

IMPACT EVALUATION REPORT 2022-2023



Looma-Rotary Literacy Project 2023 Impact Evaluation Report, 2022 – 2023 School Year

April, 2023

A report by Looma Education

Table of contents

- I. Background of the Looma-Rotary Literacy Project
 - Photos

- II. List of Rotary Literacy Project Intervention and Control Schools
 - Intervention schools
 - Control schools

- III. Impact Assessment Methods

- IV. Summary of Demographic Data

- V. Analysis
 - Overall progress
 - Control schools
 - Intervention schools
 - Average of both groups
 - Category-wise progress
 - Subject-wise differences
 - Gender-wise progress

- VI. Conclusions

I. Background of the Looma-Rotary Literacy Project

This report provides an outline of the Rotary Literacy Project 2023 and details the initial baseline results of the Looma Impact Survey.



Background - The Looma Idea

Looma Education (looma.education) is a non-profit organization based in California, which is working in Nepal and India to help improve the academic outcomes of these countries' educational systems. Looma Education builds Looma classroom devices which include a powerful computer, high-quality speakers and a bright, long-lasting LED projector. All Nepali grade 1-12 textbooks as well as thousands of lessons, videos, photos, games, applications, and other digital educational aids are pre-loaded on the computer. Having these materials on the Looma device allows them to be accessed even when no internet is available. The Looma devices have been engineered to have very low power requirements, and where required, the Loomas are provided with solar panels, lithium batteries, and power controllers which allow use of the Looma device when power grid electricity is not available. Looma Education also produces educational content including lesson plans, videos, photos, and educational applications which are available online at looma.website. Nepal's Ministry of Education (CEHRD) also uses a version of Looma content for its Learning Portal, which can be accessed from <https://learning.cehrd.edu.np/>.

Background - The Rotary Literacy Project ("Pokhara Project")

For the ongoing Rotary Literacy Project, Looma Education has partnered with Rotary Clubs in Pokhara, Nepal and Woodside-Portola Valley, California in the US. The purpose of this project is to bring the Looma interactive learning experience to government schools in five districts of Western Nepal. Thirty-five "intervention" schools were selected by the Pokhara Rotary Club to participate in the project and receive Looma devices. Two teachers and two students from each of these schools attended a two-day training presented by the Looma Nepal team. The trainings introduced Looma functionality and focused on a student-centered educational pedagogy. Each school was provided with a Looma device at the conclusion of the training. These trainings were given in Pokhara (Kaski District), Besishahar (Lamjung District), and Gorkha Bazaar (Gorkha District).

Teachers and students were encouraged to share their newfound knowledge and skills with their peers upon return to their respective schools. Since these training sessions, Looma staff members have visited virtually all of the intervention schools to provide assistance and guidance; this support will continue into the future.

At the trainings, local and national educational leaders were invited to give their perspectives on education in Nepal, and their visions for the future. Teachers learned how to access content, make lesson plans tailored to their needs, increase their use of active learning strategies, and care for the Looma devices. Students were taught the basics of Looma use, and spent considerable time playing Looma educational games, exploring video offerings, and working with interactive learning modules.

Background - Impact Assessment

To assess the impact of Looma on academic performance, a field study is being implemented. Thus far, two separate assessment surveys (Dec/Jan 2023, and then March 2023) have been employed for 5th and 8th grade students in Looma Intervention schools (schools provided with a Looma device) and Control schools (schools not provided with a Looma device) using different assessments for each grade.

The goal of the impact assessment is to determine whether use of Looma devices and content in the classroom positively influences student learning, and in what ways this may be happening. Demographic factors such as parental education, student academic support outside of school, and life conditions were also assessed. Other questions addressed the use of Looma content in the classroom, and ways in which Looma content and use can be improved.

The central hypothesis guiding this study is that Looma intervention school students will increase their scores by significantly more than control school students who are not using Looma. See *Impact of Looma on Nepalese School Children's Academic Performance*, Sowerwine et.al., 2022.

II. List of Rotary Literacy Project Intervention and Control Schools

Intervention Schools (District)	Control schools (District)
3 Shree Janata (Gorkha)	1 Shree Bighyan Elementary (Gorkha)
6 Shree Akala (Gorkha)	2 Shree Champawati (Gorkha)
7 Shree Saraswoti (Gorkha)	3 Shree Sharada (Gorkha)
10 Mahendra Lila (Gorkha)	4 Shree Arnya Jyoti (Lamjung)
12 Shree Ganga Milan (Lamjung)	5 Shree Amar (Lamjung)
14 Shree Jana Kalyan (Lamjung)	6 Shree Yesho Bharna (Lamjung)
15 Shree Jana Jagriti (Lamjung)	7 Shree Mahendra (Lamjung)
16 Shree Bal Bikash (Lamjung)	8 Shree Ganesh (Lamjung)
17 Annapurna (Lamjung)	
18 Shree Chaitanodya (Lamjung)	
21 Shree Kanya (Kaski)	
22 Shree Gyan Bhoomi (Kaski)	
27 Shree Janata (Kaski)	
28 Shree Chorepataan (Kaski)	
30 Shree Barahi (Kaski)	
33 Shree Mahendra (Kaski)	
35 Shree Janak (Parbat)	

III. Impact Assessment Methods

The previous Looma 2018 Project piloted the impact assessment methodology. The 2018 project assessed students in grades two and six. Students in eleven intervention schools and four control schools were surveyed. This assessment indicated the likelihood of a positive impact due to Looma use (see Looma Impact Evaluation Report, First Year Pilot, https://drive.google.com/file/d/1SP8ZReTOcyuLmq1D5p27K3Ss3y1sgGhi/view?usp=share_link, May 2020)

For the Rotary Literacy Project 2023, baseline surveys were administered between December 4, 2022 and January 5, 2023. Teacher/student trainings were held between January 23, 2023 and February 3, 2023. Schools received Looma devices at the conclusion of their respective training sessions. A second set of surveys of the same students were conducted between March 2 and March 17, 2023. This second set of surveys were administered in approximately the same order as the pre-surveys had been given in order to make the Looma use window similar for all intervention schools. School support visits by Looma field staff had been conducted in the period between training and the second survey administration. These support visits will resume with the start of the next school year, beginning in late April, 2023. An extension of this survey process, evaluating grades 6 and 9 (thus assessing approximately the same cohort of students), will be conducted in fall of 2023 and will conclude with the end of the 2023-24 school year in April 2024.

The survey content from the fields of English, Mathematics, Science and Critical Thinking were assessed. The questions from English, Mathematics, and Science were designed based on the Nepal government curriculum, and used questions ranging from very easy to very difficult in order to bracket the students' abilities; critical thinking questions were related to content in the government curriculum. Fifth and eighth grades were selected for assessment based on the availability of government textbooks at the beginning of the project period. Survey instructions, demographic questions, and survey questions in Mathematics, Science and Critical Thinking were provided in both Nepali and English. In the English section of the survey, questions were given only in the English language. Questions were altered slightly for each survey to ensure original thinking in each.

In order to obtain an adequate representative sample size of the target audience (students in grades 5 and 8), approximately one-third of the students at each school were surveyed in the 17 intervention schools and 8 control schools. To minimize bias, random sampling of the target audience was done using student roll numbers, selecting one-third of each class by using the [Random.org](https://www.random.org/) web application. We attempted to assess the same students for both of these baseline surveys; however, if a student was absent, we replaced this student with the nearest roll-number student. Demographic information, including gender, family support, life changes, and in-class use of Loomas were assessed.

Constraints: The original plan of work called for pre-surveys to be given October-November of 2022, to be followed immediately by trainings and rollout of Looma devices. Due to supply chain issues stemming from the Covid-19 pandemic, Looma devices were not available until February of 2023. Pre-surveys were thus given in December-January. Local school testing and government exam periods required conclusion of post-surveys before March 17. Therefore, schools had a maximum of 10 weeks of education between pre- and post-surveys (approximately 44 school days maximum), and more importantly, a term of about 18-23 school

days between receipt of Looma devices and post-survey administration. Furthermore, some teachers were reluctant to begin Looma use so near to the stressful final testing periods. Continuation of the impact evaluation process through the next year should allow adequate time for incorporation of Looma into the intervention school classrooms, and thus reliable results can be anticipated.

Grading and data input were conducted immediately after administration of pre- and post-surveys.

IV. Summary of Demographic Data

We surveyed a total of 409 students, with 167 from 5th grade, and 242 from 8th grade. Of this number 311 were Intervention School students and 98 were from Control Schools. Intervention schools included 126 students from 5th grade and 185 8th graders. Of the 98 Control School students, 41 were 5th grade, and 57 were 8th graders.

Of the students surveyed, 235 were females and 174 were males. This reflects the gender makeup of the schools.

Of the 409 total students, 34 reported that their father had received no education, while 80 responded that their mother had received no education. 180 students of the 409 indicated that their father had received some primary-level education (between grade 1-8), while 134 responded that their mother had received some primary education. Of the 409 total students, 172 responded that their father had received education ending sometime in high school (9-12), while 166 stated that their mother's education reached somewhere into high school. Ten students responded that their father had received college-level education, while 11 said that their mother had received college-level education.

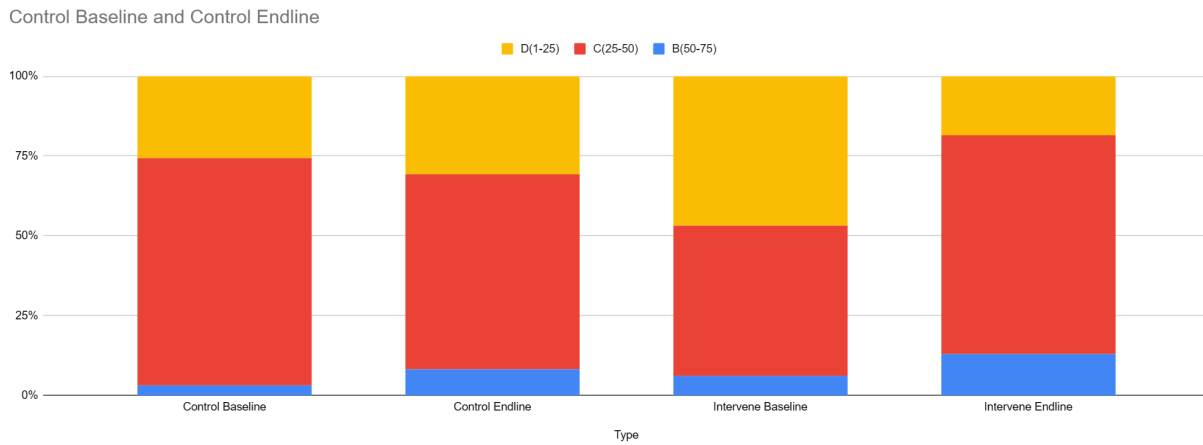
Fifth grade students reported that they spent an average of 2.2 hrs (2.17 intervention, 2.22 control) doing homework each day. Eighth grade students reported an average of 2.45 hrs (2.54 intervention, 2.41 control) of homework each day.

Of the 311 students in the Intervention Schools, 70.0 % reported that they had access to an internet-connected device (phone, tablet, laptop, etc). Sixty-four percent of students in Control Schools reported access to such devices.

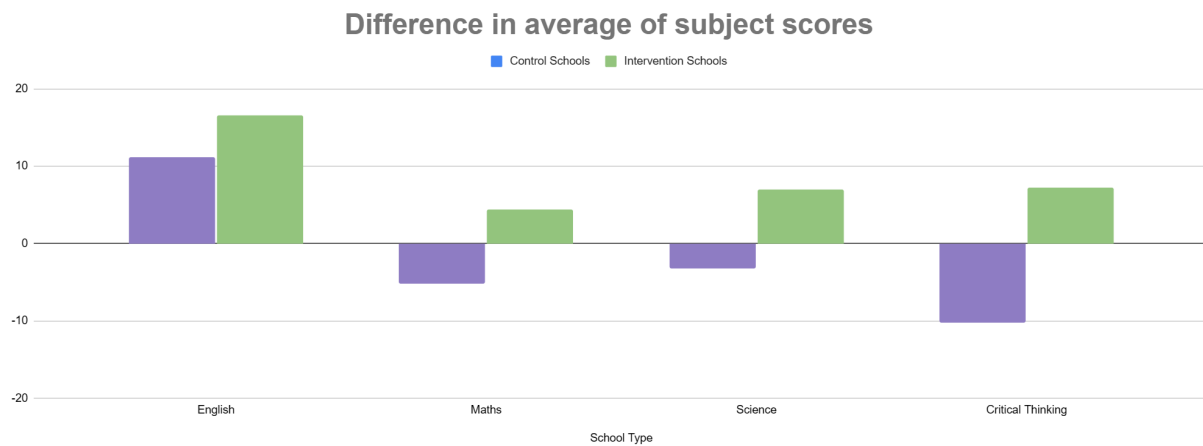
V. Analysis

All test items were checked, and the scores were entered into Google Sheets for analysis. We compared the growth of students in Looma Intervention schools with the growth of students in Control schools. We compared each subject separately (English, Mathematics, Science, Critical Thinking), and in the aggregate. Scores were separated by proficiency (grades of A, B, C, D). A is coded in blue, B green, C yellow, and D are red.

Overall Progress – Control Schools and Intervention Schools

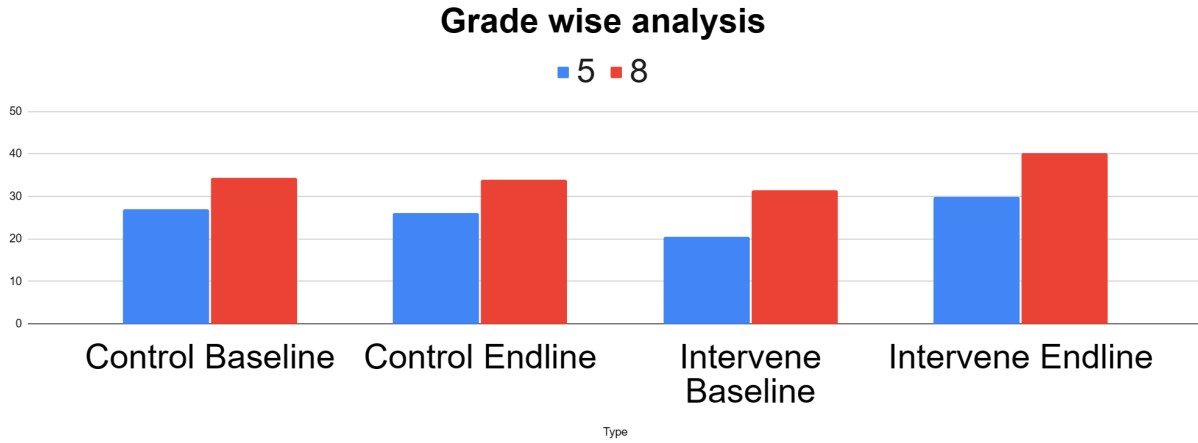


Comparison of overall progress between Control and Intervention schools

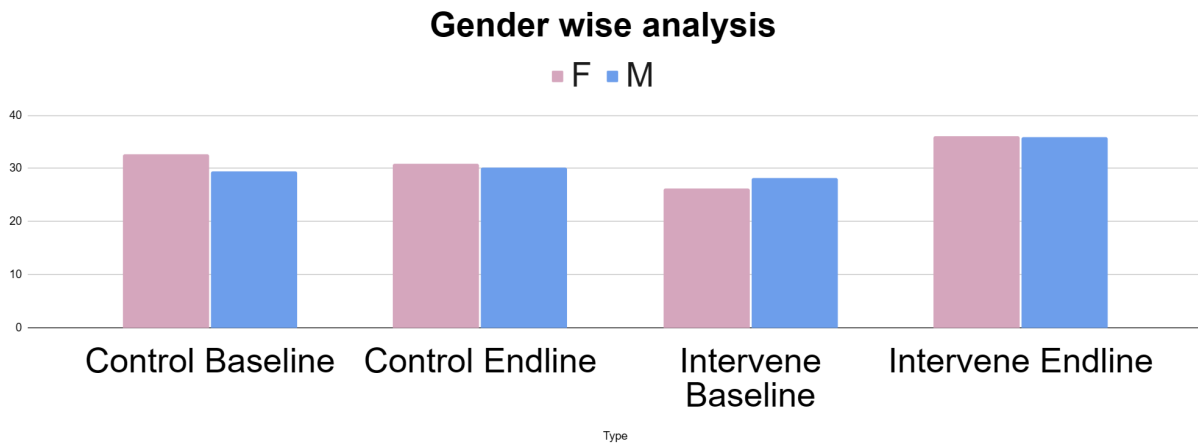


Category Comparison

Grade-wise comparison of academic progress



Gender-wise comparison of academic progress



VI. Conclusions

These survey results give us a baseline for comparison between Intervention and Control schools. We were hoping to have an adequate time period of Looma use by which we could begin to understand the level of impact of Looma device use. However, we were greatly hindered by the short term of use of Looma devices in Intervention schools. Therefore, these two surveys together should be considered as baseline data.

It is important to note that survey methods, and issues such as demographic and academic question style and format were learned and improved on by Looma staff, ensuring even higher-quality results in the future.