International Journal of Applied Social Science
Volume 4 (7&8), July & August (2017) : 211-215
Received : 21.06.2017; Revised : 07.07.2017; Accepted : 19.07.2017

REVIEW ARTICLE
ISSN : 2394-1405

Physical conditions of a classroom – Dynamic elements promoting mental health and conducive learning in students

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ABSTRACT

The physical environment of a classroom should be fostering as it plays a major role in moulding students' behaviour and creating a happy learning atmosphere.A conducive learning environment provides conditions that make a student easy to do their work along with promoting their social, mental, physical and emotional well-being. This study was conducted with an objective to understand the importance of physical environment of a classroom and its relationship to mental well-being of the students. The study mainly focussed on the physical conditions (temperature, hygiene, air circulation, lighting, acoustics, interior design, etc). The results showed that almost all the schools were not having proper physical conditions in and around the classrooms. This strongly showed an indication that the designers should take proper care while designing physical conditions of any learning environment as these play a major role in moulding the student's behaviour and learning capacity, mainly the mental health.

Key Words : Physical conditions, Classroom, Student, Mental health

INTRODUCTION

Classroom climate is a product of the interaction, between and among teacher and students and the physical condition of the classroom. The physical conditions of a classroom or any learning environment also exert an influence on the social interaction and learning capabilities of students. The students are not only affected by the psychological climate in the classroom but also affected by the physical conditions in it. For example, the student is put at a disadvantage and his mental health and learning is affected when the classroom is over- crowded, dark and damp. The physical learning environment surely matters a lot in facilitating learning and promotes mental health of the student. Mental health is defined as a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a

How to cite this Article: Paul, M. Milcah and Kumari, D. Ratna (2017). Physical conditions of a classroom – Dynamic elements promoting mental health and conducive learning in students. *Internat. J. Appl. Soc. Sci.*, **4** (7 & 8) : 211-215.

contribution to her or his community.

The physical learning environment has something to do with the condition of the classroom and the immediate environment of the learner. Learning environment is defined as the social context, psychological and pedagogical which can affect learning, achievement and attitudes of the students. Learning environment and features that are in it play a major role in improving learning in schools and is identified as major determinants of student learning. Learning environment capable of stimulating students to engage in the learning process and be able to influence the behaviour of students as well as to assist in the development of their skills or cognitive perception.

A conducive physical learning environment is one that allows maximum interaction between teacher and student and also among students. A conducive physical learning environment is safe, clean and orderly, well ventilated, spacious and adequately lighted, acoustically sound, good air circulation with adequate temperature and other environmental factors which do not disturb the mental health of the child and in turn provides a conducive learning environment.

Two major components of the learning environment are physical and psychosocial components (Fraser, 1994 and Kilgour, 2006). Physical component includes all physical aspects such as classrooms, teaching materials, learning facilities, external environment both inside and outside the classroom. Psychosocial component is related to the interaction that occurs between students and students, students with teachers and students with the environment. Both of these components complement each other in creating and shaping the learning environment and affect the learning process that occurs in it.

According to Zandvliet (1999) in educational situations, Gardiner Model (1989) can be modified with the classroom physical environment as ecosfera, classroom psychosocial environment as sociosfera and implementation of new educational technologies represent tecnosfera component in this model. All these factors are considered to be related to student satisfaction (Fig. 1).

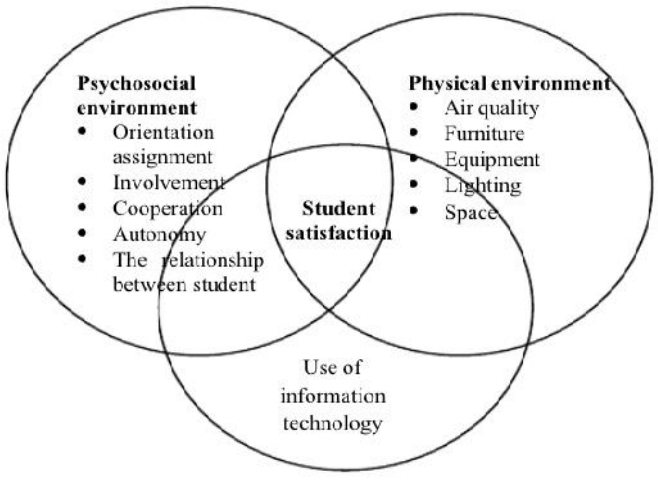

Fig. 1 : Conceptual model of potential factors influencing student satisfaction and promoting mental health of student

Objectives of the study :

– To understand the importance of physical conditions/ environment of a classroom by studying their interiors in terms of acoustics, temperature, air circulation, lighting, safety and security systems, air quality, ventilation and circulating space.

– To understand the impact of physical conditions/ environment on mental health of students.

METHODOLOGY

Location of the study :

The study was conducted in five schools of Warangal district which comprised of Government and private schools. The study was done using observational method and the schools studied were selected using simple random sampling technique.

RESULTS AND DISCUSSION

The results showed that there was no proper acoustical treatment given for any of the classrooms in the schools. Almost all the classrooms were open which brought in noises from the outer environment. Only one of the schools, had doors which had acoustical treatments, but due to this the lighting, air circulation and ventilation was not good. Though the schools were a bit far away from the main road there were still noises from the surrounding buildings and vehicles going around. This creates a lot of noise and distractions to the students and the teacher. For some classes there were no doors and walls were half built. This may be a feature incorporating ventilation, lighting and thermal management but this surely hinders the acoustical needs.

Proper construction of walls and incorporating doors to class rooms can be done. This can prevent outside noises from entering inside when doors are closed. Some acoustical treatments for walls and ceilings can be done in order to control and absorb unnecessary noises coming from outside environment. Even the outer environment can be incorporated with tall and thick trees which grows taller so that the outside noises can be blocked to some extent.

Though the natural ventilation is good as the rooms are more open this may not be a good feature all the time. In summer due to excessive heat, the openness can create many problems and cause inconvenience to the people using that environment. Therefore walls can be constructed in order to resist the heat. As the orientation of the buildings of all the schools was towards west, they may not receive direct sunlight in the afternoon and thus the building is cooler even in the afternoon. This is an added advantage found with the open rooms.

Proper fenestration and pathways for air circulation were provided in almost all the schools through proper orientation of doors and windows, balconies and hence the buildings were cool. If the management is able to afford, AC systems can be installed by using the electricity from solar panels as there is a lot of consumption of electrical energy in the schools.

As there were some government school HVAC treatments may not be afforded.

Therefore some simple treatments like cooling paints and usage of natural cooling materials for floors and walls can be used for constructions if any renovation is to be done further for interiors and exteriors. This makes the building cooler and incorporating natural ventilation can also be done depending upon the requirements.

In two schools, there were CCTV camera systems installed in the corridors of the building. This ensures the safety of the occupants in case of emergency, theft or any criminal activity. But the open classrooms can be a hindrance for safety as any person can enter into the school and may cause some injury to the children. Some other security systems like metal detectors at the entrance, burglar alarms, fire alarms, ID cards can also be incorporated. These were some of the conditions observed during the survey done in the schools to observe the physical environment in selected educational institutions.

Conclusion :

To conclude, this study gave a clear understanding about the need and importance of physical environment of classrooms and school environment as it promotes the mental well-being of students. From the study, it can be clearly seen that most of the selected buildings did not really take into consideration of the above mentioned physical situations while designing the environments.

There is also a difference seen in the govt. and private schools. The physical environments of the government schools are not much better than that of private schools. The government has to take good consideration of such aspects and hence try to provide or improve facilities in the existing schools. The designers must be careful right from the first stage of design process in order to build a building which promotes conducive environment for leaning. If not considered, some proper renovations can be done in order to benefit the occupants. These topics are not be neglected as they are indirectly or directly related to the mental and physical health and safety of the students.

The physical conditions effect students in different ways and are directly related to individual learning styles. Studies suggest that when teachers adjust the environment to students' preferences, the students perform better academically and are better behaved as their mental health is in a good condition due to the stimulating environment provided in the schools.

Recommendations :

– Create both well-lit and dimly-lit areas in the classroom by using bookcases, screens, plants, and other furniture. Some children learn best in bright light, but others do significantly better in low light. Bright light actually makes some students restless and hyperactive. Try allowing students to sit where they feel most comfortable, or try placing fidgety children in low-light areas and listless children in brighter areas.

– Provide opportunities for children to move around while visiting learning centres and other special classroom areas. Most of us have the mistaken impression that children learn best when sitting still, but research now proves that many children need extensive mobility while learning. These children learn significantly more if they move from one area to another as they acquire new information.

– Establish informal furniture arrangements. Another myth is that children learn best when sitting up straight in hard chairs. About 75 per cent of the total body weight is supported on only four square inches of bone when humans sit up straight in a hard chair, so it is easy to understand how the resulting stress on the buttock tissues causes fatigue, discomfort, and the need for frequent changes in posture. Research supports the common-sense notion that many students pay better attention and achieve higher grades in more comfortable settings.

– Help students become aware of their own temperature preferences and encourage them to dress accordingly. Temperature preferences vary dramatically, and most children can't concentrate when they are either too cool or too warm.

– Create an environment which is acoustically sound, sufficiently lighted, with good air circulation, thermally fit, safety and secured and with good physical environmental conditions in and around the classroom as these conditions are very much important in providing a conducing environment for student learning and also safeguard their mental health.

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