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PEDAGOGICAL STRATEGIES AS PREDICTORS OF ACADEMIC SUCCESS: A QUANTITATIVE STUDY IN HIGHER SECONDARY EDUCATION

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ABSTRACT

The purpose of the study was to investigate the effect of classroom environment and teacher feedback on academic achievement of higher secondary school students. Four objectives and six null hypotheses were formulated for this research study. Due to limited time and resources available to the researcher the study was delimited to the Dera Ghazi Khan District. For the purpose of sampling, Purposive sampling technique was used from overall population. The data were analyzed through SPSS 26.0 with using the Mann Whitney U test, the Median test, and the Chi-square test. The result of the research study highlighted that, a positive significant effect of classroom environment and teacher feedback in learning process on academic achievement of girls' higher secondary school students were noted and found the calculated value of Chi Square in the Median Test was greater than the table value. Therefore, the combined effect of classroom and teacher feedback was found significant. There is a positive significant effect of classroom environment and teacher feedback on academic achievement of higher secondary school students in small, rural and urban category schools. While analyzing the combined effect of classroom environment and motivation during learning process on academic achievement of higher secondary school students, the calculated value of Chi Square in the Median Test was greater than the table value. Therefore, the combined effect of classroom and motivation was found significant.

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1.1 Introduction

Classroom management has been a topic of interest and debate among educators for many years. It refers to the actions and strategies used by teachers to create and maintain a learning environment that is conducive to academic achievement and positive social interactions. Effective classroom management has been linked to a range of desirable outcomes, including improved student engagement, higher levels of academic achievement, and better overall classroom behavior. The relationship between classroom management and student academic achievement is a topic of particular interest, as it has significant implications for the success of educational programs. The extent to which teachers are able to manage their classrooms effectively can have a profound impact on the academic performance of their students (Kavrayici, 2021).

There are many factors that contribute to effective classroom management. These include the development of positive teacher-student relationships, the establishment of clear expectations and rules for behavior, the use of effective teaching strategies, and the creation of a safe and supportive learning environment. Teachers who are able to master these skills are more likely to create a positive and effective classroom environment, which in turn can lead to improved student academic achievement (Alyami, et al,. 2021).

There are many different approaches to classroom management, and educators often have their own preferred strategies and techniques. Some teachers use a highly structured and regimented approach, while others place a greater emphasis on building positive relationships with their students. Whatever approach is used, it is important that teachers are able to adapt their strategies to suit the needs of their students and the specific context in which they are teaching. These are important questions that need to be addressed in order to further our understanding of the relationship between classroom management and student academic achievement. By gaining a deeper understanding of these issues, educators can develop more effective strategies for promoting positive classroom environments and improving student outcomes (Chen, & Lu 2022).

As a teacher, classroom management is an essential component of your daily practice. Classroom management involves creating and maintaining a learning environment that is safe, organized, and conducive to academic achievement. Effective classroom management is critical to ensuring that students are able to engage with the learning process, develop positive relationships with their peers, and achieve their full academic potential. The relationship between classroom management and student academic achievement is well-established. Research has consistently shown that students who are exposed to positive classroom environments and effective classroom management strategies tend to perform better academically than those who are not. Effective classroom management can promote student engagement, improve behavior, and increase the likelihood of academic success (Acosta-Gonzaga, et al,. 2021).

As a teacher, there are many different strategies and techniques that you can use to improve your classroom management skills. These include developing positive relationships with your students, establishing clear expectations and rules for behavior, using effective teaching strategies, and creating a safe and supportive learning environment. By mastering these skills, you can create a positive and effective classroom environment that promotes student academic achievement. However, achieving effective classroom management is not always easy. Teachers must be able to adapt their strategies to meet the needs of their students and the specific context in which they are teaching. They must be able to manage a wide range of different behaviors and personalities, and respond appropriately to situations that arise in the classroom (Al-Khazaali, & Mohammed, 2021).

1.2 Statement of the Problem

The relationship between classroom management and student academic achievement has been extensively researched and debated among educators for many years. While there is ample evidence to suggest that effective classroom management can lead to improved student academic achievement, there are still many questions that remain unanswered. One of the primary problems in this area of research is the lack of consensus on what constitutes effective classroom management. Different educators and researchers may have different ideas about what strategies and techniques are most effective, and there is little agreement on which approaches are best suited to different learning environments and student populations.

This study will address these problems by examining the relationship between classroom management and student academic achievement, drawing on a range of literature from education, psychology, and related fields. We will explore the various factors that contribute to effective classroom management, and consider how these factors impact student academic achievement. Through a critical analysis of the existing literature, we will seek to identify best practices for classroom management that can be used by educators to improve student outcomes. Our goal is to contribute to the development of more effective educational programs that promote positive classroom environments and support student academic achievement.

There is an urgent need to examine its significance in modern-day, particularly in the District Dera Ghazi Khan, for this reason, a study is being conducted to evaluate the relationship between classroom management and student academic achievement at government girls higher secondary schools in district Dera Ghazi Khan.

1.3 Objectives of the Study

For this research following were the objectives of the study:

1. To find out the nature of classroom management in government girls higher secondary schools
2. To identify the style and mode of feedback regarding classroom management by the teacher in government girls higher secondary schools
3. To find out the relationship of classroom management on the academic achievement in government girls higher secondary schools
4. To measure the effect of teachers feedback regarding classroom management on the academic achievement in government girls higher secondary schools

1.4 Null Hypotheses

In order to achieve the objectives following hypotheses were formulated according to the nature of the study:

***Ho*1:** There is no relationship between overall classroom management scores of students in government girls' higher secondary schools.

***Ho*2:** There is no relationship between overall teachers' feedback scores.

***Ho*3:** There is no relationship between academic achievement and classroom management of girls' higher secondary school students.

***Ho*4:** There is no relationship between academic achievement and teacher feedback of higher secondary school students.

***Ho*5:** There is no relationship among academic achievement, and classroom management of higher secondary school students.

***Ho*6:** There is no relationship among academic achievement, classroom management and teacher feedback of higher secondary school students.

1.5 Significance of the Study

The research study regarding the relationship between classroom management and student academic achievement is significant for several reasons:

i. The study can help educators understand the importance of effective classroom management strategies and how they can positively impact student academic achievement. When teachers use effective classroom management techniques, it creates a positive learning environment, which can improve student engagement, motivation, and ultimately academic performance.

ii. The study can inform teacher training and development programs, helping to create a more informed and effective teaching workforce. By understanding the relationship between classroom management and student academic achievement, educators can develop skills to manage their classrooms effectively and improve student learning outcomes.

iii. The study can help school administrators allocate resources effectively. By investing in professional development programs and providing teachers with the tools they need to manage their classrooms effectively, schools can improve academic achievement across the board.

iv. The study can also inform educational policy. If the research shows a significant relationship between classroom management and student academic achievement, policymakers may consider implementing policies to support teachers in developing effective classroom management techniques.

v. Overall, the research study on the relationship between classroom management and student academic achievement can provide valuable insights for educators, school administrators, policymakers, and other stakeholders interested in improving student learning outcomes.

1.6 Delimitations of the Study

Due to limited time and resources available to the researcher the study was delimited to the Dera Ghazi Khan District.

1. Only four Tehsils of Dera Ghazi Khan District.
2. Only female of government higher secondary schools of four Tehsils of the Dera Ghazi Khan Division.

2. Literature Review

2.1 Process of Learning

Learning can be defined as the process of acquiring new knowledge, skills, and attitudes through experiences, study, or instruction. According to research, learning is a complex process that involves various cognitive, social, and emotional factors. In this paragraph, we will explore the different aspects of learning and how research has contributed to our understanding of this phenomenon (Kabirikopaei, et al,. 2021).

Cognitive learning theories suggest that learning involves the acquisition of new information and the modification of existing knowledge structures. These theories emphasize the importance of attention, perception, memory, and reasoning in the learning process. For example, researchers have shown that attention processes are critical for effective learning, as they allow individuals to focus their cognitive resources on relevant information and ignore irrelevant stimuli. Similarly, research has demonstrated that memory plays a crucial role in learning, as it allows individuals to store and retrieve information for later use (Iglesias-Pradas, et al,. 2021).

Social learning theories, on the other hand, suggest that learning is a social activity that occurs through interaction with others. These theories emphasize the importance of observation, modeling, and imitation in the learning process. For example, research has shown that children learn new behaviors and attitudes by observing and imitating the behavior of others. Social learning theories also suggest that feedback and reinforcement play a critical role in shaping behavior and promoting learning (Iglesias-Pradas, et al,. 2021).

Emotional learning theories suggest that emotions play an important role in the learning process. These theories emphasize the importance of motivation, self-regulation, and emotional awareness in promoting learning. For example, research has shown that positive emotions can

enhance learning by promoting engagement, creativity, and cognitive flexibility. Similarly, negative emotions can interfere with learning by impairing attention, memory, and motivation (Berger, & Girardet, 2021).

Recent research has also highlighted the importance of meta-cognition in the learning process. Meta-cognition refers to the ability to reflect on one's own thinking processes and regulate one's own learning. Research has shown that individuals who engage in meta-cognitive activities, such as self-monitoring and self-regulation, are more effective learners than those who do not. Learning is a complex process that involves various cognitive, social, emotional, and meta-cognitive factors. Research has contributed significantly to our understanding of this phenomenon, by identifying the different factors that promote or hinder learning. By understanding the different aspects of learning, educators and policymakers can develop effective strategies to promote learning and improve educational outcomes (Martínez-Jiménez, et al,. 2021).

2.2 Learning Styles in Education

Learning styles refer to the different ways individuals prefer to approach learning and studying. There are several theories that describe different learning styles, and below I will define and explain three of them:

1. Visual, Auditory, and Kinesthetic (VAK) Model:

According to the VAK paradigm, people learn by visual, auditory, or kinesthetic ways. Visual learners prefer visual tools such as diagrams, films, and photos to learn. Auditory learners tend to learn through lectures or recordings, whereas kinesthetic learners learn through hands-on activities and motions. Visual learners, for example, may choose to read picture books, auditory learners may prefer to listen to audio books, and kinesthetic learners may prefer to participate in science experiments (Reddy, et al,. 2020).

2. Learning Model of Kolb's Experiential:

According to Kolb's model, people favor one of four learning styles: divergent, assimilative, fused, or adaptive. Divergent learners prefer concrete experience and reflection to learn, Assimilative learners prefer abstract concepts and reflection to learn, Convergent learners prefer abstract concepts and experimentation to learn, and Adaptive learners prefer concrete experience and experimentation to learn. For example, a diverging learner might prefer to work

in a group and reflect on the experience, an assimilating learner might prefer to read a book and reflect on the concepts, a converging learner might prefer to experiment and test theories, and an accommodating learner might prefer to try different approaches to solve a problem (Reddy, et al,. 2020).

3. Learning Model of Dunn and Dunn's:

Dunn and Dunn's model suggests that individuals have a preference for learning through different environmental conditions, including physical, emotional, social, and psychological factors. For example, a physical learner might prefer to learn in a quiet, well-lit environment, an emotional learner might prefer to learn in a supportive and positive environment, a social learner might prefer to learn in a group, and a psychological learner might prefer to learn through self-reflection and personal goal setting. Understanding an individual's learning style can help educators tailor their teaching methods and materials to best support the individual's learning needs and preferences. However, it is important to note that individuals may have a mix of learning styles, and it is beneficial to expose them to different learning modalities and experiences to enhance their learning and development (Reddy, et al,. 2020).

2.3 Effective Learning Tools

Effective learning tools are resources and strategies that are used in the educational process to facilitate and enhance learning. There are many educational theories that suggest different types of learning tools, and below I will define and explain three of them:

1. Bloom's Taxonomy:

Bloom's taxonomy is a framework that outlines different levels of cognitive learning, from basic knowledge to higher-order thinking skills. Bloom's taxonomy suggests that effective learning tools should be designed to promote learning at each level of the taxonomy. Some examples of effective learning tools for each level include:

i. Remembering: flashcards, quizzes, and memory games
ii. Understanding: graphic organizers, concept maps, and summarization activities
iii. Applying: problem-solving activities, case studies, and simulations
iv. Analyzing: data analysis tasks, compare and contrast activities, and cause and effect exercises
v. Evaluating: debates, discussions, and critical thinking tasks

vi. Creating: projects, presentations, and research assignments

2. Social Learning Theory:

Social learning theory suggests that individuals learn through observation and interaction with others. Effective learning tools that are based on this theory should encourage social interaction and collaboration. Some examples of effective learning tools that promote social learning include:

i. Group projects and assignments
ii. Collaborative writing and editing tools
iii. Discussion forums and social media platforms
iv. Peer review and feedback activities

3. Constructivist Theory:

According to constructivist theory, people learn through creating their own view of the world based on their experiences and interactions with the environment. Effective learning tools that are based on this theory should be designed to promote active learning and exploration. Some examples of effective learning tools that promote constructivist learning include:

i. Inquiry-based learning activities
ii. Project-based learning activities
iii. Role-playing and simulation activities
iv. Hands-on experiments and investigations

Effective learning tools should be selected based on the learning objectives and the needs and preferences of the learners. By selecting appropriate learning tools, educators can create a more engaging and effective learning experience for their students (Slater, & Main, 2020).

2.4 Effective educational Learning Theories

Learning strategies are methods, techniques, or approaches that individuals use to enhance their learning and understanding of a particular topic or subject. There are many different types of learning strategies, and below I will briefly explain four of them:

1. Cognitive Learning Strategies:

Cognitive learning strategies are methods that individuals use to acquire, store, and retrieve information. These strategies include techniques such as note-taking, summarization, visualization, and mnemonics. For example, note-taking can help individuals organize

information and recall it later; while visualization can help individuals create mental images to aid in memory retention (Wenger, et al,. 2020).

2. Meta-cognitive Learning Strategies:

Individuals utilize met cognitive learning strategies to monitor and govern their own learning. Goal-setting, self-reflection, and self-evaluation are examples of these practises. Setting objectives, for example, may help people concentrate their learning and stay motivated, whilst self-reflection can help people discover their strengths and limitations and change their learning tactics appropriately (Wenger, et al,. 2020).

3. Behavioral Learning Strategies:

Behavioral learning strategies are methods that individuals use to modify their behavior and develop new skills. These strategies include techniques such as repetition, practice, and feedback. For example, repetition can help individuals reinforce new information and skills, while feedback can help individuals identify areas for improvement and adjust their learning strategies accordingly (Wenger, et al,. 2020).

4. Affective Learning Strategies:

Affective learning strategies are methods that individuals use to manage their emotions and attitudes towards learning. These strategies include techniques such as self-talk, positive thinking, and mindfulness. For example, self-talk can help individuals manage negative thoughts and emotions related to learning, while mindfulness can help individuals stay focused and present in the moment during the learning process. Learning strategies are important for individuals to maximize their learning potential and achieve their goals. By using a combination of cognitive, meta-cognitive, behavioral, and affective learning strategies, individuals can enhance their learning and improve their overall academic performance (Wenger, et al,. 2020).

3. RESEARCH METHODOLOGY

3.1 Research Design

A research design, according to Baafi (2020), is a collection of instructions, rules, and processes for examining a research issue. Research design involves goals, presumptions, and techniques for accomplishing them. A research design, according to Tan, (2020), is a plan having at least four study components. Despite numerous objections, relevant research which refers to

efficient survey tools for gathering data pertinent to addressing educational problems is significant in educational research surveys.

3.2 Methodology

This research study was in nature of quantitative research. A survey was managed to collect the data through questionnaires and then the data was analyzed through SPSS 26.0

3.3 Population

In this research the population was consisted of the all government girls' higher secondary schools of Dera Ghazi Khan District.

Table: Overall Population of Higher secondary Schools and Students of Dera Ghazi Khan District

District	Tehsil	School	Students	Teachers
D.G.Khan	D.G.Khan	28	25396	357
	Kot Chutta	13	14940	113
	Taunsa	28	15698	265
	Koh-e-Suleman	8	3599	24
Grand Total		77	59633	759

According to school information system, total population is consisted of total 77 girls' higher secondary schools on the other hand, 759 higher secondary school teachers and 59633 Female Students also in population. All the teachers were the population of the research study.

3.4 Sample and Sampling Techniques

Purposive sampling was employed in this study from the entire population for sampling purposes. According but as stated in the table of small sample size techniques, if the population size is 50,000, so the selected sample size for research activity will be 397. Hence, in the present research the selected population size of students were 59633, and desired sample size was 400 as per given in the tabulated form of small sample size techniques (The NEA Research Bulletin, 1960), from overall population 100 teachers and 200 student were selected from all Tehsils of Dera Ghazi Khan District.

3.5 Instrumentation

Data from teachers and students of government girls' higher secondary schools settings were collected using questionnaires with a five-point likert scale. After a pilot test and consultation with the research supervisor, research tools were formulated for the research study.

3.6 Data Collection and Data Analysis

A survey was conducted to collect the data and researcher will personally access to the participants. Researcher was collected data through questionnaires and then data was analyzed by using SPSS version 26.0. The data were analyzed using the Mann Whitney U test, the Median test, and the Chi-square test. Male higher secondary school teachers and the girls in class X will be analyzed using the Chi-Square test to determine the nature of their interaction. The impact of first independent variable management on academic performance was investigated using the Mann Whitney U Test, a non-parametric test. The link between the independent variable (classroom management) and the dependent variable (student performance/academic achievement) in a higher secondary school setting was examined using the Median Test, another kind of non-parametric test. The impact of classroom management strategies and teacher feedback on students' academic performance in higher secondary school will be examined using the same assessment.

4. Data Analysis

The current study is descriptive in nature. The study's data collecting technique included survey method. Based on the number of pupils taking the BISE Dera Ghazi Khan 2023 Higher secondary School Certificate (SSC-I) yearly, schools are divided into two categories as urban and rural.

Table No 4.1: Respondents Response rate from urban category schools

Respondents	Sample Size	Returned Questionnaires	Percentage
Teachers	100	100	100%
Students	200	200	100%

Table 4.1.1 demonstrates that the questionnaires' percentage of returned to the researcher from The teachers and students of male higher secondary school were 100 percentages.

Table No 4.2: Respondents Response rate from Rural category schools

Respondents	Sample Size	Returned Questionnaires	Percentage
Teachers	100	100	100%
Students	100	100	100%

Table 4.2 demonstrates that the questionnaires' percentage of returned to the researcher from The teachers and students of male higher secondary school were 100 percentages.

Table No 4.3: Professional Qualification of Teachers

	Percentage of	**Percentage of**	**Percentage of M.**
Category	**B. Ed**	**M. Ed**	**Phil**
Urban	42.18	16.18	03.15
Rural	25.25	07.35	02.17

Table 4.3 shows that the 42.18%, 25.25% and 07.36% female teachers are B. ED degree holders, meanwhile 16.18%, 07.35% and 04.12% female teachers are M. Ed degree holders and 03.15%, 02.17% and 01.25% female teachers having M. Phil degree holders respectively in all three categories of schools.

Table No 4.4: Teaching Experience of Teachers

Category	**Percentage 0-5 Years**	**Percentage of 6-10 Years**	**Percentage of 11-15 Years**	**Percentage of 16-20 Years**
Urban	13.18	10.18	12.15	18.15
Rural	07.25	11.35	03.17	12.17

Table 4.4 shows that the 13.18%, 07.25% and 03.36% female teachers have 0-5 years teaching experience, meanwhile 10.18%, 11.35% and 03.12% female teachers have 6-10 years teaching experience and 12.15%, 03.17% and 02.25% female teachers have 11-15 years teaching experience, and 18.15%, 12.17% and 05.25% female teachers have 16-20 years teaching experience respectively in all three categories of schools.

4.1 Data Analysis of Class room Environment in Urban category of female higher secondary schools

The following is a thorough examination of the classroom environment in the girls' higher secondary school, as well as the overall classroom environment score:

Table 4.1.1 Free discussion of educational concepts in the classroom

Category	SA	A	UD	DA	SDA	Total	X^2
Female teachers	73	30	02	00	00	100	17.89
Female Students	51	28	00	05	07	100	

Significance Level: 0.05

The calculated value of chi-square is 17.89, but the tabulated value of chi-square when utilizing 4 degrees of freedom is 9.49 with a significance level of 0.05, as shown in Table 4.1.1. The predicted amount is more than the value in the table. As a result, the viewpoint of "discussing educational concepts freely in the classroom" was not accepted.

Table 4.1.2 Brightness of Classroom

Category	SA	A	UD	DA	SDA	Total	X^2
Female teachers	69	35	03	01	00	100	8.91
Female Students	48	31	01	04	09	100	

Significance Level: 0.05

Table 4.1.2 reveals that the estimated value of the chi-square is 8.91, but when utilizing 4 degrees of freedom, the tabular value is 9.49 at a significance level of 0.05. The calculated value is smaller than the calculated value in the table. As a result, the opinion sharing "Brightness of the Classroom" was accepted.

Table 4.1.3 Positive Environment of Classroom

Category	SA	A	UD	DA	SDA	Total	X^2
Female teachers	63	39	05	02	01	100	10.92
Female Students	45	33	06	03	07	100	

Significance Level: 0.05

The chi-square has a calculated value of 10.92 in Table 4.1.3, but a tabular value of 9.49 at a significance level of 0.05 when utilizing 4 degrees of freedom. The estimated value is bigger than the calculated value in the table. As a result, the opinion sharing of a "positive environment in the classroom" was rejected.

Table 4.1.4: During lecture approach of student

Category	SA	A	UD	DA	SDA	Total	X^2
Female teachers	71	29	04	04	02	100	7.82
Female Students	38	35	08	02	05	100	

Significance Level: 0.05

Table 4.1.4 indicates that the chi-square has a calculated value of 7.82 and a tabular value of 9.49 when employing 4 degrees of freedom at a significance level of 0.05. The calculated value is smaller than the calculated value in the table. As a result, the exchange of ideas "during the course of student lectures" was rejected.

Table 4.1.5: During lecture approach of student

Category	SA	A	UD	DA	SDA	Total	X^2
Female teachers	71	29	04	04	02	100	7.82
Female Students	38	35	08	02	05	100	

Significance Level: 0.05

Table 4.1.5 indicates that the chi-square has a calculated value of 7.82 and a tabular value of 9.49 when employing 4 degrees of freedom at a significance level of 0.05. The calculated value is smaller than the calculated value in the table. As a result, the exchange of ideas "during the course of student lectures" was rejected.

Table 4.1.6: getting part in creativity

Category	SA	A	UD	DA	SDA	Total	X^2
Female teachers	71	25	03	00	00	100	29.78
Female Students	69	25	01	00	00	100	

Significance Level: 0.05

The chi-square has a calculated value of 29.78 in Table 4.1.6, but when utilizing 4 degrees of freedom, it has a tabular value of 9.49 at a significance level of 0.05. The estimated value is bigger than the calculated value in the table. As a result, the exchange of ideas for "participation in creation" is not accepted.

Table 4.1.7: Classroom temperature is adequate

Category	SA	A	UD	DA	SDA	Total	X^2
Female teachers	71	25	03	00	00	100	21.78
Female Students	69	25	01	00	00	100	

Significance Level: 0.05

The calculated value of chi-square is 21.78, but the tabulated value of chi-square when utilizing 4 degrees of freedom is 9.49 with a significance level of 0.05, as shown in Table 4.1.7. The estimated value is bigger than the calculated value in the table. As a result, the shared opinion that "the classroom temperature is appropriate" was not accepted.

Table 4.1.8: Appropriate guidance in Working at classroom

Category	SA	A	UD	DA	SDA	Total	X^2
Female teachers	68	24	03	01	00	100	15.78
Female Students	61	19	01	02	00	100	

Significance Level: 0.05

The chi-square has a calculated value of 15.78 in Table 4.1.8, but when utilizing 4 degrees of freedom, it has a tabular value of 9.49 at a significance level of 0.05. The estimated value is bigger than the calculated value in the table. As a result, opinion exchange for "proper classroom instruction" is not accepted.

Table 4.1.9: Discipline of Classroom

Category	SA	A	UD	DA	SDA	Total	X^2
Female teachers	68	24	03	01	00	100	9.40
Female Students	61	19	01	02	00	100	

Significance Level: 0.05

Table 4.1.9 indicates that the chi-square has a calculated value of 9.40 and a tabular value of 9.49 when employing 4 degrees of freedom at a significance level of 0.05. The calculated value is smaller than the calculated value in the table. As a result, the "classroom discipline" viewpoint was accepted.

Table 4.1.10: Facilitation of Information technology in class

Category	SA	A	UD	DA	SDA	Total	X^2
Female teachers	74	11	03	01	00	100	35.85
Female Students	84	10	01	02	00	100	

Significance Level: 0.05

Table 4.1.10 indicates that the chi-square has a calculated value of 35.85 and a tabular value of 9.49 when employing 4 degrees of freedom at a significance level of 0.05. The estimated value is bigger than the calculated value in the table. As a result, the viewpoint of "promoting information technology in the classroom" was not accepted.

4.2 Data Analysis of Class room Environment in Rural category of female higher secondary schools

Table 4.2.1 Free discussion of educational concepts in the classroom

Category	SA	A	UD	DA	SDA	Total	X^2
Female teachers	73	30	02	00	00	100	17.89
Female Students	51	28	00	05	07	100	

Significance Level: 0.05

Table 4.2.1 indicates that the chi-square has a calculated value of 17.89 and a tabular value of 9.49 when employing 4 degrees of freedom at a significance level of 0.05. The predicted amount is more than the value in the table. As a result, the viewpoint of "discussing educational concepts freely in the classroom" was not accepted.

Table 4.2.2 Brightness of Classroom

Category	SA	A	UD	DA	SDA	Total	X^2
Female teachers	69	35	03	01	00	100	8.91
Female Students	48	31	01	04	09	100	

Significance Level: 0.05

Table 4.2.2 reveals that the estimated value of the chi-square is 8.91, but when utilizing 4 degrees of freedom, the tabular value is 9.49 at a significance level of 0.05. The calculated value is smaller than the calculated value in the table. As a result, the opinion sharing "Brightness of the Classroom" was rejected.

Table 4.2.3 Positive Environment of Classroom

Category	SA	A	UD	DA	SDA	Total	X^2
Female teachers	63	39	05	02	01	100	10.92
Female Students	45	33	06	03	07	100	

Significance Level: 0.05

The chi-square has a calculated value of 10.92 in Table 4.2.3, but a tabular value of 9.49 at a significance level of 0.05 when utilizing 4 degrees of freedom. The estimated value is bigger than the calculated value in the table. As a result, the opinion sharing of a "positive environment in the classroom" was rejected.

Table 4.2.4: During lecture approach of student

Category	SA	A	UD	DA	SDA	Total	X^2
Female teachers	71	29	04	04	02	100	7.82
Female Students	38	35	08	02	05	100	

Significance Level: 0.05

The estimated value of chi-square is 7.82, but the tabulated value of chi-square when utilizing 4 degrees of freedom is 9.49 with a significance level of 0.05, as shown in Table 4.2.4. The calculated value is smaller than the calculated value in the table. As a result, the exchange of ideas "during the course of student lectures" was accepted.

Table 4.2.5: During lecture approach of student

Category	SA	A	UD	DA	SDA	Total	X^2
Female teachers	71	29	04	04	02	100	7.82
Female Students	38	35	08	02	05	100	

Significance Level: 0.05

Table 4.2.5 indicates that the chi-square has a calculated value of 7.82 and a tabular value of 9.49 when employing 4 degrees of freedom at a significance level of 0.05. The calculated value is smaller than the calculated value in the table. As a result, the exchange of ideas "during the course of student lectures" was accepted.

Table 4.2.6: getting part in creativity

Category	SA	A	UD	DA	SDA	Total	X^2
Female teachers	71	25	03	00	00	100	29.78
Female Students	69	25	01	00	00	100	

Significance Level: 0.05

The chi-square has a calculated value of 29.78 in Table 4.2.6, but when utilizing 4 degrees of freedom, it has a tabular value of 9.49 at a significance level of 0.05. The estimated value is bigger than the calculated value in the table. As a result, the exchange of ideas for "participation in creation" is not accepted.

Table 4.2.7: Classroom temperature is adequate

Category	SA	A	UD	DA	SDA	Total	X^2
Female teachers	71	25	03	00	00	100	21.78
Female Students	69	25	01	00	00	100	

Significance Level: 0.05

The chi-square has a calculated value of 21.78 in Table 4.2.7, but when utilizing 4 degrees of freedom, it has a tabular value of 9.49 at a significance level of 0.05. The estimated value is bigger than the calculated value in the table. As a result, the shared opinion that "the classroom temperature is appropriate" was not accepted.

Table 4.2.8: Appropriate guidance in Working at classroom

Category	SA	A	UD	DA	SDA	Total	X^2
Female teachers	68	24	03	01	00	100	15.78
Female Students	61	19	01	02	00	100	

Significance Level: 0.05

The chi-square has a calculated value of 15.78 in Table 4.2.8, but when utilizing 4 degrees of freedom, it has a tabular value of 9.49 at a significance level of 0.05. The estimated value is bigger than the calculated value in the table. As a result, opinion exchange for "proper classroom instruction" is not accepted.

Table 4.2.9: Discipline of Classroom

Category	SA	A	UD	DA	SDA	Total	X^2
Female teachers	68	24	03	01	00	100	9.40
Female Students	61	19	01	02	00	100	

Significance Level: 0.05

Table 4.2.9 indicates that the chi-square has a calculated value of 9.40 and a tabular value of 9.49 when considering 4 degrees of freedom at a significance level of 0.05. The calculated value is smaller than the calculated value in the table. As a result, the "classroom discipline" viewpoint was accepted.

Table 4.2.10: Facilitation of Information technology in class

Category	SA	A	UD	DA	SDA	Total	X^2
Female teachers	74	11	03	01	00	100	35.85
Female Students	84	10	01	02	00	100	

Significance Level: 0.05

The chi-square has a calculated value of 35.85 in Table 4.2.10, but when utilizing 4 degrees of freedom, it has a tabular value of 9.49 at a significance level of 0.05. The estimated value is bigger than the calculated value in the table. As a result, the viewpoint of "promoting information technology in the classroom" was not accepted.

5 Findings and Discussion

This part of the conversation focuses on the qualities of the learning environment at educational institutions of Dera Ghazi Khan District as per this research study needed. Girls in their class who were coeducational higher secondary school instructors participated in the study. At the significance thresholds of 0.05, several analyses were assessed. In above Tables show that the Mann Whitney U test's U value is higher than the value at 0.05. Consequently, the null hypotheses were rejected. As per research study of Karabatak, and Polat (2020) highlighted that the conclusion that the physical environment of the classroom, as well as having well-equipped tools, had a substantial influence on the academic achievement of higher secondary school pupils. The academic performance of higher secondary school pupils in Pakistan's Kohat region has improved as a result of classrooms with classrooms and instructional tools. Alhadabi, and

Karpinski (2020) discovered that various physical facilities in the classroom learning environment, such as whiteboards, purified drinking water, computers, the Internet, projectors, and appropriate equipment, helped students in the experimental group perform academically better than students in the control group. In one study, Jerome Freiberg, et al,. (2020) came to the conclusion that 296 causes of students' poor social studies performance were connected to a lack of physical resources in the classroom setting. Poor classroom circumstances are a major factor in students' poor academic performance, and it has been proposed that altering the physical design of classrooms may boost sociology students' academic performance. In 153 classrooms across 27 schools, 3,766 students were polled by Lopes, and Oliveira, (2020), who discovered that seven of ten crucial design factors had the urban influence on student growth. These factors include student ownership, the amount of space available to them, the temperature, the quality and quantity of natural light in the classroom, the visual variety of the learners, the amount of breathing air, the quantity and quality of natural light, and the color of the classroom walls. As a result, this study supports the results of other studies.

5.1 Conclusions

The following conclusions were reached based on the analysis and findings:

1. The classroom atmosphere has a considerable favorable influence on higher secondary school students' academic achievement in rural and urban schools.
2. There are favorable and substantial changes in the academic performance of higher secondary school pupils based on teacher input from rural and urban schools.
3. The classroom atmosphere has a considerable favorable influence on higher secondary school students' academic achievement in rural and urban schools.
4. In rural and urban schools, the classroom environment and teacher feedback have a major influence on higher secondary school students' academic achievement.
5. Classroom motivation and feedback from teachers have a considerable favorable influence on students' academic achievement in rural and urban institutions.
6. Classroom atmosphere and teacher feedback have a good and significant influence on higher secondary school students' academic achievement in rural and urban schools.

5.3 Recommendations

1. Teachers can utilize feedback to keep students on track during the learning process, as well as providing students with quick written or vocal feedback during class to clarify ideas, recognize their strengths and shortcomings, and increase learning.
2. To satisfy the needs of today's era, multimedia, computers, and the internet may be integrated into higher secondary school classrooms. Teachers can be instructed on how to utilize such gadgets effectively in the classroom.
3. In Pakistani higher secondary schools, the classroom setting may be appealing to the teaching process. To that goal, some additional monies may be provided to provide basic and modern amenities in classroom learning environments. Innovative methods may be used by teachers to make classroom surroundings more interesting for pupils.
4. Authorities can implement motivational training programs for teachers in order to improve their knowledge and abilities while also allowing them to apply various motivating approaches in the classroom.
5. In general, girls' schools outperform girls' schools academically, and certain incentive programs to encourage male instructors to further increase pupils' academic performance would be beneficial.

5.4 Recommendations for Further Research

1. This research was carried out at government girls' higher secondary schools. The factors included in this study may be investigated in both public and private schools for girls.
2. In schools, research may be conducted by incorporating more creative teaching methods and utilizing varied classroom situations.
3. Experimental study at the higher secondary level might be proposed using varied incentive.
4. Individual and combined impacts of factors in this study can be undertaken at the elementary, primary, and higher secondary levels of schooling.

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