Journal of Research and Reflections in Education
June 2016, Vol.10, No.1, pp 104-115
http://www.ue.edu.pk/jrre

School Climate: Learning Environment as a Predictor of Student's Academic Achievement

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The main objective of this study was to determine the effect of learning environment on students` academic achievement at secondary school level. The study was causal comparative using correlation. The Study which, was conducted on a sample of 1473 secondary schools students in the selected from the public schools of five selected districts of Punjab province. Data was collected through Student School Climate Questionnaire (SCSQ) that contained 18 items at 5-point Likert scale. The validity and reliability of the questionnaire were ensured through the experts' opinions and pilot testing. The overall reliability of the questionnaire was 0.77. Positive correlation (r =.725) was found between the Learning Environment and Students academic achievement. The factors of Learning Environment i.e. group procedures; teacher behavior and curriculum have a positive correlation with the academic achievement of the students. The study further showed that Learning Environment has positive effect on students' academic achievement which measured through regression analysis i.e. Academic Achievements = -13.726+76.786(Learning Environment). The findings of this study suggest that students achieve high scores in schools with healthy learning environment.

Keywords: *Learning Environment, group procedures, teacher behavior, curriculum, Academic achievement.*

Introduction

Historically speaking, the discussion on school climate and its effect started in early 20th century. Perry (1908) found the stake holders of school climate as principal, teachers, parents, alumni and students. It was found in the literature that the positive school environment has the positive effect on students' achievement and performance (Anderson, 1982). It is not important for an educationist to undertake discussion regarding what is the importance of school climate rather it will be of a greater concern what the influence of school climate on students is (Anderson, 1982). Tagiuri (1968) explains organizational climate as a unit of four elements i.e. ecology, milieu, social system and culture. Ecology contains building, grounds, classrooms, facilities, safety and other resources etc. Milieu is comprised on the organizational persons like head teacher, teacher, students, parents' alumni and other helping staff. Social system is based on the mutual linkage of the organizational persons, discipline, and relationship with their students, and communications with their parents. Culture means the norms, values, believes and customs which develop the identity of any organization.

Similarly, different members make the school climate such as those connected with managing physical environment, social environment and learning environment (Freiberg and Stein, 1999).

Further, it is not easy to define the idea of school climate. As Hoy (2005) has said that school climate means all these characteristics which students, teachers and school administration feel. In the same way, a good school not only make better the learning and teaching but also make the performance of all the members of school worthwhile. For the betterment of students, teachers and administration use all the resources of school.

Theoretical Background

Positive school climate means such type of environment in which students, teachers, parents and all the members of community have such kind of link in which teaching and learning become satisfied and long lasting. In many researches, it is said that the school climate has a very strong effect on the achievement of students. Brookover et al (1978) has suggested that school climate affects on the performance and behaviors of learners. In the same way many elements make school and its climate. These elements also make the performance of school better (Borger et al, 1985). Social climate consists of different elements i.e. physical, social and learning environment and all these elements develop motivation among students (Atwool, 1999).

The organizational culture of the school creates its climate. "How students and staff members feel about their school is climate. Why they feel the way they do is determined by culture-by the values and behavior of those in the school" (Stover, 2005, p. 31). The climate in schools is comprised of many factors and has been of ongoing interest to scholars and researchers (Eamon & Altshuler, 2004).

Learning Environment as a Factor of School Climate

In broad definitions, “climate may include anything from environmental aspects of the school to the personalities of the students and educators, as well as academic performance, levels of physical activity, and the processes and materials used throughout instructional procedures” (Johnson and Johnson, 1993).

Objectives of school, curriculum, evaluation, individual and combined working, teachers’ behavior in class rooms, home work and giving

Learning Environment and Achievement

The climate of the school affects how teachers act, how they treat each other and their students, and it also affects the level at which students achieve (Hanna, 1998; Kaplan & Evans, 1997). Griffith (2002) examined the relation of school learning and social environment to the academic performance of disadvantaged students in elementary school. Griffith intentionally studied the relation of school climate to student

Climate is not something that is tangible; it "is a matter of the mind" (Maehr & Midgley, 1996, p.56). Examples of positive elements of school climate are an atmosphere of caring, a motivating curriculum, professional collegiality, and closeness to parents in the community. There also exists a feeling of cohesiveness, as well as an increased sense of school pride (Witcher, 1993). Regardless of whether the climate is positive or negative, warm or cold, it is something that all senses of the human body can detect (Deal &Peterson, 1990).

Ott (1989)compared it to air, in that one cannot see, feel, or touch it and does not pay any attention to it "unless it changes suddenly" (p. 8). Negative aspects of a school's climate have been obvious in its level of violence and its reactions to violence. Inappropriate and dangerous acts, such as students carrying weapons (Erickson et al., 2004; Wilson &Zirkel, 1994), have continued in our schools, in part, due to denial, minimization, rationalization, blame, avoidance, and a lack of support (Dwyer et al., 1998; Malecki & Demarry, 2003).

awareness to students make the learning environment. Learning environment has three parts i.e. curriculum, grouping procedures and teaching behavior (Pashiardi, 2008). Further in healthy schools learning environment students, teachers and administrations had a positive significant relationship with each other. The administrator feels sportive, positive and friendly to students and staff. Teacher work in pleasant environment with their colleagues and enjoy with their jobs and students. The teacher encourages their students for academic achievement and believes that student obtained better scores (Hoy et. al., 2002).

achievement in elementary Influence of climate school as other researchers had focused on the secondary level.

Fraser (1994) reviewed 40 studies and concluded that learning environment is strongly related with students’ academic achievement. He further found in his review that better learning environment. Improves in terms of coordination among stakeholders, satisfaction, sense of achievement and organization overall performance.

Similarly, the ability of the students increases with the help of the group procedures although this strategy is only helpful for average students not for dull or extra intelligent student (Abadzi, 1984). Further, Shanker (1993) found that with the working of the students as a group, their learning enhances and teacher behavior and its qualification strongly correlated with student achievement scores.

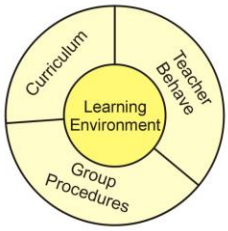

Figure 1 Learning environment of the school

Objectives of the Study

The objectives of the study were to measure:

1. The relationship between the school learning environment and the students' academic achievement.
2. The effect of school learning environment on the students' academic achievement.

Research Questions

1. Is there any relationship between school learning environment and students' academic achievement at secondary level?
2. Is there any effect of school learning environment and students' academic achievement at secondary level?
3. What is its predictive equation of school learning environment and student's academic achievement?

Research Hypotheses of the Study

Following hypotheses were tested at 05% significance level.

Ho_1: There is no significant relationship between learning environment of school climate and the student's academic achievement at secondary level.

Ho_2: There is no significant relationship of curriculum of learning environment and the students' academic achievements at secondary level.

Ho_3: There is no significant relationship of group procedures of learning environment and the student's academic achievements at secondary level.

Ho_4: There is no significant relationship of teacher behavior of learning environment and the student's academic achievements at secondary level.

Ho_5: There is no significant effect of learning environment on the students' academic achievements at secondary level.

Methodology

The researcher intentions' regarding this research was to investigate the effect of learning environment of school climate on students' academic achievement or researcher explored "after the fact". Therefore research design was an Ex-Post-Facto i.e. it dealt with the variables; the manifestation of which had already occurred. The variables of the study were not manipulatable and not under the direct control of the researcher.

Sampling Design

All the secondary school students of 10^{th} grade in the public schools of Punjab province was the target population. All the secondary school students of 10^{th} grade of the public schools of five selective districts of Punjab province was the accessible population of the study.

One district from south Punjab, one district from northern Punjab and three districts from central Punjab were selected through Proportionate stratified random sampling. Thus five districts were selected. The selected districts are showed in table 1.

South Punjab contains seven districts, Multan, Khanewal, Vehari, Bahawalnagar, Bahawalpur, R.Y Khan, and Lodhran. Northern Punjab contains eleven districts, Bhakkar, D.G. khan, Muzaffargarh, Rajanpur, Mianwali, Khushabl, Layyah, Rawalpindi, Jehlum, Chakwal, and Attack. Central Punjab contains eighteen districts, Lahore, Gujrat, Sailkot, Gujranwala, Narowal, Faislabad, T.T Sing, M. B. Din, Sargoda, Sahiwal, Sheikhupura, Hafizabad, Okara, Jhang, Kasur, Pakpatan, Nankanaana, and Chniout.

Table1

Selected District from Each Area

Sr. No.	Regions	Total Districts	selected District	Sampled Districts
1.	South	07	01	Multan
2.	North	11	01	Rawalpindi
3.	Central	18	03	Jhang, Lahore, Sialkot
	Total	36	05	

Each district was divided in two strata rural and urban. Three boys and three girl's public schools were selected from each stratum. Twenty five students were selected from each school. These twenty five students were selected through sample random sampling after assign them roll number. The student of even roll number where selected through systematic random sampling. Overall 1500 students were selected.

Research Instrument

As a result of intensive literature review, the researcher found a questionnaire; School Climate Student Questionnaire (SCSQ) developed by Dr. Georgia Pashiardi (2008) for students' perceptions on school climate covering physical, social and learning environment. The questionnaire has two parts. The first part comprises a total of 53 statements related to the three parts of school climate namely the physical, social and learning environment. The "physical environment" was tested through eleven items (statements); the "social environment" was investigated through twenty items and under "learning environment" there are 22 items. The second part includes demographic information such as gender, the type of school and class size. The researchers were of the view that this instrument is relevant with this study to measure the perceptions of students towards school climate.

The researcher recorded response on 5-point Likert rating scale ranging from, 5 = to a very great extent, 4 = to a great extent, 3 = to a moderate extent = A little, 2 = to a slight extent, and not at all = 1. The questionnaire was translated into Urdu language to make it more understandable for the students

The achievement scores of students were obtained from the annual examination results of the boards of intermediate & secondary education of Punjab held in year 2012. The respective boards were; board of intermediate & secondary education Lahore, Jhang, Sialkot, Multan and Rawalpindi.

Data Analysis

The data were coded and analyzed using SPSS-16. The total number of responses received by the researchers was 1473. The Cronbach's Alpha for eighteen items measuring students 'perception regarding school learning environment. The overall reliability was 0.77.

Table 1

Descriptive Statistics on Sub Factors of Learning Environment

Factors	Sub-Factors	N	Mean	SD
Learning Environment	Curriculum	1473	3.25	.54
	Group Procedures	1473	3.67	.82
	Teacher Behavior	1473	3.79	.82

Means scores shows that students' perceived that teacher behavior is more (3.79) emphases on their achievement. Lowest mean (3.25) with standard deviation (0.54) of curriculum

shows less emphasis on students' academic achievement.

Further, Learning Environment of the School the maximum mean and Standard Deviation was (M = 4.17, SD = 1.13) was the statement "The teachers praise and encourage students who learn lesson successfully" and minimum mean and Standard Deviation was (M = 2.12, SD = 1.16) was the statement "There is constant pressure for teaching the whole school curriculum" It is also presented in table 2.

Table 2

Learning Environment of School

No	Learning Environment	N	Mean	S D
1	The teachers provide students chances to take part in lesson actively.	1473	4.02	1.116
2	The teachers praise and encourage students who learn lesson successfully.	1473	4.17	1.139
3	The teachers explain the answers comprehensively.	1473	3.82	1.230
4	The teachers organize various activities according to their subjects.	1473	3.10	1.238
5	The teachers follow an organized procedure during the teaching.	1473	3.51	1.114
6	During the lessons, we usually spend more time on irrelevant issues.	1473	3.80	1.229
7	The students use computers for their educational tasks.	1473	2.27	1.341
8	The teachers use different A.V. aids during their teaching.	1473	3.23	1.182
9	There is constant pressure for teaching the whole school curriculum.	1473	2.12	1.163
10	The school cares for the substitute of lost instructional time.	1473	3.41	1.319
11	The teachers return the tests rapidly and explain expected answers.	1473	3.71	1.187
12	Most students are interested in improving their academic performance.	1473	4.12	1.077
13	The student intends to participate actively in different educational activities	1473	3.93	1.230
14	Students continue to compete for improvement of educational performance.	1473	3.44	1.266
15	The students compete in provincial and national programs.	1473	3.80	1.204
16	The teachers praise usually their student's achievement.	1473	3.95	1.152
17	The teachers design tests based on student's educational level.	1473	3.67	1.158
18	The teachers are well prepared to their lessons.	1473	3.90	1.190

Furthermore the relationship between the learning environment of school climate and students academic achievement were calculated with the help of Pearson ('r'). All the hypotheses were tested at $\alpha = 0.05\%$ significance level.

Ho_1: There is no significant relationship between mean scores of school learning environment and academic achievement of students at secondary school level.

The null hypothesis was tested using Pearson correlation coefficient "r" about relationship between mean scores of school learning environment and academic achievement of students at secondary school level. The summary is presented in table 3.

Table 3

Relationship between Mean Scores of School Learning Environment and Academic Achievement of Students

Variables	Mean	SD	S.L.E	A.A
Learning Environment	3.55	.61	1	.725**
Academic Achievement	721.97	151.6	.725**	1

**P<0.001, (N=1473)

Table 3 shows that there is significant relationship between mean scores of students' school learning environment and mean scores of students' academic achievement (r = .725, Sig =

.001) at secondary school level. So the null hypothesis that there is no significant relationship between mean scores of students' school learning environment and mean scores of students' academic achievement at secondary school level was rejected. Therefore increase in school learning environment was correlated with increase in academic achievement of the students.

Ho_2: There is no significant relationship between mean scores of school curriculum and academic achievement of students at secondary school level.

The null hypothesis was tested using Pearson correlation coefficient "r" about relationship between mean scores of school curriculum and academic achievement of students at secondary school level. The summary is presented in table no 4.

Table 4

Relationship between Mean Scores of School Curriculum and Academic Achievement of Students

Variables	Mean	SD	S.C	A.A
Curriculum	3.25	.55	1	.582**
Academic Achievement	721.97	151.6	.582**	1

**P<0.001, (N=1473)

Table 4 shows that there is significant positive relationship between mean scores of students' school curriculum (S.C) and mean scores of students' academic achievement (A.A) (r = .582, Sig = .001)at secondary school level. So the null hypothesis that there is no significant relationship between mean scores of students' school curriculum and mean scores of students' academic achievement at secondary school level was rejected. Therefore increase in school curriculum was correlated with increase in academic achievement of the students.

Ho_3: There is no significant relationship between mean scores of school group procedures and academic achievement of students at secondary school level.

The null hypothesis was tested using Pearson correlation coefficient "r" about relationship between mean scores of school group procedures and academic achievement of students at secondary school level. The summary is presented in table no 5.

Table 5

Relationship between Mean Scores of School Group Procedures and Academic Achievement of Students

Variables	Mean	SD	S.GP	A.A
Group Procedures	3.67	.82	1	.604**
Academic Achievement	721.97	151.6	.604**	1

**P<0.001, (N=1473)

Table 5 shows that there is significant positive relationship between mean scores of students' school group procedures(S.GP) and mean scores of students' academic achievement (A.A) (r = .604, Sig = .001)at secondary school level. So the null hypothesis that there is no significant relationship between mean scores of students' school group procedures and mean scores of students' academic achievement at secondary school level was rejected. Therefore increase in school group procedures was correlated with increase in academic achievement of the students.

H_{O4}: There is no significant relationship between mean scores of school teacher behavior and academic achievement of students at secondary school level.

The null hypothesis was tested using Pearson correlation coefficient "r" about relationship between mean scores of school teacher behavior and academic achievement of students at secondary school level. The summary is presented in table no 6.

Table 6

Relationship between Mean Scores of School Teacher Behavior and Academic Achievement of Students

Variables	Mean	SD	S.TB	A.A
Teacher Behavior	3.80	.82	1	.651**
Academic Achievement	721.97	151.6	.651**	1

**P<0.001, (N=1473)

Table 6 shows that there is significant positive relationship between mean scores of students' school teacher behavior (S.TB) and mean scores of students' academic achievement (A.A) (r = .651, Sig = .001)at secondary school level. So the null hypothesis that there is no significant relationship between mean scores of students' school teacher behavior and mean scores of students' academic achievement at secondary school level was rejected. Therefore increase in teacher behavior was correlated with increase in academic achievement of the students.

Effect of Learning Environment on Academic Achievement (A.A)

To address the research question no 2. Is there any effect of school climate on students' academic achievement? Also to find out the predictive equation of the variables following simple and multiple regression analysis was performed. Histogram of learning environment and academic achievement of students are presented in figures.

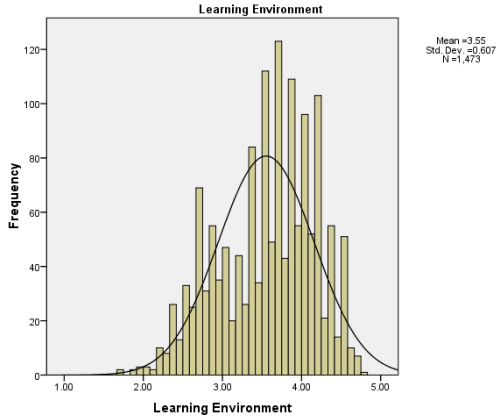

Figure 2 Histogram of learning environment

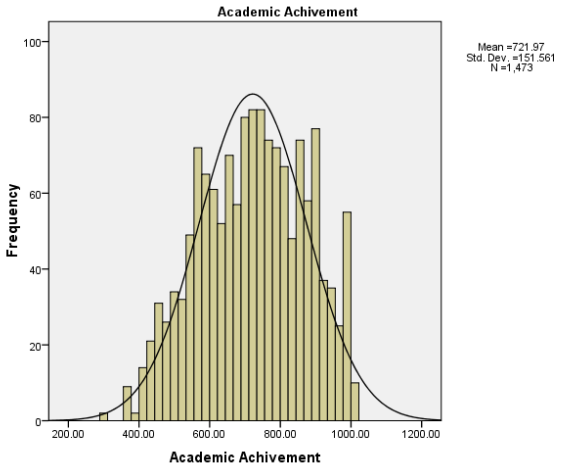

Figure 3 Histogram of academic achievement

It is important to note that no significant evidence of violation of assumption of normality, linearity, and homoscedasticity has been observed. The examination of residuals scatter plots provided a test of assumptions of normality, linearity, and homoscedasticity between predicted dependent variable (DV) scores and errors of prediction. Assumptions of analysis are that the residuals (differences between obtained and predicted DV scores) are normally distributed about the predicted DV scores, that residuals have a straight line relationship with predicted DV scores, and that variance of the residuals about predicted DV scores is the same for all predicted scores. When these assumptions are met, the residuals appear as in Figure 4.

The histogram of the data displayed an approximate normal distribution (see Figure 4), while the P-P plot showed a linear relationship (see Figure 5) and the residual plot displayed no set patterns and, therefore, the assumption of homoscedasticity or homogeneity of variance was not violated. The assumption of homoscedasticity or homogeneity of variance is the assumption that the standard deviations of errors are approximately equal for all predicted dependent variable scores (see Figure 6).

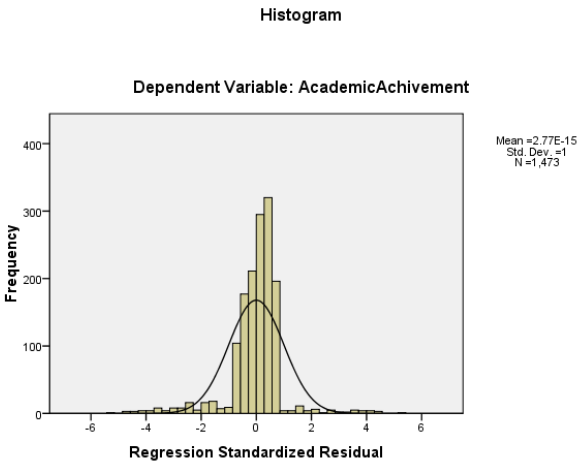

Figure 4 Histogram of dependent variable MSA academic achievement

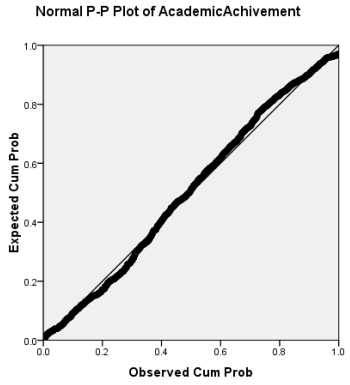

Figure 5 Normal probability plot of regression standardized residual

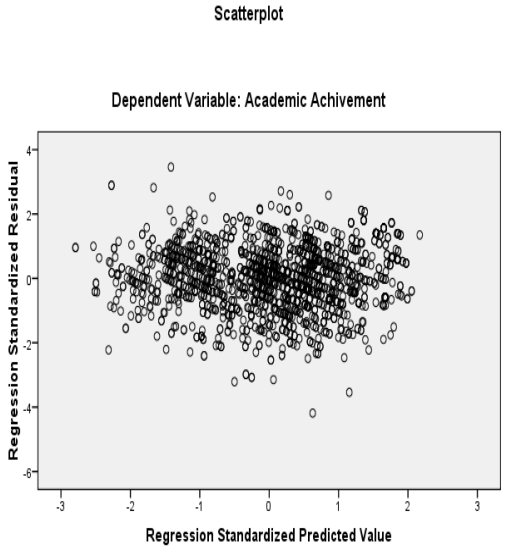

Figure 6 Scatter plot of regression standardized predicted value

To answer research question, what was the strength of the predictive linear relationship of the school climate on student academic achievement? A linear regression analysis was conducted to assess the strength of the predictive linear relationship of school climate on student academic achievement. Table 7 displays the unstandardized coefficient for learning environment. Learning environment with coefficient

β^= 76.878, t = -0.895, p = .000, was found to be significant to student achievement. For this study, the prediction equation, using unstandardized coefficients, for student academic achievement is:

Academic Achievement = -13.726 + 76. 786 (Learning Environment)

Table7

Coefficients for Three Factors of School Climate

		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	-13.726	15.339		-.895	.371
	Learning Environment	76.787	7.021	.307	10.936	.000

a. Dependent Variable: Academic Achievement

Discussion & Conclusions:

The present study which explored the effect of Learning Environment on students' academic achievement at secondary school level is a maiden effort of its kind in the Pakistani perspective. The Researcher believes that findings of this study would add an important facet in the field of education. The findings and conclusions drawn from the study have several important implications as the overwhelming majority of empirical studies which have investigated the effect of learning environment on students' academic achievement are from western world. According to Tagiuri (1968) school climate and it elements is interconnected with the students learning, in the Pakistani scenario, institutional achievement is primarily measured through students' achievement. The results of the present study, partially support the claim of earlier researchers like Perry (1908), Tagiuri (1968) and Halpin (1963) which have also been acknowledged and supported by other researchers like Anderson (1982) and Brook over (1978) regarding the influence of learning environment on students' achievement across different cultures throughout the world.

The results of the study are supported by many of the earlier studies conducted by (Anderson 1982; Brookover et al., 1978; Borger et al., 1985; Freiberg 1999; Halpin 1966). Also there was significant relationship between the mean scores of students' school learning environment and mean scores of students' academic achievement at secondary school level. Therefore increase in school learning environment was correlated with increase in academic achievement of the students. This finding is also sported by (Freiberg, 1999; Brookover et al., 1978l; Macneil et al., 2009; Maecher & Midgley, 1996; Fraser, 1994).

As concern the sub factors of learning environment, it showed that there were significant positive relationship between mean scores of students' school curriculum, group procedures and teacher behavior with mean scores of students' academic achievement at secondary school level. Therefore increase in curriculum, group procedures and teacher behavior correlated with increase in academic achievement of the students. The finding of the study is also sported by the studies of (Torney Purta, 2002; Bandura, 2001; Anderson, 1982; Fraser, 1994), that learning environment and it factors enhances the students academic achievement

Regarding to, the Learning Environment and its effect on academic achievement of the students it was found that school climate has positive effect on students' academic achievement. The findings of the study also sported by different researchers (Borger et al., 1985; Brookover et al., 1978; Torney Purta, 2002; MacNeil, Griffith, 2002). In different studies the results also sports the result of the conducted study that learning environment has an effect on students' academic achievement. Thus it is suggested that a better learning environment ensure the better students academic achievement.

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