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A Study on Effect of Classroom Learning Environment on Students Academic Achievement in subject of Mathematics at Secondary Level:

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Abstract:

The aim of the study was to analyze the impact of learning environment on the academic achievement of secondary school's students in the subject of Mathematics. The research method used in this study was descriptive correlation method. Two stage sampling technique was adopted to select the respondents. A total 100 teachers and 300 students were selected conveniently for the said purpose. Questionnaire and student classroom achievement Test were the data collection tools of the said study. The findings of this research study indicated that all the components of classroom learning environment have positive effect on Student's academic performance in subject of mathematics. The study findings indicate that there is a significant relationship between the different elements (student cooperation, closeness, fairness, teacher support and involvement) in the classroom learning environment and the secondary school students ' academic achievement in mathematics. Therefore, to improve the academic

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achievement in mathematics at secondary level, the instructors should focus on the classroom learning atmosphere.

Keywords: Mathematics, Classroom, Learning environment, Academic Achievement, Positive Effect, Etc.

Introduction:

The study examines the effect of classroom learning environment on students' academic achievement. The determined goals of learning cannot be achieved by a single activity, it required mutual activity and interaction among several classroom components. Teachers, students and material are fundamental in the process of teaching and learning.

The classroom environment has two significant components i.e. physical and social. The physical component consisting of non-living objects presented in classroom are; lighting, climate, blackboard, furniture, projector and books etc. The human components are comprising of teacher and students. The teacher-student relationship and the student interaction in classroom is an important part of the learning and teaching process. Generally, this consist of nature of interaction for the concern teachers and students. The model of interaction establishes specific kind of environment which helps in creating a productive learning condition.

Research shows that learning environment plays a central role in the performance of students in mathematics (Tella, 2008). This research will be carried out to develop the association between the learning environment in classrooms and the academic performance of students in the physical and social aspects (Bosque & Dore, 1998).

Classroom learning environment is the foundation and fountain of new learning. whereas, Hannah, (2013) stated in his study, classroom environment has an effect on student learning, that the classroom is a place where the students gain more knowledge and it is the place they discover what they wanted to become in the future. Classroom is also an important place where students/children grow and learn many things in their life. He also stated that in order to ensure that the classroom is successful, care must be taken to ensure that the learning environment is the one that allows the

students to excel and if it is not properly handled, the students will be the one that is really affected.

Objectives and Research Questions:

The main aim of the research study is:

To recognize the elements in classroom learning environment impacting the academic achievement of students in mathematics

The study is dealing to respond the following research question.

To what extent elements (Student closeness, Cooperation, Fairness, Teacher support, and Involvement) in the learning environment of classroom effect the academic achievement of students in mathematics.

Literature Review:

Theoretical lenses for this study is constructivist learning environment constructivist approach means such type of a teaching approach that emphasizes students ' active participation and role in the educational process and their ability to gain new knowledge on the basis of their previously acquired knowledge and experience. (Dagar V &Yadav A 2016).

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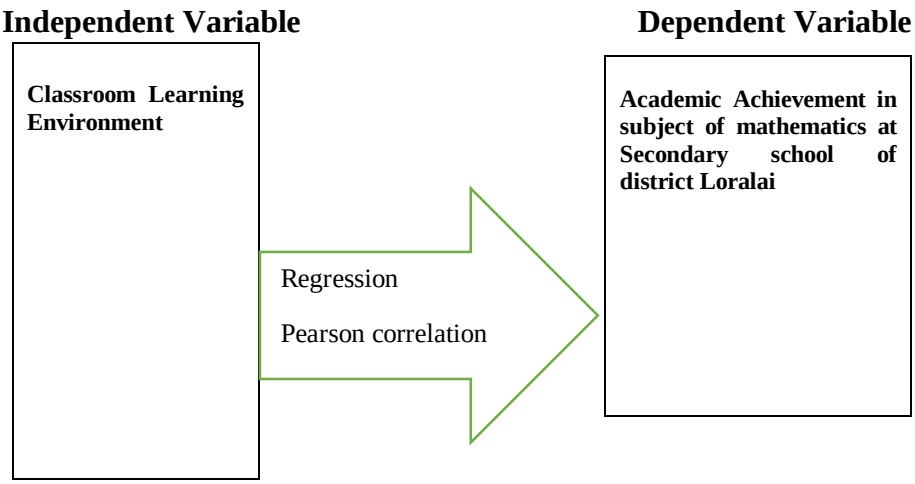
In his study, Falsario (2014) stated that the Classroom Environment is a very important tool for students in terms of climate and academic performance of students in the education system. Academic success; a positive outlook classroom is best suited to the students' more productive performances in their school. Schools that look positive at classrooms may help them feel more comfortable, stable, confident and can meet their basic

physical and mental health needs rather than negative classrooms which can cause them to feel uncomfortable.

Conceptual Framework:

Classroom Learning Environment is the independent variable while the Academic achievements is the dependent one. The relationship of the two is that, if the Classroom Environment is not effective or does not produce effectiveness, it may affect the students' performances inside the classroom and make the children/students learn nothing or they will not gain enough and more knowledge.



Falsario (2014) In his study, stated that the Classroom Environment is a very important tool for students in terms of climate and academic performance of students in the education system. Academic success; a positive outlook classroom is best suited to the students' more productive performances in their school. Schools that look positive at classrooms may help them feel more comfortable, stable, confident and can meet their basic physical and mental health needs rather than negative classrooms which can cause them to feel uncomfortable. The studies of Lizzo, Wilson and Simons (2002) explained that Intellectual ability is not merely an element and

determinant of the university achievement of a student, but the most important and connected with all components of the learning environment is the key function of the university learner. Ashby, Sadera and McNary (2011) by their studies that the learning environment, affects the academic achievement, is fully dependent. UNESCO (1984) according to the report papers demonstrated in the theme of mathematics of all. Which shows that mathematics is the mother of sciences.

Frenzel et al (2007) has accepted and acknowledged that there is immense and bulk influence on academic achievement of students through a learning environment in the classroom. Fraser (1986) defines the critical and essential term learning environment in the classroom, where the students' and teachers experience is mixed and shared in that environment which ultimately effect on the academic achievement. Moss and Tricket (1974) and Fraser (1991) both explained that learning atmosphere in classrooms is a complex social mechanism and structure where they also said, that classroom learning environment comprises the whole and entire climate, structure, processes, ethos within the classrooms.

Adediwara and Taya (2007) explained their studies of the cognitive domain study environment. They focused on the conversation between the learning environment of the classroom and the student cognitive field. Which Benjamin Bloom also introduced in his taxonomy of learning in 1956. In fact ,for the attainment of academic achievement , it is essential for every teacher and instructor to manage and create a perfect learning environment for mathematics students where they easily cultivate logical and abstract ideas .These tools of learning environment including several factors such as sitting arrangement ,classroom temperature, cooler, lightening, social interaction and work on the cognitive development on the basis of teaching methodology specially critical thinking and problem solving (Murgan & Rajoo, 2013).

Consequently, the researcher showed the study pointed to examine the importance of the learning environment in the classroom and its impacts on academic achievements in secondary mathematics.

Research Methodology:

Research Design and Sampling Techniques:

The research method used in the study was the descriptive correlation Method.

This research study was based on survey questionnaires of five-point Likert scale and students' achievement test was used as data collection tool.

Sampling Size and Data Collection Tool:

The tools for the data collection managed by taking acquiescence of the headmasters and principals of the secondary schools and with the consent of the participants. The researcher by himself visited the schools and collected the data. The questioners used to collect data from 10 teachers (5 Male and 5 Female), two each from 6,7,8,9,10, grade of secondary schools. The achievement test from students of 6,7,8,9,10 classes was taken (6 tests from each class students).

The most important concepts for research instrumentation are validity and reliability in research. Researchers with several factors must assess the validity and reliability of a questionnaire and other measurement tools. As shown by the agreement between nine educational deportation experts (8/10), the researchers used the face validity. The internal coherence of the items was measured by Cronbach Alpha 0.82 and 0.81 were found to be highly satisfied with the reliability coefficient for both questionnaires

Results and Discussion:

The raw data were collected from 150 male students and 50 male teachers as well as 150 female students and 50 female teachers at secondary school of district Loralai Baluchistan. To test the hypotheses before statistical application, all assumptions were confirmed. The researcher represented data from the sampled students using range, minimum, maximum, mean, standard deviation and variance that the researcher tested the hypotheses using Pearson's correlation coefficient, linear regression, t-test (Independent sample & paired sample). Study results were discussed after the presentation of the results.

Table 1; Classroom Learning Environment of* secondary school students' *and their level of academic achievements in mathematics (n = 300) after post-test.

Variable	Higher Achiever	Lower Achiever	Pass	Fail
Classroom Learning environment	.078*	.050	.040	.020

****correlation is significant at the 0.01 level***

Table no 1 highlights the overall achievement of the students in the mathematics subject. Table indicates that classroom environment has significant relationship (r=*0.078, P=0.01*)**.** Those students who are higher achiever are from those schools which are developed and equipped with modern techniques and technology.

Table 2: ***Overall Mean of Elements of the Learning Environment***

Elements	***N***	***Mean.***	***Std.***
Student closeness		3.90	0.67
Cooperation		4.00	0.65
Fairness	300	3.70	0.72
Teacher support		3.31	0.63
Involvement		3.23	0.61

The table 2 indicates overall learning environment of the secondary schools in district Loralai. The table shows that there is great sense of cooperation (*M=4.00, sd=0.65*) among peers and teachers in the classrooms. Moreover, teachers are highly supportive (*M=3.31, sd=0.63*), and involvement of the students in classroom activities are to a great extent (*M=3.23, sd=0.61*). it means that the school environment

Discussion:

This study aimed at to evaluate the impact of Classroom Learning Environment on students' Academic Achievement in mathematics subject at Secondary school of district Loralai. Classroom learning environment comprise on all the resources within the classroom, such as physical and social or human components. And these resources are used by students in order to boost their potentialities and build their capacities. Lizzio et al (2002),

The literature reveals the importance of classroom learning environment which includes the physical as well as human components. Such as chalkboard, lighting, climate /temperature, sitting arrangement, cooperation, involvement, teacher- support, and teachers' positive feedback were positively correlated with student's academic achievement whereas

There is significant impact of climate on the academic achievements of mathematics of secondary school students. The above table 4.8 evidently showed that serene climate condition makes the learning environment comfort and well-being. The temperature/climate in the classroom is another aspect which is not easy to monitor but can play a major role in keeping the students involved. This can be a challenge for the classroom to change, as many schools have central heating systems. The students can be nervous in a classroom which is very warm or very cold. In addition, the researcher pointed out that poor airflow can lead to air pollution or pollution, which can harm students with allergies.

A cool, warm-air school could build a learning environment (Burke & Burke-Samide, 2014). It can be said that there is an important relationship between the different elements (student closeness, cooperation, fairness, teacher support, and involvement) in the learning environment of the classroom and the academic achievement of secondary school students in mathematics. The results of this study support Rita and Martin 's findings (2011), who have discovered that the perception of teacher support and equity is linked to academic achievements of the students. Interestingly, Ahmad (2007) also discovered that there are no components of student proximity and cooperation and student achievement.

Conclusion:

This study finding shows that there is significant relationship among the various elements (Student cooperation, closeness, Fairness, Teacher support, and Involvement) in classroom learning environment and students' academic achievement in mathematics in secondary schools. Moreover, the findings indicate that there is an important connection between students ' understanding of teacher support components, and fairness and achievement in mathematics.

Finally, the researcher determined that High achiever in Mathematics subject students observe their classroom learning environment better than the fail students. This research study finding shows that there is no mean difference found in secondary school students' academic achievement variate in learning mathematics at diverse learning environment in District Loralai based on their gender-wise, nonetheless, average students with the exception of the 'Investigation' subscale interpret their learning environment better than the failing students.

Recommendations:

It is recommended that a well-managed, affective, vibrant and satisfactory classroom environment (Student closeness, Cooperation, Fairness, Teacher support, and Involvement must be ensued so that teaching learning process may take place effectively and successfully. Future researchers are suggested to observe that how classroom environment can enrich the cooperation among peers and teachers remaining in less developed classroom.

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