



Time for fresh methods in science communication

Kathan Kothari
Manthan Educational Programme Society

Manthan Educational Programme Society (India) is a not-for-profit organization focused on instilling fresh methods of science communication among students and communities at large in India. We strive to apply innovatively planned and designed strategies in our projects with professional trainings and hands-on outreach material. We strongly believe that 'To be understood, Science must be an Experience.'

Through low-cost hands-on science activity kits, we try to explain scientific concepts to the community and students in a simple and playful manner. The concept of the kit focuses on the idea of a small science museum on different subjects at every home, where children can fold, cut, tear and make several interesting toys and activities related to science and understand different subjects.

The Journey

In a journey of almost three decades, Manthan has been involved with many different students, children and community members across the country and also has developed material for several hundred thousands of students on the national level. Over the course of this journey, we observed children playing and making different toys. We observed that many of them were science toys. These toys were made variously from paper, from wood and some even from clay and other materials. Some toys were made by village porters and some by the children themselves. It was observed that several of such toys involved scientific principles. We were inspired by such simple ideas and toys to develop low-cost toys. Several simple low-cost toys were developed and were initially used for explaining science to students.

In 1989, All India Radio and NCSTC, Department of Science and Technology, Government of India decided to launch a Mass Science Awareness Programme for Children in the form of a Science Radio Serial. It was planned that along with the radio series, children should get some material as a present related to the subject. Manthan was given the responsibility to develop some ideas related to the project.



Manthan, with NCSTC, developed simple science kits and activities that would help students understand different concepts related to specific subjects. Topics included: Evolution of Humans, Human Civilization, Healing Touch, Energy, Man in Space, Cradle of Life, Choices Before Us, etc.

In developing the activities of the science kits the following points were kept in mind:

- Low cost
- Eco-friendly
- Hands-on
- Interactive
- Easy to mail (post)
- Subject specific
- Easy to understand
- Idea catalyzing

Several kits on similar subjects were developed and reached several distant villages of the country. The kits were sent to registered broadcast listeners. The material was sent to the doorsteps of the registered listeners. Each kit consisted of 12 to 15 small science activities. Children listened to the Science Radio Programme and performed the Science Activities.

On realizing the very need and potential of generating scientific interest using such hands-on science material, Manthan has designed, introduced and co-produced several other 'hands-on kits' on scientific subjects like Astronomy, Solar Eclipse, Transit of Venus, Earthquakes, Modern Physics, Biodiversity, Understanding Miracles, Adolescence, Health, Energy, Sanitation, Women and Child, Women Reproductive System, etc.



The hands-on activity kits have simple, portable activity material, directly available for investigation by students. The approach is to generate curiosity and knowledge while playing with the material. Children instinctively employ the materials to make sense of the world around them by actively engaging in the manipulation of everyday objects and self-explanatory materials from the real world. The hands-on material developed by Manthan is intended primarily for use at the community level and is developed in such a way that it can be adapted for different regions and translated into vernacular languages.

Such small, interactive science material gave birth to several community science toys. The ideas were made mobile and reached interior villages. Projects like mobile science outreach on camel cart exhibitions, mobile science exhibitions, street science plays, school outreach, etc. For us the shelter of a tree was our stage. Children and community members are attracted by our activities and inspired by them.

We are still learning

Our Manthan journey has yielded great experiences and produced a good deal of learning which we have been sharing with friends not only in India but through participation in conferences and projects across the world.

Children and community members are our best teachers; we must learn from them. Many of our project ideas have evolved while talking to them and our aim is to make these ideas reach millions of children and community members across the world. It is always a joyous challenge to develop communication strategies adaptable for all categories of communities. And thus Manthan is now working on spreading the idea of Global Learning 'Global + Local' where we are continuously learning from the global community, technology and network institutions and spreading the global learning to rural, tribal and urban regions across the country, through the models of Mobile Science Vans, Mobile Science Exhibitions, Outreach Material and Science Centres. Conversely, we are also working at capturing the local knowledge in villages and rural areas and converting it into hands-on activities that we can spread across the world.



'Manthan' means to 'Churn' to get the best results. At Manthan, we are 'Churning Ideas for Better Learning'.

Kathan A. Kothari has worked with Manthan Educational Programme Society, India as an Outreach Coordinator and Social Designer since 2007. He graduated from The National Institute of Design, India as a visual communicator and took up further work in the field of Science Communication and Social Design using his skills of design and communication. His interest in learning science and his education in visual communication keeps him involved with Manthan, where he focuses on designing science-based mass communication material, hands-on science activity material, hands-on science exhibitions, while developing outreach projects and handling project coordination. He has written several research papers and presented on science communication, entrepreneurship and empowerment on national and international platforms.

Disclaimer

The views and opinions expressed in this article are those of the author(s) and do not necessarily reflect the official policy or position of GAPS.