Psychological impact of the Environment on the Emotional Quotient (EQ) of Children

Ansuman Pati[1], Dr. Swayamprabha Satpathy[2]

[1]*B.Arch. from Manipal, Faculty of Architecture. He is a researcher .He has taken short term internship at Murty and Manyam. Presently he is in his eighth semester.*

[2]*Ph.D. .She is a Prof Of Communication at Siksha O Anusandhan University.She is the recipient of Siksha Ratan Puraskar.Teacher,s Excellence Award.Specila Award for her India controntribution towards Industrial Growth from Indian Institution of Industrial Engg. She is a researcher has published papers in various National and International Journals.She has also attended various National and International Conference such as At Imperial Colllege of London and National University of Singapore.*

Abstract- The present study is about how nature influences the emotional quotient of a child in their learning environment. Children being the main stakeholders of a school, it is important to understand how their environment is affecting their development in terms of physical, social, emotional, and cognitive aspects. The method used in this study will be random sampling as the research is for the age group between 14-16 and eventually by investigating childrens' emotional quotient through self-report testing their perception from the environment will be achieved and the changes in their behavior in terms of age and sex will be recorded. This paper concludes with a discussion of how the opportunities for learning on green school-built environment can have an impact on the child's emotional quotient.

Index Terms- Children, Environment, Emotional-quotient, Psychology, School.

I. INTRODUCTION

To meet the user's needs and expectations through high quality open space designs is one of the most important topics of Landscape Architecture design. The different open spaces and the differences in their use lead to changes in needs and expectations (Acar, 2013). Children constitute a significant part of users in urban open spaces. When we design from a child's perspective we take into consideration a child's growth not only through recreations but also by enhancing the self-image. Children are vulnerable and most of the time are victimized with the environmental hazards. The pivotal issue is children need to enhance their self-efficacy in building themselves as responsible individuals. Self-Image is built in a child through various factors such as emotional wellbeing, intelligence quotient, resilience, empathy and most importantly environment. Environment plays a very important role in a child's growth. So the design of the school should be spacious and there should an open space for a child to be psychologically free.

The brain's versatility and the child's inclination to assimilate are shaped by the ascendancy of natural environment. Students who have had room to maneuver in a nature induced learning environ have illustrated an expanding capacity to think imaginatively and creatively with an improved performance on standardized tests (Dyment, 2005).

Also, recent investigations analyzing student's subjection to nature revealed that the measure of verdure on and surrounding the campus significantly anticipated school-wide positive student performance (H.Matsuoka, 2010). It has been observed from a study involving schools in Baltimore, Maryland, which gave an account that green school yards make one's getaway from stress in light of the fact that natural zones allow students to develop aptitude and form supportive relationships (Chawla, Keena, Pevec, & Stanley, 2014).

However, apart from the benefits of green environ in the fields of stress recovery and academic performances, no study has discussed about the impact of nature on student's emotional quotient which helps in enhancing a child's self-image. Self-image is the conception about oneself. It is the way one person thinks about himself or herself. In children, it is believed that self-image is chiefly governed by events that affect their self-reliance in school (Zartaloudi & Madianos, 2009). Self-image has a great impact on a child's personality as it helps him or her to be socially inclusive and adaptable. A conducive environment helps a child to edify their self-image.

Emotional quotient helps in enhancing a child's self-image. Emotions start accompanying everything preschool or primary school do; whether playing, educational activities, practice learning or fulfilling the tasks given to them by adults (Rafaila, 2015). The importance of emotional development has attracted much attention with the awareness that emotional intelligence has a profound influence on a child's overall development.

II. LITERATURE CASE-STUDY

For their research, the impacts of nature experience on human cognitive function and mental health, DongyingLi and William C. Sullivan chose five public schools in central Illinois which were selected based on the criteria that they

contained three classrooms that had similar infrastructure but were different in window views. A classroom with no windows, a classroom with windows that opened to built-spaces and a classroom with windows that opened to natural views were taken into consideration. The research demonstrates that classroom views to green landscapes cause significantly better performance on tests of attention increase student's recovery from stressful experiences. A questionnaire was formulated to record the data about participant's age, gender, grade, health information, and preference for their school landscape. In the end, from the analytical results it was reported that classroom with views to green landscape have significant positive impacts on recovery from stressful and mental fatigue and thereby improving their academic performance.

III. METHODOLOGY AND RESEARCH DESIGN

This paper draws on research conducted on two classroom environments with similar infrastructure wherein classroom A comprises of windows opening to built spaces and classroom B consists of windows opening to natural environment. The classrooms have been chosen from two higher-secondary schools in Bhubaneshwar, India. A population of 120 pupils aged between 14-16 years were considered for the study through random sampling. A questionnaire was devised to record the student's interests and likeliness for their classroom environments. The questionnaire helped in collecting responses to determine the student's progress in some of the main parameters which governs the emotional quotient namely, self-image, frame of mind, socializing ability and academic performance.In order to quantify the data, the responses from the questionnaire were further analyzed into positive and negative responses and the count of these were used to study the comparison. From the analysis of the responses, the evaluation of these parameters were carried out. The study was conducted after the first break period as it marks the onset of student's saturation level.

Examples of classroom window view conditions: windows opened on to built spaces (left) and windows opened on to green space (right).

IV. ANALYSIS

Findings	Classroom A	Classroom B
Willingness to attend classes	43%	70%
Willingness to interact with strangers	63%	47%
Tendency of accepting suggestions	57%	83%
Acceptance of others' involvement in work	43%	50%
Confused self-opinion	77%	57%
Willingness to complete assignments inside the classroom	33%	60%

Willingness to attend classes after break time	23%	63%
Enjoying the classroom environment	17%	77%
Communication among classmates	57%	77%
Willingness to complete assignments	60%	70%
Happy being inside the classroom	23%	93%
Friendship among pupils	53%	75%

Source: Survey questionnaire

4.1 Willingness to attend classes:
In Classroom A it was observed that 43% of the sample are willing to attend classes compared to 70% in that of Classroom B. It is inferred that the classroom environment substantially affects the student's attendance.

4.2 Willingness to interact with strangers:
In Classroom A it is observed that 63% of the sample were willing to interact with strangers compared to 47% in that of Classroom B. It is inferred that classroom environment doesn't play a significant role in the personality traits.

4.3 Tendency of ignoring suggestions:
In Classroom A it is observed that 57% of the sample are willing to accept suggestions from peers compared to 83% in that of Classroom B. A positive response is inferred in both the environments however, a major hike of nearly 26% is noticed in a nature inclusive classroom environment.

4.4 Acceptance of other's involvement in work:
In Classroom A it is observed that 43% of the sample were willing to take assistance in their work compared to 50% in that of Classroom B. A slight increase of 7% is noticed indicating a healthy relationship among pupils in a nature inclusive classroom environment.

4.5 Confused self-opinion:
In Classroom A it is observed that 77% of the sample had confused opinions about themselves compared to 57% in that of Classroom B. An increase of 20% is observed with respect to positive confidence level in a nature inclusive classroom environment.

4.6 Willingness to complete assignments inside the classroom:
In Classroom A it is observed that 33% of the sample are willing to complete their assignments inside the classroom compared to 60% in that of Classroom B. It is inferred that students prefer to be associated with nature within their classroom environment.

4.7 Willingness to attend classes after break-time:
In Classroom A it is observed that only 23% of the sample are willing to attend classes after break-time compared to 63% in that of Classroom B. It is observed that nature inclusive classroom environment increases the saturation limits of students.

4.8 Enjoying the classroom environment:
In Classroom A it is observed that only 17% of the samples enjoy their classroom environment compared to 77% in that of Classroom B. It is inferred that a nature inclusive classroom environment enhances a student's classroom experience.

4.9 Communication among classmates:
In Classroom A it is observed that 57% of the sample have successful communications among their peers as compared to 77% in that of Classroom B. It is inferred that a nature inclusive classroom environment helps in establishing positive communications among peers.

4.10 Willingness to complete assignments:
In Classroom A it is observed that 60% of the samples are willing to complete their assignments compared to 70% in that of Classroom B. A positive response is observed in both the environments however; a 10% hike is noticed in a nature inclusive classroom environment.

4.11 Happy being inside the classroom:
In Classroom A it is observed that only 23% of the sample claim to be happy when inside the classroom compared to 93% in that of Classroom B. It is clearly inferred that pupils are significantly happy in a nature inclusive classroom environment.

4.12 Friendship among pupils:
In Classroom A it is observed that 53% of the samples are willing to establish friendships among different sections compared to 77% in that of Classroom B. A positive response is observed in both the environs however, a major hike of nearly 24% is noticed in a nature inclusive classroom environment.
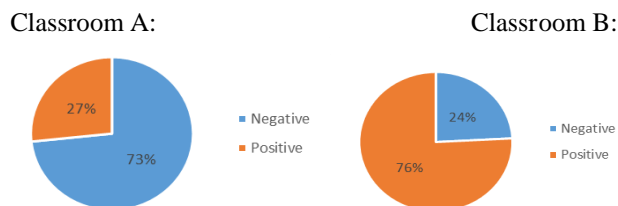
V. FINDINGS

The results were as follows:
Academics:

Classroom A: Classroom B:
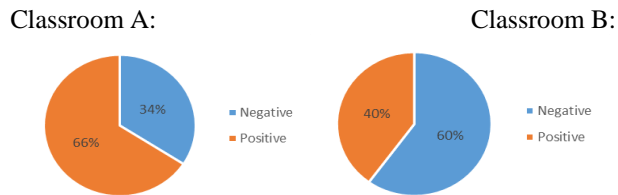
It is observed that samples from Classroom B showed an overall positive response compared to that of in Classroom B. It is inferred that students reflect better academic performance when subjected to a nature inclusive classroom environment.
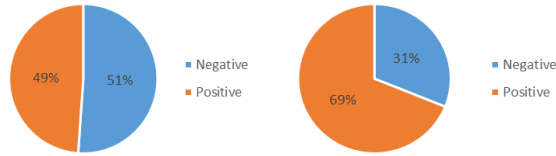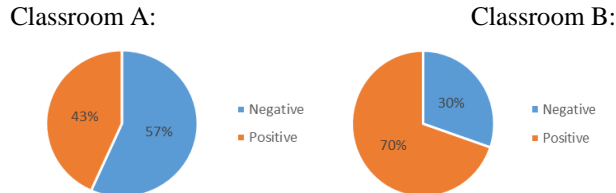Frame of mind:

Classroom A: Classroom B:

It is observed that samples from Classroom B showed an overall positive mood response compared to that of in Classroom A. It is inferred that students have a healthy state of mind when subjected to a nature inclusive classroom environment.
Socializing ability:

Classroom A: Classroom B:

It is observed that majority of the samples from Classroom B inculcated socializing skills compared to that of in Classroom B. It is inferred that students develop socializing abilities in a nature inclusive classroom environment.
Self-image:
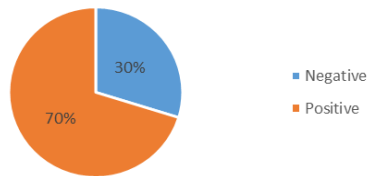
Classroom A: Classroom B:

It is observed that majority of the samples from Classroom B have reflected a positive self-image compared to that of in Classroom A. It is inferred that students develop a positive self-image of themselves when subjected to a nature inclusive classroom environment
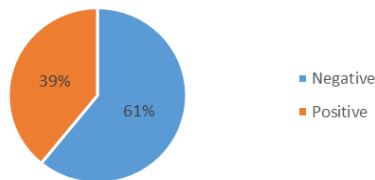
VI. CONCLUSION
Classroom B:

OVERALL IMPACT ON EQ

Classroom A:

OVERALL IMPACT ON EQ

On combining the individual parameters namely, self-image, academics, frame of mind, and socializing performance, the overall impact on emotional quotient of the sample population from these two classroom environments is developed.
It is clearly observed that a nature inclusive classroom environment has an overall positive impact on the emotional quotient (EQ).

VII. SCOPE FOR FURTHER RESEARCH
The study can be further done by taking few other schools who have implemented the environment friendly classrooms so that the observations can be more evident.

VIII. ACKNOWLEDGMENT

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