



Table of contents

Background	2
List of program schools	3
Control Schools with end line	3
Intervention Schools with end line	3
Intervention Schools w/o end line	3
Methodology	3
Analysis	4
Overall progress	4
Control schools	4
Intervention schools	4
Average of both	5
Category wise progress	5
Subject wise difference	6
Gender wise progress	6
Conclusion	7

Background

In this report you will find the result of first year piloting the Looma project in Nepal. Looma is an audio visual projector that brings interactive teaching learning activities to the classrooms. It is filled with thousands of open source educational materials, contributed by lots of organizations and individuals around the globe. These resources are online and arranged according to the Nepali curricula. They can also be shared amongst other computers connected to it. This is a low power consuming device, so it can be powered up by a solar recharged battery as well. Thus schools without access to electricity and computers can also make use of this device.

This year we teamed up with 11 intervention schools who made the use of this device in their classroom for teaching learning purposes. At the beginning of this project, two teachers and a student from each school (26 teachers and 13 students in total) were trained for 3 days. The training took place in Nawalpur and Kathmandu district for the respective cluster schools. They were trained about the basics to the intermediate features of this device. Looma devices were deployed immediately after the training. After that, other teachers were also made aware of this device by the trained teachers, which helped us receive much valuable feedback. Within this year we have also made many visits to these schools for any operational assistance required and observing classes conducted using Looma. It has been astonishing to find so many of the teachers, even the untrained ones, and students taking an interest in using this device. Shree Hupsekot Secondary School of Nawalpur has been an inspiration as being in an area without access to electricity and internet. They have been using Looma after our team fixed their Solar power system.

In the earlier stage of this project, a baseline assessment with one-third of grade 2 and 6 students was taken. An hour long assessment was based on their curricular requirement of Language, Maths and Science subjects. On the later stage a refresher training was conducted then the project claimed to have ended the first year pilot period. Then the endline assessment of the same students was conducted with only 4.4% absentees replaced. Unfortunately, the endline assessment of three of our

intervention schools could not be conducted as the whole country went into lockdown due to the Coronavirus outbreak.

We have obtained help from four control schools to further evaluate the impact. We also conducted baseline and endline assessment on these schools in similar fashion. We did not find significant progress in control schools when compared to intervention schools. These school names and their districts are listed below.

List of program schools

Control Schools with end line

Janata Secondary School, Nawalpur

Shree Balkalyan Primary School, Nawalpur

Shree Janakalyan Rastriya Basic School, Nawalpur Shree Jwala Basic School, Nawalpur

Intervention Schools with end line

Shree Bhanodaya Basic School, Lalitpur

Shree Kimberly Kindergarten School, Rupandehi

Shree Hupsekot Secondary School, Nawalpur

Shree Janata Basic Level School, Nawalpur

Shree Nepal Shanti Secondary School, Nawalpur

Shree Saraswati Sanskrit and General Secondary School, Nawalpur

Shree Shiksha Bodhini Secondary School, Nawalpur Shree Suryajyoti Secondary School, Nawalpur

Intervention Schools w/o end line

Nalang Model Academy, Dhading

Shree Adarsha Saula Yubak Secondary School, Lalitpur

Shree Siddhi Mangal Secondary School, Lalitpur

Methodology

We conducted baseline tests in November of 2019 on 15 schools. 4 of them were control schools from Nawalpur and the rest were intervention schools (6 from Nawalpur, 3 from Lalitpur, 1 from Rupandehi and 1 from Dhading). In both control and intervention schools, the tests were held in English, Math and Science subjects. Students whose roll numbers were multiple of three were enrolled in this test. This was done keeping in mind to make sure different levels of both male and female students were enrolled.

We implemented the project in intervention schools only. We monitored them by observing how the teachers conducted the class by using Looma. In school training was also conducted to support them throughout the year. We even had a conversation with the students to get the idea of impacts made in schools after using Looma. While in control schools, we didn't visit them throughout the year.

At the end of the year, we conducted endline tests in the control and intervention schools. However, due to the pandemic the whole country went into lockdown in March, 2020, so 3 of the intervention schools were left out from the endline test. We used the same questions and format as the baseline test. We even tested the same students, who appeared in the baseline test, and if any one was absent his/her place was taken by the nearest roll numbered student.

Analysis

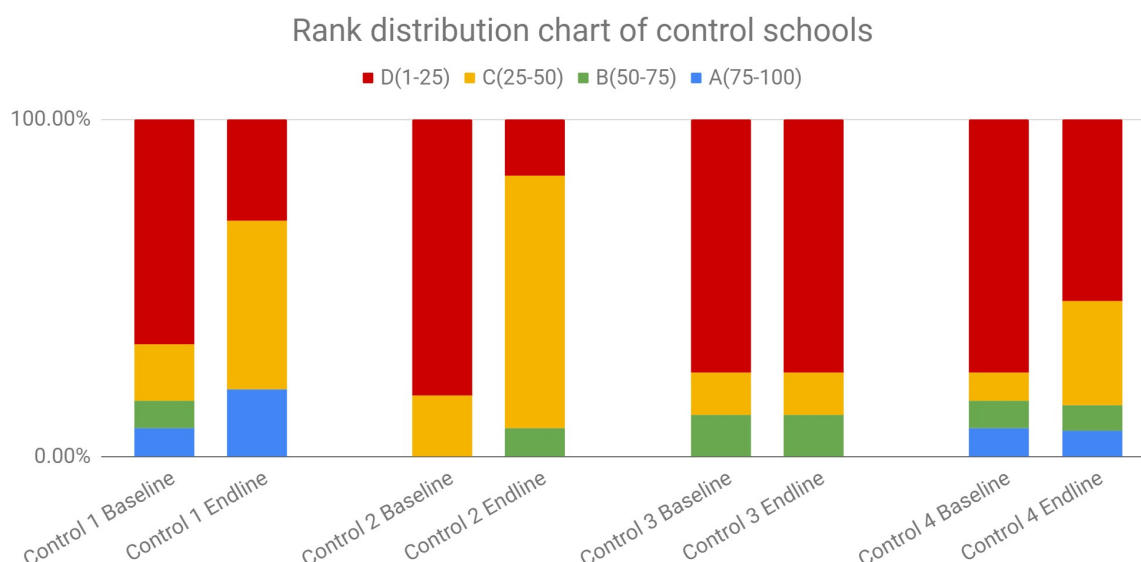
All of these test papers are checked. The scores are entered into google sheets for analysis. Various results can be drawn from the charts extracted from these data. First the overall progress is drawn for the control schools, the intervention schools and the average of both types. Then in the category wise progress, the improvements in various subjects and gender of these types of schools was also drawn. All of these are done using various charts. With no intention to end any of these schools, they have been randomly numbered.

Overall progress

For this we have separated the scores into four different categories, A for those who score 75 to 100, B for 50 to 75, C for 25 to 50 and D for 1 to 25. A is marked using blue color, B using green, C using yellow and D using red.

Control schools

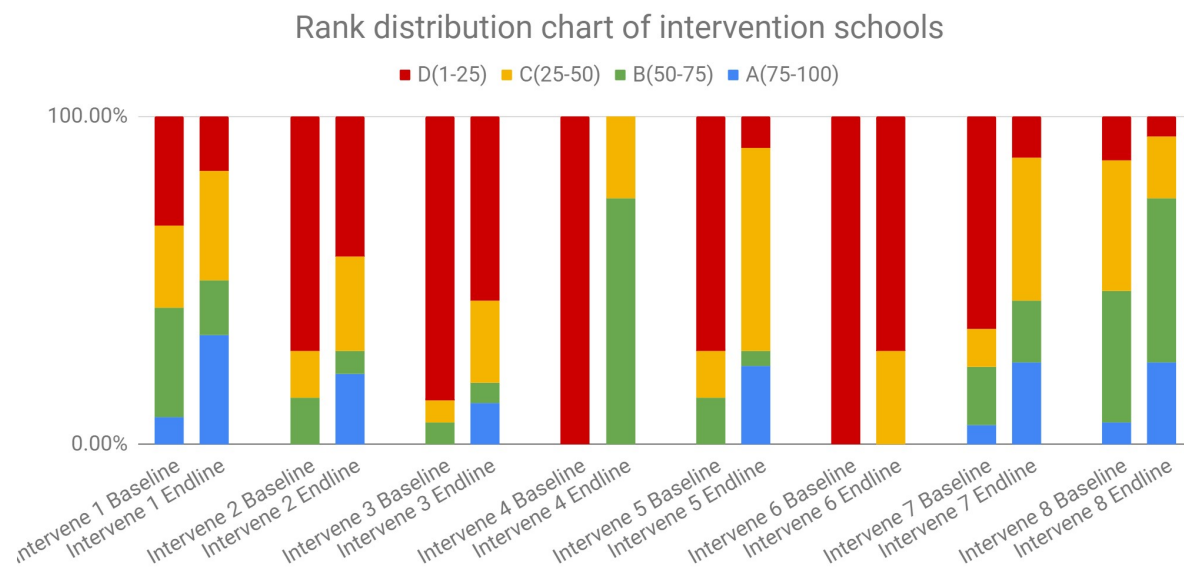
No contact or support of any kind from the project has been done in any of these four control schools. Yet, here are the results presented in a chart from baseline to endline.



As we can observe that not only a little progress has been made from baseline to endline in 4 of these control schools. Two of the control schools have had no A in any of these tests.

Intervention schools

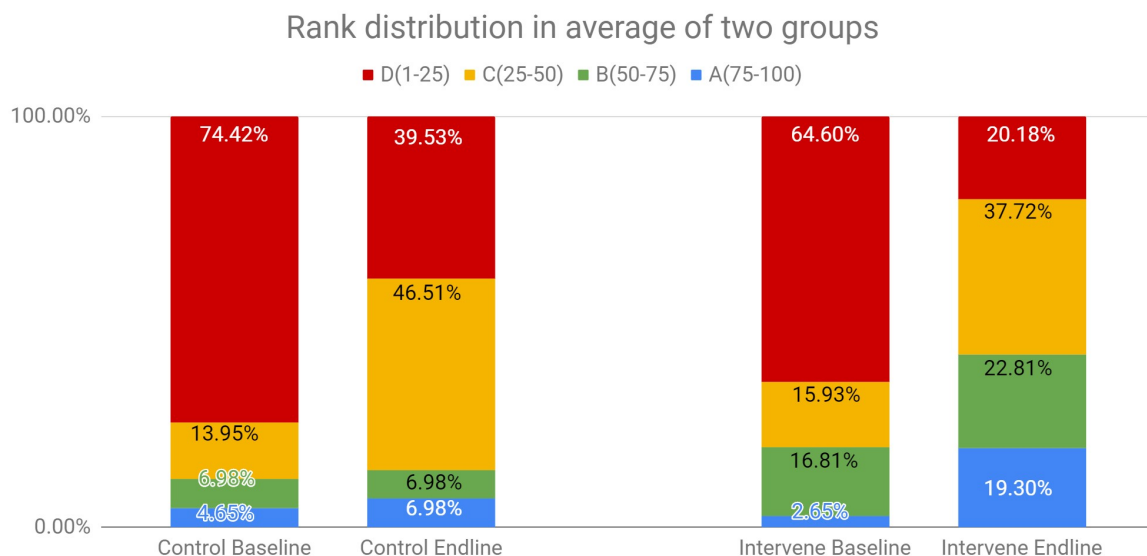
While the improvements in control schools cannot be seen, the intervention schools have shown positive results.



As seen here, the schools have increased a lot of A and B and decreased C and D, which marks the progress from baseline to endline. Two of these schools had only D on their baseline, among which one of them completely got rid of D in the endline test. Other schools have increased their A a lot. All of these schools have shown a significant decrease in D.

Average of both

After comparing the individual schools, we have compared the average of each of these schools to make sure, nothing is left out.



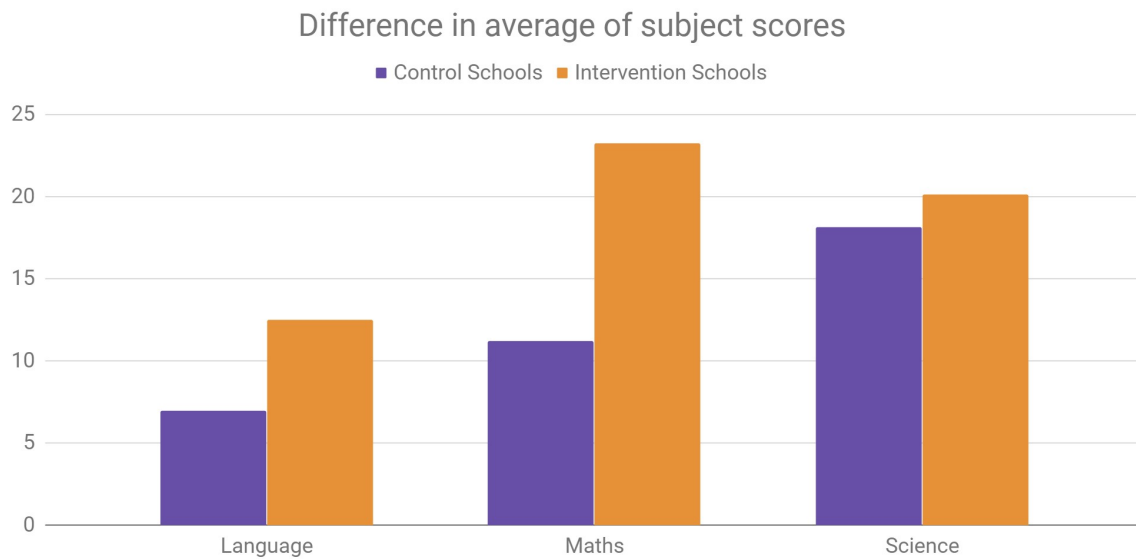
Even on average, the number of A and B is seen to have highly increased in intervention schools when compared to control schools.

Category wise progress

We have done two more comparisons, subject wise difference and gender wise progress, to rule out any of the possibilities in our analysis.

Subject wise difference

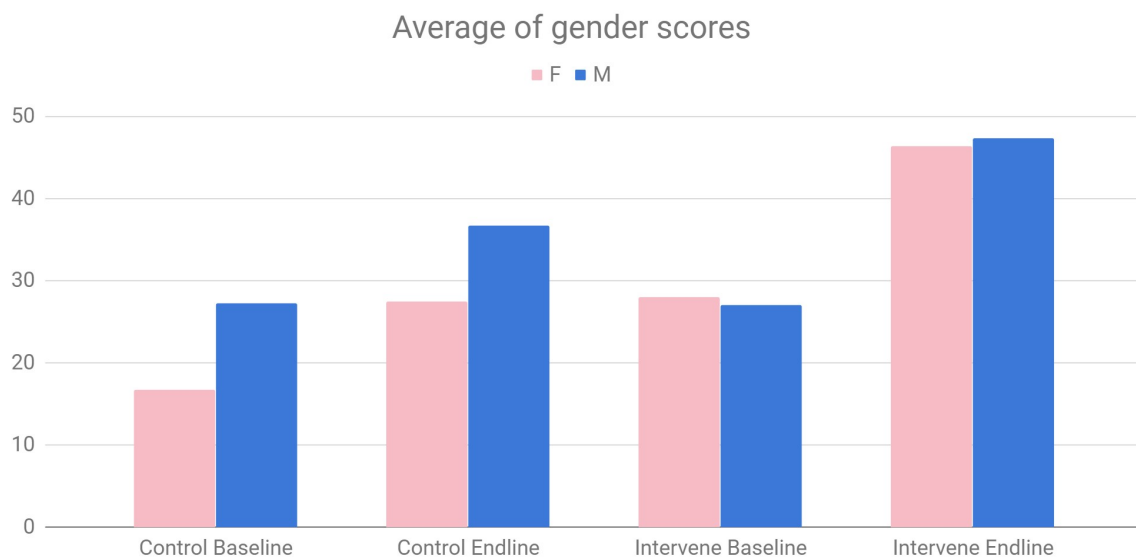
An average score in Language, Math and Science subjects in baseline and endline are calculated separately from control and intervention schools. The results from the endline are subtracted by that from the baseline to see the difference.



It is good that none of the differences came to be negative as it would mean that there has been a deterioration instead of progress made. However the intervention schools, marked with brown bars, seem to have made more progress when compared to control schools, marked with purple bars. The progress is more significant in terms of Maths compared to other subjects.

Gender wise progress

Since we had mixed participants in our test, we took the average of our male and female students from these tests.



In the context of control school, the male students seem to have done well compared to female students. However, in the context of intervention schools, the male and female students have both been progressing together. It is interesting to see that the average score of male students of control schools were head to head with that of intervention schools in baseline.

Conclusion

We can draw the following conclusion from this report:

1. The progress seen in the intervention school is only possible with constant monitoring and support. However, with the deployment of the Looma device in any school, we can expect many behavioural changes in teachers' attitude regarding ICT. While we were piloting this project, the municipality in Nawalpur had announced that the teachers who are not able to learn computers within that year will lose their job next year. For the teachers in our intervention school, it was an opportunity and the first computer they ever used in their life was Looma.
2. With the materials of various subjects related to the national curriculum included in the device, it will not be useful just for the computer teachers but also for the teachers of other subjects in a school. This provision within Looma will help all the teachers and students find a connection to enhance the teaching learning process using digital equipment. Improvement in important subjects will ensure overall progress.
3. A significant difference is observed in Math subjects. This can be because many of the materials here in Looma are in English language. The content related to Math will be easier for the students to understand as they will solve problems using the English alphabets or numbers, regardless of the actual language they study this subject in. This subject will be the quickest one to remove the digital divide from, as the content in this subject will have little to no effect due to language barrier when compared to English and Science subjects.
4. A harmonious environment seems to have also been created in gender wise progression with the introduction of this device. In the intervention schools, we have observed both male and female students taking initiations to use this device for teaching learning purposes. Technology surely does not recognize users according to their gender and this is a very good proof.