Summary of the RAA initiative taken from IIT Guwahati so far

The Rashtriya Avishkar Abhiyaan (RAA) is a a pilot initiative of MHRD, Govt. of India that has the vision of enabling students to think beyond the boundaries of the class rooms and develop a passion for learning. The focus is to make learning and practicing of Science and Mathematics a fun filled activity. On a parallel ground, it laid the emphasis on integrating innovation and use of technologies into learning in schools.

As per our original plans of adopting a few Govt. run schools, we have adopted a few schools in the vicinity of our IIT Guwahati Campus and also a few within a few tens of km away. We started our journey in November, 2015 with a few of us visiting a few schools in North Guwahati and KV, IIT Guwahati.

A first round of inspection revealed that there is an urgent need for developing the infrastructure after talking to the Heads of these schools with a view to assess the scope and prospects of carrying out the activities laid down in the vision documents of RAA. For example, a long discussion with the Headmistress and few other senior teachers of the North Guwahati school for Girls (where incidentally a number of underprivileged children of the Shishugram (a school run by NGO) also study there) revealed that there is an urgent need for arranging the Science lab which at present is lying unused and the scientific instruments that have been received from RMSA are still unpacked. With the aid of a few NSS volunteers, we had unpacked, installed and demonstrated the usage to the students and teachers of the schools.

Similar scenario is found to exist in the computer labs. Following a request to take a look at the computers, a visit to the computer lab revealed that the computers have not been switched on for the last 6 months. Further a few of the machines did not get switched on by the preliminary attempts made by us. We felt that minor intervention from our part can set things right in the computer lab. Again, in association with a few NSS volunteers, we plan to resurrect the non-functional computer lab. Further to set activities rolling in the computer lab, we conducted a basic computer course for the school children and the interested teachers.

Similar activities have also been carried in the North Guwahati Boys' school and another school in the neighbouring area called '***Shankardev Sishu Niketan***' which is a private school and an initiave of an individual. It is unlike a typical private school and caters to children from a varied social and economic background. The school has been doing very well. A number of children from the school have been invited to the science labs at IIT Guwahati and given hands on training on a number of interesting experiments and lab based activities.

Besides a proposal for building activity based Mathematics learning has been drawn for the schools. A mathematics lab is proposed to be set up in KV, IITG. Work is in progress to accomplish such a venture.

We also plan to conduct frequent interaction with the students and teachers of the schools and organize various events that impart hands-on training to different science subjects.

We have also conducted a drawing competition for smaller children (Class 1-5) and a Science quiz for classes VI-XII on April 2nd, 2016. Besides, on the same day there was a demonstration of toy models of helicopters and automobiles were shown to the students from the Boys' and Girls' school.

There are plans to carry forward these activities. A few of the immediate tasks undertaken are:

(i) **Adoption of some more schools:** Schools in neighbouring districts are proposed to be adopted and children from lower classes such as class VIth onwards can be involved for some RAA activities.

(ii) **Popularizing Science through media** On experimental basis to popularize Science and Mathematics among school children is to use the open source to propagate a teaching learning methodology. The free videos (mainly from you tube) for the relevant topics which are found to be conceptually difficult to understand will be downloaded from the internet.

The audios/commentary (which usually accompany along with these videos) will be muted and replace with local languages for the benefit of the students from vernacular medium govt schools. The plan is to demonstrate these videos in trips to schools, science fares, quiz competitions etc.

(iii) **Talent development and Resource generation** Further, the SSA/RMSA may arrange some training programmes for the B.Sc. graduates with moderate credentials but aspiring to pursue careers in science can be trained by higher learning institutes, such the IITs etc. on different subjects on Science and Mathematics and hence they can be sent to different schools for part-time classes/lectures/lab activities etc. A suitable honorarium should be given to these graduates for each demonstration/session in the schools. This will motivate more and more people to follow up their career in science, and in general in academics.

Saurabh Basu
Professor of Physics & Nodal Officer, RAA
IIT Guwahati
Guwahati