

Swami Vivekananda Youth Movement

Vignyana Vahini

Annual Report 2010 - 11

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Vignyana Vahini

Aim

To improve the scientific temperament among the students in H D Kote taluk.

Objectives

- To improve knowledge and create effective participation of 8th, 9th and 10th standard students in the Science syllabus through demonstration and experiment modules.
- To empower the government and private schools to utilize the existing resources to provide quality Science education to their students.
- To create a platform to enhance the students' creativity and their interest in the relevance of Science in daily life.
- To identify meritorious students from SSLC exams and provide appropriate linkages for their higher studies.

Strategy

The main strategy of Vignana Vahini is to utilize the knowledge and skills of the Government teachers to enhance the understanding of Science among the students. Vignana Vahini supports the teachers by providing them with the necessary raw materials and equipment to demonstrate and facilitate experiential learning.

Activities

School Visits

- Vignyana Vahini has been working with 19 schools this year (initial plan was to work with 23 schools). The decision to decrease the number of schools has been taken by the committee containing the teachers from the participating schools. Instead of the 4 schools which have been dropped out, the committee has chosen 4 schools from the 19 which have a huge number of students. The Vignyana Vahini would be visiting these schools twice a month.
- The year 2010 – 2011 saw new energy in the Vignyana Vahini activities. The main success for the activities this year has been the interest and commitment shown by the teachers from the Government schools. The human resource challenges of last year have been addressed to some extent by the participation of the teachers.
- In addition to these schools, we have also got requests from few Higher Primary Schools of H D Kote taluk and High Schools of Hunsur and Nanjangud taluks. It makes us happy to know that schools from outside the taluk have also felt the need for the Vignyana Vahini. We plan to visit these schools during the last quarter of the year (Jan – Mar 2011).
- In few schools, Vignyana Vahini visits have become a part of the planning and curriculum. In these schools, the teachers have taken up the complete responsibility for the smooth functioning of the programme.
- The support of the other subject teachers and the Head Master of the school play a crucial role in the success of the programme. In few of the schools, the other teachers are not ready to allocate their periods to the Vignyana Vahini during the monthly visits and the team would be standing idle. Such incidents continue to be a challenge in at least a couple of schools.

Science Calendar

The **Science Calendar** was an addition this year to the activities of the Vignyana Vahini and possibly the most liked by the students. The Science Calendar is a compilation of varied events on dates of historical significance to Science. On each of those days, we conduct a competition, a talk or an awareness programme related to that day.

S.No	Events – Date wise	
1	5 June	World Environment Day
2	20 July	Sky watch
3	6 Aug	Hiroshima Day
4	15 Aug	Independence Day
5	22 Aug	Pi day
6	5 Sep	Teacher's Day
7	15 Sep	Engineer's Day
8	28 Sep	Human body and medicine quiz
9	12 Oct	Columbus day
10	22 Oct	Indian Space Programme
11	10 Nov	World Science Day
12	14 Nov	Children's Day
13	30 Nov	Flora and fauna quiz
14	17 Dec	Want to fly day
15	22 Dec	Young mathematician hunt
16	2 Jan	Science fiction contest
17	14 Jan	Agriculture day
18	5 Feb	On the shoulders of the giants
19	28 Feb	National Science day

The response to these events has been mixed from the schools. On one hand, though the students are happy to be participating in the events, the school teachers feel that there are far too many events. Given below are the details of some of the competitions. The other events have either been postponed to be conducted during the Vignyana Mela or had to be cancelled due to unavoidable reasons.

World Environment Day

World Environment Day (WED) is aimed to spread awareness about the environmental issues and bring in positive action. WED is celebrated every year on 5th June. WED 2010 was celebrated with the theme "**Many Species. One Planet. One Future.**"

As a part of the activities for this day, Vignyana Vahini organized painting and slogan-writing competitions for the students of High Schools and Higher Primary Schools. The topics for the competitions were deforestation, global warming, plastic free world, project tiger, wildlife in H D Kote, and our world in 2050. More than 300 students participated in the competitions. This event was also listed in the activities around the world of UNEP.

Slogan writing competitions were also conducted for the staff of SVYM. 46 people participated and 145 slogans were written.

Engineer's Day



MANY SPECIES • ONE PLANET • ONE FUTURE
WORLD ENVIRONMENT DAY • 5 JUNE 2010



United Nations Environment Programme



Engineer's Day is observed every year on September 15th. This day is the birthday of Bharat Ratna M Visvesvarayya, an eminent engineer who was known for water harnessing projects in India. Engineer's Day 2010 was celebrated to commemorate the 150th birth anniversary of this genius. On this day, a competition was conducted to highlight the different aspects of engineering. The participants were asked to design a cake box, estimate the size of a room, calculate the volume of an object, draw the front view of an object and explain the characteristics of the engine of a Pulsar (a 4-stroke bike) among several other questions. The participants were excited about participating in an event, which according to them was unique.

World Ozone Day

September 16th of every year is observed as the "**International Day for the Preservation of the Ozone Layer**". This day was celebrated by organizing an awareness talk at Viveka School of Excellence. The talk was on the theme "**Ozone: How it works and protects**". The talk was given by Mr. Praveen Kumar.

Columbus Day

Christopher Columbus is perhaps the most famous explorer the world ever knew. He is known for discovering the Americas (when he was in search of Asia) on 12th October 1492. His attitude to explore more is indeed an attitude we have to inculcate in every child. As a part of our celebrations of the Columbus Day, the participants were divided into teams of two. Each team was given a map of a village along with a set of tasks they had to do. Each of the teams had to carefully read the map and follow the directions given. The teams participated very enthusiastically and had finished all the required tasks on time.

Meetings & Training Programmes

Strategy meeting

On 8th May 2010 a Strategy meeting was conducted at Viveka School of Excellence, Saragur. The meeting was attended by Vignyana Vahini team, interested teachers of VSOE and employees of SVYM along with Dr. M A Balasubramanya, CEO of SVYM. The aim of the meeting was to chalk out a strategy for the operational issues of Vignyana Vahini.

The discussions of the meeting included increasing the number of schools to 23 (which was later reduced), implementation of the Science Calendar and formation of a monitoring team to evaluate the activities and suggest necessary changes on a regular basis. The meeting ended with a note that we involve Government school teachers in all the future meetings and involve them in the decision making process.

Teachers' meeting

The first Teachers' meeting of the academic year was conducted on 25th June 2010 at Viveka School of Excellence, Saragur. This meeting was attended by teachers from 15 schools. After a brief presentation about SVYM and the activities and achievements of Vignyana Vahini in 2009 – 10, the meeting began with a discussion on the proposed agenda.

A Programme Monitoring Committee (PMC) consisting of 7 teachers was formed to maintain the quality of the activities of the Vignyana Vahini. The members of the PMC would be representing the schools in their areas and would be taking stock of the activities there. The participants then discussed about the operational challenges, especially catering to schools where there are multiple sections. It was then decided that the number of schools covered be reduced to 19 and the number of visits to 4 schools (GJC Hommaragalli, GHS Thumbasoge, GHS M C Tholalu and GHS Mullur) be doubled. It was also decided that whenever possible the students of 4 nearby schools (GGHS Saragur, GHS Mullur, GHS Thumbasoge and GHS Dadadahalli) would be brought to VSOE to use the laboratory facilities.

In order to make the visits to schools more effective, the teachers agreed to inform the Vignyana Vahini team prior to the visit and the sessions during the visit would be customized as per the needs. This would make the sessions more effective. Each session would be followed a quiz or a test to understand the performance of the students and necessary revision would be done. The teachers also requested for the setting up of mini libraries in 4 centres. It was then decided that the libraries would be set up in stages starting with the a few books in the Vignyana Vahini. The teachers also expressed their happiness and support towards the implementation of the Science Calendar.

The meeting closed with a talk by Dr. M R Seetharam, President, SVYM. He urged the teachers to continue the good work and promised all possible support from SVYM.

Workshop on “Improving Quality of Learning”

This one day workshop was organized on 3rd November 2010, with the aim of creating a platform for all Government school teachers and Head Masters to interact and chalk out a strategy to improve the quality of learning with importance given to Science. The workshop was conducted with the support of Premavidya (premavidya.svym.org), an SVYM initiative based in Bangalore which is working with Government schools in Bangalore to improve the SSLC pass percentage.

Dr. (Flt Lt.) M A Balasubramanya explained the theme and the importance of the workshop. Mentioning the essential components for the learning process, student, teacher, parents, environment and resources, he stressed that it was important for us to look at how we could contribute to improving these.

Mr. Lingaraju, Science Teacher, Government High School Madapura shared his experiences as a teacher. He talked in detail about the academic scenario and the problems faced by the teachers while striving for the desired results. He also stressed on the importance of language in learning other subjects and the usage of Science labs to improve the understanding of students. He also felt that the involvement of the parents (especially the mother) in the child’s education could help the students.

Mr. Murali explained the work done by Premavidya in the Government Schools in Bangalore. All the teachers then participated in a discussion on what could be the reasons for the present results and how it could be improved. Mr. Murali particularly stressed on 2 issues – conceptual clarity and giving a SSLC certificate to every student. In this regard, he suggested a few strategies which could be used to analyze and understand the trend

of the results in the examinations. In the discussions that followed, teachers agreed to do the analysis of the results and that Vignyana Vahini would be providing them the worksheets (prepared by Premavidya) depending on the plans submitted by the teachers.

Mr. Praveen of Vignyana Vahini then expressed his concern on the falling number of students taking up Science in PUC and even fewer passing it. He presented the details and observations of the pilot survey done in this regard. The details are provided later in this report.

The last session, perhaps the most important of all, was moderated by Mr. Lingaraju on the topic "Improving the quality of Science learning". Teachers discussed about the ways of optimization of usage of available resources and improvement in teaching methodologies – bringing in day to day examples into classrooms. The teachers also discussed about resuming the activities of the Science club in all the schools. One of the issues they had raised was that about mobilizing resources for running the clubs. The teachers also mentioned about organizing exposure visits to Science museums for the benefit of the students. The teachers requested for a workshop on *preparing working models* and few content orientation sessions for clearing the conceptual doubts. The Vignyana Vahini team responded positively for the same.

The workshop ended on a positive note with everyone promising to take the initiative forward and do what they can for the improvement of quality of learning in the taluk.

Workshop on "Improving Science Teaching"

The workshop on "Improving Science Teaching" was conducted on November 13th & 14th, 2010 under the Sarva Shikshana Abhiyan at the H D Kote. The workshop was for the Science teachers working in the Government Higher Primary Schools of this taluk. Vignyana Vahini was invited to this workshop as a resource team to explain and clarify the doubts of teachers on several topics of Science.

86 teachers attended this workshop and interacted with the Vignyana Vahini team for over 5 hours. Activities to be done in the class from various parts of the syllabus were explained and demonstrated using the equipment of the Vignyana Vahini. The teachers were eager to know more about the functioning and usage of a telescope and microscope. They were later provided a hands-on experience on the same.

This workshop was a significant milestone in the activities of Vignyana Vahini. It was the first time we have been invited by the teachers for such a workshop as a resource team.

Workshop on "Improving SSLC pass percentage"

The workshop on "Improving SSLC pass percentage" was hosted by Vignyana Vahini, from 1st to 7th December, 2010. This workshop was organized by the Block Education Officer and District Institute for Education and Training (DIET), Mysore. The workshop was conducted at Viveka School of Excellence, Saragur. On each day, one subject was taken and resource persons from DIET had addressed the gathering. School teachers from H D Kote and Hunsur taluk attended this workshop. This workshop was very well received by the teachers as each

teacher's performance is measured by SSLC pass percentage they have been able to produce. The average attendance was 65.

This workshop was a chance to exhibit the work done by Vignyana Vahini. Following this workshop, there have been requests from various schools to support them with for the worksheets and other teaching aids.

Strategy meeting for improving SSLC pass percentage

Vignyana Vahini team was invited to participate in the Strategy meeting for improving the SSLC pass percentage in the taluk. The meeting was organized by the BEO. The meeting was attended by all the Head Masters of the High Schools. The meeting discussed the suggestions given by the speakers in the earlier workshop. One of the decisions taken during the meeting was to organize 3 more Preparatory Exams to help the students practice more under the examination conditions. Vignyana Vahini has taken the responsibility to coordinate and support the preparation of the question papers for the preparatory exams.

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New Additions

As a part of our activities this year, we have been able to bring in several new additions. While most of these have been planned, a few of them have been added to meet the requirements. The details of the important additions are given below.

Worksheets & Preparatory Exams

The addition of worksheets has brought in a new dimension to the Vignyana Vahini. With these efforts, we are now able to understand the students' understanding and performance better. Based on the performance in these worksheets we encourage teachers to take up the revision.

These worksheets have been prepared by Premavidya and are based on the questions asked in the last years of SSLC examinations. A major share of the questions in SSLC every year is a repetition from earlier years. In all, 20 worksheets on 16 chapters were distributed to about 2000 students in 23 schools. While few schools which have not been covered under the Vignyana Vahini have shown the interest to conduct the worksheets, there have also been schools covered under the Vignyana Vahini which didn't want to conduct the worksheets.

The Preparatory Exams is a new initiative taken by the BEO and the Head Masters' Association to improve the pass percentage in this taluk.

Mobile Library

The addition of books to the Vignyana Vahini has been asked for by the teachers. It was suggested that we set up 4 mini-libraries at schools which are easily accessible for all the teachers. To start with we have included books in the vehicle itself. The mobile Science lab now has 44 books along with several CDs & DVDs which can be used by the teachers and any interested students as well.

At the present level, the library is not very student friendly and the usage by students is very limited. The selection of the books was done by the teachers themselves.

Science clubs

Science clubs play a crucial role in letting the children explore beyond their textbooks. They give them an opportunity to try new things, showcase their talents and at the same time a chance to gain more knowledge. We have been pushing for the setting up of Science clubs in each school and have been successful in a few schools. The activities of the Science clubs range from conducting painting competitions to organizing talks on menstrual hygiene and HIV-AIDS.

In all the schools where the Science clubs have been started, the teachers have taken the complete responsibility. It has been our observation that the activeness of Science clubs depends on the interest and the available time of the individual teachers. We are encouraging now the students to take up the responsibility and take it forward.

Mid-term result analysis

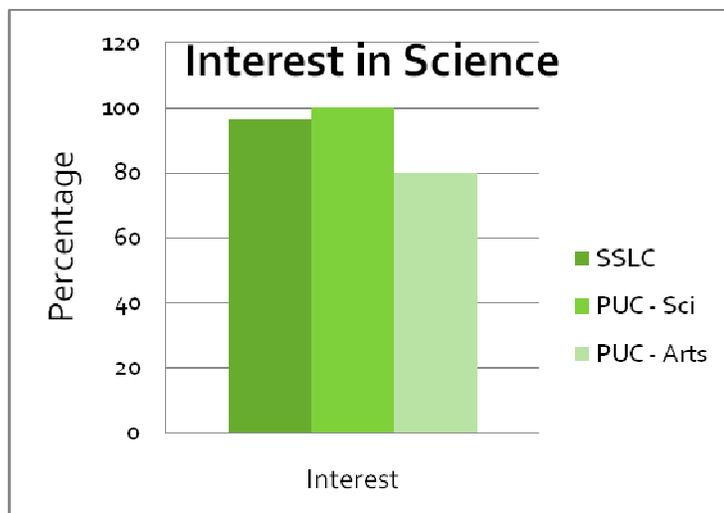
This is a result of the workshop on "Improving the Quality of Learning". The Mid-term result analysis as the name suggests is a detailed analysis of the performance of the students in the Mid-term examinations. This analysis would help us get a picture of the students' understanding of the various chapters covered in the first term. Based on this analysis, the teachers will be able to identify the students who are facing problems and also specific areas of the problems faced.

This year the mid-term analysis could only be taken up in GHS M C Tholalu owing to our preparedness and the delayed start of the work.

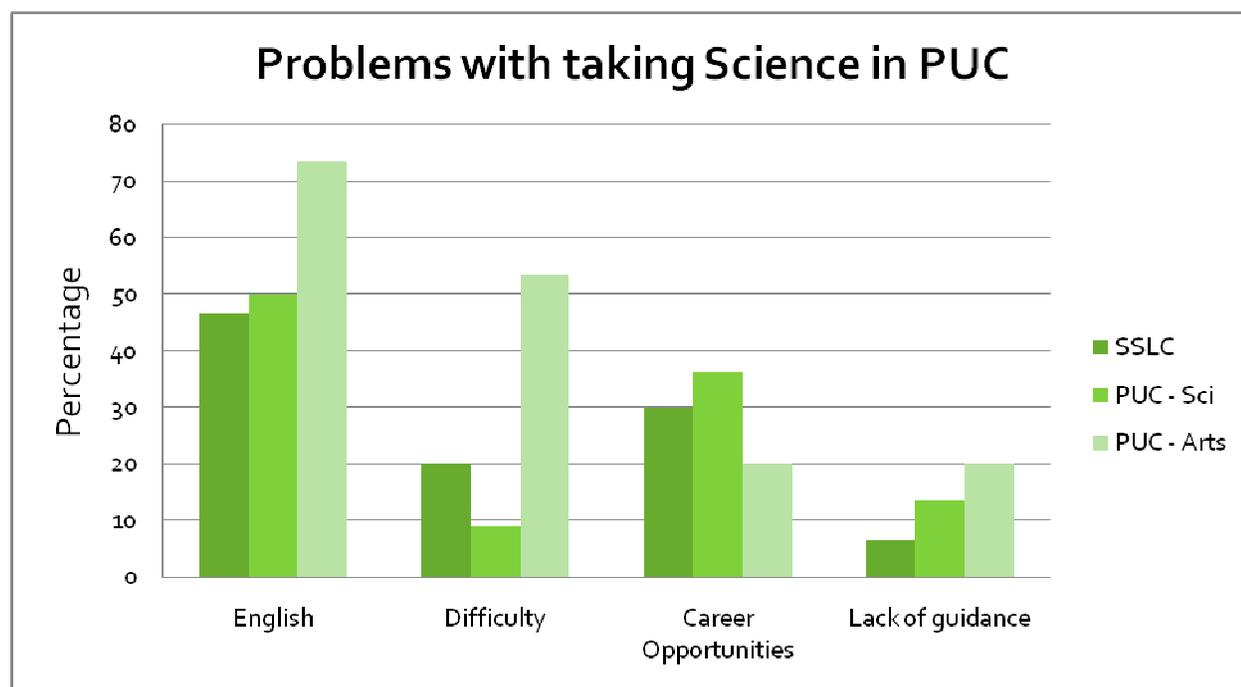
Pilot survey

It has been seen that the number of students taking up Science as their subject in PUC is very low and the pass percentage among the Science students is even lower when compared to the Arts. This observation was puzzling and pushed us into doing a pilot survey on the educational system. We had a questionnaire answered by the students of SSLC, PUC – Arts and PUC – Science. The questionnaire was very generic and the following are the observations.

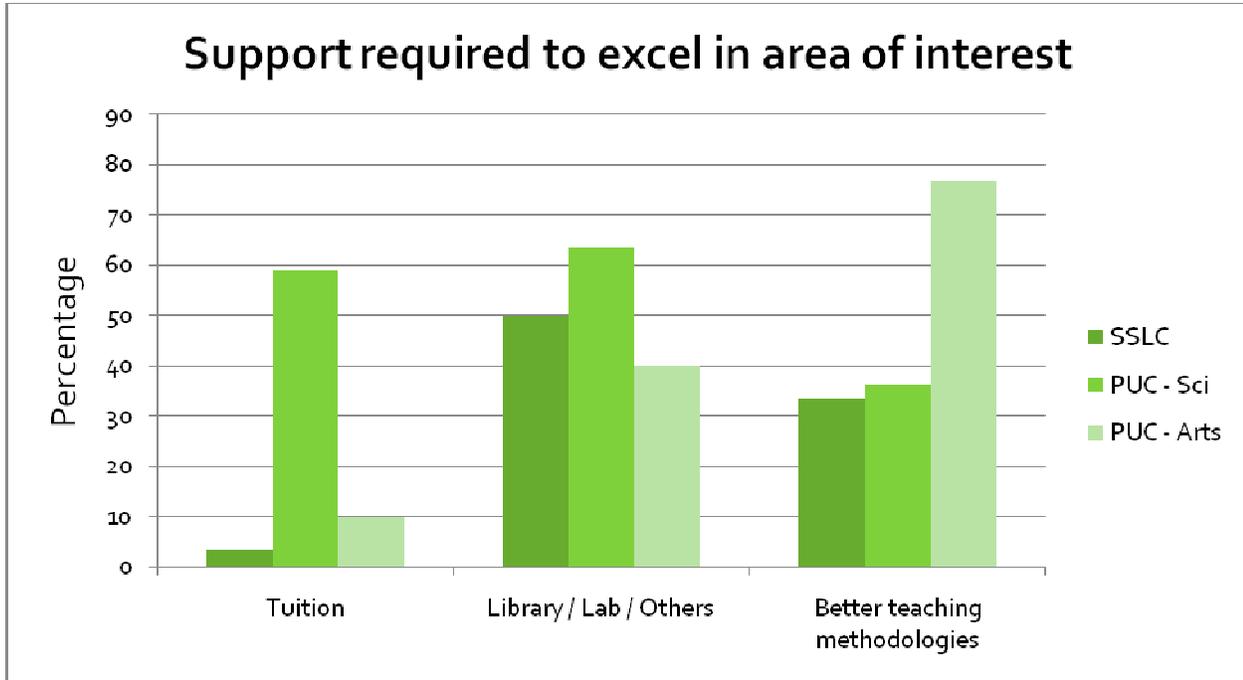
The first part was about the students' interest in Science. It was interesting to know that most students were interested (including the PUC – Arts). Most of the students of PUC – Arts had selected the Arts field though they were interested in Science because they felt it was difficult to pass in Science.



The second part was about the problems they might face or they are facing because they have taken up Science as their subject in PUC. The questionnaire had a set of options for the students to select from.



In the third part of the questionnaire the students were asked to mention what support they would need to excel in their area of interest.



Few of the observations from this survey are following:

- Students interested in Science are not pursuing as they think it is difficult
- English is a challenge.
- Very few students want tuitions
- Most students want Libraries, Laboratories etc.
- Better teaching methodologies have also been asked for.

These have been discussed with the teachers and we feel there is a need to make necessary interventions in High schools to build in confidence and encourage them to take Science in PUC. Though no concrete measure has been taken so far, small discussions and career guidance sessions have been initiated.

Other Programmes

Along with the above mentioned activities, Vignyana Vahini has also supported other activities conducted by other groups.

Notebooks & Stationery distribution for deserving students by Infosys

Infosys Foundation distributed notebooks and stationery to deserving students of this taluk on 3rd July, 2010. In all, 8876 students were identified in the Government schools by the Head Masters. Vignyana Vahini coordinated the programme with the support of the Nairmalya Vahini team. The distribution was conducted at

13 different centres across the taluk with 72 volunteers from Infosys participating to distribute 36664 notebooks, 2251 Geometry boxes, 2287 bags and other stationery.

Science Fair for LPS and HPS at Pura

A Science fair was conducted for Lower Primary and Higher Primary Schools of Hampapura Cluster was conducted at Pura on 22nd September 2010. The Science fair included an exhibition of models and teaching aids prepared by students and teachers. The best part of the programme was the student mart where kids brought vegetables and consumables from home and sold them in the mart. Vignyana Vahini team was invited to be the judges for the Science exhibition.

Awareness programme about Ayurveda

On 12th January 2011 (Vivekananda Jayanthi), the Heritage Club was launched by the Vivekananda Teacher Training & Research Centre. As a part of the programme, Vignyana Vahini helped organize a talk on Ayurveda with the support of the Vivekananda Memorial Hospital, Kenchanahalli. Ayurveda is a traditional system of medicine native to India. It surely is a part of the scientific heritage of India. A talk by Dr. Dennis Chauhan, Ayurvedic doctor was well received. A stall to showcase the ayurvedic remedies was also set up.

Visit to GHS Gurupura

Vignyana Vahini visited Government High School, Gurupura on 25th January 2011. This was the first school visit outside the taluk. This was a new milestone reached as schools from outside the taluk had been reached. More than 340 students benefitted from the programme. Demonstrations on a range of topics given by the teachers were done for all classes. Students who participated well in the discussions and asked interesting questions were appreciated by giving gifts.

Rural Reach Programme

As a part of the Rural Reach Programme (RRP), Infosys tries to spread the awareness about computers and IT in the rural areas. One such programme was organized at HPS Chikkereyuru on 12th February, 2011. 18 volunteers from Infosys participated and Vignyana Vahini coordinated the programme. The programme included a theory class followed by the practical session. The students on classes 5th to 8th participated in the programme. All participants were given also given complimentary gifts.

Challenges

Science Calendar

The full fledged implementation of the Science Calendar has been a challenge. In many schools, the teachers feel that there are too many events and it might be disturbing the regular curriculum. Our efforts to organize the Science Calendar events also suffered with the lack of support from the BEO. Many events had to be postponed to a later date for the same reasons. The Young Mathematician and Young Scientist Contest are being organized along with the National Science Day celebrations.

Science Clubs

It is a difficult task to get the Science clubs going in the schools. The initiation of the Science clubs depends a lot on the interest of the individual teachers. While few teachers are convinced about the importance of such clubs, many teachers have blamed the lack of resources for the failure in starting them. We have extended our support in setting up and in the running of the Science clubs. We also plan to award the best performing Science clubs to 2 schools at the National Science Day celebrations.

Prayoga

Prayoga is a newsletter for the school students with the main theme as Science. Though the idea of the newsletter was well received, it has been very challenging to get the critical mass of articles to get it going. Hence, this newsletter never took off. However, an issue of the same would be distributed after the National Science Day with the articles written by some of the prize winning teams and schools.

Optimal usage of available resources

The optimization of resources is always a challenge. At the end of the academic year, we feel that few of the events and visits could be better planned and the resources better utilized. This especially is the case with the visits of the Vignyana Vahini. Though the plan is shared with the teachers earlier, few times the trips had to be cancelled because of some function or exam in the school or the absence of a teacher. We now understand that the learning of the students is of utmost importance and these hiccups shouldn't stop any of the visits.

At the end of the last academic year, we had planned to utilize the laboratory facilities of VSOE, Saragur. This proposal had mixed responses from teachers. Though initially they agreed for the same in the Teachers' meeting, they later disagreed citing issues raised by the Head Masters and other colleagues. Convincing the teachers of both the GHS and VSOE is a challenge. We feel that involving the other subject teachers also in chalking out a schedule for these visits with appropriate adjustments in the school timetable can make this possible.

Getting the support of the BEO & few teachers

The success of the Vignyana Vahini is in involving the Government teachers in the running of the project. The Government teachers are bound by the directives of the Head Masters and the Block Education Officer. With a new BEO coming in, it was a challenge to convince him to grant permission for the meetings, workshops and competitions. Many-a-times events had to be postponed or cancelled because the BEO didn't grant permission. However, with repeated approaches and explanations we now have his support. Vignyana Vahini hosting a workshop organized by the BEO & DIET has also helped. He now appreciates the quality and commitment of our work.

The visits of Vignyana Vahini are disruptive to the timetable of every school. But a suitable reallocation of periods done by the Head Master would ensure that this problem could be solved. However, in some schools the teachers or the Head Master are not very supportive to the idea of changing the time table. This is a challenge in few schools as the Science teachers have to wait for their period to do the demonstrations and usually don't have enough time to demonstrate everything to be covered in that visit.

Learnings

Importance to a blend of enjoying science and getting results

We have had a greater acceptance among the teachers as compared to the last year. One of the most important reasons has been the importance we have started to give to results also. A Government teacher is ultimately gauged by the results they are able to produce in the SSLC. On one hand a student has to enjoy his studies and on the other a student should be able to pass in his examinations. We now believe that a blend of both is the need of the hour. The inclusion of the worksheets has helped us in this regard. The best sign is that teachers now see the Vignyana Vahini as a support for improving the results while keeping the students interested in their regular classes.

Decisions made by teachers themselves are more relevant

This academic year, the teachers have been involved in the decision making at every stage. This involvement in planning has brought a sense of ownership for all the teachers and the decisions taken have been better followed. In a few schools the teachers have taken the complete responsibility for coordinating the visits and conduct the demonstration sessions without the support of the Vignyana Vahini team.

Newer ideas and events are liked more

We have observed that the excitement and seriousness of the students towards the Vignyana Vahini had slightly fallen in the beginning of the academic year after having seen it every month last year. There was a rejuvenation of their interest with the introduction of the Science Calendar. The students always want something new and something more!

Getting the support of the BEO

We have to get the support and permission of the BEO to conduct any event or have any activity involving the schools. It was a challenge initially. Vignyana Vahini started supporting the events and workshops to be conducted by the BEO and slowly we have observed a positive change. We are now confident that we can work with the BEO and the other people.

Future Plans

Better planning of school visits along with the incorporation of worksheets

As has been indicated earlier, it has been a challenge to plan for the school visits and exactly follow the same. We plan to narrow down the gap between the planning and implementation with respect to the visits of the Vignyana Vahini. We also intend to add newer equipment and resources for the necessary topics in the curriculum. We would also discuss and initiate the exposure visits of students to the computer and Science labs at VSOE.

We also plan to incorporate the worksheets as a part of the regular visits even for the 8th and 9th standards. We also intend to request the schools for the partial financial support of the worksheets at least for the 10th standard students. This would encourage the students and teachers to make better use of the worksheets.

Limited but more effective implementation of Science Calendar

Keeping in mind, the problems faced during this year we intend to decrease the number of events of the Science Calendar and at the same time focus on the effective implementation of the same. Instead of having every competition at an inter-school level, we now plan to have few competitions at the intra-school and few at the inter-school levels.

Setting up and running Science clubs

The setting up of Science clubs still remains a task half done and we aim to complete it in the next year. After the setting up, the next challenge would be to keep the students interested and the Science clubs running. We plan to interact more frequently with the members of the Science clubs and help them organize local events involving the community.

Publication of Prayoga

The publication of Prayoga would be taken more seriously this annum. We are trying to come up with newer ideas to encourage the students and teachers to contribute to the newsletter to get it going. We will also look into the necessities of registering the newsletter with the Government.

Teacher Meetings

The teachers' meetings will be conducted as planned. The Programme Monitoring Committee (PMC) would meet whenever necessary to decide upon the schedules for the Vignyana Vahini, discuss specific requests from the schools if any and monitor the effectiveness of the entire project. The venue for the teachers' meeting would be one of the participating schools.

Conducting Workshops & Training programmes at schools

The Vignyana Vahini team would collect the list of areas in which the teachers and students would like the workshops or training programmes to be conducted and then plan accordingly. The venue for these workshops would also be one of the participating schools. This would bring in more participation from the schools.

Providing library facilities

The process for providing library facilities for the teachers has been initiated by setting up a mini library in the vehicle. We would take this forward by setting up libraries for teachers at the 4 places selected. The teachers from those schools would take responsibility for the maintenance of the same.