**Research Article**

# Effects of Classroom Environment for Improving Students' Learning at Secondary Level in Punjab Province, Pakistan

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## Abstract

Class environment plays leading role in uplifting students' learning and achieving national educational goals in due course of time. The aim of this present study was to explore effects of classroom environment for improving students' learning at secondary level and recommend measures for its further improvement. The population of study comprised on all teachers teaching at secondary classes and students studying in secondary classes in total 194 (105M+89F) public sector secondary schools of district Bahawalnagar, Punjab province, Pakistan. 120 (60M+60F) teachers and 120 (60 boys +60 girls) students were selected from population through simple random technique. As the study was descriptive type in nature, so a self-developed questionnaire comprising on Five - point Likert scale was applied to collect requisite information from respondents. The collected data was later on organized, tabulated, analyzed and interpreted by using descriptive statistics comprising on frequency score, percentages, mean score, standard deviation and t-value. It was found from the results of the study that availability and use of physical and instructional classroom environmental facilities including ICT innovative instructional material in classrooms prove helpful indicators for improving students' learning outcomes at secondary level.

## Introduction

Class environment refers to utilization of available physical, instructional facilities and maintenance of discipline in classroom for effective teaching and better students' learning (Williams, 2016). It is an amalgamation of internal and external factors like curriculum, methods of teaching, teachers' behavior interaction with students, learning atmosphere, academic and social environment and support services used in classroom for teaching and learning process (Jawaid &Aly 2014). It is a wide variety of techniques and skills used in classrooms enables teachers to keep students attentive, organized and actively participating in classroom activities to produce productive results (Arshad et al. 2018). It includes

planning, organizing, communicating and mentoring. It also demands teachers' professionalism, taken of initiatives, dedication, devotion, job commitment, and teachers' willingness to adjust themselves at students' socio-cultural and intellectual caliber (Abel, 2011).

Students' learning is a systematic process of obtaining knowledge or skills carried out in or out of educational institutions through formal or non-formal systems of education (Lawal, 2014). Use of various pedagogical skills in classrooms produce fruitful results for improving quality of teaching and enhancing students' learning which is a major factor in uplifting students' academic performance (Ramli et al. 2014). It comprised on social and physical environments of educational institutions. Social environment refers to interaction between teachers and students and their active participation in classroom teaching and learning activities, whereas physical environment consists on physical facilities includes classroom design, classroom decoration, lighting, color, ventilation, seating arrangements and ICT related instructional equipment (Earthman,2002, Tanner & Lackney, 2006).

Teachers use various teaching methods like lectures, discussion in classrooms for making teaching and learning process effective and more productive. Discussion method is process of students talking about a specific topic, helped them to share their ideas openly which develops them confidence building habit and improves their learning (Ten Have, 2017). It helps in provision of better learning environment which improves students' learning (Malik & Rizvi, 2018). Activity-based method is another teaching method helped teachers to engage students by their active and physique participation in learning activities. In this method students' learning ratio improved by their doing practically (Mishra & Koehler, 2016). Students' actively take part in activity-based learning which develop their interest in studies and they learn willingly (Finn, 2010; Noreen, 2018). It

was also found that deductive method of teaching was more effective for overcrowded class in public schools (Shahzadi, 2019). Students taught through accelerated learning method produced good results due to taking keen interest in studies as they have high level of knowledge to solve problems related to cognitive learning domain from knowledge level to evaluation level (Shams, Arshad & Ahmed, 2019).

Classroom environment has a positive impact on students' academic achievement, as by provision of physical facilities like furniture, electric supply, painted walls, drinking water, models, charts, overhead projector and other ICT related instructional material, students take much interest in classroom activities which help them to get high marks in examinations (Kausar,Kiyani & Suleman.2017). Provision of physical facilities to schools like well-equipped library, clean drinking water, well-furnished classroom, laboratory with related appliances are the main factors play vital role for better teaching and uplifting students' learning (Omae et al. 2017). School support facilities like I.T Lab, tablet, first aid box, classrooms having ventilation, store room, cooling and heating systems, staff room, well equipped library with adequate books plays vital role for provision of quality teaching and learning (Arshad, Ahmed &Tayyab,2019). It was found that lack of conducive classroom environment; non-supportive teachers' attitude, lack of pedagogical skills and students' disruptive behavior create hindrances for effective teaching and better students' learning (Ahmed, Faizi & Akbar, 2020).

Provision of conducive classroom environment to both teachers for effective teaching and for students to have qualitative and productive learning is the primarily responsibility of the state government. Provincial governments in Pakistan were made responsible through constitutional powers to provide maximum physical and instructional facilities to the educational

institutions at all levels to achieve educational goals in due course of time. But it is a fact that majority of secondary schools Pakiatan with reference to district Bahawalnagar, Punjab province were still lacking educational facilities, which badly affecting the whole process of education including students" learning outcomes. So the required objectives for improving institutional classroom environment and improving students' learning have not been achieved so for. There are many factors accountable for down gradation of students' learning outcomes in the region, so it was decided to conduct a research study on "Effects of classroom environment for improving students' learning at secondary level in Punjab Province, Pakistan.

**Study Objectives**
The present study was designed to achieve following objectives;

- To explore classroom environment.
- To identify factors of students' learning.
- To find out effects of classroom environment on improving students' learning at secondary level.

**Research Questions**

For this purpose, answers were sought the following research questions;

- What is classroom environment?
- What are factors of students' learning?
- How classroom environment effects students' learning at secondary level?

**Review of Related Literature**

Classroom environment comprised on social, physical and emotional factors help in facilitating teaching and learning process for achieving educational objectives. It is the responsibility of teachers to develop positive classroom environment for enriching students' learning, as it promotes teaching and learning process effective (Bierman, 2011). It refers to educational concepts,

social and physical contexts, cognitive domains, instructional tools, teaching methods, teachers' students interaction etc. (Patrick, Ryan & Kaplan, 2007). It helps teachers to draw students' attention to take interest in studies by their actively participation in classroom activities, hopeful in developing teachers-pupils 'interrelationship and solves students' academic problems (Bandello, 2015). Socio economic condition of parents, infrastructure of school, education of parents, classroom setting, positive attitude of teachers, supporting attitude of management attitude, students' motivation, students' willingness to learn are the major factors affect students learning.

Classroom environment contained on proper lighting system, bright atmosphere, use of ICT instructional technologies, cupboards and shelves, electric power supply, air coolers or ceiling fans, audio-visual aids in classrooms play active role in improving students' academic achievement. Whereas, un-conducive classroom environment consists on small classroom size, in- appropriate ventilations, high classroom temperature, lack of ICT instructional teaching aids, in-appropriate desks, improper seating arrangements, lack of fresh air and overcrowded classrooms prove negative impact on students' achievement (Umar, 2017). Provision of sufficient physical and instructional facilities in classrooms are the major factors found to have positive impact on improving students' learning (Kilel, 2012), as this type learning environment is necessary for uplifting students' learning outcomes. Use of teachers' better communication skills and a variety of teaching methods in classrooms are major factors to improve students' learning. Relaxed and friendly learning environment is important for enhancing students' learning (Sulaiman, Mahbob, & Azlan, 2011).

Conducive learning environment is that environment, allows students to learn more easily (Encyclopedia Britanica , 2010). It is an environment provides conditions make it easy

for the students to work (Longman English Dictionary, 2010). It also further has been defined by Khalid (2008) that conducive learning environment is;

The environment that satisfies the needs of its participants, not only in the acquisition of numeracy and literacy skills, but is also able to link the economic and occupational needs of the group to literacy with their learning activities" (Khalid,2008).

Conducive classroom environment helps both teachers to teach effectively and students to learn with ease and perform better academically. Use of proper available teaching and learning resources in classrooms enhances learning outcomes of students. It has positive impacts on improvements of students' learning (Qamar et al. 2018). It is comprised on various components like room size, lighting, temperature, walls, ventilation, whiteboards, mats, seats, floor, PCs and other material prove fruitful effects on students' learning (Suleman & Hussain, 2014). School facilities like school buildings, electricity, natural/artificial lighting and ventilation in classrooms, drinking water, wash rooms and playground were the main attributes to improve students' learning (Awan, 2018). Students' academic achievement in well-furnished and small class size room with better facilities was found better than students having large class size classes (Olufemii & Olayinka (2017).

Teaching methods indicate strategies teachers use in classrooms for delivering his/her lessons to students based on curriculum instructional objectives to be achieved for promoting students' learning outcomes (Buseri & Dorgu, 2011). Use of various teaching methods, skills, techniques, pedagogical approaches and instructional strategies in classrooms help teachers for effective teaching and facilitate students in clear understanding of lesson which further prove major ingredients for improving their learning (Chen, Zeng & Yang, 2010). These

methods include lecture, discussion, questioning, team work, talk chalk, field trip, modeling, simulation, dramatic, role-playing, inquiry, discovery, demonstration, Dalton plan, programmed learning, experimentation, programmed learning, project, microteaching and mastery learning methods. They not only help teachers to teach effectively but help students for enhancing their learning which at last improves their academic performance (dorgu, 2015).

Use of instructional and information technology during classroom instruction plays an important role for achieving students' successful and fruitful high academic achievement (Iqbal, 2005). Quality of students' learning be promoted by using multimedia, computer, charts, , projectors, graphs, internet, maps, mock ups and other related ICT materials in classes. But advanced innovative ICT pedagogical soft wares and devices are not properly used in classes due to lack of teachers' professional trainings, badly effects students, learning (Weiss, 2007; Oliver & Limpman, 2007; Suleman et al. 2011). It was revealed that use of information and communication technological (ICT) related devices like laptop, computers, multimedia, smartphones, projectors, tablets and LCD in classrooms, offices and home by teachers and students brought revolutionized changes in teaching, evaluation, assessment and learning process. In this regards presentations shown to students in classrooms through LCD projector made classroom teaching and learning activities more attractive, productive and produce fruitful results in uplifting students' learning (Ahmed, Arshad & Tayyab, 2019). It is concluded that teachers effective use of ICT tools can prove helpful for improving students' learning (Imran, Mahmood & Ahmed. 2020).

Conducive classroom environment has positive effects on teachers' effective teaching and better students' learning outcomes. It includes floor, walls decorated with charts, maps, windows, chairs or desks, white boards,

LCD or computers, dices and cupboards. If students are satisfied and feeling comfortable in classrooms, then they produce excellent academic performance as compared to uncomfortable classrooms, which can demoralize students and they show poor learning outcomes (Fisher, 2008). Well-organized, equipped and facilitated classroom environment has a positive effect on academic achievement of students (Suleman, Aslam & Hussain, 2014). It brings changes in students' behaviors which indirectly improves students' results (Isaiah, 2013). It was further found from research that classroom environment has a significant impact on students' academic performance (Akomolafe & Adesua, 2015). It was also revealed from another research findings of the study that conducive classroom promotes students' learning (Manca et al. 2020).

## Material and Methods

### Research Design

The design of this current research study was descriptive type in nature, so survey method was applied to answer research questions for achieving study objectives. It is the most suitable method used in social sciences research studies for properly elaboration of characteristics and variation of population,

which helps to describe samples as per demands of the study for further description of educational phenomena (Gay, Mills & Airasian, 2009; Leob et al., 2017).

## Population

Population in social sciences research studies is comprised on the largest targeted group of people have requisite qualities meeting criteria for collection of relevant information (Asiamah, Mensah & Oteng, 2017. It is also consisted on entire set of cases from which required sample to be drawn for research investigational purposes (Alvi, 2016; Mills & Gay, 2018). The Bahawalpur Division of Punjab province (Pakistan), comprised on three districts namely District Bahawalpur, Bahawalnagar and Rahim Yar Khan. District Bahawalnagar is randomly selected as population of the study, as it was easy approach for the researcher to collect required information from respective respondents.

All teachers 3739 (2064M+1675F) serving in 194 (105M+89F) public sector secondary schools (urban & rural) and students 110662 (66088M+47574) studying at secondary level in these schools of Bahawalnagar district were taken as population of the study. Further detail of the distribution of the population was tabulated below;

| S/ No. | District | School Distribution | | Teachers' Distribution | | Students' Distribution | |
|---|---|---|---|---|---|---|---|
| 1 | Bahawalnagar | Male | Female | Male Teachers | Female Teachers | Male | Female |
| | | 105 | 89 | 2064 | 1675 | 63088 | 47574 |
| | Total | 194 | | 3739 | | 110662 | |
| Source: (https://schoolportal.punjab.gov.pk/sed_census/). | | | | | | | |

**Table 1:** Distribution of Population.

### Sample

Sampling is a process of selection of respondents from group of people following criteria that persons representing larger group from which they were taken (Best, 2016). It is a subset of population showing complete

group, used to make inferences regarding population characteristics or making generalization with reference to population. It is comprised on a group of small number of respondents selected from a population for research purposes. In this this study, simple random sampling technique was followed for

selection of sample from population, as each and every member of the population in this type of sampling technique has equal chances to be selected for sample of the study (Alvi, 2016; Mills & Gay, 2018).

Out of total population, 120 (60M+60F) teachers teaching secondary classes and 120

(60M+60F) students studying in the above classes at 30 (15M+15FM) schools (urban &rural) areas of Bahawalnagar district were selected as sample of study. Thus total sample of this research study was comprised on 240 (120M+120F) respondents. The distribution of the sample was further tabulated below;

| District | Schools' Distribution | | Total | Teachers' Distribution | | Total | Students' Distribution | | Total |
|---|---|---|---|---|---|---|---|---|---|
| Bahawalnagar | Male | Female | | Male Teachers | Female Teachers | | Male | Female | |
| | 15 | 15 | 30 | 60 | 60 | 120 | 60 | 60 | 120 |

**Table 2:** Sample Distribution.

**Tool for Collection of Data**

To answer research questions and achieving objectives of research study in due course of time, a self- developed questionnaire, validated through pilot testing and administered to collect requisite information from respective respondents. In social sciences survey research studies, it is considered the most suitable tool, helps researchers for assessing large population perceptions to be assessed with relative ease on individuals' perspectives. Furthermore, it is a systematic compilation of questions subject for sampling of population used for receiving requisite information from respondents (Mills & Gay, 2018).

In present research study, a questionnaire comprised on five points Likert scale, having on three parts consisted on 31 items related to research study was applied to collect requisite data from respective respondents. Questionnaire's part-1 used for collection of demographic information of respondents, part-11 was used for exploring respondents' perceptions regarding classroom environment

and students' learning, whereas part-111 of the questionnaire was used for finding out effects of classroom environment on improving students' learning at secondary level. To collect data, researcher personally visited each sampled educational institutions and after obtaining permission from respective school heads, questionnaire was administered to sampled respondents by requesting to fill them as per prescribed given guidelines and researcher also helped them during this process. So in this regards, positive responses were collected from respondents as per demands of the research study.

**Results**

The information received from respective respondents through questionnaire was tabulated by application of required statistical tools for achieving objectives of the research study like frequency score, percentage, mean score, standard deviation and t test for data analysis. Results detailed descriptions were tabulated in the following tables;

| Group | Res | N | Percentage | Mean Score | SD | t-value | Sig. |
|---|---|---|---|---|---|---|---|
| Teachers | SA | 50 | 41.7 | 3.67 | 1.485 | 3.262 | 0.05 |
| | A | 31 | 25.8 | | | | |
| | UD | 7 | 5.8 | | | | |
| | DA | 14 | 11.7 | | | | |

| Group | Res | N | Percentage | Mean Score | SD | t-value | Sig. |
|---|---|---|---|---|---|---|---|
| | SDA | 18 | 15.0 | | | | |
| | SA | 44 | 36.7 | | | | |
| | A | 26 | 21.7 | | | | |
| Students | UD | 6 | 5.0 | 3.37 | 1.608 | | |
| | DA | 18 | 15.0 | | | | |
| | SDA | 26 | 21.7 | | | | |
| df=199; N =240; t-value at 0.05= 1.960 | | | | | | | |

**Table 3:** Teachers use activity-based method in classrooms for improving students' learning.

This table indicates that 67.5% (41.7%+25.8%) teachers & 58.4% (36.7%+21.7%) students were agreed, whereas 26.7% (11.7%+15.0%) teachers & 36.7% (15.0%+21.7%) students were disagreed with the statement that teachers use activity based method in classrooms for improving students' learning. Teachers' mean score (3.67) is greater than the mean score (3.37) of students. The standard deviation increases from (1.485) to (1.608) and t-value (3.262) is significant at (0.05) for teachers and students shows the agreement of the statement that majority (67.5%) of teachers use activity based method in classrooms for improving students' learning.

| Group | Res | N | Percentage | Mean Score | SD | t-value | Sig. |
|---|---|---|---|---|---|---|---|
| | SA | 42 | 35.0 | | | | |
| | A | 46 | 38.3 | | | | |
| Teachers | UD | 12 | 10.0 | 3.80 | 1.294 | | |
| | DA | 6 | 5.0 | | | | |
| | SDA | 14 | 11.7 | | | 4.130 | .000 |
| | SA | 31 | 25.8 | | | | |
| | A | 45 | 37.5 | | | | |
| Students | UD | 12 | 10.0 | 3.48 | 1.372 | | |
| | DA | 15 | 12.5 | | | | |
| | SDA | 17 | 14.2 | | | | |
| df=199; N =240; t-value at 4.130= 1.960 | | | | | | | |

**Table 4:** Teachers use discussion method in classrooms to involve students for better Learning.

The above table describes that 73.3% (35.0%+38.3%) teachers & 63.3% (25.8%+37.5%) students were agreed, whereas 16.7 % (5.0%+11.7%) teachers & 26.7% (12.5%+14.2%) students were disagreed with the statement that teachers use discussion method to involve students for better learning. Teachers' mean score (3.80) is greater than the mean score (3.48) of students. The standard deviation increases from (1.294) to (1.372) and t-value (4.130) is significant at 0.00 for teachers and students. So, it shows that there is a significant difference between teachers and students' responses. It was also found that majority (73.5%) of respondents show agreement that teachers use discussion method to involve students for better learning.

| Group | Res | N | Percentage | Mean score | SD | t-value | Sig. |
|---|---|---|---|---|---|---|---|
| | SA | 49 | 40.8 | | | | |
| Teachers | A | 30 | 25.0 | 3.64 | 1.488 | -1.926 | 0.056 |
| | UD | 8 | 6.7 | | | | |

| Group | Res | N | Percentage | Mean score | SD | t-value | Sig. |
|-------|-----|---|------------|------------|-----|---------|------|
| | DA | 15 | 12.5 | | | | |
| | SDA | 18 | 15.0 | | | | |
| Students | SA | 55 | 45.8 | 3.89 | 1.333 | | |
| | A | 31 | 25.8 | | | | |
| | UD | 11 | 9.2 | | | | |
| | DA | 12 | 10.0 | | | | |
| | SDA | 11 | 9.2 | | | | |
| df=199; N =240; t-value at -1.926= 1.960 | | | | | | | |

**Table 5:** Teachers use lecture method in classrooms for teaching students effectively.

Table 5 shows that 65.8% (40.8%+25.0%) teachers & 71.6% (45.8%+25.8 students were agreed, whereas 27.5% (12.5%+15.0%) teachers & 19.2% (10.0%+09.2%) students were disagreed with the statement that teachers use lecture method in classrooms for teaching students effectively. Teachers' mean score (3.64) is greater than the mean score (3.89) of students. The standard deviation increases from (1.488) to (1.333) and t-value1.926) is significant at (.056) for teachers and students. So, it shows that there is a significant difference between teachers and students' responses. It was also found that majority 65.8% of respondents show agreement that teachers use lecture method in classrooms for teaching students effectively.

| Group | Res | N | Percentage | Mean score | SD | t-value | Sig. |
|-------|-----|---|------------|------------|-----|---------|------|
| Teachers | SA | 59 | 49.2 | 3.84 | 1.42 | 1.150 | 0.252 |
| | A | 24 | 20.0 | | | | |
| | UD | 8 | 6.7 | | | | |
| | DA | 17 | 14.2 | | | | |
| | SDA | 12 | 10.0 | | | | |
| Students | SA | 48 | 40.0 | 3.71 | 1.387 | | |
| | A | 32 | 26.7 | | | | |
| | UD | 8 | 6.7 | | | | |
| | DA | 21 | 17.5 | | | | |
| | SDA | 11 | 9.2 | | | | |
| df=199; N =240; t-value at1.150=(.252) | | | | | | | |

**Table 6:** Teachers motivate students to work hard for obtaining good marks.

This table illustrates that 69.2% (49.2%+20.0%) teachers & 66.7% (40.0+26.7%) students were agreed, whereas 24.2% (14.2%+10.0%) teachers & 26.7% (17.5+9.2) students were disagreed with the statement that teachers motivate students to work hard for obtaining good marks. Teachers' mean score (3.84) of teachers is greater than the mean score (3.71) of students. The standard deviation decrease from (1.420) to (1.387) and t-value (1.150) is significant at (.252) for teachers and students. So, it shows that there is a significant difference between teachers and students responses. Furthermore, majority (69.2%) of the teachers motivate students to work hard for obtaining good marks.

| Group | Res | N | Percentage | Mean Score | SD | t-value | Sig. |
|-------|-----|-----|------------|------------|-------|---------|------|
| Teachers | SA | 47 | 39.2 | 3.70 | 1.459 | .925 | .357 |
| | A | 38 | 31.7 | | | | |
| | UD | 6 | 5.0 | | | | |
| | DA | 10 | 8.3 | | | | |
| | SDA | 19 | 15.8 | | | | |
| Students | SA | 47 | 39.2 | 3.55 | 1.528 | | |
| | A | 30 | 25.0 | | | | |
| | UD | 4 | 3.3 | | | | |
| | DA | 20 | 16.7 | | | | |
| | SDA | 19 | 15.8 | | | | |
| df=199; N =240; value at .925 = 1.960 | | | | | | | |

**Table 7:** Teachers motivate students to maintain in classroom for better students' learning.

Table 7 shows those 70.9% (39.2% + 31.7%) teachers & 64.2% (39.2%+25.0%) students were agreed, whereas 24.1% (8.3%+15.8%) teachers & 32.5% (16.7%+15.8%) students were disagreed with the statement that teachers motivate students to maintain classroom discipline for effective teaching and better students' learning. Teachers' mean score (3.70) of teachers is less than the mean score (3.55) of students. The standard deviation increases from (1.459) to (1.528) and t-value (.925) is significant at (.357) for teachers and students. So, it shows that there is a significant difference between teachers and students responses. Furthermore, majority (70.9%) of the teachers motivate students to maintain classroom discipline.

| Group | Res | N | Percentage | Mean score | SD | t-value | Sig. |
|-------|-----|-----|------------|------------|-------|---------|------|
| Teachers | SA | 22 | 18.3 | 2.57 | 1.51 | -3.705 | 0 |
| | A | 17 | 14.2 | | | | |
| | UD | 7 | 5.8 | | | | |
| | DA | 36 | 30 | | | | |
| | SDA | 38 | 31.7 | | | | |
| Students | SA | 31 | 25.8 | 2.93 | 1.576 | | |
| | A | 21 | 17.5 | | | | |
| | UD | 7 | 5.8 | | | | |
| | DA | 31 | 25.8 | | | | |
| | SDA | 30 | 25 | | | | |
| df=199; N =240; t-value at -3.705=1.96 | | | | | | | |

**Table 8:** Sufficient Furniture is available in classrooms.

The above table indicates that 32.5% (18.3%+14.2%) teachers & 43.3% (25.8%+17.5%) students were agreed, whereas 61.7% (30.0%+31.7%) teachers & 50.8% (25.8%+25.0%) students were disagreed with the statement that furniture is available in classrooms. Teachers' mean score (2.57) is less than the mean score (2.93) of students. The standard deviation increase from (1.510) to (1.576) and t-value (-3.705) is significant at (.000) for teachers and students. So, it shows that there is a significant difference between teachers and students' responses, as majority

61.7% of respondents were of the opinion that classrooms were lacking sufficient furniture.

| Group | Res | N | Percentage | Mean score | SD | t-value | Sig. |
|---|---|---|---|---|---|---|---|
| Teachers | SA | 49 | 40.8 | | | | |
| | A | 42 | 35 | | | | |
| | UD | 6 | 5.0 | 3.85 | 1.358 | | |
| | DA | 8 | 6.7 | | | | |
| | SDA | 15 | 12.5 | | | 1.961 | .052 |
| Students | SA | 47 | 39.2 | | | | |
| | A | 40 | 33.3 | | | | |
| | UD | 6 | 5.0 | 3.74 | 1.429 | | |
| | DA | 9 | 7.5 | | | | |
| | SDA | 18 | 15 | | | | |
| df=199; N =240; t-value at 1.961= 1.960 | | | | | | | |

**Table 9:** Proper arrangements of ventilations system are available in classrooms.

This table illustrates that 75.8% (40.8%+35.0%) teachers & 72.5% (39.2%+33.3%) students were agreed and 19.2% (6.7%+12.5%) teachers & 22.5% (7.5%+15.0%) students were disagreed with the statement that proper arrangements of ventilations system are available in classrooms. Teachers' mean score (3.85) is less than the mean score (3.74) of students.

The standard deviation decrease from (1.358) to (1.429) and t-value (1.961) is significant at (.052) for teachers and students. So, it shows that there is a significant difference between teachers and students responses. Furthermore, majority (75.8%) of the respondents were of opinion that proper arrangements of ventilations system are available in classroom.

| Group | Res | N | Percentage | Mean score | SD | t-value | Sig. |
|---|---|---|---|---|---|---|---|
| | SA | 49 | 40.8 | | | | |
| | A | 33 | 27.5 | | | | |
| Teachers | UD | 8 | 6.7 | 3.69 | 1.466 | | |
| | DA | 12 | 10.0 | | | | |
| | SDA | 18 | 15.0 | | | .592 | .538 |
| | SA | 45 | 37.5 | | | | |
| | A | 31 | 25.8 | | | | |
| Students | UD | 11 | 9.2 | 3.61 | 1.434 | | |
| | DA | 18 | 15.0 | | | | |
| | SDA | 15 | 12.5 | | | | |
| df=199; N =240; t-value at .592= .538 | | | | | | | |

**Table 10:** Facility of AV aids is available in the classrooms.

The above table shows that 68.3% (40.8%+27.5%) teachers & 63.3% (37.5%+25.8%) students were agreed, wheras 25% (10.0%+15.0%) teachers & 27.5%(15.0%+12.5%) students were disagreed with the statement that facility of AV aids is available in the classrooms. Teachers' mean score (3.69) is greater than the mean score (3.61) of students. The standard deviation decrease from (1.466) to (1.434) and t-value (.592) is significant at (.538) for teachers and students. So, it shows that there is a significant

difference between teachers and students responses, as majority (68.3%) of the respondents were of the opinion that facility of AV aids is available in the classroom.

## Discussion

Provision of conducive classroom environmental facilities to educational institutions at secondary level help teachers to teach well in classrooms which ultimately prove to be a major ingredient for improving students' learning (Williams, 2016). Results of many research studies previously conducted indicated that teachers' use of various teaching methods like lectures, discussion method, activity-based method, deductive method help teachers to actively engage students to actively participate in classroom activities which improve their learning outcomes(Ten Have, 2017;Mishra & Koehler, 2016; Finn, 2010; Noreen, 2018). It was also found from results of this study that majority (67.5%) of respondents were of the opinion that teachers' use of various teaching methods in classrooms like activity-based method, lectures method and discussion help teachers to teach well which ultimately improves students' learning. It was further found from findings of various studies conducted in past that provision of physical facilities like furniture, electric supply, painted walls, drinking water, models, charts, overhead projector and other ICT related instructional material, students take much interest in classroom activities which improves their academic achievements (Kausar,Kiyani & Suleman.2017). School support facilities like I.T Lab, tablet, first aid box, classrooms having ventilation, store room, cooling and heating systems, staff room, well equipped library with adequate books plays vital role for provision of quality teaching and learning (Arshad; Ahmed. &Tayyab,2019). It further found that lack of

conducive classroom environment; non-supportive teachers' attitude, lack of pedagogical skills and students' disruptive behavior create hindrances for effective teaching and better students' learning (Ahmed, Faizi & Akbar.2020). It was also found from results of this study that majority (68.3%) respondents were of the opinion that teachers' use AV aids is available in the classrooms draw students' attention to take keen interest in classroom activities which enriches their leaning skills.

## Conclusion

It was concluded that conducive classroom environment has positive effects on students' learning outcomes. Availability and teachers' use of physical and advanced innovative ICT related instructional facilities, teaching methods in classrooms draw students' attention to actively participate in classroom activities which ultimately improves students' learning. It includes furniture, electric supply, drinking water, models, charts, well-furnished classrooms, laboratory I.T Lab, tablet, first aid box, ventilation, store room, cooling and heating systems, staff room, and well equipped library, room size, temperature, ventilation, whiteboard, mats, seats, floor, natural/artificial lighting, wash rooms facilities and playground, education of parents, parents' socio-economic conduction, classroom setting, positive attitude of teachers, supporting attitude of management, students' motivation, students 'willingness to learn, variety of teaching styles were the main attributes to improve students' learning. It was further concluded that due to lack of conducive classroom environment; non-supportive teachers' attitude, lack of pedagogical skills and students' disruptive behavior create hindrances for effective teaching and better students' learning.

## Recommendations

To uplift students' learning at secondary level, it is recommended that;

- Physical classroom environmental and advance innovative ICT related instructional facilitates may be provided to schools on priority basis.
- Short term ICT refresher training courses facilities may be provided to teachers for properly using advance instructional technology in classrooms.
- Students may be motivated to actively participate in classroom activities.

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