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## Homi Bhabha Centre for Science Education Small Science Curriculum

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*Small Science, Interaction Meeting at A. K. Joshi School, Thane on 24th February 2016.*

- Members from School: Mrs. Dongargaonkar, and 12 primary teachers.
- Members from HBCSE: Prof. Jayashree Ramadas, Meena Kharatmal, Shubhada Chavan.

Towards follow-up of Small Science implementation or reference use in schools, HBCSE organized an interaction meeting with the school principal and teachers. The objective of the meeting was to know for how many years the school was using the Small Science books, their experiences of using them, and if they have stopped what were the reasons.

**School at a glance:** Its a well known English Medium school located in Thane. Established in the year 1974, it has classes from 1st std to 12th std. Its primary section includes 3 divisions per class. The school was introduced to Small Science Curriculum in the year 2004. During implementation, the principal and teachers visited HBCSE to known more about the Small Science Curriculum. HBCSE also conducted a workshop for teachers and a parents' meeting in April 2009.

**Previous follow-up:** In 2008, Ms. Aswathy Raveendran, then Research Scholar at HBCSE, observed some lessons on the use of Small Science, as part of her pre-Ph.D. field work. She wrote her observations in a blog (see "Reports from A. K. Joshi School" at <http://coglab.hbcse.tifr.res.in/view-from-classroom>).

Up til year 2013, the school was using Small Science books in its primary section. Later, when the Maharashtra government changed the textbooks into EVS (combining science and social studies) in 2013, the school had to follow the government textbooks. However, the science topics in the EVS textbooks were taught using the Small Science books are still used as reference for conducting activities and making worksheets. Currently, Mrs. Parveen & Mrs. Anupama are the in-charge of EVS.

***Experiences shared by the principal and school teachers:***

**Mrs. Dongargaonkar:** They started using Small Science Curriculum in the year 2004 & continued using it till the year 2013 i.e. for almost 10 years. The school used it for 1st and 2nd std as a reference material, while for 3rd and 4th std. they used the text and workbooks. The reason of stopping was that Government introduced EVS books & made it compulsory to use. But they still

use it as a reference material. The class used to be little bit noisy while performing the Small Science activities but teachers and students both enjoyed it. Few years back, a representative person from the government visited the school to discuss the Small Science curriculum. The person was suggested to observe the Small Science class and was impressed by the involvement of students. As principal, she is going to retire this year, but emphasized she would continue using Small Science books as a reference for students' benefits.

**Mrs. Parveen:** Students' thinking level was raised through Small Science books. Each and every sphere of life they were using the idea of observation. As the Curriculum is activity based, students used to perform activity, observe it, analyze, predict results.

**Mrs. Anupama:** They learn through observation, so the learning was permanent & long lasting. The students still follow this learning to think and write.

***Any lasting changes:***

Two Students later in IX std. won prize in the China Adolescents Science and Technology Innovation Contests. They learn to express freely, everybody expressed it in their own way and there were different aspects to each answer.

***Using Small Science books in the current situation:***

The teachers conduct a few activities from Small Science books to teach the Government prescribed textbooks. The Small Science book is always used with activities. The teachers conduct at least 2-3 activities per lesson. Some of the topics where the Small Science books were used were, our teeth, digestive system, water purification, soil, properties of air, water. Now the teachers perform the activity and ask children to do it at home and try it in new patterns. The Small Science books taught the teachers to do experiments. The ideas like invite birds, birds station were found to be useful in current times.

***Impressions on workbooks:***

The teachers mentioned that most students could write well and complete the workbooks. When some students found the writing to be difficult, they could express themselves orally. The questions were good, and helped the teachers somewhere. As teachers they emphasized that they learnt a lot and had tried to get students to complete workbooks. However it was also mentioned that some of the students were copying the textbooks in order to complete the writing. At this point, Prof. Jayashree Ramadas, intervened that the objective of the workbook was not to copy down, but was to think and express.

***Suggestions from teachers:***

Small Science textbooks are not coloured. But when the teachers allowed the students to color then they enjoyed coloring pictures. The Small Science approach, since is 15 years old, needs to be updated with the current context and environmental issues, for example, to thinking why we do not see sparrows more often now, why do we see panthers in the city roaming on roads sometimes, what are the hazards of mobile towers, etc.

The teachers showed us the worksheets that they have prepared with help from Small Science workbooks and also from other private textbooks. The school will continue to use Small Science books for preparing worksheets and conducting activities in the classroom.

***Report prepared by: Meena Kharatmal & Shubhada Chawan***

***March, 2016.***