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School Environment from Physical Aspects to Learning

Anjni Kaul*

Abstract

School is a place where teachers and students interact both formally and informally. In this paper 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. Author has also tried to find out if school and classroom environment is reasonably good, to what extent it would really be responsible for influencing students learning. Even though environment of the school is satisfying but educational practice is still based on limited lesson plans as indicated in the present study. Tasks are repetitive, mechanical and focus is on outcomes only.

Introduction

The aim of school education is to help children learn to become autonomous learners and to make children's life at school a happy experience rather than a source of stress or boredom

In the school education scenario in India, the present *National Curriculum Framework*-2005(NCF-2005) and the textbooks of science have already been implemented in the school system for almost seven years. The time has come to view the textbooks transaction in an actual teaching-learning situation.

Being a faculty member of National Council of Education Research and Training (NCERT), author decided to go to a rural school of India for three months with the following objectives :

- To observe and collect information on the physical environment of the school, such as teacher-pupil ratio, building of the school, activity room, library, classroom space, outdoor space, furniture, staff

* DESM, NCERT, New Delhi

provided, gender issues, inclusive education, space for parents and community etc.

- To observe whether teachers are transacting the concepts given in the textbooks and other related materials in the light of NCF-2005.
- To observe whether children are able to comprehend the concepts given in these textbooks and other textual materials.

This activity will help in getting feedback about the physical environment, textbooks and other supplementary materials from the grassroot level, which will help in improving the present curriculum/ textbooks, which is the actual need of the hour.

Author opted for a rural Government Middle School in Haryana. Teaching in a remote school for three months was altogether a new experience. Author interacted freely with students, teachers and parents of this school. She also observed and collected information about the physical and academic environment of the school.

In this particular paper focus is on physical environment of the school. However, one of the academic experiences has already been shared in a paper which has been accepted in the Journal of *School Science* – A Quarterly Science Journal.

Physical Environment of school

BUILDING

There are four schools in this campus.

- *Aanganwadi* (where daily laborers keep their toddlers)
- Government girls' primary school
- Government boys' primary school
- Government middle school for both boys and girls.

All these schools have separate small buildings, each with a school in-charge.

Since Department of Education in Science and Mathematics, NCERT is working for Classes VI-XII, author adopted Government middle school for boys and girls (Figure1).

Fig. 1 Government middle school

The building of this school has six rooms along with a small kitchen. One room each is provided for children of Classes VI, VII and VIII. One room each is meant for in-charge of the school, staff room, and science and mathematics activity room, respectively. In the science and mathematics activity room, science and mathematics kits have been provided under *Sarva Shiksha Abhiyan* (SSA). SSA is a scheme launched by Government of India to provide useful and relevant elementary education for all children in the 6-14 age group. These kits contain consumable and non-consumable items, whenever required funds are being provided to get the consumable items. These

kits are not being used by teachers or students during teaching-learning process, because either teachers are not trained to use science and mathematics kits or even if they are trained they prefer the traditional way of teaching. Chart papers with different concepts of Science and Mathematics are drawn by students and hung on the walls of the activity room. In this rural school, there is no laboratory facility so students are put to great disadvantage because they are deprived of the excitement of performing activities. Since activities at upper primary stage are of very simple nature, these can be performed by teachers and students with minimal materials. Author could transact most of the concepts given in textbooks by performing activities with the help of the science kit by involving students (Figure 2). It was so exciting for them to see hydrogen gas burning with a pop sound, acidic solution turning blue litmus paper red rather than to read and memorise that hydrogen burns with pop sound and blue litmus turns red on dipping in acidic solution, there is a separate kitchen.

Initially in this kitchen, the mid-day meal used to be cooked. However, the mid-day meal is now being supplied by

Fig. 2 Learning by doing

'ISKON'. The Mid-day meal is served during the short break. It is brought in a van to the school (Figure 3). In the school this meal is served by a lady part time worker. Each day the menu is different. Before serving this food to students, the teachers taste it. This showed that they really care for their students' welfare. After finishing the food, the utensils are washed by the worker and kept in the kitchen. In the absence of the worker, utensils are washed by the children.

Fig. 3 Van carrying mid-day meal

There are separate toilets for boys, girls and staff. Though water is available in the toilets, there is no flush system. Toilets are cleaned by a temporary worker.

There is no separate library but 300 books are available which are kept in a cupboard in the in-charge's room (Figure 4). These books consist of dictionaries of different subjects, story books, novels of Indian authors. However, students do not have free access to these books, there is also no library period allocated in the time table.

Fig. 4 Books in a cupboard

Quotations are written on the walls of the building (Figure 5a). Two separate blackboards are mounted on the front wall of the building. One is meant for 'today's thought' (Figure 5b), where children are encouraged to write a 'good thought' for the day, and the other board shows the attendance of the students (Figure 5c) in the upper primary classes i.e., Classes VI, VII and VIII.

There is a boundary wall for the school. It has a small region where students can play (Figure 6a). A number of plants have been planted and are being nurtured by the teachers and the students. The school has taken care of Water Harvesting System with the help of villagers. Villagers have also sponsored for the construction of one room, which is under the process of construction. There is a bore-well from which water is being supplied for gardening and other purposes (Figure 6b). This water is also used by staff and students for drinking.

(a) (b)

Fig. 6 (a) Playground of the school (b) Student watering the plants

A spacious corridor is in front of the building where students can move at ease (Figure 7a). There is a huge Banyan tree in the school ground under which the Morning Prayer is held. The shade of this tree is also utilised during summer for teaching the students when there is no electricity in the classrooms (Figure 7b). There is a huge iron grilled gate at the entrance of the school for security children (Figure 7c).

(a) (b) (c)

Fig. 5 (a) Quotations written on the walls (b) Blackboard for writing today's thought (c) Blackboard showing the attendance of the children

(a) (b) (c)

Fig. 7 (a) Spacious corridor (b) Huge Banyan tree (c) Grilled Iron Gate

The classrooms are spacious enough to accommodate around twenty students each. Classes VI and VIII are provided with benches, whereas in Class VII students sit on mats on the ground (Figure 8). Requirement for benches has been sent to the higher authority. There are about twelve, two seater benches in the classroom.

The rooms have fans and bulbs but most of the time there is no electricity and so the rooms get darker and the visibility is low (Figure 8).

Staff

There are five teachers including the school in-charge. Four of them are females. Each teacher handles two subjects. There is only one non-academic staff. All the staff come from nearby places/villages.

There is not even a single computer in the school, though it is likely to get one soon for office purpose. Teachers do most of the official writing work, manually. The parents of the students said that they also want their children to get familiar with computers. Students

Fig.8 Students sitting on benches and mats and also low visibility in the classroom

also wanted computers but to play games of their choice.

Schedule

In summers the school begins at 8 a.m. till 2.30 p.m. After morning's assembly, classes begin at 8.20 a.m. There are nine classes per day including zero period. In the zero period, issues related to values, concerns related to environment, general knowledge and additional inputs for different subjects are given. There is a short break at 11.40 a.m. and continues till 12.10 p.m. during which mid-day meal is served. During winter schools starts at 8.20 a.m. and finish at 3.30 p.m.

The school works from Monday to Saturday except second Saturday. There are five classes of 40 minutes duration before the short break and four classes each of 35 minutes duration after the short break.

Each class gets one games period every day. A box containing, laziums, dumb bells and other sports material for children are kept in the in-charge's room. On August 15, Independence Day celebration students performed exercises using dumb bell as well as a cultural programme. This was appreciated by audience/villagers.

The morning assembly is conducted by physical education teacher. Assembly focuses on:

- Prayer
- National Anthem of India
- Mass PT
- Yoga (Daily)

Zonal level school tournaments are held every year.

Bal Shabha for students of all classes is usually held twice a month, where students perform different cultural activities. This is done to raise the confidence level of the children. The discipline of the entire school is maintained by the physical education teacher.

Students

There are 21, 19 and 18 students in Classes VI, VII and VIII respectively. The total number of students at middle school level is 58.

Boys prefer to sit with boys and girls prefer to sit with girls only. Boys and girls of Classes VI and VII interact freely with each other, but Class VIII boys and girls feel hesitation while interacting. Author first tried to change their sitting arrangements but this did not work because children got more conscious. Not to make it obvious, author made heterogeneous groups when students were performing activities, which to certain extent helped in making gender inclusive classroom, because students were

Class	Number of girls	Number of boys	Total
VI	13	08	21
VII	09	10	19
VIII	10	08	18

so engrossed in their work that it did not matter to them whether they are working with boys or girls. Now students were freely interacting with each other and it was not difficult for author to rotate their seats and they were quite friendly with each other irrespective of their gender. Most of the time students communicate with each other and with the staff in Hindi (local language), but in between they do use certain sentences in English such as 'May I have water please?; 'May I go to toilet please'?, 'May I come in?' etc. They feel proud and happy when they speak such sentences in English. These phrases are also encouraged by teachers.

Inclusive Classroom

In Class VI, one can find an actual inclusive classroom. All students regardless of their ability level are included in mainstream and taught as equals. However, teachers are not trained to adjust the curriculum and methodologies in a manner so that all students can be benefitted. Most of the students in Class VI are from disadvantaged groups. There are two special girls, Priya with mental disability and Neelam, partially visually impaired. In the classroom these girls are being taught and assessed as other students. Author could see that teachers have not designed any alternate activities and strategies for these girls. However, author planned special strategy for these girls. One example is highlighted here

The first thing author did was to make these girls sit in the front row. While dealing on chapter 'Sorting Materials into Groups', author told students to look and collect things which can float or sink in water. Students went out and collected different materials such as green grass, pieces of stones, marble, petals of flower, soil, small pieces of wood. They filled half a glass tumbler with water and started putting these materials one by one in water. Author told them to record their observations in their notebooks. Including these two girls they all noted down their observations. Author wrote one question on the blackboard related to this concept."Hypothesise/ guess which among these materials float or sink in water: a piece of chalk, hair, dry grass, a piece of cotton, iron nail."Author wanted them to hypothesise first and then confirm by doing the activity and see whether they could hypothesise correctly or not. To author's surprise when she checked Priya's notebook, Priya has written things as floating or sinking which she has tried earlier herself. Author could observe that she is not able to hypothesise. Author told her to get half a glass of water and try these materials one by one whether they float or sink. Priya tried and could write her observations. Author assessed her on this particular task.

Neelam is academically quite good. Her only problem is that she would go very close to the blackboard to

read. Author noticed this and started writing on the blackboard with bigger font size. Most of the time author tried to communicate orally whatever she used to write on the blackboard. These were Simple steps, but they actually worked. Both these girls are good at drawing. Neelam is quite good at clay modeling. She gifted a clay idol of

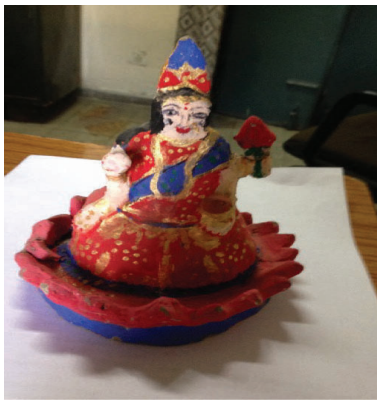

Fig. 9 Clay idol of Goddess

Goddess to the author (Figure 9).

School Uniform

Girls wear *salwar, kameez* and *dupatta* (local dress) whereas boys wear pant and shirt (Figure 10). Girls tie their hair with red ribbon. Trouser and *salwar* are blue in colour whereas shirt and *kameez* are having brown and blue checks. They wear blue socks and black shoes.

Earlier all the girls and Scheduled Caste (SC) and Scheduled Tribe (ST) boys were provided free uniforms, but now all the students get free summer and winter uniforms. In winter they also get a blue colour sweater. For this purpose the school gets ₹ 800/- per student per year. Apart from this, books are provided free to the students. In addition ₹ 100 and ₹ 150 are given to each student for stationery items and school bags respectively.

Fig. 10 Girls and boys in uniform

Parent-Teacher Meet (PTM)

Parent-teacher meeting is held four times in a year. During these meetings, teachers discuss issues related to the students with their parents/ guardians. Many of the parents/ guardians do not take these meetings seriously because of their work related engagements, as most of them are daily wagers. Whenever, they come at their convenience, teachers entertain them patiently and positively.

There is a committee called School Management Committee (SMC) which includes members from the village, teachers and students.

Role of School Management Committee (SMC)

A bank account has been opened in the name of SMC.

Funds from this account are spent for school welfare in the presence of SMC members. A meeting of SMC is held every month in the school. The responsibility of the welfare activities of the school lies with SMC such as admission of students, their presence, mid-day meal etc. They are also required to monitor that the teachers should not be burdened with extra work which is non-academic in nature.

For 300 students, total members of the committee are 12.

It constitutes 50 per cent women, one member from SC community. (75 per cent of the members including president and vice president should be parents/guardians of the children. Remaining 25 per cent members will comprise of member of *Gram Panchayat*, one teacher and one student representative).

Vacations

Summer vacations are in the month of June and a short break for ten days in April. Winter vacations for ten days are given in January. Holiday homework is given to keep students engaged. This homework is checked by the respective subject teachers when school reopens.

Examination System

At present the academic year is divided into two semesters. During each semester, two unit tests and one final semester examination is held and also one project in each subject is given. For unit tests and semester examinations, students are seated on the floor of the corridor with suitable distance between them. The duration of one unit test is of 45 minutes and that of semester examination is 1 hour and 30 minutes for each subject.

In the academic year 2012-2013, the school was provided with booklets regarding Continuous and Comprehensive Evaluation (CCE) from state government. Each of the booklets had to be filled for individual students. Teachers were trying to understand the CCE. They were not familiar with CCE.

Earlier there used to be Board Examination for Class VIII. However, it not held now, and due to 'No Detention Policy', the examination of Class VIII is held at school level. The teachers feel that the board examination scheme was better because due to the fear of board examination, students used to be more disciplined in academics. They also feel that students are evaluated in a better way when they face board examination because the question papers are being set from an external agency which used to bring students at par with students of other schools.

Continuous and Compressive Package developed by NCERT in Science and Mathematics was provided to teachers for field testing. According to the teachers, this approach can only be followed if the duration of each period is either increased or syllabus is reduced.

Classroom Observations

The teacher uses only chalk and blackboard, a traditional method of teaching. Students are learning within

four walls of the classroom. Usually teacher writes questions and answers on the blackboard and students simply copy them or sometimes students mark the answers of the questions in the textbook. No discussion takes place among students or with teacher, even though teacher-student ratio is 1:20, very ideal. It is sadly, totally a teacher- centric classroom.

Conclusions

- Teachers and students use raw bore-well water for drinking; this needs attention to ensure safe drinking water.
- In summers, most of the time there is no electricity and classrooms are dark; it needs improvement.
- There should be one library period everyday so that students can have easy access to books which are kept in a cupboard under lock and key.
- Teachers are not at all comfortable in using Science and Mathematics kits. They need massive training for using these Kits.
- There is gender discrimination in the class by children. It needs attention. It is suggested that in the primary classes children should be encouraged to sit and work in heterogeneous groups so that they will not find it awkward in higher classes and will have respect for each other as adults.
- Teachers are usually following the traditional method of teaching. They are not at all familiar with the child-centric teaching. The present textbooks of Science for Classes VI, VII and VIII recommend a pedagogy that is hands-on and inquiry based. However, teachers were following the teacher-centric approach in the classroom even though teacher-pupil ratio is quite ideal (1:20).
- Teachers are not familiar with Continuous and Compressive Evaluation (CCE). Teachers need orientation regarding CCE.

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