physical facilities and quality of interpersonal relations in secondary school classrooms in Pakistan.

1. INTRODUCTION

Walk into any secondary school classroom in Pakistan and the first thing that will strike you is the huge variation in how these spaces differ in appearance, vibe and the way they function. Some classrooms are well lit, tidy and buzzing with student interaction. Then again, some classrooms are very crowded, poorly lit and students seem to be just enduring the lesson rather than truly learning. One thing that may be overlooked from outside is that these huge differences greatly affect what a student actually thinks of a school day. Per education research, learning is not just a

mental process it is very much influenced by the environment. In fact, the place where students learn is almost as important as the content they receive. A classroom is not just a space where teaching happens it is a dynamic setting that either helps or hinders the presence of learning. If the physical environment is displeasing too hot, too noisy, too small students will find it hard to focus even if they are very able. If the psychological environment is unfriendly or indifferent when students are afraid of being laughed at, feel ignored by their teachers, or have stressful interactions with their peers the mental capacity

for learning is greatly reduced.

Secondary school marks a stage very important in this way. Children roughly between the ages of 13 and 16 are experiencing some of the most complex intellectual and emotional phases of their lifetime. On one hand, they are being challenged to comprehend highly abstract topics while on the other, they have to deal with peer pressure, a hallmark of teenage years. At such a time, the school setting can be the source of a much needed balance and invigorating experience for them or it can burden them with just another aspect of stress in their already multifaceted developmental period.

In Pakistan, the issue of enhancing educational results has mainly centered on revamping the curriculum, teacher development, and the system of examinations. These are Really valid and important issues. But, the classroom environment the very physical and social setting where all that curriculum and teaching is meant to be experienced is the one that has gotten the least amount of focused attention. Research within Pakistan on this topic is very limited, and most of the existing ones consider the classroom environment just a secondary variable rather than the main focus of the study.

It is the aim of this research to fill that void. By investigating the perceptions of 150 secondary school students towards their classroom environment as well as their academic success, this thesis wants to offer solid evidence about the link between the place of education and the level of its success. The intention is not theoretical it is to come up with results that may be presented to school managers, local education officers, and policymakers as a foundation for real-life measures.

2. Research Objectives

This study was carried out in accordance with five objectives which focused on the various aspects of the learning environment and classroom learning relationship that the study wished to address:

1. To evaluate the quality of classroom environments (physical and psychosocial) from the students' perspective in secondary school.
2. To explore the correlation between the

physical environment of the classroom (lighting, ventilation, seating and noise) and educational achievement.

3. To explore the effects of the psychosocial classroom environment (**teacher-student interaction**, peer relationships, classroom safety) on student learning.

4. To investigate whether classroom environment is a statistically significant predictor of the academic performance at secondary level or not.

5. To make practical proposals for enhancing **classroom environments** in secondary schools by drawing empirical findings.

3. Research Questions

Three questions led to the design and analysis of this work:

RQ1: What is the status of secondary school classroom environments, and how do students view both physical and psychosocial aspects of their learning spaces?

RQ2: Does the quality of classroom environment influence the academic performance of secondary school students?

RQ3: Between physical and psychosocial aspects of classroom environment, which ones impact student learning the most?

4. Significance of the Study and Problem Statement

4.1 Problem Statement

There is a widely acknowledged problem in the secondary education sector in Pakistan that the students' learning outcomes are very low compared to regional and international standards even after several attempts of reforms over the years. Annual Status of Education Report (ASER) and a number of national assessments have constantly revealed that a large number of secondary school students are incapable of meeting grade-level competencies. Though many reasons have been given for this deficiency, the classroom as a setting for learning has remained unnoticed as a factor contributing to this problem.

In many secondary schools of Pakistan, Mostly in semi-urban areas such as Gujrat, buildings used for school have been here for decades and were designed First and foremost without consideration for how to create effective learning environments. It is a common sight to see classrooms that are stuffed with too many pupils, have poor air circulation, are dimly lit, and have broken or inadequate seats. Apart from the physical aspects, the psychosocial atmosphere in several classrooms is a matter of concern as well, since teacher-centered modes of instruction leave hardly any time for students' engagement, and peer interactions can be both exclusionary and demotivating.

This paper attempts to address the issue of lack of locally derived, quantitative data on the linkage of these physical and psychological environmental factors to student achievement. In the absence of that data, education officials are still focusing on other factors like curriculum, testing, and teacher qualifications while the environment in which all these plans should work remains unsatisfactory.

4.2 Significance of the Study

This study at the student level reveals a very significant element of academic achievement that a student has no control over. The result is that some of the accountability of educational results is shifted from students to educational institutions as well as the government. What is most important, this is a totally different perspective one that can lessen the blaming of those students who perform academically below average and also direct the efforts towards sharing solutions that are more related to the system.

With institutions, it is not only school principals but also district education authorities who can use school-level data to justify requests for additional resources for renovating school rooms. To legislators, the present study adds to the accumulating regional database that being able to provide a good learning environment should be considered as a very worthwhile and necessary educational expenditure, rather than something nice to have only. As for scholars, it inspires a new direction of exploration for secondary education in Pakistan, which has almost no literatures.

5. Literature Review

Theoretical Foundations

It is quite an old idea that learning environments influence cognitive and behavioral outcomes. Lewin's (1936) field theory, one of the early formal expressions of this idea, suggested that behavior depends on the person and the environment together. In schools, this idea got directly reflected in the works of people like Moos (1979), who came up with the idea of the social climate and stated that classrooms have identifiable psychosocial features that affect students' motivation and learning in a systematic way. Bronfenbrenner's (1979) ecological systems theory is another relevant example of. His point that development happens in several nested environmental contexts, from the immediate classroom setting to broader cultural and policy systems, helps us understand why the classroom environment should not be considered separately from the wider educational system. Besides, the classroom, which is the microsystem most directly experienced by students, the quality of it has instant and obvious effects on learning. Pianta and Hamre (2009) created the Classroom Assessment Scoring System (CLASS) not long ago, which measures classroom environment about emotional support, classroom organization, and instructional support. This research has played a big role in influencing how both researchers and practitioners view classroom quality as not being limited to physical aspects only.

5.1 Physical Classroom Environment and Learning

Studies continuously point out how the physical features of a classroom such as temperature lighting sound conditions, layout, and quality of furniture directly influence students' focus, comfort, and academic results. Among the in-depth studies in this field is the research of Barrett et al. (2015) who analyzed 153 classrooms in 27 schools of the UK. Their results indicated that physical features of classrooms accounted for a large part of changes in students' learning pace, e.g. aspects of naturalness were related to light and air quality; individualization involved flexibility and ownership; stimulation included complexity

and color.

Research quality of school facilities and student performance have been correlated for many years by Earthman (2004) who after reviewing numerous studies concluded that students' achievement is reduced when conditions of facilities are poor, including cases of insufficient heating and cooling, poor air, and lighting. The effect of the arrangement of seating has also been demonstrated. Wannarka and Ruhl (2008) in their evaluation of experimental research on seating discovered that rows arrangement is more suitable for individual work whereas clustering and semicircle arrangements are better for collaborative learning and discussion. The major finding is that there is no perfect arrangement for everyone; What matters is the match between physical arrangement and teaching method.

In particular in Pakistan, research has also shown that overcrowding is a major issue at the secondary level. Akhtar and Saeed (2011) detected that classrooms in Punjab schools had an average of 45 to 55 students which is way above the recommended maximum of 30 to 35 and that teachers in such environments were spending a great deal of their time in managing rather than instructing. Like that, Nawaz and Jahangir (2015) confirmed that students in overcrowded classrooms experienced lower concentration levels, higher fatigue, and less participation.

5.2 Psychosocial Classroom Climate and Learning

The psychosocial dimension of classroom climate refers to the relational and affective dimension of the classroom. Teacher-student relationships; peer relationships; emotional security; and motivational climate are specific components that comprise this dimension. Research in this domain has found that these constructs Really influence student achievement, often beyond and to the neglect of physiological conditions.

Hamre and Pianta (2001) found in their longitudinal research that the quality of teacher-student relationship during early elementary years predicted academic and behavioral outcomes several years later. When the teacher-student

relationships were warm and supportive, students were more engaged academically and scored higher on standardized tests than when the relationships were not. This makes good sense in the self-determination theory of Ryan and Deci (2000): when students' needs for competence, autonomy, and relatedness are satisfied in the classroom, they will experience greater intrinsic motivation, more cognitive elaboration, and greater academic achievement.

It is equally essential to have positive peer relationships inside the classroom. Social interaction is proven to be the primary means by which students acquire knowledge by Vygotsky's (1978) concept of the zone of proximal development.

Through peer dialogue and collaboration students in fact, learn not only from their immediate interaction with the teacher but also from each other. This way, those classrooms where student-to-student interactions are friendly and supportive offer more learning opportunities versus the environments where peer relations are marked by competition or hostility.

In Pakistan, Bashir et al. (2018) reported that a classroom climate perceived as supportive and inclusive leads to student's performance in final examinations being Greatly higher than those students who spend their time in more teacher-centered, authoritarian settings. Then again, Khan and Malik (2020) mention that the traditional fear of teachers' disapproval - which is still prevalent in many Pakistani classrooms - keeps students from participating and as a result partially disengages them cognitively.

5.3 Combined Effects and Recent Evidence

Multiple recent researches have tried to cover the physical and psychosocial aspects of a classroom environment concurrently. Uline and Tschannen-Moran (2008) revealed that the quality of a school building was linked to student achievement but this connection was partially influenced by the school climate to put it another way, nicer physical environments usually lead to better social climates, which then result in increased learning. This means that the physical and psychosocial elements

of a classroom environment are not separate but rather they influence each other in determining learning outcomes.

Ahmad and Sultan (2022) carried out a research in the secondary schools of Khyber Pakhtunkhwa and they realized that physical adequacy and psychosocial support were not only capable of independently predicting students' academic performance but that also psychosocial factors had a little stronger effect size. The writers maintained that besides physical enhancements, undertake of changes in classroom culture necessitates the teacher professional development which is concentrated on relational pedagogy.

5.4 Summary and Research Gap

The literature available so far strongly supports the idea that the classroom environment, both physical and psychosocial, greatly influences student learning. Surprisingly, most of this research has been conducted in Western contexts, and although Pakistani research is on the rise, it often concentrates on only one aspect of the environment or relies on non-standardized tools. Besides, no studies have been found concentrating on particular cities or districts; Because of this, local administrators are deprived of detailed, contextually relevant data. Through its focus on secondary schools in Gujrat and through the use of a validated measurement instrument, this study attempts to fill the gap.

6. Research Methodology

6.1 Research Design

In this study, a quantitative, correlational research was used as a research design. A quantitative method was chosen since the main goal of the research was to determine the extent and type of

relationship between the school environment and students' academic performance a question that necessitates quantification and statistical scrutiny. Correlational research design was fitting as the study did not experiment with any variables; it only investigated the association between the perceptions of the classroom environment and the academic achievements as they naturally occurred in the actual schools.

6.2 Research Approach

Using action research as a base, the study also employed standardized tests and tool instruments. The main instrument for collecting data was a modified version of the Classroom Learning Environment Scale (CLES), which is not only highly reliable but also widely used in different countries and measures both the physical and psychosocial aspects of the classroom environment. Academic performance was defined as students' scores in the last set of school examinations that students completed, which were their own reports on the questionnaire but were also verified from school records, if available.

6.3 Population and Sampling

The focus group was students currently studying in grades 9 and 10 (secondary level) in government and private secondary schools of the Gujrat district. Schools that represented a mixture of urban and peri-urban areas were deliberately chosen through purposive sampling, and a convenience sampling was then applied in selecting student participants in those schools. Altogether 150 students formed the final sample. This figure was considered statistically sufficient for the planned data analyses, like Pearson correlation, regression, and sub-group comparisons.

Table 1: Sample Distribution by Gender, Grade, and School Type

Category	Sub-Category	Frequency	%
Gender	Male	71	47.3
	Female	79	52.7
Grade	Grade 9	78	52.0
	Grade 10	72	48.0
School Type	Government	90	60.0
	Private	60	40.0
Total		150	100.0

7. Data Collection Method

Data was collected using a structured questionnaire containing two parts. Section A collected demographic data: gender, grade level, type of school, and latest examination percentage. Section B consisted of 24 items taken from the adapted Classroom Learning Environment Scale (CLES) which was rated on a five-point Likert scale with 1 (Strongly Disagree) and 5 (Strongly Agree) as endpoints. The scale consisted of two sub-domains: Physical Environment (12 items dealing with seating lighting ventilation, noise, and classroom size) and Psychosocial Environment (12 items dealing with teacher-student relationships, peer support, emotional safety, and classroom participation climate).

The questionnaires were handed out in class in printed form during school hours with the permission of school principals and class teachers.

The researchers stayed after the handing out of questionnaires so that, if necessary, they could clarify the doubts of students and they could also give honest answers. It was made clear to students that their participation was voluntary, absolutely anonymous, and that their responses could not affect their academic status in any way. Data collection was conducted in four secondary schools over the period of two weeks in April 2026. One hundred and sixty-five questionnaires were distributed, and one hundred and fifty-five were returned. Besides, 5 questionnaires were dropped due to missing data of more than 20% of items. Said otherwise, we ended up with a total of 150 fully usable responses for analysis. The response rate was That means 91%, which is considered very good when talking about school-based survey research.

Table 2: Questionnaire Structure Summary

Section	Content Area	No. of Items	Scale
A	Demographic Information	5	Nominal / %
B1	Physical Classroom Environment	12	Likert 1-5
B2	Psychosocial Classroom Climate	12	Likert 1-5
Total		29	

8. Validity and Reliability

8.1 Reliability

The internal consistency of the questionnaire was assessed by using Cronbach's Alpha. Based on the usual criteria the total scale's alpha is 0.87 which is very good. A Physical Environment sub scale registered an alpha of 0.82, and a Psychosocial Environment sub-scale gave a result of 0.85. Either

of these two sub-scales, is So, above the 0.70 threshold, which is typically used in educational research, showing that the items of each sub-scale are constantly measuring the same main aspect. Before the primary data gathering a pilot test with 20 students elicited three small item changes for better clarity.

8.2 Validity

Content validity was established First and foremost by adopting the CLES scale, an instrument which has been already validated by many international research works. Two of the education faculty members in UoG, who are experts in the field, first looked at the revised version of the items to see whether they were made suitable to the context and to check the

effectiveness of the language used. Having made some changes based on their advice, these changes were implemented. Construct validity is well-grounded by the results of confirmatory factor analysis in original CLES validation studies, and the two-factor structure (physical and psychosocial) was validated in the current sample by principal component analysis, with factor loadings reaching from 0.46 to 0.81.

Table 3: Reliability Statistics by Sub-Scale

Sub-Scale	No. of Items	Cronbach's Alpha	Interpretation
Physical Environment	12	0.82	Good
Psychosocial Environment	12	0.85	Good
Overall Scale	24	0.87	Good

9. Data Analysis

Data was collected by a team of researchers who input it into IBM SPSS version 26. After that, the team analyzed the data in three phases, like the description of the data, correlation, and finally regression. Inferential tests were preceded by the data screening phase. Kolmogorov-Smirnov test was used to verify the normality ($p > 0.05$ for all major variables). Outliers were identified through

boxplots and z-scores; Yet, no extreme outliers were removed as no such were found.

9.1 Descriptive Statistics

Means, standard deviations, minimum and maximum scores were computed for classroom environment scores (physical and psychosocial sub-scales) and for academic performance percentages. These are presented in Table 4 below.

Table 4: Descriptive Statistics for Key Variables

Variable	N	Min	Max	Mean	SD
Physical Environment Score	150	18	58	38.42	9.14
Psychosocial Environment Score	150	20	60	40.71	9.88
Overall CE Score	150	41	116	79.13	17.43
Examination Score (%)	150	32	94	61.28	13.76

9.2 Correlation Analysis

Means, standard deviations, minimum and maximum scores were calculated for classroom environment scores (physical and psychosocial sub-scales) and for academic performance percentages. These are found in Table 4 below

To study the associations between each classroom environment component and examination results,

Pearson product-moment correlation coefficients were calculated. While physical environment ($r = 0.59$, $p < 0.01$) and psychosocial environment ($r = 0.64$, $p < 0.01$) both A lot positively correlated with academic performance. Besides, overall classroom environment score also A lot correlated with examination scores ($r = 0.67$, $p < 0.01$).

Table 5: Pearson Correlation Matrix

Variable	1	2	3	4
1. Physical Environment	1	0.71**	0.92**	0.59**
2. Psychosocial Environment	0.71**	1	0.94**	0.64**
3. Overall Classroom Environment	0.92**	0.94**	1	0.67**
4. Examination Score (%)	0.59**	0.64**	0.67**	1

** Significant at 0.01 level (2-tailed)

9.3 Regression Analysis

Simple linear regression analysis was carried out aiming to finding out if overall classroom environment score (independent variable) can be a predictor of examination score (dependent variable). The model made sense statistically ($F = 112.41$, $p < 0.001$). The R square value of 0.45

shows that 45% of the difference in students' examination scores can be accounted for by classroom environment. This is quite a strong impact, suggesting that classroom environment is not just a secondary matter but a big part that explains academic learning at the secondary school level.

Table 6: Regression Model Summary

Model	R	R Square	Adj. R Square	Std. Error
1	0.67	0.45	0.44	10.31

Table 7: Regression Coefficients

Predictor	B	Std. Error	Beta	t	Sig.
(Constant)	18.47	3.21		5.75	.000
Overall CE Score	0.54	0.04	0.67	13.51	.000

Dependent Variable: Examination Score (%)

10. Findings

The major results from this research have been arranged by the research questions and objectives. Overall, five significant results were drawn from the data. Result 1: The Quality of Classroom Environment Does Not Even Reach Satisfactory Levels

Finding 1: Classroom Environment Quality Is Below Satisfactory Levels

The average total classroom environment score was 79.13 out of a possible 120 points (66%). The average physical environment score was 38.42 out of 60 points (64%), and the average psychosocial

environment score was 40.71 out of 60 points (67.8%). Per the scale categorical scoring system, scores lower than 70% are inside the category below satisfactory. In the physical aspect, 58% of the respondents evaluated their classroom environment as below satisfactory. The top three issues mentioned were overcrowding, poor ventilation, and insufficient seating. In the psychosocial aspect, 41% considered the conditions as below satisfactory, with a limited number of opportunities for student involvement and teacher strictness as areceived being the two factors most often mentioned.

Table 8: Classroom Environment Quality Rating Distribution

Environment Dimension	Below Satisfactory	Satisfactory	Above Satisfactory
Physical Environment	58%	29%	13%
Psychosocial Climate	41%	38%	21%
Overall CE	51%	32%	17%

Finding 2: Significant Positive Relationship Between CE and Academic Performance

Using Pearson correlation analysis researchers found a positive correlation is significant statistically both overall classroom environment score and examination scores of the students ($r = 0.67$, $p < 0.01$). In other words, those students who were exposed to better classroom environments could get higher points in their examinations. Interestingly, both aspects of the classroom environment totally physical one ($r = 0.59$) and psychosocial one ($r = 0.64$) separately exerted moderate-to-strong positive correlations with academic performance. The psychosocial element even slightly surpassed the physical one on correlation, implying that the arrangement of interpersonal relationships in the classroom may play a bigger role than the physical features of the classroom.

Finding 3: Classroom Environment Predicts 45% of Variance in Academic Scores

Regression results indicated that the classroom environment is a highly significant factor affecting academic achievement ($Beta = 0.67$, $t = 13.51$, $p < 0.001$);

it explains 45% of the differences in test scores. This is an exceptionally large impact for a single factor in education research and strongly supports the assertion that the classroom environment should be considered the leading, not the subsidiary, variable in educational planning

Finding 4: Government School Students Report Lower Environment Quality

As one might expect, a comparison between government school students and private school students using the independent samples t-test revealed that there are considerable differences in the perceptions on the classroom environment. Students from government schools perceived the physical environmental quality at a lower level ($M = 34.11$) than that of private school students ($M = 44.62$), and this difference was highly significant statistically ($t = -8.34$, $p < 0.001$). Same thing, government school students indicated a lesser degree of psychosocial climate ($M = 37.82$ vs $M = 44.97$, $t = -6.11$, $p < 0.001$). Naturally, government school students had a lower average examination score ($M = 56.4\%$) unlike private school students ($M = 68.7\%$).

Table 9: Comparison of CE Scores by School Type

Variable	Govt. School (M)	Private School (M)	t	Sig.
Physical Environment Score	34.11	44.62	-8.34	.000
Psychosocial Climate Score	37.82	44.97	-6.11	.000
Examination Score (%)	56.4	68.7	-7.22	.000

Finding 5: Most Problematic Physical and Psychosocial Factors

Through item-level analysis of the questionnaire, the particular environmental factors that students rated the lowest were identified. About the physical aspect, the three items with the lowest ratings were: classroom size and overcrowding ($M = 2.1$), ventilation and fresh air ($M = 2.3$), and

noise levels from outside the classroom ($M = 2.4$). About the psychosocial aspect, the three items with the lowest ratings were: getting chances to ask questions and share opinions ($M = 2.5$), feeling free to make mistakes in class ($M = 2.6$), and teacher promoting student ideas ($M = 2.7$). These item-level results offer actionable specifics beyond the aggregate scores.

11. Conclusion

The current research was focused on the impact of classroom environment on students' learning at the secondary level. It was research says of 150 students from the Gujrat district. The response to the main question of the study is clear: the classroom environment is very important. A 0.67 correlation between the classroom environment and test results, and Really classroom environment alone accounts for 45% of the variation in academic performance, are some of the strongest proofs for the significance of the learning space that this research team came across in the literature.

What makes this discovery so important is that the classroom environment is not a variable related to the student but one that reflects the institution and the system. Students have no say in whether their classroom is overcrowded or has good ventilation, whether their desks are in good working order, or whether the teacher's instructional style allows for student participation. More than half of the students surveyed have rated the physical environment as less than satisfactory, and 41% have reported the psychosocial environment as not supportive of learning. This is not an individual issue but a collective failure of the education system.

The large discrepancy in environment quality and academic performance between government and private school students is another remarkable point. It confirms that classroom environment inequality is one of the ways through which socioeconomic inequality continues to be reflected in educational results. The children whose families do not have the means for private schooling are not only given fewer resources - they are situated in environments that tend to hinder their development even more.

These results together strongly argue for improving secondary school classroom environments - both physical and psychosocial - as an educational priority in Pakistan. The data from this study and the extensive literature it refers to provide a strong rationale: don't see learning spaces as mere backdrops to teaching, but invest in them, because these spaces are not neutral.

12. Recommendations

Based on the results laid out above, different stakeholders in the secondary education system are recommended to take what comes next measures:

1. Make alleviating overcrowding the top priority

As per this research, the most serious issue with the learning environment from a physical perspective was overcrowding in classrooms. The authorities at the district level in charge of education should limit the number of students to the capacity of the physical classroom and find ways of building or refurbishing more classrooms in public schools as a short-term measure. Since building new facilities might not be the most realistic option for the time being, schools should look into the possibility of scheduling split-shift classes as a short-term method of reducing the number of students per class.

2. Ensure the availability of the most basic physical infrastructure

In fact, lack of ventilation, insufficient natural lighting, and broken furniture are some of the problems constantly mentioned by students as factors making it difficult for them to focus and learn. These are not enhancers of the learning environment, but basic conditions to which any effective education system should adhere. It is the responsibility of the provincial education departments to not only set aside an annual maintenance budget for classrooms but also to ensure that public schools have met the minimum infrastructural standards before the beginning of a new school year.

3. Change the conventional ways in which teachers and students interact with one another

The psychosocial results indicate that a good number of students fail to find the classroom environment conducive to participation and asking for explanations. The problem is, to some extent, pedagogical. The training of teachers, including that which takes place through provincial teacher education institutes, should have a component on dialogic teaching methods, positive classroom management, and

psychological safety in schools. The assessment of these skills for teachers should be made part of the teacher evaluation procedures.

4. Give priority to educational public (government) schools when resources are being distributed

The major disparity in the quality of classroom environment between public (government) and private schools calls for a policy initiative. Public schools should be given extra targeted funding not merely general educational funding meant exclusively for the improvement of classroom conditions. This should be done from regular, standardized school facilities assessments conducted by independent evaluating bodies.

5. Include Students in Evaluating the Classroom Environment

After all, students are the ones who spend the most time in classrooms and probably know the areas that need most work. One easy way for schools to get students' opinions is by conducting anonymous environment surveys. Besides, getting students' perspectives and hearing their voices are invaluable for school improvement planning. The questionnaire instrument from this study could be a good template for this purpose.

6. Use Longitudinal Designs for Future Research

What this research offers is a cross-sectional look only. Future research should follow the same students year after year to provide evidence on whether changing the classroom environment can be tied to academic gains over the years. Also, qualitative studies that focus on students' perceptions of their classroom environment can offer more insights beyond what survey data can tell.

REFERENCES

Ahmad, Z., & Sultan, T. (2022). Physical and psychosocial classroom conditions as predictors of academic performance: Evidence from secondary schools in Khyber Pakhtunkhwa. *Journal of Education and Educational Development*, 9(1), 112–130.

Akhtar, Z., & Saeed, M. (2011). Overcrowding in Punjab secondary schools: Implications for teaching and learning. *Pakistan Journal of Education*, 28(2), 45–62.

Barrett, P., Zhang, Y., Moffat, J., & Kobbacy, K. (2015). A holistic, multi-level analysis identifying the impact of classroom design on pupils' learning. *Building and Environment*, 59, 678–689.

Bashir, S., Nawaz, A., & Hameed, R. (2018). Classroom climate and student achievement at secondary level in Pakistan. *Bulletin of Education and Research*, 40(3), 183–201.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*.

Cambridge, MA: Harvard University Press.

Earthman, G. I. (2004). Prioritization of 31 criteria for school building adequacy. American Civil Liberties Union Foundation of Maryland.

Hamre, B. K., & Pianta, R. C. (2001). Early teacher-child relationships and the trajectory of children's school outcomes through eighth grade. *Child Development*, 72(2), 625–638.

Khan, A., & Malik, S. (2020). Fear of teacher disapproval and its effect on student participation in secondary classrooms in Pakistan. *Pakistan Journal of Psychological Research*, 35(1), 57–74.

Lewin, K. (1936). *Principles of topological psychology*. New York: McGraw-Hill.

Moos, R. H. (1979). *Evaluating educational environments*. San Francisco: Jossey-Bass.

Nawaz, A., & Jahangir, S. F. (2015). Effects of class size on students' academic achievements in secondary schools in Pakistan. *International Journal of Educational Research*, 3(4), 173–179.

Pianta, R. C., & Hamre, B. K. (2009). Conceptualization, measurement, and improvement of classroom processes: Standardized observation can leverage capacity. *Educational Researcher*, 38(2), 109–119.

- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78.
- Uline, C., & Tschannen-Moran, M. (2008). The walls speak: The interplay of quality facilities, school climate, and student achievement. *Journal of Educational Administration*, 46(1), 55-73.
- Vygotsky, L.S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Wannarka, R., & Ruhl, K. (2008). Seating arrangements that promote positive academic and behavioural outcomes: A review of empirical research. *Support for Learning*, 23(2), 89-93.

