

Relationship of Teacher-Student Interaction, Learning Commitment and Student Learning Comfort at Secondary Level

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Abstract

For efficient teaching and learning, students and teachers place great importance on a calm and comfortable classroom environment. The classroom's learning environment may increase teachers' and students' comfort and productivity. Furthermore, learning should be comfortable since pain might deter pupils from being motivated to study. Therefore, the demands of instructors, students, and learning activities to encourage learning commitment should be met in the classroom. The investigation was carried out in the Sheikhpura and Lahore districts of secondary schools. The survey comprised all public secondary school pupils in Lahore and Sheikhpura. The sample was chosen using a multistage sampling method. First, 20 public secondary schools in the Lahore and Sheikhpura districts were chosen using a stratified random sample approach. Then, using a cluster sampling technique, 400 respondents in class 10 were chosen from the same public secondary schools. Finally, 18 observations were made using the "Teacher-Student Interaction Scale" to evaluate the teacher-student interactions. To measure teacher-student interaction, learning commitment, and students' comfort with learning, data were gathered using

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the "Teacher-Student Interaction Inventory Scale," "Learning Commitment Inventory," and "Learning Comfort Inventory." The instrument's dependability, as determined by the Cronbach Alpha reliability coefficient, was 0.83. The Pearson correlation coefficient and independent-sample t-test were used to examine the data. The research revealed good trends in the amount of teacher-student engagement, student learning commitment, and comfort with learning. Additionally, there was a connection between student-teacher relationships, adequacy of learning commitment, and comfort with learning. Additional research revealed a substantial difference between the genders in the mean level of cordial interaction between students and teachers. Additionally, data indicated a statistically significant gender difference in the mean of students' emotional commitment.

Keywords: teacher-student interaction, learning commitment, and learning comfort.

Introduction

The effectiveness of the learning process in the classroom depends on the participation of the teachers, students, and the environment (Ahmad, Shaharim, & Abdullah, 2017). Since students' performance can be estimated and teachers' ability to create practical lessons can be assessed, it's argued that all points of view in a classroom are vital (Ahmad, Osman, & Halim, 2010).

Positive classroom relationships are made through teacher-student contact (Gasser, Grütter, Torchetti, and Buholzer, 2017). Generally speaking, proficient instructors can identify changes in their students' behaviour and know what their kids need in a classroom. Teachers have the power to enhance the learning environment for children in the classroom, claim Bucholz and Sheffler (2009). Increased engagement and openness in the classroom are results of a helpful learning environment (Kamaruzzaman & Tazilan, 2013). Therefore, students should be able to interact with their instructors, peers, and the classroom environment when learning and teaching science-related courses (Hoang, 2008).

When students interact in the classroom, they become more motivated to seek and explore new ideas while learning (Ahmad et al., 2017). Awe-inspiring technology will help pupils think critically and avoid relying on facts and information. In addition, students will be inspired to pursue a career in science if they have an enjoyable educational experience (Koc, 2005). The youngsters will thus appreciate a few engaging and effective learning activities. Furthermore, dynamic engagement in the learning process, such as acting out an inquiry to address a challenge, will benefit students more and more over time (O'Connor, 2010).

Ergin, Kanli, and Unsal (2008) assert that good teaching equips students with the information necessary to connect experience and daily life, solve problems, support their opinions, and carry out their obligations. As a result, whether or not pupils' learning is a success depends heavily on the instructor. According to Telli, Brok, and Cakiroglu (2007), the teaching-learning process in any country relies heavily on teacher-student relationship behaviour. Several studies have also shown that teachers' behaviours, such as praising and penalising pupils, significantly affected students' learning (Walberg, 1984).

The classroom environment, in addition to teachers, influences the learning and teaching process (Greene, Way, & Pahl, 2006). A combination of physical and psychosocial factors such as the size and shape, light, shading, warmth and noise levels as well as furniture and seating

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plans and mechanical facilities will contribute to teaching and learning fulfilment as well as significantly affect student learning, according to Ahmad and Osman and Halim (2013). In addition, the learning environment and classroom management may help teachers and students work more efficiently and comfortably (Godlesky, 2018).

Students' motivation to study may be influenced if they are uncomfortable while learning (Pintrich, 2000). The requirements of teachers, students, and learning activities should thus be taken into account. These activities should be ready to motivate learning and foster active interest, but more significantly, they should be adequately supported and supervised by the instructor. Instructor (Siegel, 2003). Bartlett (2003) discovered that a pleasant learning environment would boost the viability of learning. This will increase student performance after some time if the learning environment is favourable, the student-teacher relationship is strong, and the instructor inspires students to study (Grac, Kowaltowski, & Petreche, 2007). Students come to the classroom to learn from their teachers (Barnitt, 2003). It is a location where various activities are carried out in real-time. Teachers and students can work together to make the learning process more efficient by coordinating their efforts, the student's dedication to learning, and their comfort in the classroom (Hertzberger, 2008). For pupils to successfully acquire knowledge, teachers must become increasingly inventive and creative in their approach to teaching and learning (Gasser & Althof, 2017).

Matriculating high school students in Pakistan are the most mature among their peers, as this is the last academic credential they will ever get (Khan & Iqbal, 2012). Students in these subjects require the most teacher-student contact to grasp the relationship between information and its real-world applications fully. The pupils would feel at ease in class if the lecturers were devoted to instilling the material with its practical application. To conduct this study, a questionnaire will be circulated among the students of secondary schools, both male and female.

1.1 Research Purposes

The research's goals were to:

1. Watch how students and teachers interact in a secondary school setting.
 2. Find out how committed teachers and students are to studying together and how comfortable secondary school students are in the classroom.
 3. Determine the connection between secondary school students' dedication to study and comfort with learning and the relationships between teachers and students.
- Determine the primary gender difference in interactions between students and teachers, commitment to learning, and comfort.

1.2 Hypotheses

H₀ 1: There is no significant relationship between teacher-student interaction and students' learning commitment.

H₀ 2: There is no significant relationship between teacher-student interaction and learning comfort.

H₀ 3: No significant relationship exists between students' learning commitment and learning comfort.

H₀ 4: No significant relationship was found between teacher-student interaction, learning commitment and students' learning comfort.

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H₀ 5: There is no gender type significant difference in the mean score of teacher-student interaction.

H₀ 6: No significant difference exists in the mean score of students' learning commitment among boys and girls in secondary schools.

H₀ 7: No gender type significant difference in the mean score of students' learning comfort.

1.3 Research Design

Two types of correlation study are explanatory correlation design and predicted correlation design (Creswell, 2012). This study employed an explanatory research method to examine the link between student learning commitment, teacher-student contact, and comfort with learning. Three variables' levels of correlation are categorised using a correlation coefficient. The research was described as follows: "Relationship among Student-Teacher Interaction, Students' Learning Commitment, and Learning Comfort at Secondary School Level."

X: The outcome of student-teacher interaction

Y: The outcome of dedication to learning

Z: The result of learning comfort

1.4 Population of the Study

Table 1

The whole student body of two district public secondary schools (Lahore and Sheikhpura)

schools might be categorised	Lahore district	Pupils	Sheikhpura District	Pupils
Male schools	153	156,939	64	56,130
Female Schools	180	196,443	65	57,847
Total	333	353,382	129	113,970

The Punjab province's two districts were the subject of the study. As a result, students from district Lahore and Sheikhpura's public secondary schools made up the study's population. In the district of Sheikhpura, there were 129 public secondary schools, 64 of which were for boys and 65 for females. As a result, the Sheikhpura district schools had 113 970 pupils enrolled at the time.

On the other side, Lahore district had 333 public secondary schools, of which 153 were for boys, and 180 were for females. A total of 353,382 pupils were enrolled. Thus, 467,352 people were enrolled in public secondary schools in the districts of Lahore and Sheikhpura.

1.5 Sample Size of the Study

Table 2 *District Lahore and Sheikhpura Secondary School Student Sample*

Categories	Schools	students in the tenth grade
District of Lahore	14	280
District of Sheikhpura	6	120

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Total	20	400
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The total sample consisted of 400 students in grade 10 from 20 public secondary schools. According to the Morgan table of samples, secondary school pupils made up the sample size of the population (Krejcie & Morga, 1970). Fourteen public schools were selected using the above stratified random sample approach, including six secondary schools for males and 8 for girls from the Lahore district and six schools from each of the Sheikhpura districts. At the same time, a group of about twenty grade ten pupils from each chosen school was used as a sample.

1.6 Data Collection and Analysis

Schools in Lahore and Sheikhpura were visited to get the data. Utilizing both descriptive and inferential statistical methods, quantitative data were examined. The mean and standard deviation were calculated using descriptive statistics, and Pearson r and the independent samples t-test were also used.

1.7 Results of the Research Paper

1.7.1 Student engagement in learning and teacher-student interaction

H₀ 1: There is no connection between students' commitment to learning and how well they engage with their professors.

Table 3 *r*-Correlation by Pearson Relationship between Learning Commitment and Teacher-Student Interaction

Measures	1	2	3	4	5	6	7	8
1. Leadership	-	.266	.338	-.338	.213	.139	.355	.241
2. Understanding			.366	.027	.217	.160	.279	.148
3. Friendly behaviour				-.364	-.086	.222	.292	.280
4. Dissatisfaction					.427**	-.133	-.114	-.107
5. Firm behaviour						.012	.123	.054
6. Cognitive							.282	.511**
7. Affective								.357
8. Behavioural Learning								-

** The 0.001 threshold of significance for correlation (2-tailed)

Pearson r was used to investigate the relationship between teacher-student interaction and ease of learning. A preliminary study was done to ensure the assumptions of normality, linearity, and homoscedasticity had not been broken. Most of the two-variable components were found to be positively correlated, with r = .266, .338, .366, .027, .213, .217, .472, .139, .160, .222, .012, .355, .279, .292, .123, .282, .241, .148, .280, .054, .511, .357; however, the results of the investigation indicate that there was little to no association between the components.

1.7.2 Interaction between teachers and students and comfort with learning

H₀ 2: The contact between teachers and students and learning comfort are not significantly correlated.

Table 4

r-Correlation by Pearson Interaction between teachers and students and comfort with learning

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Measures	1	2	3	4	5	6
1. Leadership	-	.266	.338	-.033	.213	.373
2. Understanding			.366	.027	.217	.341
3. Friendly				-.346	-.086	.236
4. Dissatisfaction					.472**	.239
5. Firm						.330**
6. Learning comfort						-

** At the 0.01 level, a coefficient is a correlation (2-tailed)

Using Pearson r, the association between learning comfort and the five aspects of teacher-student communication (leadership, understanding, friendly, dissatisfied, and firm) was examined. These five factors are as follows: The preliminary investigations were concluded, and the results confirmed that the homoscedasticity, linearity, and normality hypotheses had not been invalidated. The correlation between the majority of the components of the two variables is shown to be positive in the table that is displayed above ($r = .266, .338, .366, .027, .213, .217, .472, .373, .341, .239, .330$). In contrast, a negative correlation was discovered between leadership dissatisfaction, friendly behaviour, and healthy behaviour ($r = -.033, -.364, -.086$).

1.7.3 Relationship between students' learning commitment and learning comfort

H₀₃: Students' dedication to studying and learning comfort have no discernible link.

Table 5 *Students' Learning Commitment and Learning Comfort: Pearson r Correlation Coefficient*

Measures	1	2	3	4
1. Cognitive	-	.282	.511	.142
2. Affective			.357	.274
3. Behavioural learning				.305
4. Learning comfort				-

**The 0.01 threshold of significance for correlation (2-tailed)

Pearson r was used to analyse the association between learning commitment (cognitive, emotional, and behavioural) and learning comfort. It was determined by primary analysis that the assumptions of normality, linearity, and homoscedasticity had not been violated. The table that follows demonstrates that there is a positive correlation between the cognitive, emotional, and behavioural constructs of two variables, with a positive influence of students' learning commitment on learning comfort ($r = .282, .511, .357, .142, .274, .305, n = 400, p > .001$). This is demonstrated by the fact that there is a positive correlation between the cognitive, emotional, and behavioural constructs of the two variables. This observation is backed by the fact that a positive effect exists between students' level of learning commitment and learning comfort.

1.7.4 Interactions between Teachers and Students, Students' Levels of Learning Commitment, and Teachers' and Students' Levels of Learning Comfort, as well as Their Relationships with One Another

H₀₄: The interaction between teachers and students, learning commitment, and students' comfort with learning were not significantly correlated.

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Table 6 *Students' Learning Commitment, Learning Commitment, and Learning Comfort: Pearson r Correlation Coefficient*

Measures	1	2	3
1. Teacher-student interactions	-	.218	.531**
2. Learning commitment			.309
3. Learning comfort			-

**The 0.01 threshold of significance for correlation (2-tailed)

Using Pearson r, we could examine the connection between teacher-student interaction, students' levels of learning commitment, and instructors' degrees of comfort in the classroom. It was determined by primary analysis that the assumptions of normality, linearity, and homoscedasticity had not been violated. The above table shows a good correlation between the three variables, with a favourable impact of students' commitment to learning on learning comfort ($r = .218, .531^{**}, .309$, $n = 400$, $p > .001$). However, the above table shows that teacher-student interaction and learning commitment had a low correlation while teacher-student interaction and learning comfort had the highest correlation. On the other hand, students' learning commitment and learning comfort are moderately correlated.

1.7.5 Interactions between instructors and pupils that are significantly distinct from one another

H₀₅: The mean score of teacher-student interaction does not significantly differ by gender type.

Table 7 *A Comparison of Males and Females Based on the Mean Score of Teacher-Student Interaction Determined Using a T-Test Conducted on Independent Samples*

	Variables	Gender	N	M	SD	t-value	df	P
1	Leadership	Boys	160	17.11	0.207	-1.70	398	0.24
		Girls	240	17.56	0.165			
2	Understanding	Boys	160	15.28	0.198	-0.788	398	0.09
		Girls	240	15.46	0.139			
3	Friendly behaviour	Boys	160	20.45	0.278	0.840	298.11	0.03
		Girls	240	20.17	0.189			
4	Dissatisfaction	Boys	160	10.59	0.316	-4.20	398	0.92
		Girls	240	12.31	0.259			
5	Firm behaviour	Boys	160	16.97	0.303	-3.258	398	0.53
		Girls	240	18.22	0.238			

A t-test based on independent samples was carried out to assess whether a gender or type difference significantly affected the mean scores of teachers' leadership. The data shown in the table that came before this one demonstrates that there was no discernible difference in the mean between the circumstances that applied to males ($M = 17.109$, $SD = 0.207$) and girls

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($M = 17.556$, $SD = 0.2165$): $t(398) = -1.70$, $p = 0.246$. This is demonstrated by the fact that there was no change in the mean. According to the survey findings, the students did not perceive significant gender or sexual orientation differences in the teachers' leadership styles.

Using an independent sample t-test, it was demonstrated that there is a gender-specifically significant difference in the mean degree of knowledge between instructors and students. This difference was found to exist between teachers and students. The table demonstrates that there was no difference between the mean scores for the boys' condition ($M=15.28$, $SD=0.280$), and the girls' condition ($M=15.46$, $SD=0.1139$); $t(398) = -0.788$, $p = 0.098$. According to the findings, there is no significant gap in the comprehension degree between the lecturers and the pupils.

A t-test based on an independent sample was conducted to assess whether a gender-related difference was significantly different from the mean of instructors' pleasant behaviour with students. The mean of the boys' condition ($M=20.448$, $SD=0.278$) and the girls' condition ($M=20.17$, $SD=0.189$) was significantly different; $t(298.11)$, $p = 0.036$. The findings revealed that there was a detectable gender discrepancy in the way that individuals socialised with one another in the way that they interacted with one another.

We used an independent samples t-test to investigate whether or not there was a difference in the significance of student dissatisfaction with the teacher-student interaction depending on the gender of the students. We hypothesised that there would be a difference if there were a difference in the significance of student dissatisfaction with the teacher-student interaction. As shown by the statistic $t(398) = -4.20$, $p = 0.929$, there was not a statistically significant difference between the averages of boys ($M = 10.592$, $SD = 0.2316$) and females ($M = 12.313$, $SD = 0.259$). In conclusion, it was found that there was no difference in the students' emotions of unhappiness with their connection with their instructor depending on gender. This was the conclusion drawn from the findings of the study.

Using an independent samples t-test, it was discovered that there was not a statistically significant difference between males and females in the mean of teacher-student firm behaviour under the conditions of boys ($M= 16.97$, $SD= 0.303$) and girls ($M= 18.22$, $SD= 0.238$). This was the case even though boys had a mean of 16.97, girls had a mean of 18.22, and both had standard deviations of 0.238. This was the conclusion that was obtained after comparing the data of the males ($M = 16.97$, $SD = 0.303$), and the girls ($M = 18.22$, $SD = 0.238$).

1.7.6 Difference in Student's Learning Commitment

H₀ 6: The mean score of pupils' dedication to learning does not significantly differ between secondary school males and girls.

Table 8 A t-test on independent samples was performed ($N = 160, 240$) to assess whether or not there is a gender difference in the amount of effort the average student puts into their education.

	Variable	Gender	<i>M</i>	<i>SD</i>	<i>t-value</i>	<i>df</i>	<i>P</i>
1	Cognitive	Boys	17.95	2.668	0.962	398	0.55
		Girls	17.69	2.535			
2	Affective	Boys	13.19	2.869	-0.763	315.26	0.03
		Girls	13.41	2.576			
3	Behavioural	Boys	18.48	2.582	0.847	398	0.13
		Girls	18.28	2.144			

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To determine whether or not there were significant gender variations in the median scores of students' cognitive learning commitment, an independent sample t-test was carried out. The table demonstrates that there was no difference between the boys' condition (M=17.95, SD=2.66) and the girls' condition (M=17.69, SD=2.53); $t(398) = 0.962, p = 0.553$. Consequently, the researchers concluded that there was not a significant difference in the amount of commitment that pupils in secondary schools had to cognitive learning on average. A comparison of the emotional commitment to learning shown by male and female respondents is also included in this figure. There was a difference that might be considered statistically significant between the conditions faced by males (M=13.19, SD=2.869) and those faced by girls (M=13.41, SD=2.576); $t(315.26) = -0.763, p = 0.038$. This indicates that a person's emotional commitment to learning can vary substantially depending on gender, as demonstrated by the fact.

The level of behavioural learning commitment displayed by males (M = 18.48 and SD = 2.582) and the females (M = 18.28 and SD = 2.144) was not statistically significant difference; $t(398) = 0.847, p = 0.137$. According to the results of this test, there were no appreciable differences in the mean behavioural learning commitment scores of males and girls.

1.7.7 Difference in Learning Comfort

H₀7: The mean score for pupils' comfort with learning shows no discernible gender difference.

Table 9 Gender Differences in the Mean Learning Comfort Score: Independent Sample T-test (N = 160, 240)

Capricious Learning comfort	Gender	M	SD	t-value	df	P
	Schoolboys	26.80	4.168	-0.588	398	0.112
	Girls	28.87	4.595			

The results of a t-test on independent samples indicate a statistically significant difference in the mean evaluations of learning comfort provided by male and female students. This difference may be seen between the genders of pupils. This difference was found when comparing male students' responses to those of female students. The mean scores for the boys' and girls' conditions were the same; $t(398) = -0.588, p = 0.112$ (M = 26.80, with a standard deviation of 4.168, and M = 28.87, with a standard deviation of 4.595, respectively). According to the research results, there was not a discernible gap in the capabilities of males and females regarding how quickly one could pick up new information.

1.8 Findings and Discussion

The study's results demonstrated positive contact between students and teachers in the classroom and healthily developed the teaching and learning processes. In addition, students believed that the strategies for teacher-student engagement were appropriate and successful. According to Myint and Atputhasamy (2005), the form of educator leadership behaviour was an indicator of instructor and teacher communication effectiveness in the classroom. Therefore, this was crucial. The relationship between the instructor and the student played a significant part in the learning, teaching, and evaluation of the assessment that took place for

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the student (Douglas et al., 2015).

According to Fraser et al. (2010), teachers who want to improve their students' performance should take a vital leadership role, demonstrate their understanding, and reduce ambiguities in the classroom. Furthermore, Kuppusamy (2012) emphasized that the teacher's use of leadership qualities in the classroom is directly correlated to the effectiveness of a study hall and the positive impact it has on the pupils.

As stated by Wrenn & Wrenn (2009), teachers' behaviour in the classroom matters since it might affect students' motivation and success. Due to teacher supervision and classroom observer learning, students surface mild acts of independence (Solas & Wilson, 2015). Therefore, exercises involving observation should be carried out to prevent students from becoming too autonomous and unruly.

According to Burrows (2010), when a teacher allows students to learn independently of one another and lets them leave the study hall without proper supervision, the student's motivation to learn will decrease, and they will be more likely to engage in negative behaviour, such as failing to complete an assignment. In addition, the student will likely engage in negative behaviour. As a result, it is acceptable for a teacher to become more assured and to keep track of the realization that pupils are severe and are giving learning more thought (Gasser & Althof, 2017).

A potent educational tool, the rationality of learning comfort may aid instructors in their learning and instruction in the classroom (George & Mallery, 2001). Students can better manage and build their internal representations of knowledge if instructors design learning processes with the flexibility and aid of technology (Ghafouri, 2014). In addition, the environment in which students are instructed and learn should promote learning and teaching.

According to research was done by Zakaria et al. (2012), a classroom's atmosphere may affect both the behaviour of students and their level of self-confidence. Furthermore, in addition to affecting communication between teachers and students, the cognitive and emotional spheres may also be influenced by the physical qualities of a learning environment (Ahmad et al., 2014). Accordingly, the environment must be evaluated and changed to increase learning efficiency, keep students engaged, and fulfil teachers' and students' demands.

A classroom's characteristics influence overall satisfaction (Hill & Kathryn, 2010). Therefore, pupils would feel more appreciated and fulfilled in a well-planned classroom. When judging the overall quality of education, the topics taught and the degree of student accomplishment are crucial factors to consider; however, evaluating the classroom learning environment is just as significant.

The findings of this study were in line with the findings of Wonglorsaichon et al. (2014), who stated that students who commit to learning in terms of behaviour, cognition, and affectivity would produce higher-quality learning. The findings of this study were consistent with those of Wonglorsaichon et al. (2014). In addition, Covell et al. (2009) supported it by stating that students' commitment to their education will benefit other parties involved, either explicitly or implicitly.

According to Nihra, Said, and Kuppusamy (2012), students who were less duty prone to abandon a task, less preparing for examinations, and a wide variety of items that might interfere with the continuous learning and exhibiting session in the classroom were less likely to do so. Students who were less duty prone to abandon a task were also less likely to

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be distracted by various items that might interfere with the session. It would appear that students who do not adjust to their learning will experience a great deal of difficulty in meeting their academic, social, and moral commitments to study.

Students perceived the growth of the learning as favourable. This suggested that the pupils were at ease with the lessons taught in the classroom. In any event, Marzita et al. (2014) discovered that the degree of comfort in the classroom was modest. This is because having too many pupils can cause class disruptions, which will reduce the comfort of learning. The majority of the time that students spend is in the study hall. In a similar vein, comfort is essential for enabling learning viability.

The comfort circumstances are also connected to the effectiveness of learning. They depend on the design of the structure and run concurrently with study activities (Da Grac, Kowaltowski, & Petreche, 2007). In the same vein as this, Weilin et al. (2013) state that learning consolation has the potential to improve students' motivation to study while they are in the classroom.

This result supports Basey et al., (2008)'s assertion that nature may profoundly affect students' attitudes. Students' productivity and potential comfort in the classroom may also be increased by the accessible equipment, safety regulations, the board, and the learning environment. According to Kamaruzzaman and Tazilan (2013), many study halls did not provide a conducive learning environment or address the problems both instructors and students raised.

According to Veal and Jackson (2005), the learning environment's structure affects the students' collaboration and contribution. This is because many strategies and methods of learning and teaching may be utilized when the learning circumstances address the issues with the instructors and the activities that are part of the learning process. The truth is that a classroom's physical setup may encourage learning and, consequently, the production of high-calibre human capital.

Dallimore et al. (2008), who said there is a link between a student's obligations and their learning comforts, provide credence to this assertion. Students eager to gain knowledge can beneficially participate in the educational process. This addition significantly improved their dialogues, encouraged the sharing of their perspectives, and motivated students to engage in in-depth reflection on biology (Solas & Wilson, 2015). Because of the students' contributions, not only will they have a better mastery of the subject matter, but they will also have a more robust dedication to studying. According to Godlesky (2018), kids who acquire civic responsibility will exhibit more self-discipline and awareness of others' expectations.

The research is supported by Somayeh et al. (2013). They argued that students' assurance, mutual respect, and dynamic communication should be sustained throughout time to increase inspiration, participation, and learning responsibility. This is also in line with the results that Ghafouri (2014) came to, which said that students generated their own learning experiences, replete with their sentiments and impressions of those encounters. In a nutshell, the study's findings indicate that the learning environments and tasks are essential indicators that strongly influence the many forms of learning comfort in biology.

1.9 Conclusions

According to this study's qualitative evaluations, most instructors possess leadership skills. The characteristics of the instructor and the pupils include mutual understanding, and the teachers act amicably in the classroom. Less irritated and acting more firmly toward their

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students are teachers. The quantitative research's statistical findings further supported the idea that interactions more strongly influence teacher leadership traits in the classroom. Students and teachers work well together. Between students, students, and teachers, students, there is understanding. Both teachers and students act amicably with one another. Teachers are also disappointed with the work of their students. The students are committed on a cognitive, affective, and behavioural level, and they feel comfortable studying in the classroom setting.

Data analysis and conclusions demonstrate this association between teacher-student contact and learning comfort. The contact between teachers and students, the comfort of studying, and the devotion to learning made up the classroom environment. When students and teachers engage correctly, they learn with commitment and dedication on all levels—cognitive, emotional, and behavioural. Students may, therefore, quickly learn in a conducive setting. Furthermore, students needed a comfortable learning atmosphere to share their concerns with their instructors and find solutions to their problems.

1.10 based on the findings presented above in the study, the researchers have provided the following suggestions.

1. Teachers should engage with students more effectively to be more comfortable and devoted to studying.
2. The significance of fostering positive and healthy teacher-student contact should be emphasised in workshops and professional development programmes designed for teachers. This will promote positive interactions between teachers and students.
3. Additionally, principals should train their teaching staff on effective classroom management benefits student learning outcomes.

1.10.1 Recommendations for Future Research

1. This study may be carried out in the future on public and private schools in other Pakistani areas.
2. Future researchers should investigate the impact of teacher-student contact on kids' commitment to and comfort with studying in rural public schools.

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