



SHIKSHA SAMBAL PROGRAMME

Supporting High School & Higher Secondary Education

Annual Report Phase - III 2018 - 2019



Vidya Bhawan Society
Udaipur
2019

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The *Shiksha Sambal Program (SSP)* was launched by Hindustan Zinc Limited (HZL) in 2008 with the objective to increase pass percentage of Board Class students. The program focused on the schools located around six core operational areas of HZL mines. Initially visualized to improve Science and Mathematics teaching by providing teachers for extra-classes, it soon had to cater to the other more pressing needs of the schools. The first few years of the project highlighted the magnitude of administrative and academic issues in the government school ranging from a serious shortage of teachers to lack of even basic amenities, furniture for students, labs and other resources. The problem was compounded in higher classes, where subject-specific teachers are needed but, sufficient number of teachers was not available to teach classes XI and XII. Thus, learning levels of children suffered. The project placed instructors in the schools to meet the teacher shortage; but, it was seen that finding qualified and capable people was a challenge. The instructors also found it difficult to deal with the gaps in students' learning, accumulated over the years. There was a realization that board-exam results could not be improved merely by providing extra-classes for two-three months and a more intensive and varied approach was required.

Vidya Bhawan Society stepped into SSP in April, 2016 to develop strategies to meet the academic demands. Straightaway, it was realized that work with students had to be throughout the year and not limited to a few months before the exam. Further, it was not enough to place instructors in the school; work was also needed on other learning enablers such as libraries and books; science-kits; exposure to alternative learning environments and methods; and periods of intensive engagement and inputs. This meant that a dedicated team of instructors was required in each subject, at each location, as per the number of schools. In addition, this instructor team needed continuous academic guidance and monitoring by a core VB team with the support of HZL.

The first activity undertaken was school-visits by the VB team in order to understand the unique situation of each of the 55 schools and get a feel of location and school-specific issues. Through these visits we were able to map the schools on various indicators; roadside and interior, teacher vacancy, functional-non-functional libraries and labs, etc. The basic data regarding the schools and location further helped us in making a concrete strategy to move forward.

We were aware that finding people who were competent in the subject as well as capable of working with children of this particular age-group was no easy task. Initially, we had planned on a 70 person team to cover 55 schools. This number varied in the subsequent years as per the vacancy of Government teachers in Science, English and Maths and the schools' demands. During the recruitment process, we realized that orientation, constant interaction and mentoring of the Field Personnel (FPs) were needed to work successfully in the schools. Steps were taken to set up libraries and labs. We were also approached by other schools to help them out. We conducted interactions with the teachers through subject-based, residential and non residential workshops and the response of the attending teachers provided us ideas for potential strategies of engaging them.

Apart from their work during regular school days, our FPs were trained to conduct extra classes and winter-camps. Free from school-demands and syllabus pressures, they were able

to teach in alternative ways in the extra classes and winter-camps. The FPs have been in schools for nearly eight months. This period has seen an increase in their abilities to work with students with assistance from the VB team - through on-site visits, trainings and hand-holding. There has also been an increase in students' confidence levels. Many of them also feel more confident about the board exams now. Students of class X got an opportunity to sit in the preliminary qualifying exam for Resonance, an IIT Entrance Examination preparation program. The team now is working on intensifying our work in classes XI and XII and on developing mechanisms for use of lab and library material provided to the schools. It was continuously being felt that reading and comprehension levels of the students in classes IX and X are very low and it has been a big challenge for the subject teams and FPs to work with these students on concepts involved in the subjects. Keeping this challenge in mind, this year we also started working with classes VII and VIII in 10 schools of Debari and Zavar locations as a pilot study to develop reading and comprehension skills in the students.

2. Major Learnings from Phase II

We learnt a great deal from our work in Phase II of the project. Some of the major learnings were:

1. The plan of action in terms of inputs, activities, outputs and outcomes need to be spelt out more clearly.
2. Deliverable objectives should be more realistic.
3. Since the level of students was far below the expected level at classes IX and X, the time required to bridge all gaps has to be substantial. Along with conceptual understanding and subject knowledge, the focus on Board Examinations needs to be intense and clearly defined.
4. Students should be given individual copies of every worksheet for further reference and for better transaction in the classroom – and their utilisation needs to be monitored more closely.
5. Libraries and labs should be made more functional and their roles should be more clearly defined in the learning process and connected with objectives and outcomes.
6. The roles of programme personnel should be clearly defined and systems for their accountability should be put in place.
7. We realise that it is very difficult to find additional local human resources who can handle courses in classes XI and XII.
8. We need to put in place a Management Information System (MIS) to make logistical and other decisions; it will also be regularly shared with different stakeholders.
9. Constant communication with teachers is required to build rapport between them and *Shiksha Sambal* team which could increase the participation of teachers in *Shiksha Sambal* activities.
10. We need to mobilise parents of our students and other community members to improve the students' attendance in schools and their participation in *Shiksha Sambal* activities such as camps, extra classes, completing the worksheets given, etc.

3. Proposed Changes for Phase III (2018-2019)

VBS continues the relationship with HZL for the academic year 2018-2019, where we have begun our intervention with class VII and focuses on classes VII to XII. During this academic

year, we hope to show improvements both in Board Examination results of SSP schools relative to comparable non-SSP (control) schools as well as Endline test results of individual students relative to Baseline test results of the same students. The former will show how the intervention from VBS improves outcomes in SSP schools; the latter will show and map student-level changes in learning levels and outcomes in both conceptual and pedagogical terms.

While we will separately focus on preparing students for (classes X and XII) Board Examinations, the thrust of our intervention in classes VII and VIII is to engage with students and teachers to enhance reading comprehension and writing skills in Hindi and English and to work on foundational conceptual areas in Language, Science and Mathematics.

For classes IX and X, our strategy is focused on the syllabus in which the textbooks are supplemented with worksheets which cater to bridging learning gaps, concept building, textbook enrichment, self-assessment, other than practice. This is being implemented through substitute teachers, extra classes, practice test papers, hands-on activities using lab kits, supplementary reading from library kits, etc. and for specifically class C students there are Summer and Winter camps, extra classes during Diwali break, etc.

In the case of classes XI and XII, our intervention remains largely to providing learning material on a regular basis. These materials will include quality reading materials such as NCERT textbooks, worksheets and subscription to science magazines like *Sandarbh*. Apart from this, learning camps will be organized for these students. We have already organized a month long residential Summer Camp at Udaipur for 50 students from class XII and we are planning for 10-day Winter Camps at different cluster locations where we have schools with classes XI and XII.

We have also started Location Resource Centres (LRC) at each location. The VBS Coordinator of each location will keep in touch with the Field Coordinator at the LRC. The functions of coordinating with FPs, liaising with the VBS team, government officials and local Corporate Social Responsibility (CSR) teams; data gathering; maintaining location centre space; and planning for camps and storing and disseminating materials will take place through the LRC.

To ensure optimal use of our inputs and activities, we have started our work through a network of connections with the teachers, principals and the government authorities in addition to the network created by students, teachers, programme personnel and resource person network through meetings with DEOs, principals, teachers, FPs and Resource Persons.

We have already piloted a Management Information System (MIS) improved from the one used previously which contains information on students, Field Personnel, Summer and Winter Camps, regular and extra classes, material and worksheets supplied and its compliance, usage of libraries and labs, meetings with government officials, and so on.

4. Activities done in the Academic Year 2018-2019

In the third year of the program three more schools were added making the total number of schools under the project 62. Several activities were done in these schools. Following were the major activities undertaken during the year:

1. Residential Summer Camp, Udaipur
2. Location Summer Camps
3. Orientation Workshops of FPs
4. Meeting with the School Principals and DEOs
5. Winter Camps (Residential and Non Residential)
6. One-day Interaction with Subject Teachers
7. Distribution and Usage of Lab Materials
8. Distribution and Usage of Library Books
9. Distribution and Usage of Study Materials
10. Baseline and Endline Assessment
11. Field Visits and Handholding to FPs
12. Classroom Teaching and Extra Classes
13. Home Visits by Field Team
14. Work with Classes VII and VIII.

5. Output

1. Residential Summer Camp

Since the Vidya Bhawan collaborated with HZL under the banner of the SSP, Summer Camps emerged as a mile-stone among other programme activities. Active participation of children in last two Summer Camps reaffirmed our faith in the potential of children and in our capacity to take a major step forward in the direction of conceptual clarity, improvement in board results and in integrating scholastic and non-scholastic activities.

The Summer Camps can be categorised as follows-

- Residential Summer Camp for class X students at Udaipur,
- Non- Residential Summer Camp for class X students at each location and
- Residential Summer Camp for class XII students at Udaipur.

The Residential Summer Camp started on 15th May continued till 15th June. A total of 209 students from 6 locations; Dariba-42, Debari-32, Zawar-35, Chittor-46, Agucha-23, Ajmer-31 participated in this camp. Apart from these, 30 students of Pantnagar also participated in the camp. The ratio between girls and boys was almost 1:1.



To aid in managing the current batch about 12-15 students from last year's camp participated in this year's camp as 'Captains'. The camp also organized sessions on yoga, art and craft, reading and writing, drawing, carpentry, library, computers, music, dance, theatre and sports (table-tennis, volleyball, cricket, football, badminton, karate, aerobics and chess).

As far as the infrastructure and facilities are concerned, Vidya Bhawan School has ample amenities to support the camp. The VB campus has enough space for different sports along with working equipment and musical instruments. Each student was provided with modules developed by Vidya Bhawan Society and the subject teams in all the three subjects. A notebook each for each subject, geometry box, pen, pencil and water bottle were also provided to them. An emergency van was present at all times to provide for students' medical emergencies.

We conducted the Baseline and Endline Tests in Science, English and Maths (SEM subjects) during the camp and made an attempt to assess whether the intensive inputs at the camp had made any significant difference to the learning levels of students. These results are discussed under Outcomes.

Work with classes XI and XII is also an important part of the programme. This was the first time that a residential camp for 50 students was planned for class XII students. In all 40 students from Senior Secondary schools from five locations and 10 students from Pantnagar actively participated in the camp. The camp was scheduled in such a way that along with conceptual clarity, students also got exposure of practice, sports, music and art and craft activities.

Senior members of the HZL-CSR team also visited the camps and motivated the children through their speeches in the inaugural session.



Structure of the Residential Camp and Daily Routine for Class X

Students were divided into 9 groups and there were 3 sections for each subject (Maths, English and Science). Each subject section dealt with 3 groups daily from 8 am to 1 pm with a 30 minutes break from 11 am to 11:30 am. Students also had yoga classes in the morning from 6 am to 7 am followed by breakfast. From 1 pm to 2 pm lunch was served and students had a break till 3:45 pm. Classes resumed at 4 pm before which students had tea and biscuits. Students were divided in different groups for the extracurricular activity classes and each group was rotated between different activities, namely, art and craft, reading and writing, library, carpentry and drawing. From 5:30 pm to 7 pm, students indulged in sports depending on their interest and then from 7 pm to 8:30 pm music, theater and dance classes were held followed by dinner. This was the schedule from Monday to Saturday. Every Sunday, no classes were held as students toured around the city.

The location based camps also followed same schedule for subject classes but the time for other activities were limited. They followed the time table from 8:00 am to 2:00 pm.

Structure of the Residential Camp and Daily Routine for Class XII

Students were divided into 2 groups for Physics, Chemistry and then in Biology and Math. Each subject section dealt with 2 groups daily from 8 am to 1 pm with a 30 minutes break from 11 am to 11:30 am. Students also had yoga classes in the morning from 6 am to 7 am followed by breakfast. From 1 pm to 2 pm lunch was served and students had a break till 3:45 pm. Classes resumed at 4 pm before which students had tea and biscuits. Students did practice of Chemistry, Physics and Biology and each group was rotated between different activities, namely, music and art and craft. As per the demand of the students, some classes of English speaking and writing were also organized by VBS team.



Though the time table for the camp was long and densely packed, children found it exciting and challenging; in fact, towards the end of the camp, many children wished that the camp was of a longer duration. The camp hours were 5.30 am in the morning to 9.30 pm in the night, almost a 16 hour schedule with a lunch break and short breaks for breakfast and tea.

The closing of the camp was marked by a cultural program in which the children presented plays, song recitals, dances that they had learnt during the camp. *Bhangra* and *Rajasthani*, *Gujrati* dances were performed in traditional costumes. Children also presented play based on different issues; sharing equal responsibility among boys and girls, a new perspective to look into a life of a widow, etc. Musical recitals included folk songs from different regions. One student from the class XII camp also showed some magic tricks. Several of the children shared their camp experiences.

As mentioned above during the Camp period children took part in several co-curricular activities; arts and crafts, carpentry, origami, clay art and drawing, etc. and learnt to make different things in these classes. On the day of closing, an exhibition was organised. All the materials made by children were show-cased in this exhibition.



2. Location Summer Camps

Along with the residential camp, one non-residential summer camp at each location targeting 100 students from concerned schools was also part of programme planning. Total 767 students participated against the target of 600 students covering all locations. Average attendance varied from 85%-95 % in these camps. Location wise details are as follows-

Location	No. of students targeted	No. of students enrolled	Average attendance
Ajmer	100	130	87
Debari	100	129	89
Dariba	100	116	95
Zawar	100	110	85
Chittor	100	150	93
Agucha	100	132	93
Total	600	767	542

3. Orientation Workshops of Field Personnel

Orientation of FPs was done in different slots throughout the year. In all an 8-day subject-wise residential orientation/induction training was conducted. The field personnel were made aware of the project, its aims and objectives and expectations from them. Some of the sessions discussed alternative methods of teaching and how children think and learn. Most of the discussions regarding these issues were facilitated by senior team members and CEO of the VBS. CSR team members were also part of the first slot of orientation and several queries of the field personnel were addressed by them.



The remaining sessions were facilitated by subject coordinators and subject team members and were focussed on chosen concepts, textbook chapters and planning for the summer camp, winter camp, worksheet compliance and regular school days work chalked out.



Apart from these subject wise workshops a two day orientation-cum sharing workshop was also conducted for FPs and FCs on 30-31, March, 2019. The purpose of this workshop was to create a platform where all team members can think critically on what has been done, how the programme activities went on, what were the challenges faced by the team and think upon the suggestions for the next year.

The team were divided into 7 groups of 8-10 people and worked upon different areas like regular classes and extra classes, camps, lab work, library work, work with government, CSR and community, support from VBS team, regular classroom teaching, worksheet and child wise tracking, etc.

One of the major challenges was not getting proper support from school administration regarding issuing lab and library materials to FPs and FCs. The reason behind the same is the entry of these materials in stock register of school from the audit point of view. CSR and VB teams have to find a way which can fulfil both the purposes; audit and easy process of issuing the books to the field team.

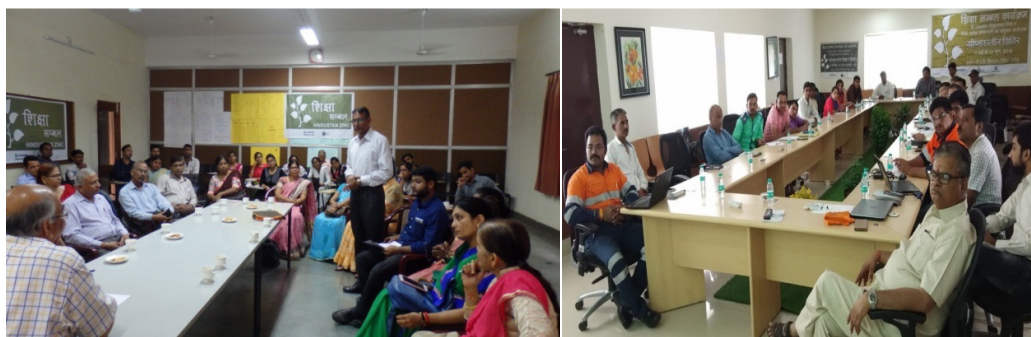
One of the suggestions given by the field team regarding lab and library work was that the VB team should give proper orientation for using lab and library to all members of field team so that they can help each other in conducting organised activities around books and experiments.

4. Meeting with the School Principals and DEOs

Government is one of the most important pillars of the programme. To run the programme activities it is essential to keep the DEOs and principals informed about the programme. Apart from the regular sharing interactions two organised meetings with DEOs and Principals, were proposed for each location. Due to excess work load and non- availability of government officials and head of the institutions, we were able to achieve 50% of this target. All of these meetings were held in months of July and August, 2018. The following issues were discussed in the meetings-

- Sharing of last year's intervention, results and future strategies
- Deployment of FP needs to be revisited based on need. It was stressed that providing a full time FP in any school would be difficult.
- FP will work from classes IX – XII only and also classes VII and VIII in pilot schools
- Principals requested that the Project should also support the elementary classes
- Extra classes will be ensured.





5. Winter Camps (Residential and Non-Residential)

During the winter break, camps were organized for the students of classes VIII, X and XII. In all, 22 camps were organised across Udaipur, Rajsamand, Chittor, Bhilwara and Ajmer. These camps were held during December 25, 2018, to January 7, 2019. A total of 1600 students from 56 schools were reached out through these camps. Along with these camps extra classes were also organized for the remaining schools. The focus of these camps was to help students to prepare for the board exams. Students were divided in small groups, and each group was facilitated by a mentor to ensure personal attention to each student. Self reading and group discussions were highly encouraged in the camps.

Camps for classes VIII and X were non residential, whereas for class XII it was a residential camp. The venue of the camp was Vidya Bhawan Rural Institute, Udaipur. Total 40 students from five locations took part in this camp. Theoretical and practical knowledge of Physics, Chemistry, Biology and Mathematics were imparted in this camp by university professors and other eminent Resource Persons. For classes VIII and X the students worked using worksheets and model papers in Science, Maths and English in 21 camps at the locations. Class VIII students participated in camps at Debari and Zavar locations where they were supported in Hindi, English, Science and Maths. At Zavar a theatre workshop was also conducted for the students.

The camps were scheduled from 10 am to 3 pm. Apart from the 70 Field Personnel appointed for the Project, 80 Volunteers from different parts of the country and 20 Resource Persons from Vidya Bhawan Society facilitated the academic work in both the residential and non-residential camps.

The details of these camps are as follows (Class VIII camps have been considered part of the X camp under these details):

Location	No of Camps	Camp Centre (Covered School)	No of schools covered	Enrolled Students on Day 1	Activities
Ajmer	2	1. Makadwali(Lohagal & Chahiyawas) 2. Gangwana G(Gangwana B & Ghooghra)	6	130	Board exam's preparation in Science, English and Maths
Agucha	3	1. GSSSHurda(GSSS Agucha, GSSS Kothiyan Boys) 2. GSSS Kotdi(GGSSS Hurda,GSSS Kothiyan Girls) 3. GGSS Agucha(GSSS Baratiyan)	7	197	
Chittor	4	1.Ajoliyon ka Kheda(Puthauli, Chogawadi, Suwaniya) 2.Dagla Ka Kheda (Pandoli, Kashmor, Dhnet Kala) 3.Awanlheda(Nagari) 4.Kanthariya(Soniyana, Sukhwara)	13	290	
Dariba	2	1. Dariba(Dhaneriya, Gawardi, Sindesar Kala) 2. Kotdi(Kabra, Rajpura, Mahenduriya)	8	142	
Debari	3	1.Sakroda(Bichhdi, Bhallo ka Guda, Singhada) 2. Debari G (Debari B, Zinc Sm, Matoon, Gudli) 3. Dabok G(Dabok B, Merta, TDS)	13	320	- Board exam's preparation in Science, English and Maths - Sessions for Language, Science and Maths for class VIII
Zawar	2	1. Ramnagar(Oda, Singhtwada,Padla, Kanpur) 2. Newatalai (TD G&B, Zawar)	9	430	- theatre workshop in Zawar for class 8
Udaipur 12th - Residential	1	1. VBRI		40	Physics, Chemistry, Maths and Biology
Total	17		56	1549	

6. One Day Interaction with Govt Teachers

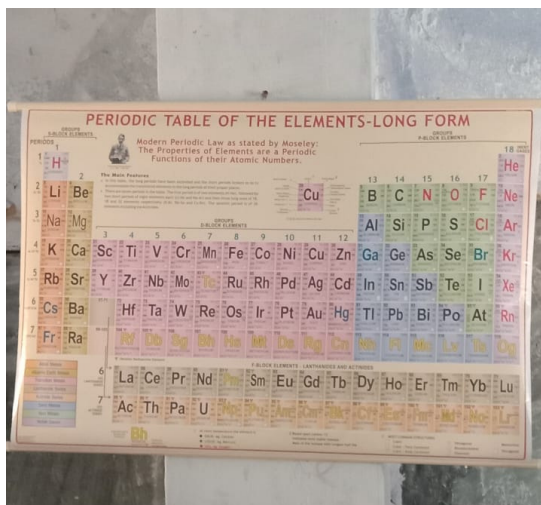
We were able to conduct one day interactions with teachers of all subjects at three locations; Zawar, Agucha and Ajmer. The discussions in these interactions were primarily focused around the sharing about the project and subject wise strategy for board exam preparation. Along with this teachers and FPs also shared their work experiences related to the programme activities being run in the schools. In all out of 64 teachers of these three locations, 37 teachers participated in these interactions. It means that participation of teachers was around 58%. Location wise numbers for the same was as follows: Ajmer 15 (21), Agucha 12 (18) & Zawar 10 (25).



7. Distribution and Usage of Lab Material

In the current academic year one microscope, set of 13 permanent slides; cell division, unicellular organisms, anatomy of roots and stems and following charts were distributed in each school-

- Human Reproductive System
- Light Ray Diagrams of Lenses and mirrors
- Heart structure
- Atomic structure, models of atom
- Cell Division
- Malarial Cycle
- Solar System and Constellations
- IUPAC Name and Structures
- Road Safety
- Periodic Table

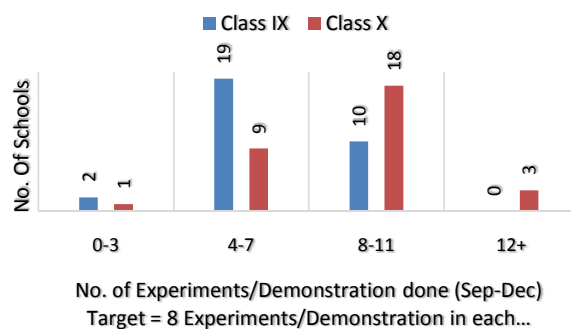


Apart from this the supply of consumables were also done as per the need of the science FPs. Kothiya School also demanded for lab material for senior classes. Following tables give a detailed account of the material and its quantity which was made available to the school.

S.No	Materila	Quantity
1	Potentiometer (10 wire)	1
2	Meter Bridge	1
3	Voltmeter (0-5 V)	2
4	Ammeter (0-5 A)	2
5	Galvanometer	2
6	Transistor characteristic apparatus	2
7	Semi conductor diode	2
8	Zener Diode Characteristic app.	2
9	Ohms Law Apparatus	2
10	Soldering iron	2
11	Solder wire	2
12	Soldering Flux	2
13	Plier	2
14	Screw Driver Set	2

A list containing 22 experiments for both classes IX and X classes was given to Science FPs. They were instructed to do these experiments while teaching or working with their concerned chapters. The following graph shows a clear picture with reference to lab work done in both the classes.

Lab Details

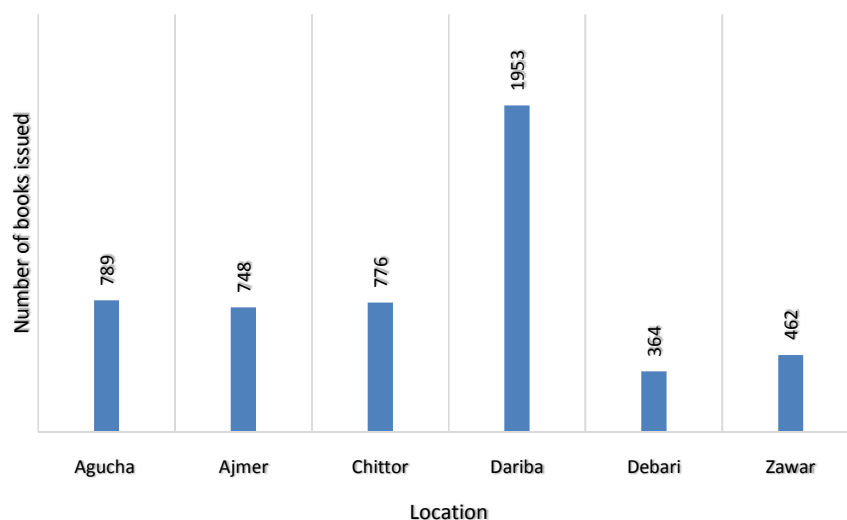


8. Distribution and Usage Library Material

In the first year of the programme FPs struggled hard to activate the libraries in the schools. By the second year we were able to activate libraries in 6-7 schools among all the programme schools. In the third year the effort of FPs and FCs resulted in activation of libraries in 57 schools. In three schools FPs succeeded in organizing Sunday libraries as well.

In all around 400 books have been distributed in all the schools in the period of year one to year three of the programme. A total of 5092 books were issued to children in this year and the following graph shows location wise distribution of the same.

No. of books issued

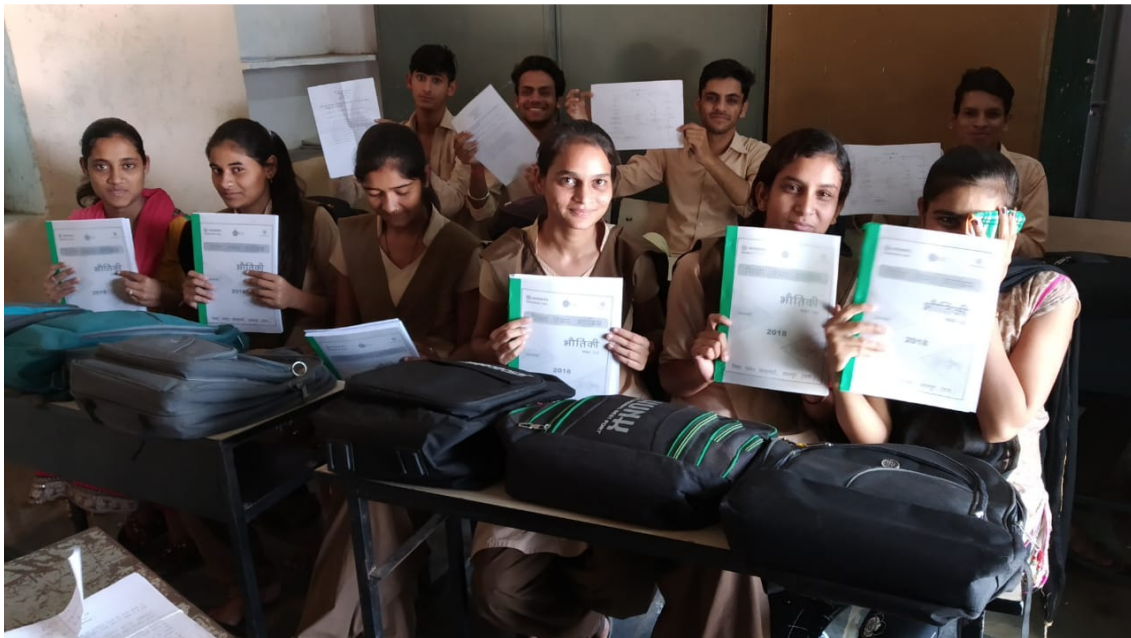


Total number of books issued : 5092



9. Distribution and Usage of Study Materials

During the second quarter one set of worksheets were provided to 7703 students of class VII to XII. This set consisted of test papers to solve as per the course covered in the school so that the students get practice and for us to get an idea of how much the students have gained. Total 462 worksheets have been given to 7703 students covering classes VII to XII.



Another set of worksheets for October-December have been designed, printed and distributed to the students in the third quarter. Each student gets one set of worksheet per subject and one folder per subject to keep these materials in. Apart from this, Deskwork which contains compilation of model papers for Board exam has also been distributed to students as listed below:

Class X – Science, English, Maths

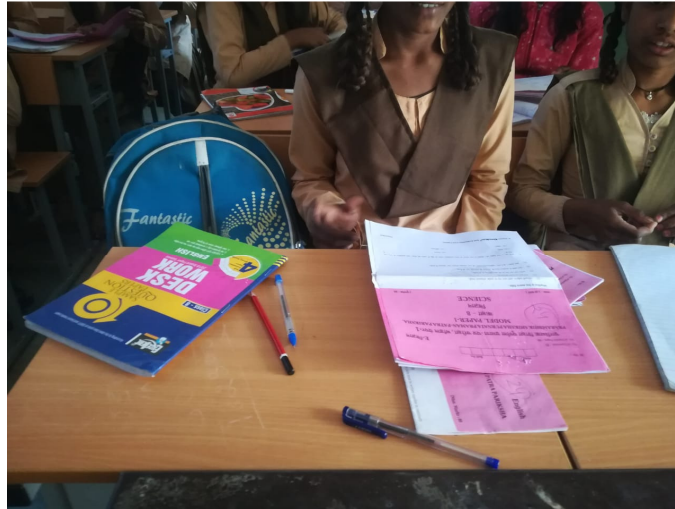
Class XII – Physics, Chemistry, Maths, Biology

Class VIII – Science, English, Maths, Hindi

This year we also tried to track the usage of worksheet by collecting worksheet compliance data. In all, around more than 50% students tried to attempt the questions given in worksheets. The following data shows further detail about usage of worksheets, where 0= no question attempted, 1= half of the questions attempted and 2 = almost all questions attempted.

Subject	Code	WS-1	WS-2	WS-3	WS-4	WS-5	WS-6	WS-7
Science	0	17	17	16	26	23	27	34
	1	19	33	20	36	34	38	39
	2	64	50	63	38	43	35	27
	Total	841	906	873	656	610	598	421
English	0	7	8	16	22	23	15	0
	1	37	49	40	39	40	24	70
	2	56	43	44	39	37	61	30
	Total	757	757	757	681	637	418	30
Maths	0	19	21	20	16	31	30	33
	1	30	41	40	41	30	28	13
	2	50	38	39	43	39	42	55
	Total	844	760	756	734	669	586	564

If we look at the data regarding Deskwork then out of 60 we were able to ensure usage of Math deskwork in 50 schools, Science in 46 and English in 40 schools.



10. Baseline and End line Assessment

Baseline tests conducted for Classes VII to XII in 60 schools (Oda School from Zawar location added as a new schools covering in all 7703 students.

Baseline and End line tests were planned to understand the specific problems learners face in each subject. We conducted the Baseline test in July, 2017 and Endline in Feb, 2019. In all the 60 School were covered through these tests. Around 6550 students took the Baseline and 5383 students took the Endline from classes VII to XII. In IX and X, Baseline was done for all the SEM subjects; in Classes XI and XII, Baseline was done only for Science (Physics, Chemistry, Mathematics and Biology). We hired and trained D.Ed. students in organizing the tests and sent them to each location along with the ERC team; we ensured that the total responsibility of conducting the test was not left to the FPs alone. The test was a multiple choice test in Science, Math and English. To do it objectively, we hired and oriented D.Ed. students. The primary purpose was to isolate those students whose academic performance demanded specific interventions.

11. Field Visits and Handholding to FPs

Total 20 field visits covering 50 days at each location were organised by VBS team. The objectives of these visits broadly includes-

- On field academic support to FPs
- Classroom observation and mentoring the FPs in real-time classroom intervention
- Monthly review of the work done by FPs
- Planning for the upcoming month

- Group activities among students using lab and library kits (issuing materials and ensuring use).

During these visits VBS team and FIs reviewed their last month work and based on the feedback they planned for the upcoming month. In these meetings, FIs shared their problems, and the team collectively aims to come at solutions. Members from the ERC regularly visited all the locations to provide support to the FPs and observe classroom learning. Meetings with the principals were held, and model papers were also distributed. The time table for the extra classes was also set and discussions around classroom content and pedagogy were carried out. The field person's reports were verified and strategies for revision for board exam and working around Deskwork were also discussed.



Apart from these organised 20 meetings, the VBS team visited field several times as well to fulfil different purposes like to attend unit level CSR meetings, meetings with DEOs and Principals, one day interactions with teachers, participate in Women's day, felicitation programme, etc.





12. Classroom Teaching and Extra Classes

FIs visited schools regularly as per the schedule and took classes. In these classes, they helped students understand the subject content covered under the syllabus and gave worksheets.

Subject	Class VII	Class VIII	Class IX	Class X	Class XI	Class XII	Extra classes (Class X)
Science	All Subjects	All Subjects	5906	3744	1168	498	979
English	1502	1926	4825	3426			959
Maths			6218	4263	279	220	1444

13. Home Visits by Field Team

FPs and FCs visited students' homes several time to fulfill the following objectives

- Ensure their participation in Summer Camp, Winter camp and Diwali classes
- To meet and discuss with the parents about low attendance of their wards so that these students get benefited from the programme activities in a proper way
- To meet the parents of the students who scored low and need extra academic support to perform better



14. Work with classes VII and VIII

From our last years' experiences we have realised that the conceptual machinery necessary to handle class IX and X syllabi is typically missing among the students who finish class VIII. This year we had proposed to work with classes VII and VIII in 10 selected schools of Debari and Zawar locations.

The aim was to engage with students to enhance reading comprehension and writing skills in Hindi and English and to work on foundational areas in Science and Mathematics. A baseline test was taken for Science, Hindi, English and Math for students of classes VII and VIII of the 10 schools. On the basis of the baseline results a well structured module (set of worksheets) was designed for all selected subjects. Later it was distributed to each student of the selected schools. 30 worksheets containing material for all subjects (Science, Hindi, English and Math) were given to all students of classes VII and VIII. Our FPs worked with the students on the given worksheets and helped them to understand, solve and practice these worksheets. It was very much appreciated by Govt. teachers and Principals of the schools. GETs from HZL also played an important role in working with classes VII and VIII. They facilitated these classes for around 3 months and helped students to improve their learning.

Apart from the regular 5 Winter Camps, Winter Camps were also organized for students of class VIII. The duration of these camps was from December 25, 2018, to January 7, 2019. In all 395 students took part in the winter camps. They worked upon 26 worksheets in the Camp.

Deskwork of Science, English, Hindi and Mathematics were also distributed among class VIII students of 10 selected schools. Endline test were also administered in these schools. The comparison of the baseline and Endline will be discussed in the "Outcome" Chapter.

6. Outcomes

The expected outcome for the year 2018-19 were as follows-

- 20% increase in Endline over the Baseline in the residential Summer Camp for class 10.
- 10 percentage point increase in Endline results over Baseline results (averaged across schools) in each SEM subject for the schools in which programme personnel are working (for year 2018-2019)
- 10 percentage point increase in Endline results over Baseline results (averaged across schools) in each SEM subject for the selected 10 schools (for year 2018-2019) for class 7 and 8.
- 10 percentage point increase in Class 10 pass rate (averaged across schools) in each SEM subject relative to control schools, differenced between 2018 and 2019 results (for e.g., if the average school pass rate in English in control and *Shiksha Sambal* schools was 56% and 55% respectively in 2018, and the average pass rate in English in control schools were 58% in 2019, then the average pass rate in English in *Shiksha Sambal* schools in 2019 would be at least 67%).
- 5 percentage point increase in Class 10 marks (averaged across schools) in each SEM subject using the difference-in-difference method outlined above.

In the following section we will elaborate the actual impact against the above mentioned proposed outcomes.

1. Endline Baseline Analysis

A. Residential Summer Camps for Class 10

As mentioned in the output during residential Summer Camp Baseline and Endline tests were conducted in the beginning and at the end of Camps. The comparison of Endline over Baseline is as follows:

Subject	Baseline (%)	Endline (%)	Difference (%) [Outcome]	Target (%)
English – X	24.45	48.3	23.85	20
Science – X	30	58.70	28.70	20
Maths – X	32.5	60	27.5	20
Physics – XII	12	28	16	-
Chemistry – XII	31	39	8	-
Biology – XII	46	69	23	-
Maths – XII	20	50	30	-

Summer Camp Outcomes: SSP had promised 20% increase in Endline over the Baseline in the residential Summer Camp for class 10. As is clear from the above table, the SSP has achieved much more: 24% difference in the Baseline and End line tests of English, 29% in Science and 28% in Mathematics. Even though there were no commitments as to the outcomes of Class XII camp we did undertake the Baseline and Endline tests; significant improvements were noticed here too: 30% in Mathematics and 23 % in Biology.

Baseline and Endline for classes VII and VIII

Baseline and Endline for classes VII and VIII

The tables below provide the school wise data for the Baseline and End line for Classes VII and VIII. This was our first contact with these classes. We could not find separate FPs for these classes for the Zavar location. Even in the case of Debari the kind of persons we wanted were not available. We hoped to find people who would have comprehensive control over middle school level Hindi, English, Mathematics and Science. We need to rethink about this intervention. We would also like to point out that the End line test was held on the same day on which students had their examination. This was a low priority challenge for them and the paper was done in a hurry. We are still working on the Class VII data.

Class VIII BL and EL			
School	BL	EL	Difference
Nevatalai	36.7	45.2	8.5
Ramnagar	53.5	49.5	-4
Tidi Girls	36.5	40.8	4.3
Zawar	32.3	40	7.7
Bhallo ka Guda	54	54.2	0.2
Dabok Girls	56.1	75.6	19.5
Debari Girls	58.4	63	4.6
Sakroda	48.8	55.7	6.9
TDS	52.4	56.5	4.1
Zinc Smelter	66.7	62.5	-4.2
Overall	49.5	54.3	4.8

Once again these results demand further examination which we are in the process of doing. Two schools show a fall. But most schools show a rise. Dabok Girls shows a rise of about 20%. The remaining seven schools show a gain of close to 5% or above. However, the target of 10% increase could not be achieved.

Baseline and Endline for Class IX and X

Class IX BL and EL (For subset of 80% and Below in BL)

Location	IX Science			IX English			IX Maths			IX SEM		
	BL	EL	Change	BL	EL	Change	BL	EL	Change	BL	EL	Change
Agucha	41	48	7	31	33	2	37	45	8	36	42	6
Ajmer	39	46	7	30	33	3	34	42	8	34	40	6
Chittor	43	49	6	30	34	4	34	45	10	36	43	7
Dariba	39	42	3	29	32	3	32	39	7	34	38	4
Debari	41	46	5	30	36	6	33	47	14	35	43	8
Zawar	35	37	2	28	25	-3	26	31	5	30	31	2
SSP Overall	40	45	5	30	32	2	33	42	9	34	40	6

The gains in Mathematics in Class IX were close to the target of 10%; Debari showed a gain of 14% and Chittor 10%. The gains in English were close to 5% at each location. The increase in English was the lowest, from 6% to Debari to only 2% in Agucha. In Zawar in fact there was a loss of 3%.

Class X BL and EL (For subset of 80% and Below in BL)

Location	X Science			X English			X Maths			X SEM		
	BL	EL	Change	BL	EL	Change	BL	EL	Change	BL	EL	Change
Agucha	45	46	1	36	43	7	39	52	12	40	47	7
Ajmer	42	48	5	30	38	8	37	43	6	36	43	7
Chittor	46	54	9	35	46	10	42	50	8	41	50	9
Dariba	40	45	5	31	42	11	33	40	7	35	42	8
Debari	44	45	1	37	41	4	38	51	13	40	46	6
Zawar	34	35	1	30	32	2	28	33	5	30	33	3
SSP Overall	42	46	4	34	40	7	36	46	10	37	44	7

In Class X Mathematics, there was an overall gain of 10% with Debari and Agucha showing 13 and 12% respectively. Class X English also recorded an overall increase of 7% across schools with Chittor and Dariba showing 10 and 11% respectively. The gains in Science were relatively less at an average of 4% with Chittor gaining a maximum of 9%.

Baseline and Endline for classes XI and XII

Class XI BL and EL (For subset of 80% and Below in BL)

Class XI BL and EL

School	11_Bio			11_Chem			11_Maths			11_Phy			11_PCMB		
	BL	EL	Change	BL	EL	Change	BL	EL	Change	BL	EL	Change	BL	EL	Change
Ajoliya Ka Kheda				41	39	-2	37	39	2	49	56	7	42	45	2
Dabok Boys				49	66	17	61	51	-10	64	59	-5	58	59	1
Gudli				58	58	0	69	85	16	60	51	-9	62	65	2
Hurda Boys	24	45	21	54	60	6	66	71	5	57	73	15	53	65	12
Kabra	32	39	7	25	37	12				50	52	2	36	43	7
Kothiya			0	56	57	1	71	70	0	71	65	-6	67	64	-3
Rajpura	32	45	13	39	41	2				55	52	-3	42	46	4
Sakroda			0	44	41	-4	63	66	4	59	65	6	56	57	2
Sindesarkala	28	31	3	40	29	-11				44	46	2	38	35	-2
Suwania	29	48	19	43	62	20	66	79	13	55	66	11	46	64	17
Tidi Boys				42	37	-5	48	49	1	51	43	-8	47	43	-4
SSP Average	29	43	14	46	51	4	61	67	6	57	62	4	51	57	6

In Class XI, we witness an overall increase of 6% in the Science subjects averaged across all the schools where SSP intervened. The gains in Biology are remarkable with an average of 14%, with Hurda Boys recording 21% increase and Suwania 19%.

Class XII BL and EL (For subset of 80% and Below in BL)

School	12_Bio			12_Chem			12_Maths			12_Phy			12_PCMB		
	BL	EL	Change	BL	EL	Change	BL	EL	Change	BL	EL	Change	BL	EL	Change
Ajoliya Ka Kheda				51	51	0	52	45	-8	46	43	-3	50	46	-3
Dabok Boys				51	42	-9	43	40	-4	49	45	-5	48	42	-6
Gudli				51	54	3	61	66	5	40	45	5	50	55	5
Hurda Boys	71	73		66	64	-3	61	55	-6	57	53	-4	63	59	-3
Kabra	52	54	2	32	40	8				36	43	7	40	46	6
Kothiya				70	66	-4	54	59	5	70	71	1	65	65	1
Rajpura	55	61	6	32	37	5				12	28	16	33	42	9
Sakroda				58	49	-8	40	42	2	50	48	-2	49	46	-3
Suwania	71	73	2	57	57					44	44		56	60	3
Tidi Boys				50	42	-8		41		39	40	1	45	41	-4
SSP Average	67	68	1	58	53	-4	53	50	-3	50	48	-1	55	52	-3

Board Results of Class 10

We have Board exam results for Class 10 from March 2016 (prior to VB involvement) and March 2017, 2018 and 2019. The schools in which we are working are spread over a large area at 6 locations (Agucha, Ajmer, Chittor, Dariba, Debari and Zavar). We did analyze the board results in different ways.

Table 3: Percentage of Students in Different Grades, SSP Schools from 2016-2019

Year	Total students appeared in exams	Students who passed	Students who scored 1 st division	Students who scored 2 nd division	Students who scored 3 rd division	Not pass
2015-16	2154	1448 (67%)	300 (14%)	808 (38%)	340 (16%)	706 (33%)
2016-17	2262	1604 (71%)	338 (15%)	902 (40%)	364 (16%)	658 (29%)
2017-18	2252	1726 (77%)	393 (17%)	861 (38%)	472 (21%)	526 (23%)
2018-19	2551	2009 (79%)	516 (20%)	1098 (53%)	395 (15%)	542 (21%)

In 2015 we had 67% of students passing which has reached 79% in 2019. Similarly the number of students getting first division has increased from 14% in 2016 to 20% in 2019; and students failing have come down from 33% to 21%. In order to place the performance of Shiksha Sambal (SS) schools in perspective, we also collected information from neighboring schools that were not part of the SS intervention. Control schools were chosen in the following manner:

- All the schools are physically neighboring SS schools
- In most cases, they share a common exam centre with the neighboring SS school
- All are government schools have similar facilities as SS schools

We have reason to believe that the SS and control schools were equivalent on average prior to the present SS intervention. The following table gives average pass percentage for the SS schools and control schools for March 2016, 2017 and 2018. As Table 1 clearly shows, **SS schools have consistently been doing better than the control schools and in 2019 Class 10 Board result, the SS average pass percentage rate is 10% percentage points higher than the control schools.**

Table 4: Difference-in-Difference of Pass Percentage Class 10 (averaged across schools)

	SS (%)	Control (%)	Difference (SS-control) (%)
2016	68.4	72.8	-4.5
2017	74.7	69.8	4.9
2018	81.8	76.2	5.6
2019	81	71	10
Difference (2017-2016)	6.3	-3.1	9.4
Difference (2018-2017)	7.1	6.4	0.7
Difference (2019-2018)	-0.8	-5.2	4.4
Difference (2019-2016)	12.6	-1.8	14.5

According to Table 4:

- In SS schools, the pass percentage increased from 68.4% in 2016 to 81% in 2019.

- In control schools, the pass percentage decreased from 72.8% in 2016 to 71% in 2019.
- The difference in the two changes above, that is the “difference in difference” across the four years and the two sets of schools, is 14.5 percentage points in favour of SS schools. This difference in difference can be interpreted as impact of the intervention. Therefore the conclusion is that **the “causal impact” of the Shiksha Sambal programme in the period March 2016 – March 2019 was 14.5 percentage points, in a situation where the SS schools started 4.5% below the SS schools.**

The estimated impact, of 14.5 percentage point increase in pass percentage during 2016-2019, is substantial. After March 2017, different facets of Shiksha Sambal have been further intensified and finessed– for instance, the successful Summer Camps in Udaipur and several field locations, the starting of evening classes in SS schools and still greater involvement of the Vidya Bhawan team with Field Personnel and school teachers. Given this, we expect the impact in the forthcoming March 2020 Board results to show an even greater SS programme impact.

Fig. 1 graphically represents the Class 10 results of 4 years given in Table 6:

Fig. 1: Shiksha Sambal vs. Control Schools

Class 10 (Graphic Representation)

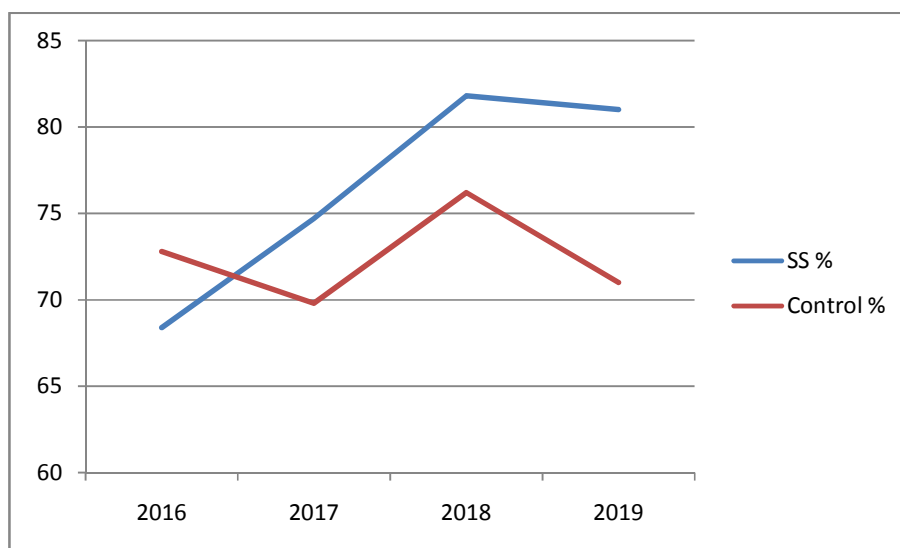


Fig. 1 clearly shows that SS schools started below the control schools in 2016 before the SS intervention. The control school’s performance dropped in 2017 while the SS schools improved. In 2018, both SS and control schools show an upward rise but the rise is higher in the case of SS schools. In 2019, there is a major drop of 5.2% in the control schools but the SS schools stay far above the control schools with a small drop of .8% only.

In general, SS schools clearly demonstrate the success of the programme.

**Table 5: Class 10 Board Results, 2016-2019
Schools in Different Pass Percentage Categories**

Overall result of Class 10: SSP Schools				
Categories of schools	2015-16 (50)	2016-17 (57)	2017-18 (58)	2018-19 (60)
	(% of total schools)	(% of total schools)	(% of total schools)	(% of total schools)
>30%	4	0	0	0
31 % to 50 %	13	11	3	8
51% to 70 %	33	28	19	18
71 % to 90	27	35	33	30
91 % to 99%	15	14	33	25
100%	9	12	12	18

Table 5 shows a definitive positive impact of the SS intervention schools during 2016-2019. The number of schools in the category of pass percentage above 91% has increased from 24% schools to 43% schools during 2016-2019. We can make the following observation on the basis of Table 5:

1. When SS started its intervention, 4 % schools were in the below 30% pass rate category; during 2016-2019, there is no school in this category.
2. In the category of 31% to 70%, there are 46% (i.e. 23 out of 50) schools in 2016; by 2019 this number has been reduced to 26% (i.e. 16 out of 60).
3. The number of schools in the 71% to 99% category has improved from 42% in 2016 to 55% in 2019.
4. The number of schools in the 100% category has been doubled during 2016-2019 from 9% to 18%.

**Table 6: Class 10 Board Results
Percentage Increase in First Divisions during 2016-20119**

10th Board Result Comparison- (1st Division %)				
	2016	2017	2018	2019

SSP	2154	2262	2252	2551
Control	2115	2394	2099	2182
SSP %	14	15	17	20
Control %	13	12	15	14

Fig. 2: **Class 10 Board Results**
Increase in First Divisions during 2016-2019

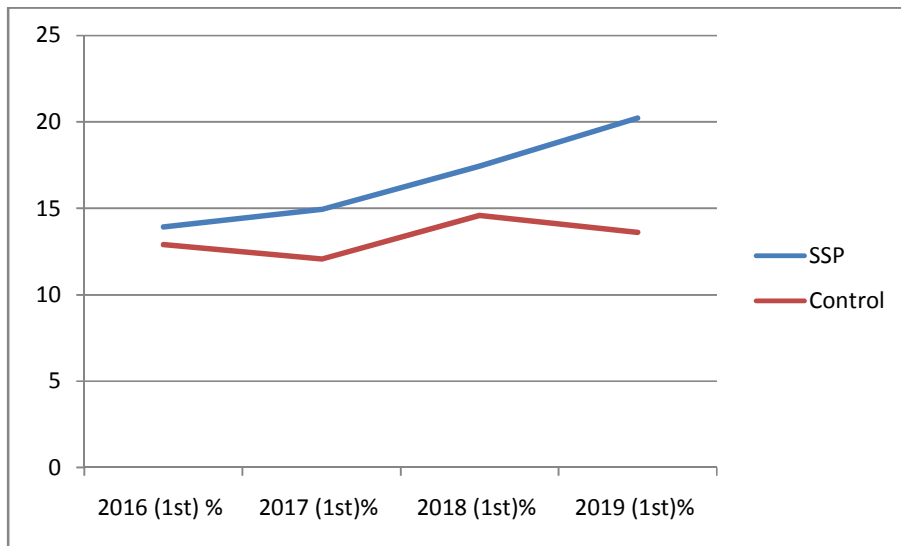


Table 6 and its diagrammatic representation in Fig. 2 clearly demonstrate the effectiveness of the SS intervention in HZL schools during 2016-2019. During these 4 years, the number of first divisions in control schools rose from 13% to 14% but in the SS schools it rose from 14% to 20%. We can make the following observations based on the above Table and Figure 2.

- The red line representing the SS schools consistently stays above the blue line representing the control schools.
- The SS schools show a consistent increase beginning 2016 i.e. 1% in 2017, 2% in 2018 and 3% in 2019 leading to a total increase of 6% over the four years in terms of the first divisions in SS schools.
- The control schools output is not as consistent. In 2017, there is a decrease of 1%, in 2018, an increase of 3% but again in 2019, there is a decrease of 1%; the overall increase thus amounting to only 1%.

Table 7:

Class 10 Board Results

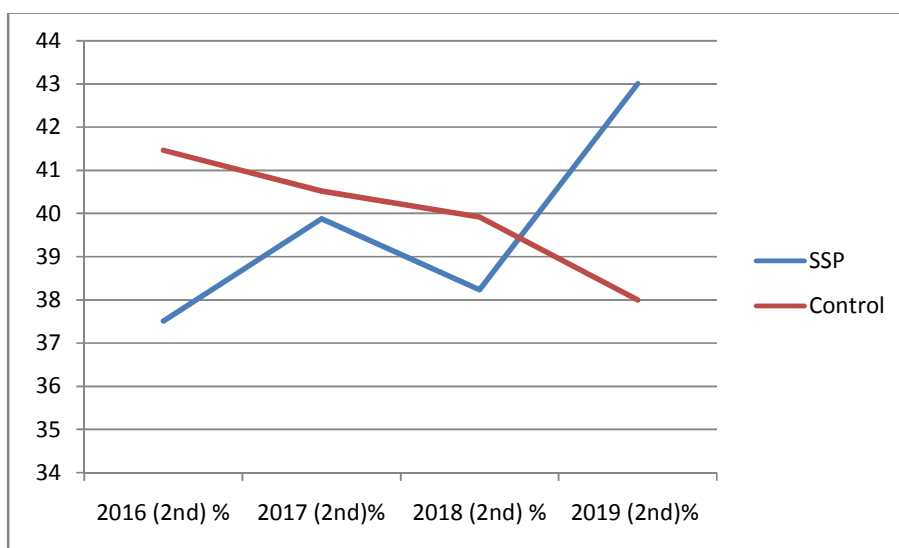
Percentage Increase in Second Divisions during 2016-20119

10th Board Result Comparison- (2nd Division) %				
	2016	2017	2018	2019
SSP	2154	2262	2252	2551
Control	2115	2394	2099	2182
SSP	38	40	38	43
Control	41	41	40	38

Fig. 3:

Class 10 Board Results

Percentage Increase in Second Divisions during 2016-20119



A comparative study of the number of students passing the Class 10 Board examination with Second Division is represented in Table 7 and Fig. 3. This is a very interesting study. The overall pass percentage and first division scores of SS schools have generally been higher than the control schools. However, in the case of percentage of students passing with second division the control schools showed higher scores than the SS schools during 2016-2018. But in 2019, there is a major jump in the case of SS schools and we notice a cross over phenomenon in Fig. 3. In fact, the control schools show a consistent downward trend while the SS schools show a consistent upward trend.

In 2016, the SS schools start with 38% students passing with second division; by 2019, this percentage reaches 43%. On the other hand, control schools start with 41% and by 2019, decrease to 38%.

Table 8: Total Number of Students in Class 10

10th Board Result Comparison- (Total students)				
	2016	2017	2018	2019
SSP	2154	2262	2252	2551
Control	2115	2394	2099	2182

Table 9: Percentage of Students Passing in Third Division

10th Board Result Comparison- (3rd Division) %				
	2016 (3rd)%	2017 (3rd)%	2018 (3rd)%	2019 (3rd))%
SSP	16	16	21	15
Control	14	18	19	18

Table 10: Percentage of Students Not Passing Class 10

10th Board Result Comparison- (Not pass) %				
	2016 (Not pass)%	2017 (Not pass)%	2018 (Not pass)%	2019 (Not pass)%
SSP	33	29	23	21
Control	31	30	26	30

Tables 9 and 10 once again show the impact of SS intervention. Table 9 shows that the number of students passing in third division in SS schools has decreased over a period of time while it has increased in control schools. Table 9 shows the percentage of students who have either failed or got supplementary. In the SS schools, this percentage has decreased from 33% in 2016 to 21 % in 2019 while in control schools it has remained around 30%.