

## SIKKIM

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### Abstract

The major challenges of this school were low student performance in science and mathematics, traditional methods of teaching and learning and low learning outcomes in primary section. With teamwork, perseverance, leadership and professional development, the situation was overturned by the school head and her team. The kindergarten was established in 2017 and furnished through CSR activity with an objective to attract children and also to provide a conducive learning environment even for the under privileged. One Class One Teacher system was initiated in the year 2017 for Class I – III where one teacher was assigned to teach one class for the whole session as per their capacity. This has helped to develop a rapport/a relationship of mutual trust, love and respect between the teacher and the students. The school gives Super Mom Award to a mother whose child is always neat and clean, healthy and hygienic, has up-to-date home work. The school has a teacher – parent WhatsApp group where activities conducted and student progress is shared. The areas that the school wants to take up next are professional efficiency of teachers, academic performance of students and infrastructural development like separate Physics, Chemistry and Biology Laboratories.

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### Socio-Cultural Context of the School

Government Senior Secondary School, Rangpo is located at the gateway of Sikkim, between West Bengal & Sikkim (East District). The School was established in the year 1976 and was upgraded to Secondary School in 1978. In 2013, the School was upgraded to Senior Secondary School with Humanities stream. Subsequently, other streams like Science, Commerce and IT was also incorporated in the year 2015.

The School has been marching forward for the past forty two years with the motto "LEAD US TOWARDS LIGHT" and envisions harmonious development of mental, physical and moral aspects in all learners that empowers them to become compassionate, responsible, dedicated and innovative human resource.

Teamwork, perseverance, leadership, professional development sessions by the Principal have been one of the **strengths** in bringing positive changes. Activities like Eco Club, Science Carnival and Social Science week, ability to connect with students on a personal level and supportive SMC.

Presently, total number of students is 897, Teacher strength is 44 and Administrative staff is 8. The School is English medium school. Nepali language is the lingua franca of the community. The students are from a mixed community: Sikkimese Community - 50% and Non-Sikkimese

Community – 50% (*Bihari, Marwari, etc.*). 70% students are from low income group. The parent's chief occupation comprises mostly as factory workers, lower level business, hawkers, drivers, farmers and only 5% hold government jobs.

The two most important aspects/ challenges are as follows:

1. **Poor Performance in Science and Mathematics:** The students' performance in Science and Mathematics subjects was found to be low.

**Background:**

- (i) The record of past 5 years did not show the School's participation in any Inter-school Science events at District Level or State Level, etc.
- (ii) The students were found to have either phobia or not interested in Science and Mathematics subjects.
- (iii) Child-Centric method of teaching was followed by a handful of teachers only.
- (iv) The participation/ involvement of students were less.

The Principal shared the problem with the teachers and decided to conduct child centric activities to arouse the interest of the students and at the same time increase their participation and enhance the performance.

**PLAN:** The School decided to organize **Science Carnival** with the **objective** to provide hands-on experience, to stimulate interest and curiosity, help them explore, so that, they can joyfully learn, understand, and apply the scientific knowledge in real life. It also aims to acquire skills of research using a variety of resources such as the Internet, interviews, books, magazines, etc., to develop skills of interpretation and analysis of data and at the same time to develop communicating skills both verbal and non-verbal (through models, charts and power point presentations). It will help students understand the concept of STEM (Science, Technology, Engineering and Mathematics).

**STRATEGIES:**

- (i) Science and Maths Professional Learning Community (PLC) was formed.
- (ii) Meeting was convened to plan Science Carnival.
- (iii) Science and Maths teachers of Classes I – VIII were instructed to guide students to prepare models and projects as Formative Assessment (FA) activity in a group of 3-5 students. Likewise, teachers of Class IX & X were to guide secondary students as Subject Enriching activity and Class XI & XII Science/IT as Projects/ PPT as per the CBSE norms. After the assessment, the teachers were asked to give one best model each in Maths, Physics, Chemistry and Biology from each class and seminar presentation for IT stream.
- (iv) The neighboring 3 higher technical institutes viz., Sikkim Manipal Institute of Technology (Mazhitar), Advance Technical Training Centre (Bardang) and Government Industrial Training Institute (Rangpo) were invited to exhibit their models. 6 feeder

schools, HRDD officers, SMC and parents also witnessed the event. The students proved that Science is FUN.

(v) The judges were outsourced from colleges, State Council of Science and Technology, etc.

(vi) Projects were of two categories –

Competitive: Senior (IX – XII) and Junior (VI – VIII)

Non-competitive: Primary Level (Class I –V), SMIT, ATTC and ITI

The top three projects of both Senior and Junior Level were awarded the Cash Prize, Certificate and trophy.

### **The students involved in this project**

All students of Class I – X, XI – XII Science and IT were involved in preparing and presenting Science and Maths models at Class level and the selected ones at School level i.e. in Science Carnival.

The Science Carnival has become an annual feature of the School now and is one of the mega events of the School Calendar. The teachers of Humanities and Commerce Professional Learning Communities and the students of XI–XII Humanities and Commerce were involved in the management part of the Carnival.

### **Other stakeholders who were involved**

Technical Colleges–Sikkim Manipal Institute of Technology/Majhitar, Advance Technical Training Centre (Bardang) and Government Industrial Training Institute (Rangpo) were invited to exhibit their models. Six (6) feeder school Heads, teacher and students, HRDD officers, School Management Committee and parents also witnessed the event. Scientific officers from Department of Science & Technology and Assistant Lectures of Government Degree College, Tadong were involved as judges.

**Other Activities:** In addition to Science Carnival, the School also conducted **Inter-House Science Seminar Competition** for Secondary Level wherein Class XI & XII Science students mentored the juniors. The best speaker was sent to District Level and State Level Inter-School Science Seminar respectively. The School could bag the 2<sup>nd</sup> prize in State Level.

Since 2017, the School has been participating in **Mathematical Olympiad and Science Olympiad** organized by Homi Bhabha Centre for Science, Mumbai. The aim of conducting Mathematical and Science Olympiad every year is to strengthen the knowledge of the students, enhance their innate problem solving skills and to identify talent at a young age.

After qualifying Pre-Regional Mathematical Olympiad (PRMO) and Regional Mathematical Olympiad (RMO), 13 students of our School are appearing in Indian

National Mathematical Olympiad (INMO) on 20<sup>th</sup> January 2019. Government Senior Secondary School Rangpo being the only school to have registered for the said events, catered to the students of the neighbourhood (both Government/ Kendriya Vidhyalaya and private).

### Visible results of Transformation

**Result and Impact:** (i) In 2017, the School bagged 1<sup>st</sup> prize in State Level Science, Maths and Environment Exhibition 2017 organised by SCERT and participated in Eastern India Science Fair (Regional Level) at BITM, Kolkata in February 2018. In 2018, the School bagged 2<sup>nd</sup> Prize in State Level Science, Maths and Environment Exhibition 2018 and will participate in Eastern India Science Fair (Regional Level) at BITM, Kolkata on 8<sup>th</sup> – 12<sup>th</sup> January 2019.

(ii) Four (4) students, who had participated in Carnival were also registered for INSPIRE Award under the aegis of Department of Science and Technology, out of which two (2) are selected for National Level INSPIRE Science Exhibition cum Project Competition to be held at Delhi in February 2019.

(iii) The participation level of the students got maximised.

(iv) Students proved that Science is FUN.



(v) Scientific temperament is being developed in students.

(vi) Students have started liking Science and the performance is improving gradually.

(vii) They learnt how to present their models both in verbal and non-verbal forms. The communication skill is also being polished.

(viii) The confidence level has also been increased.



## 2. Traditional Method of Teaching and Low Learning Outcomes in Primary Section:

### Background:

- (i) Traditional method of teaching was followed.
- (ii) The classrooms were dull and unattractive.
- (iii) Low enrolment: one of the reasons being with the implementation of RTE, free and compulsory education for children of age group 6-14 years, the government schools started losing students in lower class as pre-primary was also removed.
- (iv) Low level of Students' motivation.
- (v) Low Learning Outcome.
- (vi) Most of the parents are uneducated and not much concerned about their child's performance.

**Plan:** The School Head and teachers had a meeting and decided to redesign the method of teaching in Primary Section and also to start a well furnished Kindergarten. The idea was shared with the School Management Committee, Rangpo Nagar Panchayat, Honorable Member of the Parliament, etc.



### Strategies

**I. Kindergarten:** Kindergarten was established in 2017 and furnished through CSR activity with an objective to attract children and also to provide a conducive learning environment even for the under privileged. The children are from economically backward group especially in the Primary Section. Since 2017, even **Kindergarten Graduation** is being organised during Annual Function as an initiative to uplift the School at par with private schools.



**II. One Class One Teacher:** This system was initiated in the year 2017 for Class I – III where one teacher is assigned to teach one class for the whole session as per their capacity. The Principal oriented them on the new system. **Impact:** This has helped to develop a rapport/a relationship of mutual trust, love and respect between the teacher and the students. This has also helped teachers to understand the learning gap of students and help them accordingly.

**III. Star Student Award:** In every class KG – V, a **Performance Chart** is maintained for example, chart with pouch and the name of students on it. When a student performs better either in academics or discipline or games or anything good, he/she gets a star. The one who gets maximum number of star in the class that week is the best performer of the week and is given a Star Badge in the Monday Morning Assembly and is called **the Star Student of the week**. The Performance Chart can be a tree or a ladder or can be anything with the name of the students at the bottom. As they perform better they start climbing the tree or a ladder or anything that shows the progress. So, Monday Assembly is the Star Assembly and one best performer each from KG – V is given the Star Badge. Whoever gets the Star Student Award the maximum number of times in an academic session, is being awarded with the Super Star Student Award in Annual Function. The award comprises of a certificate and a trophy. **Impact:** This has brought a remarkable progress, motivation and self-confidence.





**IV. Super Mom Award:** The School also awarded **Super Mom Award** to a mother whose child is always neat and clean; healthy and hygienic; up-to-date home work; books; copies; etc., who guides and is concerned about the child's progress. Such mother was conferred with Super Mom Award in the Annual Function. This initiative is to encourage our mothers to guide their children for the child's better future.

**V. Conversation:** Conversation with the Principal in English is conducted for students of class KG to V as one of the activities under Formative Assessment, once in a year. **Impact:** This has brought an improvement in communication skill, self-confidence, body language, etc. Students have become smarter.

**VI. Print-rich Classrooms:** The dull classrooms were turned to print-rich, colourful and attractive classrooms with the involvement of teachers & students.

**VII. WhatsApp:** We have a Teacher – Parent WhatsApp group and the activities conducted and their progress is shared there in.

### **Further Areas for Change/ Transformation**

**The areas that we want to take up next for transformation are-**

- i.** Professional efficiency of teachers,
- ii.** Academic performance of students and
- iii.** Infrastructural development like separate Physics, Chemistry and Biology Laboratories.

#### **PLAN:**

1. In-house Group Learning Sessions for professional efficiency development, Class observation & feedback by Peer, use of ICT for lesson transaction, strengthening of Professional Learning Communities.
2. Child-centric teaching in true sense, motivational sessions for students, remedial teaching, peer teaching, frequent Parent Teacher Meetings & update of child's progress through WhatsApp.
3. Send proposals for building construction for laboratories to Human Resource Development Department, Govt. of Sikkim and private companies for Corporate Social Responsibility activities.

#### **Stakeholders:**

School Head, teachers, students, HRDD, DIET, SCERT, Block Administrative Centre, School Management Committee, local authorities, alumni, private companies, etc.

### **School Leader and Transformation**

I see myself as a team captain, for which I need to be a lifelong learner. It gives me immense pleasure that we all at Government Senior Secondary School Rangpo could be a **Changing Agent** to bring this change or the Transformation in the School within a short period of time of just 2 years (Feb 2017- Jan 2018). I find myself more confident and I am glad that I could inspire many.

Now I have realised that understanding self and developing self is the key to a successful leader. Thanks to National Centre for School Leadership for School Leadership Development Programme (SLDP). Unless a leader is resourceful and has ready solutions and suggestions, the leader cannot lead/guide. I meticulously guide teachers and students for any form of work that we come across. I listen to them first and I have learnt to respect and appreciate the ideas and effort of the team members. Team building and cementing everyone together, understanding the group dynamics, having patience and being positive throughout has helped to keep the team flying together. Sharing ones experiences and success stories has helped us to develop professionally and also develop a stronger bonding as a family. I have learnt to take care of the person's capacity and interest while distributing the work. I still have a lot more to learn and a way far to go and I look forward for many more opportunities and platform to improve myself in the days to come.