EFFECTS OF CLASSROOM LEARNING ENVIRONMENT ON THE ACADEMIC PERFORMANCE OF STUDENTS AT SECONDARY LEVEL

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Abstract. *Classroom learning environment of educational programmes can be defined as diverse physical locations, contexts and cultures in which students learn. Learning environment also encompasses how students interact with and treat one another in the pedagogical setting. Further, the learning environment which is conducive for effective learning includes the natural ecosystem, grouping of students, arrangement of desks and seating order in specific ways, audio, video and digital technologies. The qualities and characteristics of learning environment are also determined by a wide variety of other factors such as policies of the institution, governance structures and financial stability. Academic achievement and the classroom learning environment both seem to be influenced. The ideal classroom learning environment is one where students feel competent and accomplished since this foster drive and self-assurance. The objective of this review study was to determine the effects of classroom learning environment on the academic performance of students at secondary level. To achieve the intended objectives of the study, a set of 10 previous published articles related to the classroom learning environment and academic achievement were searched on different databases by defining the inclusion and exclusion criteria. The articles have full access and in English language were selected for the review. The findings of the study indicated that classroom learning environment has a significant influence on the academic performance of the students at the secondary level.*

Key Words: *Classroom Learning Environment, Academic Performance, Secondary Level*

1. INTRODUCTION

Proper arrangement of classroom environment plays a remarkable role in making instructional process more effective and establishes an atmosphere favourable and encouraging to learning. The quality of the physical classroom setting significantly affects academic achievement of the students. Physical facilities in classrooms ensure effective and successful teaching learning process. Without these facilities, effective and fruitful teaching learning process is not possible. Students get more information from their teachers in well facilitated classrooms and consequently they show good performance (Soheili et al., 2016).

On the other hand, if students feel uncomfortable in classroom then they will fail to get more information from their teachers. Poor school facilities adversely impact teachers' effectiveness and also their performance. Consequently, it negatively affects student achievement. A well-structured classroom can enhance students' academic and behavioral outcomes. Students' perceptions of classroom environment as an important factor that show some aspects of students' outcomes i.e., achievement, motivation and satisfaction (Boz et al., 2016).

Temperature and ventilation systems inside classroom are crucial factors that affect classroom learning environment. Classrooms too cold or too hot negatively affect students' performance and concentration as they feel uncomfortable in such conditions. High temperature and humidity creates physiological and psychological problems which expedite fatigue, causes people to work more slowly, apply much efforts and causes to make more

mistakes and errors. The classroom climate should be cautiously managed not only to provide physical comfort but also to serve as a positive factor in the learning process by stimulating attentiveness and concentration. To maintain such a climate, the atmosphere must be treated to simultaneously controlled temperature, humidity, cleanliness and circulation (Gao, 2021).

Temperature, heating and air quality are the fundamental elements for the educational attainment of students. Lighting is one of the most important physical characteristics of classroom. He further stated that visual environment can affect the capability of students to perceive visual stimuli and also affect their mental attitude. Consequently, their academic performance is affected negatively. Success can be ensured by using visual displays in classroom. There are numerous aspects of lighting to be kept in mind while taking into account this environmental characteristic of classroom. Classroom lighting consists of undetectable light, illumination at a student's desk, lighting from projection screens and windows. Improper lighting negatively affects academic achievement and promotes distress and obstruction for students in the classroom (Will et al., 2020).

Instructional technology plays a vital role in teaching learning process and makes it more successful, interesting and fruitful. Therefore, it is imperative to arrange instructional technology in classroom to ensure effective and conducive environment for teaching learning process. Arrangement of classroom educational facilities and instructional spaces might be selected for learning rather teaching. Besides, it should ensure to facilitate teacher in making an atmosphere where quality learning may be promoted. Audio visual aids i.e., charts, graphs, maps, globes, radio, mock up, multimedia, computers, overhead projectors and internet are the part of classroom environment. However, these technologies are not being utilized in instructional programmes as were expected because the design of classroom physical environment does not support the integration of technology. In the most of the developing countries as well as in Pakistan educational technologies are not utilized effectively during instructional process (Wan & Cheng, 2019).

There are some reasons which are responsible for the unsatisfactory utilization of instructional materials. Lower quality and less quantity of educational technologies provided to schools is one of the reasons. Secondly, teachers are not trained properly for the effective utilization of education technologies for instructional process. Therefore, it is necessary to design classrooms in such a way that technology may be used effectively. Classrooms should be equipped with modern technologies to ensure favorable and conducive atmosphere for teaching learning process. Teacher should be given training in the utilization of technology as it is a vital component of classroom physical setting (Feng et al., 2020).

Objectives of the Study
The objective of this review study was to determine the effects of classroom learning environment on the academic performance of students at secondary level.

Research Question
What is the effect of classroom learning environment on the academic performance of the students at secondary level?

2. LITERATURE REVIEW
Learning environment of educational programmes can be defined as diverse physical locations, contexts and cultures in which students learn. Learning environment also encompasses how students interact with and treat one another in the pedagogical setting.

Further, the educational setting (learning environment) which is conducive for effective learning includes the natural ecosystem, grouping of students, arrangement of desks and seating order in specific ways, audio, video and digital technologies. The qualities and characteristics of learning environment are also determined by a wide variety of other factors such as policies of the institution, governance structures and financial stability (Ndidi & Effiong, 2020).

Literature on learning environment can be categorized into three broad aspects; academic environment, physical environment and psychological environment and all these affect the overall academic success in acquiring second language. Some experts in education distinguish learning environment as positive or negative. Positive learning environment includes conducive physical and social settings that facilitate effective learning. Learning environment that has filled with sunlight, facilities of seating arrangements, conducive light, podium and the white and black boards in addition to digital and electronic equipment in the classroom such as multimedia and sound systems belong to positive learning environment while classroom environments with bare minimal facilities of accessibility with congested student numbers can be termed as negative (Goodlad et al., 2018).

Malik and Rizvi (2018) segregate learning environment as physical and human. All the physical objects that aid to teaching and learning are termed as physical environment while students and teachers in the classroom are considered as human environment. Scholars in the field of education have highlighted that the concept of traditional learning environment of the classroom concept be replaced with the holistic "study labs and exploratory centers. The era of communicative Language Teaching has placed much emphasis on classroom interaction. Deviating from the traditional teacher centered classroom to learner-centered environment in the educational setting, second language teaching methods such as Communicative Language Teaching have identified the pivotal roles of teacher-student and student-student interaction to facilitate communication from wider perspectives (Wang et al., 2020).

In order to facilitate interaction in the classroom, the effect of learning environment is very important. Learning activities such as group work, pair work, presentations, and activity-based learning require conducive physical environment in the classroom. Space for student and teacher movement, flexibility of desks and chairs to form groups, facilities for individual presentations are some of the determinants of the learning environment. Further, availability of technology and other resources in the classroom would enhance the effect of teaching and learning in the classroom (Cheng & Wan, 2017).

There are many factors that may be considered part from psycho-social environment in classroom environment as discussed by (Thi & Nguyen, 2021).

1. Review Acoustics and Room Temperature
The sound levels in your classroom greatly impact learning. You may need to minimize background noise or amplify the teacher's voice to create the right sound. You can adjust sound levels through flooring, baffle boards, notice boards or by adding in soft seating (Yang et al., 2017).

2. Focus on Effective Lighting
There's no substitute for natural daylight in a classroom, but if sunlight is limited make sure that there's enough artificial light. Correct lighting prevents eye-strain and helps to keep students alert. When choosing lighting, think about how you may need to alter the lighting

for each learning experience - for example in a science classroom, black-out blinds may be needed for some experiments (Yerdelen & Sungur, 2019).

3. Choose Classroom Furniture Carefully
The furniture in classroom is hugely important to the overall learning experience. Students must be comfortable, and making sure that chairs are the right size will help to keep them focused. Classroom furniture should comply with the British and European Standards for chairs and tables for educational institutions (Alamri, 2019).

4. Innovative Storage for Effective Learning
Storage can make all the difference in classroom design. Clever use of storage helps to keep the classroom free from clutter and helps students to take pride in their classroom. There are a lot of evidences to say that while students should be able to see their work on the walls, at least 20% of wall space should be kept clear (Imms & Byers, 2017).

3. RESEARCH METHODS

Article Selection Procedure

The Prisma diagram was followed for the selection of the articles. Its procedure is discussed in the following lines:
i. Identification
a. Databases and Time Limit for Literature Search
The researchers searched the articles on the budget policy and financial performance from January 2013 to November 2023 from the major electronic databases including ERIC, Web of Science, Google Scholar and Scopus. The key terms used for literature search for articles were: Classroom Learning Environment, Academic Performance and Secondary Level.
b. Inclusion Criteria for Literature
The articles were included based on the following inclusion criteria:
- Only those articles were included that reported the effects of classroom learning environment and academic performance at secondary level. The studies that have no link between classroom learning environment and academic performance were excluded.
- The studies that were published in a peer reviewed journal, from the year 2014 to 2023 and written in English were included in the study. The studies that did not meet this criterion were excluded. So, initially 102 studies were identified.

ii. Screening
After removing the duplicate records of 28 studies, the remaining studies were 74 based on inclusion and exclusion criteria. Records excluded on the basis of the abstract review were n=22, not relevant n=13, and not in English n=4.

iii. Eligibility
The total full-text articles assessed for eligibility obtained were n=35. The full-text articles that have no classroom learning environment and academic performance at secondary level were also excluded n=25.

iv. Included

So, the final studies included in the review were obtained as n=10. The article selection process followed by the Prisma diagram is shown in figure 1.
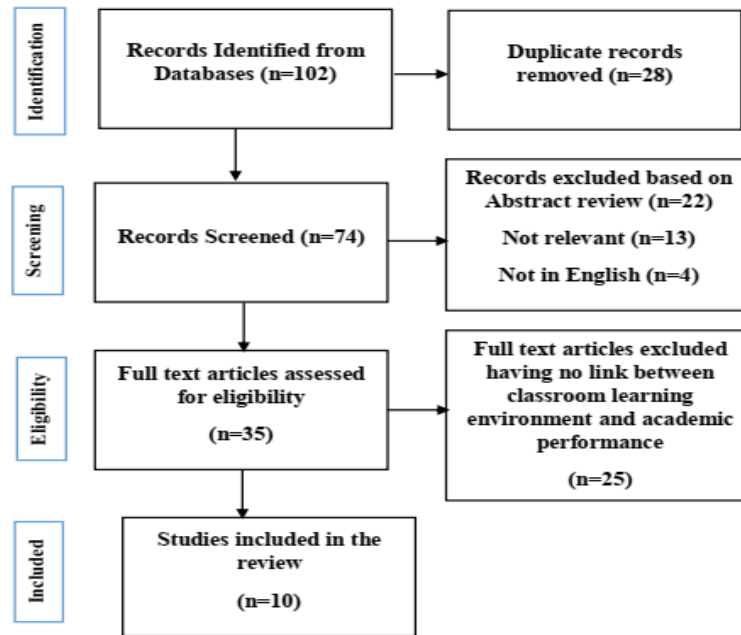

Figure 1: Prisma Diagram for the Selection of Articles

4. RESULTS AND DISCUSSION

The objective of this review study was to determine the effects of classroom learning environment on the academic performance of students at secondary level and the research question regarding this objective was "what is the effect of classroom learning environment on the academic performance of the students at secondary level? To achieve the intended objective of the study and to find the answer of the research question, a set of 10 published articles were reviewed. The results of the reviewed studies are presented in table 1 as:

Sr. No	Reference	Country	Results
1	Duruji et al. (2014)	Nigeria	Based on the findings of this study, it was concluded that the learning environment in secondary schools has significant relationship with academic performance of secondary school students.
2	Malik and Rizvi (2018)	Pakistan	The results of study revealed that classroom learning environment and students' academic achievement has a significant relationship.
3	Usman and Madudili (2019)	Nigeria	It was concluded that a learning environment with accessible and utilizable facilities will guarantee effective teaching and learning process as well as academic achievements of students.

4	Jabeen et al. (2022)	Pakistan	Findings show that there was a significant relationship regarding the effect of school environment on students' performance.
5	Baafi (2020)	Hungry	The findings of the study confirmed that the students in senior high schools with a pleasant physical environment perform better than those where the learning environment is not conducive
6	Ozayi et al. (2021)	Iran	Results showed that perceptions of learning environment had significant effect on academic performance.
7	Amaechina and Ezeh (2019)	Anambra State	It was found that students who feel secured in a school environment, students who are supported in school and students with better socio-emotional health contribute to a high extent in the performance of students in school.
8	Kweon et al., (2017)	USA	The study found that the schools that have better learning environment achieved better academic performance.
9	Khan (2023)	Pakistan	It was concluded that the majority of the students are satisfied with the learning environment provided by their schools.
10	Wirussawa et al. (2016)	Thailand	The results of the study indicated that learning environment has proved to be an important parameter for the better academic performance.

The studies reviewed showed that classroom learning environment has a significant effect of the academic performance of the students at secondary level.

CONCLUSION

The aim of this review study was to determine the effects of classroom learning environment on the academic performance of the students at secondary level. The articles reviewed showed that classroom learning environment is one of the crucial elements for the academic performance of the students at secondary level.

Conflict of Interest
No competing interest was found between the author/s.

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