Journal of Advances and Scholarly Researches in Allied Education
Vol. 16, Issue No. 9, June-2019, ISSN 2230-7540

Learning Environments and Environmental Learning in Schools: An Analysis of Published Papers in India

Rupamala Singh[1]* Dr. Kuldeep Kumar[2]

[1] Research Scholar, Department of Education, Himalayan Garhwal University, Pauri Garhwal, Uttarakhand, India

[2] Professor, Department of Education, Himalayan Garhwal University, Pauri Garhwal, Uttarakhand, India

Abstract – With progressively more research being conducted internationally on the efficacy of learning from the environment both inside and outside the traditional classroom, and environmental education for a sustainable future this paper attempts to review research and studies of both the aspects published in India since 2005. This research paper is an analytical review of the literature related to the variable Learning Environment in schools of India and the induction of environmental education. The researcher has selected the present topic "Learning from the environment: Analysis of published papers in India" for analytical study based on her own research work titled as "Impact of Active and Outdoor Learning Environment on Student Engagement, Attitude and Learning Outcome - A Study conducted in Kotdwara, Uttarakhand" being pursued for the degree of Doctor of Philosophy.

Keywords – Learning Environment; Environmental Study; School Environment.

----------X----------

INTRODUCTION

With 'Education for All' and 'Quality School Education' becoming buzzwords in education research and studies in India, new research has emerged focusing on the role that learning environment plays in the teaching learning dynamics. But along with the increasing emphasis on school environment for learning, educationists worldwide are increasingly accentuating learning about the environment and sustainability, thus closing the circle on learning environments and environmental learning.

The school environment provides enormous teaching learning opportunities. Students gain first-hand experience from their surroundings that go beyond the classroom and as a teacher we need to think of strategies of engaging them with it (Sharma & Pandya, 2015). Students are constantly interacting with the physical environment of their school during structured and unstructured time consciously or unconsciously.

At the same time, the children must be exposed to the real world to enable them to analyse, evaluate and draw inferences about problems and concerns related to the environment and take suitable action to facilitate and participate in the pursuit of sustainable development (NCERT, 2006). The Whole School Development Plan (WSDP) under the Sarva Shiksha Abhiyan (SSA) envisions, child friendly schools, responsive towards the needs of all children by ensuring safe, secure, clean, and hygienic environment for all children with optimum resource utilization through environmentally sustainable practices.

The school environment should ideally encourage, support and nurture students' growing capacities as learners through its Green environment, curriculum, and teaching-learning (Sharma & Pandya, 2015). This will allow them to connect with their surroundings and attend to their health and safety needs, besides, motivating them to learn and imbibe a sense of belongingness, sensitivity towards the school, society and eventually our planet.

UNICEF in its Child Friendly School Manual has included both indoor and outdoor learning as important elements for a school. "In this regard, experience with child-friendly schools has highlighted the importance of buildings that encourage flexible, participatory approaches and enable innovative learning and teaching methodologies through multiple opportunities for

learning, both indoors and outdoors" (UNICEF, 2009).

In the backdrop of growing acknowledgement of the importance of environment for teaching – learning and teaching and learning about sustainability and the environment, this paper is based on studies from 2000 – 2019, primarily relating to the Indian context. It includes research papers, doctoral theses, and research projects collected along with detailed survey of literature, primarily Indian studies through internet using search engines/ sites viz. NCERT, Shodhganga, Google scholar, Jstor, Sage Journals, and the like.

The review of the existing literature has been organized on two themes:

- Learning environment in schools
- Environment learning in schools

The study of learning environment in schools is an active arena of academic research and academicians in different countries have been testing and validating all forms of environment-based learning and studying the impact of learning environment on the students learning. A school is more than a physical structure, the timetable or even the textbooks. It comes to life only when the students come and start interacting with their peers, the teachers, the curricular material, and the school environment (physical, natural and socio cultural). Children are natural learners, but this capacity to learn can be undermined and sometimes destroyed in an unfavourable environment. They spend about six to seven hours a day in school for about twelve early years of their childhood. The environment of the school plays a significant role in the lives of the students (Sharma & Pandya, 2015).

In India Environmental Education is mandatory as laid down by the Supreme Court of India in response to a PIL in 1999, where the honourable court declared, "We accept on principle that through the medium of education, awareness of the environment and its problem related to pollution should be taught as a compulsory subject" and directed NCERT to prepare syllabus to be adopted by schools in all states. With inputs from the National Curriculum Framework (NCF) India adopted the infusion approach to compulsory Environment Education in schools.

Data Collection: The research articles, reports and M.Phil. and Ph.D. theses were carefully examined and a gist was prepared. Relevant sections were highlighted using colour coding for segregation of qualitative data into categories. Studies published in India since 2000 were identified through a structured computerized search of the research database on NCERT, Shodhganga, Google scholar, Jstor, and Sage Journals using search items "Learning Environment in schools" and "Environment learning in schools". Only studies conducted on K 12 schools in India were selected.

The screening process based on the titles and the abstracts search results resulted in 27 publications which were considered for qualitative content analysis. Both the thematic sub-section explored the trends of the researches, which have been analysed with regard to how they are connected or related to one another in terms of being similar or different. Further, an attempt was made to look at the recommendations of the researches under each sub-theme and also to point out the gaps therein. The research review concludes by pointing out the overall gaps in the studies and giving suggestions for future research.

Learning Environment in Schools

The authors, who were studied and reviewed for the purpose of the papers, had many significant contributions to the understanding of the importance of learning environment in schools though the manifestations were different for all the papers. The subthemes thus developed are Physical Learning Environment, Psychological Learning Environment and Social Learning Environment.

1. Physical Learning Environment

Fathima, R.(2019) found that cooperative learning through change in class seating arrangements, not only affect the highly interactive students in class, but could also help shy students to be more active and participate in the discussion which in turns improve their performance in the subject.

Although there has been a call directed to all teachers to encourage co-operative learning activities and group work among students, the way classes are laid out does not encourage this teaching method. (Fathima, R., 2019) There was significant improvement in understanding of mathematics in a study undertaken by the author to understand if co-operative learning by modifying the classroom seating arrangement from the traditional rows and columns to circular arrangement.

Data obtained from this study highlights a number of points concerning the beliefs of the educational institution. The way seats are arranged inside classes reflect the beliefs that the teacher is still the main source of information. Students should be encouraged to work in groups and to depend more on each other rather than the teacher in order to learn more efficiently.

The physical structure of classroom as well as interaction between student and teacher constitute classroom climate which shape the educational

attainment of the child and if students feel themselves tense and hostile they may be led to poor learning. (Dwivedi, R.D., 2011) The main objectives of the schools are to have the students maintain the positive feelings towards learning, acquire the necessary facts, concepts and principles to solve important problems, arouse and satisfy distinct drives and feel reasonably good about them. To achieve all these broad goals, school's task is to provide classroom environment supportive to these goals.

Continuing with a similar thought Singh, V.P., (2013) feels that public authorities shall have to re-visit their aims and goals of mass education on condition of school buildings keeping in view the interest of school going children of India.

There is a correlation between school environment and its influence on students learning (Kaul, A., 2015). The author has tried to examine the physical environment of a school such as teacher-pupil ratio, school building, activity room, library, classroom space, outdoor space, furniture, staff provided, along with aspects such as gender issues, inclusive education, space for parents and community etc.

2. Psychological Learning Environment

An educational institute should not be just confined to teaching and learning but should be considered as a place where consciousness is aroused and illumined; soul is purified and strengthened. It is the place where the seeds of discipline, devotion and commitment are planted and fostered with deliberate efforts in the mind of an adolescent. (Malhotra, T., 2015). In her study, she showed that school environment is of paramount importance in the mental development of an adolescent.

Commenting on the current state in schools, Shukla, R. (2017) feels School environment has failed to motivate and the learning process has become forced, extrinsically driven activity. This absence of intrinsic motivation has resulted in learning becoming a stressful activity. This stress has gained dangerous dimensions where it is expressed in the form of low self-esteem, worth and efficacy. The result of non-adjustment to this stress sometimes expresses itself as depression and suicide attempts amongst school-going children. (Shukla, Ruchi, 2017)

Learning environment is one such factor which gives the experience of pleasure or pain, success or failure, active involvement or passive listening, to the students (Sharma, & Kamath, 2015). It is necessary to create a friendly and loving atmosphere in schools that makes the learners comfortable. There is a need to orient the teachers and bring about some changes in the pre service teacher education to make the teachers more children friendly.

School environment is a powerful force and plays a pivotal role in the all-round development of the child. (Dkhar, B.M., 2018) Schools are considered to be ideal homes for the welfare of the students. It is a well-known fact that all students do not get equal stimulating and congenial environment at home for their development. For this reason, ideal environment should be created in school. Students develop better if they get more congenial environment or atmosphere.

3. Social Learning Environment

Dwivedi, R.D., (2011) believes learning takes place within a web of social relationships as teachers and pupil interact both formally and informally. Schools are institutional spaces for communities of learners, including both students and teachers. Classroom climate refers to the various psychological and social dimensions in the classroom such as degree of formality, flexibility, structure, anxiety, teacher control, activity and stimulation. Different classroom climate leads to different products. A positive classroom climate is essential to promote good students achievement, and it is important to foster positive student attitudes. A favourable classroom climate provides the framework within which students and teachers function co-operatively and productively.

Patra & Mech, (2011) in their paper which deals with the influence of school environment demonstrates its relation with the mathematics achievement of the student. They found that in addition to socioeconomic factors which influence mathematics learning of students, inter related school factors comprising of school management, area, infrastructure, availability of textbooks, teaching methods, teacher student ratio also play a part in determining the mathematics achievement of the students. These factors, however, cannot be studied in isolation and are interrelated.

To bridge the social, regional and gender gap, the school environment is a vital factor. By imparting quality education uniformly in all schools this gap can be addressed. This will also provide equal opportunity for higher studies and the employment to all deserving students irrespective of family background. Thus it is imperative that there should be improvement in facilities and infrastructure, teaching methods, training for teachers and other factors which influence school environment. (Patra, & Mech., 2011)

The term 'learning environment' in a mathematics classroom involves the social environment in addition to the physical environment of the class, teaching- learning material available in the class, participation and engagement of children, a feel of success and contextual learning being offered to children, different approaches of teaching and

evaluation being used without giving a feeling of fear in children and arousing their interest in mathematics by transacting child-centred and joyful learning. Opportunities are given for pupil-pupil and pupil-teacher interaction in the class (Bhatia, K., 2013).

The author, Bhatia, K (2013) reiterated that a related aspect is the hierarchical nature of student teacher relationship the teacher is the facilitator of sharing experiences and fostering an environment of enquiry in the classroom.

The Dkhar, B.M. (2018) adds that teachers should nurture their classroom spaces where children can ask questions freely, engaging in a dialogue with teachers and friends as this will help clarifying their doubts. They should make the classroom lively by engaging the students in teaching-learning process as such school environment will facilitate the self-confidence and self-esteem of learners. The school environment should be free from partiality and should create a positive environment where students can share their ideas and develop their personality positively and aim fully to achieve well academically.

The effective schools also have a good and congenial learning environment which means both are essentially related. Better learning environment also enhances school effectiveness. (Sharma, V., 2012)

Environment learning in schools

Since the historic Supreme Court judgement in 1999 on compulsory Environment Studies at schools of India and a directive by the court to NCERT to present the schools with a fitful curriculum for the same, there have been studies by the education fraternity on various aspects of environmental education in schools. The studies have been further put under five subthemes: Awareness, Knowledge, Attitudes, Skills & Capacity Building, and Participation, with most of the research emphasising on Participation of students and teachers as the most important element.

1. Participation:

Most of the studies emphasized how encouraging participation from all the stakeholders increase the proliferation of Environmental Education in schools. Participatory learning and action can help the students to understand the environmental issues and construct the knowledge to solve its problems. Opportunities should be created for students for undertaking the nature and its diversity through activity based learning strategies. This can pave way for effective environmental education for preserving the rich environmental heritage in India. (Sudhir, M.A.,2013)

Authors Mehra, V. & Kaur, J. (2010) emphasized that Environmental Education is the need of the hour that is why EVS is introduced as compulsory subject right from the beginning of primary classes. So, there is a need to provide environmental education by introducing actual hands-on-experiences in order to make them aware of environmental problems and their solutions. EVS education can only be effective when experiential learning and action oriented lesson plans are utilised to enhance awareness of the pupil and also build their actual beliefs by real hand-on-experiences.

Teachers play an essential role in creating child's learning environment. It is important for the teacher to adopt the teaching strategies for imparting nature education so that the child not only develops the right knowledge and attitude but also the concern and love for the nature. The foundation of this relationship is however laid in the preschool years and nature education acts as a pivotal force in strengthening of this bond. (Sharma, K., 2015)

Author Kaur, Gurjeet (2013) has pointed out that the teachers are crucial links that mediate between 'formal knowledge' and children's ideas that are acquired informally. Helping teachers develop insights into the nature of children's knowledge and how it is acquired can encourage them to revisit several of their own understandings thereby leading to improved teaching-learning practices.

Authors Bhide, etal. (2018) emphasized that outdoor teaching of EVS would bring about broader and deeper learning from avenues that might just not arise during conventional indoor teaching with an additional benefit for the students' mental and physical health. This infusion of outdoor experiences with background and knowledge relevant to the Indian context can be achieved through training of the teachers.

Student engagement is crucial for any learning. Children's obvious happiness and enjoyment may be considered indicative of their emotional engagement in the outdoor tasks. Their exploration of surroundings, asking of questions, participation in discussions, documentation of findings, seeking and sharing of information indicate agentic dimensions of student engagement. The children demonstrate creativity, persistence and independence in engagement and completion of their outdoor tasks (Bhide, etal, 2018).

Working with 240 secondary school children in pre urban areas of Cuddalore and Puducherry Alexander, R. (2012) recommended the use of EESD (Environment Education for Sustainable Development) in schools where investigation, experimentation and analysis should be the way forward.

2. Awareness:

Some of the studies have laid down that the first step for the propagation of Environment Education among schools is to create an all pervading awareness among the children in particular and the community in general. Sharma, K. (2018) emphasized in her study that environmental education is a crucial component and needs immediate attention of the research fraternity to come up with tangible suggestions for the policy planners, implementers and the beneficiaries for accomplishment of the Sustainable Development Goals.

Environment education should be aimed at developing a child's perception with values about its surrounding environment. Teachers should take their students into the natural environments and expand their use of field practices to arouse students' curiosity toward the environment and help students grasp how classroom learning can be applied in practice. There is a need for the systematic inclusion of environmental education in school curriculum from very immediate environmental elements to national and global environmental issues as the child grows. (Alexander, A., 2012)

Bhat, et. al. (2017) have suggested that the primary concern of environment education was to acquaint the child regarding the process which shape his surroundings, so that he doesn't remain a reflexive and erstwhile bewildered spectator but becomes an informed and active interlocutor of his environment and need for sustainable development, with the confidence that comes from inner desires and motivation towards the cause.

3. Attitudes:

The importance of the right attitude from the stakeholders have been highlighted in particular in the papers. NCERT has been enumerating ways and means to incorporate Environmental Education into the school curriculum and sustainable development, which is the need of the hour, can be very strongly boosted through education. A paradigm shift can be provided to it through Environmental Education (EE) which should neither be restricted to water-tight compartments of the subject streams nor be dealt in isolation as a separate subject. Emphasis should be on holistic learning with a multi-disciplinary approach (Sharma, K. (2009). The need of the hour is not only to create awareness but also develop the favourable attitudes and skills of rationalising and problem solving. Children must be sensitised towards the environmental problems and concerns and equipped with skills to enable them analyse, evaluate, draw inferences and resolve them.

4. Knowledge:

The papers reveal that it is not possible to incorporate Environmental Education in schools if knowledge about the subject in terms of content and methods is not available to the schools. Sharma. K. & Sharma. R. (2005) strongly recommends that environmental education be implemented as a compulsory part of education in all curricula at all levels and that more attention should be paid to the practical knowledge instead of only classroom lectures. The schools, colleges and the institutions implementing the environmental education should prepare their criterions and frame clear aims and objectives for creating awareness among the youth and should be systematically integrated into the curriculum. It is recommended that the approach should be holistic so that the increase in awareness motivates the students to participate too.

5. Skills and Capacity Building:

To develop the skills for imparting Environmental Education and to develop capacity in the education sector there is the necessity to have concerted action and mobilization of resources. For the successful implementation of environmental education for sustainability the authors, Sharma. K. & Sharma. R. (2005), make the the following suggestions:

¾ Preparation of framework, aims and objectives of implementing

- Preparation of framework aims and objectives of implementing environmental education by the environmental educators, institutions and concerned agencies.
- Systematic coordination and integration of agencies concerned with environmental education and institutions.
- Systematized preparation of course designs which can motivate students/ youths towards the environment. This can be achieved by holistically integrating environmental education with practical knowledge along with the classroom reinforcement by lecture demonstration.
- Linking and integrating formal with non-formal education
- Training of educators, teachers concerned with environmental education so that they can pass on ethics of conservation and awareness to the youth/ students efficiently.
- Proper implementation of technology for creating awareness among the youth.
- Above all environmental education should be used as a tool or as a pillar for bringing

different crucial sectors to create public awareness along with legislation, economy and technology.

It is a challenge to unearth children's ways of thinking about the world as these often operate at the subconscious level and therefore are not freely available to clear articulation. Innovative means therefore have to be employed to actually assess the nature of these ideas and lay them out for analysis and reflection and examine them for some patterns if any. Each conception has to be dealt with separately and addressed during the course of the teaching-learning process. (Kaur, G., 2013)

systematic coordination and integration of agencies concerned

¾ Linking and integrating formal education with the non- formal

¾ Proper implementation of technology for creating awareness

CONCLUSION:

A general overview of the studies have indicated that there is a paucity of comprehensive research on Learning environment and its efficacy in India. This aspect of learning and impact on the student is a concept that has been circumvented by all education thinkers of the country. There is an imperative need of empirical longitudinal studies in this aspect of school teaching and learning. Regarding environment learning in schools, that is far more set in the system and the research are only further consolidating the same. This is a positive trend and has been possible due to the policy makers of Indian education directed by the Supreme Court order.

Outdoor and physical activity-based research along with built environment research are relatively new domains of research in India and in other low- and middle-income countries. There are very few studies to our knowledge, that far has evaluated the school built and outdoor environment as learning environment to promote teaching learning activities for children in resource-limited settings.

Overall, the studies recommend synchronous, comprehensive and holistic efforts for involvement and coordination amongst multiple agencies and stakeholders in school education for policy framing and its implementation in creating capacity and maintaining the educational infrastructure to aid enjoyable learning in children. However, the studies are lacking in ideas of how to implement it in the schools of India.

The studies are mainly focused on mapping the two concepts namely Learning environments and environmental learning without any recommendations and suggested innovations to bring about efficacy in both. There is a need to study systemic issues and role of other agencies in order to suggest steps to be taken at school level or policy reform measures. Though suggestions for a teacher education reform are witnessed, however, systematic and empirical studies in this direction can suggest some concrete and workable solutions.

Overall another observation that has been made is that largely the studies have examined the efficacy of the learning environment and the efficiency of environmental learning only at the secondary and higher secondary level, there is very little study on children and learning at the primary and pre-primary stage. More studies involving children at the early grades and primary stage can help understand the young minds to address the issue at the foundation level.

It is also suggested that future research studies be conducted considering school's locality, management style, self-efficacy and ethos with mutual values and norms to study the relationship of school environment for learning as well as learning about the environment.

REFERENCES:

[1] Alexander, R. (2012). Environmental education for sustainable development in selected schools of Puducherry and Cuddalore regions, India. Pondicherry (Central) University. Puducherry, India.

[2] Bhat, Suhail & Zahid, Ahmed & Sheikh, Bilal & Hussain, Shakir. (2017). Environmental Education in India: An Approach to Sustainable Development. FIIB Business Review. 6. Pp. 14-21. 10.1177/2455265820170102.

[3] Bhatia, K. (2013). A Study of Learning Environment in Mathematics Classroom at the Primary Level. The Primary Teacher. Vol. 38 (No. 3 & 4). pp. 87-97. ISSN 0970-9282

[4] Bhide, Shubhangi & Chunawala, Sugra (2018). Making a case for outdoor engagement Making a case for outdoor engagement in environmental studies at Indian schools Making a case for outdoor engagement. Homi Bhabha Centre for Science Education, Tata Institute of Fundamental Research. Mumbai, Maharashtra.

[5] Dkhar, Bamonlang M.(2018). School environment and level of educational aspiration in relation to academic achievement of secondary school students in Jaintia Hills Meghalaya. North-Eastern Hill University. Shillong,

Meghalaya, India. Retrieved from http://hdl.handle.net/10603/299443

[6] Dwivedi, R.D. (2015). Effect of Classroom Climate and Parental Awareness on Academic Achievement of Secondary School Students. Journal of Indian Education. Vol. 37(No.3). pp. 75-84. ISSN 0972-5628

[7] Fathima, Roohi.(2019). Cooperative Learning An Effective Teaching Learning Strategy for Mathematics. Indian Educational Review. Vol 57(No 2), pp. 106-124. ISSN 0972-561X

[8] Kaul, Anjni. (2015). School Environment from Physical Aspects to Learning. The Primary Teacher. Vol. 40 (No. 1). pp. 40-50. ISSN 0970-9282

[9] Kaur, G. (2013) Accessing Children's Ideas of the Natural World: An Exploration. The Primary Teacher. Vol 38 (Nos 1 & 2). pp. 49-60. ISSN 0970-9282

[10] Malhotra, Taruna (2015). Influence of School Environment on Mental Health of Students at Formal Operational Stage of Cognitive Development. Indian Educational Review. Vol. 53 (No.2). pp. 51-104. ISSN 0972-561X

[11] Mehra, V. & Kaur, J. (2010). Effect of Experiential Learning Strategy on Enhancement of Environmental Awareness among Primary School Students. Indian Educational Review, Vol. 47(No.2). pp. 30-44. ISSN 0972-561X

[12] National Council of Education Research and Training. (2006). Teachers' Handbook on Environmental Education. Retrieved from https://ncert.nic.in/desm/pdf/content.pdf

[13] Patra, K., & Mech. A. (2011). Relation between School Environment Variables and Mathematics Achievement among School Students in Bongaigaon District. Journal of Indian Education. Vol. 36(No.4). pp. 58-71. ISSN 0972-5628

[13] Sharma, K. (2009). Environmental Education at School Level: Issues at glance. Journal of Indian Education. Vol 35(No.3). pp. 111-119. ISSN 0972-5628

[14] Sharma, K. (2015). Teacher's Perception and Practice About Nature-based Teaching at the Pre-primary Level. The Primary Teacher.Vol 40 (Nos 2 & 3). pp. 79-88. ISSN 0970-9282

[15] Sharma, K. & Pandya, M. (2015). Towards a Green School on Education for Sustainable Development for Elementary Schools. *National Council of Education Research and Training.* Delhi, India. https://ncert.nic.in/dee/pdf/Towards%20A%20green%20School.pdf

[16] Sharma, K.(2018). Research Trends in Environmental Education. Indian Educational Review, Vol. 56, (No.1) pp. 7-52. ISSN 0972-561X

[17] Sharma, R.K. & Kamath, A.K.V.D. (2015). Learning Environment in Schools: A Field Experience. Journal of Indian Education. Vol. 41(No. 3). Pp. 34-45. ISSN 0972-5628

[18] Sharma, V. (2012). School effectiveness in relation to learning environment and community participation in elementary schools of Punjab. Panjab University. Retrieved from http://hdl.handle.net/10603/80417

[19] Shukla, Ruchi. (2017). Learning Environment: An Intrinsic Motivational Approach. Journal of Indian Education. Vol. 43(No. 1). Pp. 15-24. ISSN 0972-5628

[20] Singh, Virendra Pratap. (2013). Conditions of School Buildings in India: An Empirical Study. Journal of Indian Education. Vol. 39(No.2). pp. 76-99. ISSN 0972-5628

[21] Sharma, Kiran & Sharma, Ravi. (2005). Analytical Study for Implementing Environmental Education to the Curriculum: Significance, Issues and Measures. International Journal on Arts, Management and Humanities 3(1): pp. 5-8 (2014) ISSN No. (Online): 2319 – 5231

[22] Sudhir, M.A. (2013). Participatory Learning and Action for Environmental Education. Indian Educational Review, Vol. 51(No.1).120-126. ISSN 0019-561x

[23] UNICEF. (2009). Child Friendly Schools Manual. https://www.unicef.org/documents/child-friendly-schools-manual.

Corresponding Author

Rupamala Singh*

Research Scholar, Department of Education, Himalayan Garhwal University, Pauri Garhwal, Uttarakhand, India