AIF AMERICAN INDIA FOUNDATION

STRENGTHENING LEARNING OUTCOMES FOR CHILDREN OF MIGRANT COMMUNITIES

AN EVALUATION OF THE LEARNING AND MIGRATION PROGRAM (LAMP)

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About the Learning and Migration Program
AIF's Learning and Migration Program (LAMP) provides access to quality education opportunities to children in areas of seasonal migration, while also advocating to communities and governments the universal right to education. Since 2004, LAMP has reached 583,877 children with quality education opportunities in over 2,279 villages across 13 states of India.

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Foreword

This report brings back old and fond memories of my numerous visits to Nuapada to spend time with the NGO Lokadrusti led by Abani Panigrahi, an early partner of the Learning and Migration Program (LAMP) of the American India Foundation (AIF). I am delighted to be asked to write its foreword.

Seasonal migration is not new to India and as long as parts of the country constitute a rain-fed single-crop economy, it will continue. And, as AIF discovered during background research for LAMP, seasonal migration is a pan-India phenomenon. It links workers to myriad occupations that start immediately after the monsoons and continue till it is time for the kharif sowing. Sugarcane cutting, salt pan work, and brick kilns (AIF's focus sectors) are but three such occupations designed around seasonal migration – they just shut down during the monsoons and restart immediately after.

Odisha, particularly western Odisha is without a doubt, most prone to seasonal migration. It presents the deadly combination of being a rain-fed and drought-prone land, peopled mainly by impoverished Adivasi communities who are either landless or own marginal lands in the slopes and so are heavily dependent on agriculture labour for their livelihood. So, once the kharif crop is harvested and work dries up, migration is almost the only option for survival. Migration to brick kilns is very common where work units called *pathariya* (each comprising a man, a woman, and a child) are de facto bonded by middlemen (through the lure of opportune money advances) to work at brick kilns in Andhra Pradesh.

As the child migrates during the critical part of the school year, and does that for a few years, getting her back to school, especially in an age-appropriate class becomes more and more distant a possibility. In this context, LAMP is not just a relevant but a crucial intervention. It's first response had two key components—one, to ensure that the migrant child does not drop out; and two, to persuade migrant parents to opt for occupations that (unlike the pathariya system) do not require the child to move. LAMP, in its initial phase, focused on setting up site schools in the locations where children migrated to, and soon began bridge classes as well to

mainstream children on their return from migration. Recognizing that these were interim solutions and very difficult to ensure quality, LAMP set up seasonal hostels in the next phase to provide safety and support to children who stayed back while their parents migrated and strengthen the quality of education in these areas. This entailed trust building with parents to persuade more and more migrating families to leave their children behind and let them attend school.

Learning Resources Centers (LRCs) are the latest in the continuous evolution that the LAMP has seen in Odisha. Working on a hub-spoke model covering 200 schools in Nuapada, its principal objective is to improve learning levels, not just in the schools it covers but in the larger education ecosystem by working with government school teachers. This report presents the results of an assessment study conducted in 2018 to evaluate the impact of LRCs on the learning outcomes of students and the related impact on communities, LRC facilitators, and teachers.

As the report shows, the results have been encouraging to say the least. Compared to the baseline, the learning levels across mathematics, science and Odiya has improved by a factor of 2.6 to 2.9. Even compared to the control schools, the schools that are part of LAMP show significantly higher achievement levels. Further, the study found that students were more "school ready" which meant they were better prepared both technically and socially to deal with a new school and classroom environment. An interesting new component is the introduction of a hub-spoke model, which is universally used to cascade and scale a program. Hub schools seem to perform better than spoke schools, and the next level of research would be to evaluate how spoke schools compare with control schools. Stakeholders – parents, principals, teachers, SMCs – expressed great faith and spoke positively about the program.

This report will provide valuable insights for educationists, policy-makers, administrators, multilateral development agencies, implementation agencies, civil society organizations, and practitioners in the area of child development and education. All in all, there is every reason to believe that the intervention is worth replicating at scale.

I remember spending many a fun evening with children at the seasonal hostels. I recall their enthusiastic and smiling faces and was often overwhelmed by the huge responsibility the caretakers of these seasonal hostels carried keeping these children, left in trust by their parents, safe, fed, groomed and learning. When I see the results of this study, I feel this trust has been, to an extent, repaid.

Shankar Venkateswaran
Founding Executive Director, AIF
Chair, Oxfam India

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This report is the result of deep collaboration across many individuals and organizations. The evaluation and research team wishes to thank all those who have contributed their time, energy, and expertise to successfully compiling this report.

We value our longstanding relationships with all the supporters and donors for their unshakeable faith in us through the 15 years journey of LAMP and wish to thank them for their generous contribution. In particular, we extend our sincere gratitude to the donor, Western Digital Foundation (formerly Sandisk Foundation), who made this study and report possible.

AIF credits the success of LAMP to everyone who has been involved with the program right from inception to date, due to whom LAMP is a scalable and replicable model today.

We are deeply thankful to Lokadrusti for making themselves available at all stages of this study and for providing meaningful insights on the geography of the LRCs that came under its purview. Their steadfast commitment to LAMP spanning over a decade has forged with them one of AIF's most valued relationships.

We are grateful to the AIF's Board and management for their unflinching belief in LAMP. We appreciate the commitment of the AIF LAMP team, implementation partners, LRC facilitators, resource persons, government school teachers and headmasters, members of Panchayati Raj Institutions (PRIs), Block coordinators, staff of the seasonal hostels, parents, members of school management committees, and the communities that LAMP works with. We also acknowledge the contribution of Arjun Sanyal and Kundan Mishra, formerly with the LAMP team, who gave their inputs at the conceptualization of this study. The real heroes of this success story, are, of course, the over half a million children who have benefitted from LAMP till date.

It is our honest attempt to thank everyone, and any omission is inadvertent.

Abbreviations and Acronyms

ADEO	Additional District Education Officer
AIF	American India Foundation
AWW	Anganwadi worker
FGD	Focused Group Discussion
IDI	In-depth Interview
LAMP	Learning and Migration Program
LAT	Learner's Achievement Test
LEP	Learning Enrichment Program
LO	Learning Outcome
LRC	Learning Resource Center
NGO	Nongovernmental Organization
RCC	Residential Care Center
SMC	School Management Committee
SRI	School Readiness Instrument
TLM	Teaching–Learning Material

Glossary

Hub schools	The Learning Resource Center works on a hub and spoke model wherein each hub serves as a nodal point and is attached with 5–6 spoke schools in the respective blocks with the LRC facilitator managing all the activities within the cluster.
Spoke schools	These are the 5–6 schools covered by the LRC facilitator on a weekly basis, providing handholding support to government school teachers on LAMP pedagogy, best classroom practices and proper use of teaching learning materials (TLMs).
Treatment schools	Schools where the LRC intervention is being undertaken either as hub or spoke
Treatment students	Students covered by the LRC intervention in either the hub or the spoke schools
Control schools/ students	Schools/students not exposed to the LRC intervention either as hubs or spokes
Baseline data	Data on learning outcomes of students collected before the LRC intervention, that is, before the exposure of treatment students to LRCs
Endline data	Data on learning outcomes collected during the study after the exposure of treatment students to LRCs

Executive Summary

Sarva Shiksha Abhiyan in India has tried to universalize elementary education. In order to achieve this goal, the country enacted the Right to Free and Compulsory Education Act in the year 2009 (RTE Act 2009) which mandates that every child in the age of 6 to 14 years has the constitutional right to quality, inclusive, and child-friendly education. The RTE Act (2009) implies that, "every child has a right to full-time elementary education of satisfactory and equitable quality in a formal school which satisfies certain essential norms and standards".[1] Nevertheless, there are many communities in India whose children continue to be deprived of quality education.

Nuapada in West Odisha, one of the most backward districts in the country, witnesses seasonal exodus of its villagers to other states in search of livelihood options driven by repeated droughts, irregular terrain, and low levels of literacy. Children usually migrate with their parents, which results in increase in school drop outs. Even those who stay back with siblings, relatives, or caregivers are often irregular in attending school. In order to arrest the dropout of children from schools and improve their access to quality education, American India Foundation (AIF) launched the Learning and Migration Program (LAMP) in five migration-prone blocks in Nuapada district of Odisha. Since 2004, AIF has implemented a series of interventions under LAMP, such as Seasonal Hostels (SHs), the Learning Enrichment Program (LEP), and Learning Resource Centers (LRCs). LAMP operates in highly underserved, remote regions, where school dropout often occurs due to seasonal migration by the entire family.

With implementing partner Lokadrusti, LRCs have reached out to children across 200 schools in Nuapada since 2013. Based on a hub-and-spoke model, each hub LRC serves as a nodal point attached with 5–6 spoke schools in the vicinity. One LRC facilitator manages all the activities within a (hub–spokes) cluster, engaging with children from grades III to VIII before and after

> ***The LRCs began in the year 2013 and reached out to the Nuapada district of Odisha. The intervention is implemented by the NGO Lokadrusti and spans across 200 schools.***

[1] https://mhrd.gov.in/rte

school hours. By design, students of hub schools receive more intensive guidance than those in spoke schools.

The current study attempts to evaluate the impact of LRCs on the learning outcomes of students and the related impact on communities, LRC facilitators, and teachers. The study adopted a before–after (comparison between baseline and endline) and after–after (comparison between treatment [hub–spokes] and control [non-intervention] group). Data collection was done using a mixed method approach. A Learner's Achievement Test (LAT) was conducted for classes III–VIII.

Impact on Learning Outcomes

Mathematics

1. The mean scores for Math during the endline in hub schools was 2.89 times the score of the treatment students in the baseline. The difference in the mean scores was also found to be statistically significant for all classes except Class III. One of the probable reasons could be that the Class III students were exposed to the LRC intervention for only a year.

2. The mean Math score of treatment students was 1.22 times the score of control students. The difference in the mean scores was statistically significant for all classes.

3. Students studying in hub schools have lower learning deficit in comparison to students of spoke schools in Math. On an average the hub Math scores were more than 1.24 times the spoke Math scores. The difference in the mean scores was statistically significant for all classes.

Science

4. On an average (for hub and spoke schools together) the scores for endline were more than double (2.63 times) the baseline scores for Science. The difference in the mean scores was statistically significant for all classes.

5. Treatment students had lower learning deficit in comparison to control (non-LRC) students in Science. On an average the LRC Science scores were more than 1.35 times the non-LRC scores. The difference in the mean scores was statistically significant for all classes.

6. Students studying in hub schools had lower learning deficit in Science as compared to students in spoke schools. On an average the Science scores of hub students were more than 1.29 times that of spoke Science scores. The difference in the mean scores was statistically significant for all classes.

Language (Odia)

7. On an average (for hub and spoke schools together) the Language scores for endline were more than double (2.64 times) the baseline scores. The difference in the mean scores was statistically significant for all classes.

"On an average (for hub and spoke schools together) the scores for endline were more than double (2.63 times) the baseline scores for Science. The difference in the mean scores was statistically significant for all classes.

8. Treatment students had lower learning deficit in Odia as compared to control students. On an average the Odia scores of hub and spoke students were more than 1.3 times that of non-LRC students. The difference in the mean scores was statistically significant for classes III and VII.

9. Students studying in hub schools had lower learning deficit in Language as compared to students of spoke schools. On an average the hub scores in Odia were more than 1.19 times the Odia spoke scores. The difference in the mean scores was statistically significant for all classes.

School Readiness

10. Learning outcomes of students, post-LRC intervention, improved as compared to the baseline in school readiness in classes I and II. Students of LRCs were more school ready as compared to the baseline. 'Ready children' could successfully transition to higher grades in school. On an average, LRC students had more than double the scores (2.12 times) of baseline students. The difference in the mean scores was statistically significant for classes I and II.

11. Students who underwent LRC intervention were better enabled

> ***Students who underwent LRC intervention were better enabled to transition to higher grades in school as compared to non-intervention students.***

to transition to higher grades in school as compared to non-intervention students. On an average, school readiness scores of LRC students were 1.03 times that of the control students. The difference in the mean scores was statistically significant for classes I and II.

Impact on Stakeholders

Of the respondent members of **School Management Committees (SMCs),** 91% reported awareness about their roles and responsibilities under the Right to Education Act 2009. When probed on the deliberation themes in SMC meetings, 85% acknowledged discussions regarding performance of the school children, progress of the school, and extra- and co-curricular activities.

Of the respondent SMC members, 75% discussed LRC interventions in the meetings and 67.5% strongly believed that LRC helps in retaining children in school.

Head **teachers** noticed improvement in class performance, reduction in absenteeism, and decrease in drop-out rate because of LRC intervention in government schools. Four of five teachers believed that parents had an increased level of awareness regarding education of students, they regularly sent their children to school, and that their participation had increased in monthly meetings.

It was found that **parents** were more intensely engaged in the performance of their wards in schools. They were more involved with the teachers and LRC facilitators in understanding the gap areas and working towards improving learning achievements of students. This is mostly due to the efforts of the LRC facilitators in engaging with parents, informing them about the progress of their children, and involving them in LRC management.

Field visits to LRCs revealed teaching methods that included creative demonstrations, experiments, and art work in class. Each LRC was found to adopt a unique approach to delivering learning through teaching–learning materials (TLMs), group exercises, demonstrations etc. Students were found to be self-motivated, curious, and engrossed in the activities conducted.

Each LRC was found to adopt a unique approach to delivering learning through teaching–learning materials (TLMs), group exercises, and demonstrations.

1

Introduction

In developing countries, seasonal labor migration is a household livelihood strategy to cope with poverty. Mainstreaming children of migrant families into the development process is a big challenge in attaining the goal of universal primary education and inclusive growth in a country like India.

Learning and Migration Program (LAMP), a flagship program of AIF (since 2004) operates in highly underserved and remote districts of India, where children drop out of school owed to distress seasonal migration and frequently end up laboring in hazardous industries such as brick kilns.

With the children and their migrant families constantly on the move, it is difficult to get their precise count. However, empirical evidence from across the globe indicates that the numbers are significant.

1.1 The Context of Seasonal Labor Migration

In developing countries, seasonal labor migration is a household livelihood strategy to cope with poverty. The children of such migrants are either left behind in the villages (under the care of older relatives) or forced to move with their parents to locations where work may be found. Those that migrate seasonally often remain out of school or are forced to drop out; many are put to work as child labor. Thus, mainstreaming these children in the development process is a big challenge in attaining the goal of universal primary education and inclusive growth in a country like India.

With the children and their families constantly on the move, it is difficult to get their precise count. However, empirical evidence from across the globe indicates that the numbers are significant. For example, 18%–40% children in Bangladesh, 50%–60% in Tanzania, and 80% in Mali are reported living in migrant households in rural areas. Roughly a million children in Indonesia and half-a-million in Thailand are left behind by parents working overseas. Similarly, the wives and children are left behind in most of the rural out-migrant households in eastern India.[1]
Labor migrants based on their family association and nature of movement may be grouped as:

- seasonal/temporary without-family migrants
- semi/permanent with-family migrants
- seasonal/temporary with-family migrants

In the poverty-prone regions of eastern India, male migration is a 'culturally accepted' livelihood strategy or a coping mechanism during duress. This type of migration potentially plays both a positive and a negative role in the education of children who are left behind. On one hand, remittances are seen to improve school enrolment/attendance of left-behind children; while on the other, the absence of the father puts the children at the risk of lax discipline, poor performance, dropping out of school, or being put to child labor. In cases where the family of the male migrant also shifts gradually to the place of work and settles in the mid-long-term, the children do have a chance of being part of a formal schooling and healthcare system.

In an alternate model, often followed by extremely deprived or marginalized communities such as tribal folk, the entire family migrates in a bid to survive. They generally find low-paid menial work at brick kilns or salt pans, in sugarcane harvesting, stone quarrying, construction, plantations, or fishing. Since work is seasonal and temporary, these families keep oscillating between their village homestead and multiple work

[1] Archana K. Roy, Pappu Singh, and UN Roy (2015), 'Impact of Rural–Urban Labour Migration on Education of Children: A Case Study of Left Behind and Accompanied Migrant Children in India', *Space and Culture*, 2(4), p. 18.

destinations with the children bearing the brunt of the uncertainties.

Like the rest of eastern India, migration is a key survival tool for the rural poor in Odisha too. About 66% of workers from coastal Odisha and 88% from west Odisha travel beyond the state boundaries in search of work each year. Of the migrants from west Odisha, about 26% find employment in the construction, brick making, agriculture, and transportation in Chhattisgarh (primarily in the districts of Raipur and Durg). Another 8% head for Hyderabad, Ranga Reddy, and Vishakhapatnam districts of Andhra Pradesh, again to find work in brick making. A tenth of the west Odisha migrants reach the construction sector of Gujarat, primarily Rajkot.[2]

1.2 Migration from Nuapada and its Impact on the Children

Noteworthy for its adverse impact on children is the ***pathariya* system** practiced in the districts of west Odisha (including Nuapada). The pathariya represents a migrating work unit of a man, a woman, and one or two children (6–14 years old).

[2] See : http://www.aajeevika.org/assets/pdfs/Odisha%20State%20Migration%20Profile%20Report.pdf

Labor contractors (locally known as *dalals*) lure the pathariya (basically the family unit) with a fixed monetary advance to the brick kilns of Andhra Pradesh and force the children into labor. Poor families of districts such as Nuapada are driven by recurrent and severe droughts in the region into this form of modern-day slavery.

To alleviate the circumstances, the Odisha government has initiated a slew of measures that include the provision of healthcare and education to the families that the migrants leave behind, the rescue of workers caught in difficult situations in other states, and the setting up of help desks for migrant Odia workers in Telangana, Andhra Pradesh, Tamil Nadu, Karnataka, and Delhi.

In Odisha, AIF's Residential Care Centers (RCCs) have been set up to enable school-going children to stay back safely with the community and continue studying in the village school when their parents migrated out. The RCCs were first started in 2004–05 in Balangir district and then extended to the Khariar block of Nuapada district. Under the initiative, a seasonal hostel was set up in a school located such that children of migrants from three to four nearby villages or schools could live and study in it. During the RCC stay, the midday meals of the hostel inmates were transferred from the parent school to the school that housed the RCC. Initially the RCCs were run by nongovernmental organizations (NGOs) with government funding; eventually the state government took over direct operations.

1.3 The Learning Resource Center within the Learning and Migration Program

Learning and Migration Program (LAMP), a flagship program of the American India Foundation (AIF) operates in highly underserved and remote districts of India, where children drop out of school owed to distress seasonal migration by the entire family (as opposed to just male migration) and frequently end up laboring in hazardous industries such as brick kilns. LAMP works to ensure that these children remain in the school net, develop strong foundational skills, and improve retention onto secondary school.

Since 2004, AIF has implemented a series of interventions such as Seasonal Hostels, Learning Enrichment Program (LEP), and Learning Resource Centers (LRCs) under LAMP (Table 1.1).

Table 1.1: Migrant Children under LAMP

	Number of Seasonal Hostels	Children Enrolled in Seasonal Hostels			Children Enrolled in Bridge Camps after Returning to Home Village			Children of Migrant Parents Living with Caregivers		
		Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
2004–05	7	112	81	193	0	0	0	0	0	0
2005–06	16	325	221	546	110	116	226	0	0	0
2006–07	30	677	426	1103	228	190	418	0	0	0
2007–08	24	417	208	625	420	325	745	0	0	0
2008–09	30	508	226	734	400	364	764	0	0	0
2009–10	35	579	260	839	0	0	0	0	0	0
2010–11	16	248	129	377	0	0	0	230	195	425
2011–12	10	166	88	254	0	0	0	396	336	732
2012–13	59	1316	943	2259	0	0	0	121	78	199
2013–14	124	2651	1786	4437	0	0	0	263	199	462
2014–15	188	3869	2732	6601	0	0	0	635	362	997
2015–16	235	3826	5054	8880	0	0	0	509	442	951
2016–17	179	3937	3141	7078	0	0	0	495	405	900
2017–18	188	4290	3392	7682	0	0	0	1059	851	1910
2018–19	155	2803	3907	6710	0	0	0	469	528	997
Total	**1,296**	**25,724**	**22,594**	**48,318**	**1,158**	**995**	**2,153**	**4,177**	**3,396**	**7,573**

Note: Seasonal hostels are run by school management committees with support of Sarva Shiksha Abhiyan and technical assistance from AIF/Lokadrusti.

1.3.1 Seasonal Hostels

With the advent of LAMP, seasonal hostels (like the RCCs) provided space and opportunity for children of migrant families to stay back and continue with schooling while the parents were away. Located within the village, the hostel was viewed as being part of the trusted environment of community, relatives, and friends where the children could be left safely. The children were free to visit their homes and homes of relatives. At the same time, seasonal hostels were administratively complex, expensive, and required a greater degree of community support as well as closer and more regular interaction with formal schools.

1.3.2 Learning Enrichment Program

LAMP's LEP was designed to address the learning needs of first generation learners. In the process of demonstrating the enormous learning potential of children through the pedagogic practices followed in LEP, there was an attempt to influence government school teachers, especially in early primary grades (I–V), to adopt these practices. The aim was to address the endemic problem of learning

LRCs serve as information hubs which keep children updated about scholarships, education schemes, entrance examinations, and opportunities available for higher/ vocational education.

deficits among children (especially those from Schedule Tribes) and their exclusion from schooling.

The LEP was implemented first inside seasonal hostels and subsequently in or outside government schools. Initially rolled out as a short-term remediation measure to bridge the competency deficit of the migrant children, it was subsequently extended to other children. It specifically targeted children of classes III–V who were not able to read, write, or count (competencies expected in classes I–II). Facilitators from NGOs would conduct these special classes before or after school hours, and it was envisioned that some of the good practices demonstrated in LEP would be adopted by the government-schoolteachers too. The LEP had a structured curriculum, a specific set of workbooks and materials, weekly instructional plans, and training plans. It was codified to an extent that made it easy to replicate and scale, and LEP was implemented across four states in four different languages.

Despite the apparent successes where the LEP did improve learning outcomes significantly, the model had its limitations. Having facilitators take 2-hour sessions, both before and after school was extremely difficult. There were only a few instances wherein teachers witnessing the progress made by LEP children, proactively asked for training. Since the LEP sessions were held either before or after school hours, most teachers never even got to see what these sessions were like. This made the institutionalization of LEP practices very difficult.

1.3.3 Learning Resource Centers

Challenges faced during the LEP were sought to be met through LRCs 2013 onward. Implemented by the NGO Lokadrusti, the intervention spans 200 schools in Nuapada, Odisha. The LRCs run in government school classrooms and community-owned spaces located in villages, which cater to children from 7 to 10 nearby schools. The centers serve as nodal points to support learning and encourage local children to continue education. With a focus on improving language (both local and English), Mathematics, Science, and knowledge of social issues, LRCs are equipped with additional learning materials and technology (like computers, science kits, and projectors) that address the needs of children across grades. The centers are based on a hub-and-spoke model wherein the LRCs located in the hub villages cater to children in nearby spoke villages as well.

These centers also serve as information hubs which keep children updated about scholarships, education schemes, entrance examinations, and opportunities available for higher/ vocational education in the area. They are typically staffed by local youth, also known as LRC facilitators who can speak the local dialect and connect easily with the community. Supported by the Block coordinator, the LRC facilitator mobilizes the community, conducts classroom sessions beyond school hours, reaches out to the spoke schools, and assists or supports teachers of classes I and II in use

LRC facilitators conduct activities like story-telling sessions, laboratory-based science education, and social projects which support grade-specific curricular concepts.

of teaching–learning materials (TLMs), thereby embedding best-practices in mainstream schooling. The facilitators are responsible for conducting different activities with children, creating contextual learning materials, focusing on innovations and use of technology, and assisting the nearby government schools in adopting quality teaching–learning practices to address the root causes of learning deficit. Most importantly, LRCs aim to demonstrate and effectively communicate the idea of 'quality' education to the community and drive a shift in emphasis from mere improvement of tangible inputs, like infrastructure, to ensuring improvement in educational outcomes.

The LRC has five major functions:

1. Demonstrating effective learning remediation techniques with model LEP classes: To demonstrate quality practices and effective remediation techniques in school education, children are enrolled in LEPs which help bridge their learning gaps and reach learning levels corresponding to their respective grades/classes.

2. Conducting grade-specific enrichment activities for children: LRC facilitators conduct activities like story-telling sessions, laboratory-based science education and social projects which support grade-specific curricular concepts.

3. Using research and innovation: LRCs test and develop curricular content and pedagogical techniques through field trials and experiments, use technology through videos, presentations, and interactive software and create a video bank of classroom practices, student projects and their feedback. The LEP classes are documented in detail with an emphasis on diagnostic assessment and evidence-based case studies.

4. Providing information support services: LRCs serve as information hubs with the objective of keeping children updated about scholarships and other education schemes, entrance examinations for other schools and opportunities available for higher and vocational education.

5. Assisting government schools through academic support: LRC facilitators liaise with government schools in nearby villages to train and assist government school teachers in implementing good practices in their classrooms.

AIF's objective is to establish a demonstration-based 'model' LRC, driven by the community, for other states and districts to replicate. About 25 LRCs (hub schools) supported 175 spoke schools as part of the intervention.

1.4 Purpose of the Study

The purpose of this study is to evaluate the impact of the program by examining the difference in learning outcomes (LOs) of students before and after its implementation. The study also tries to understand efficacy of the hub and spoke model.

Better Learning Outcomes

> "From being a school dropout, I have gone to scoring 74% in Grade VIII final exams. My sister has scored 69% in the Grade V annual assessments. LAMP's LEP classes are the turning point in our lives."
>
> –Kuber Jagat

Kuber Jagat, at 15, studies in Grade 9 at the Ghuchaguda High School. He lives with his parents and sister at Fursund village in Nuapada district. Fursund has around 1,300 residents, mostly from the Other Backward Classes (OBC).

His father Jagatjiban and mother Nandini are migrant laborers. For over a decade now, they have been migrating to brick kilns in Andhra Pradesh in search of work. Earlier, Kuber and his sister Basanti would also migrate with their parents.

In June 2013, when they returned to their village, Kuber's friends in the neighborhood invited him to join them at school. Kuber, however, refused as he had dropped out of school and was not sure he would be able to cope with the learning gap. To his surprise, the teacher visited Kuber at home later that day, and requested his parents to send him to the LEP class of LAMP.

That was the turning point in his life. He was in Grade III at the time, and gradually overcame his fear of school. His parents noticed his interest in learning, and decided not take him along when they migrated next. The following year, Kuber's parents enrolled their daughter Basanti under LAMP's LEP class as well. This year Basanti has cleared the entrance test for Grade VI admission into Odisha Adarsha Vidyalaya (OAV), which is a model English medium state government school.

Kuber Jagat on his way to school
Photo Courtesy: Lokadrusti

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2
Methodology

Both quantitative and qualitative data was collected through structured interviews, in-depth interviews, focus group discussions, and observation checklists.

A cross sectional, before–after research design was adopted for the evaluation of LRCs with the core purpose of answering the key research questions.

The research tools were designed to arrive at indicator values as well as gather more information related to the outcome indicators.

2.1 Evaluation Questions

Primarily the study answered the following questions:

1. Does the LRC program improve the learning outcomes (LOs) of students (endline versus baseline and treatment versus control)?

2. How do the LOs of students in hub schools compare with those in spoke schools?

3. What is the impact of the LRC program on the engagement of stakeholders (such as SMC members, teachers, and parents) with education?

4. What is the impact of the community engagement strategies and training programs on the capacity of SMCs?

5. What is the effectiveness of pedagogical interventions and classroom practices at the LRCs?

6. What is the impact of training and supporting government- school teachers of classes I and II?

7. How can LAMP improve the quality and outreach of LRCs?

2.2 Evaluation Design

A cross sectional, before–after research design was adopted for the evaluation of LRCs with the core purpose of answering the key research questions outlined in the terms of reference (Section 2.1). Based on the research questions a list of indicators was prepared along with the sources of information for each indicator. The research tools were designed to arrive at indicator values as well as gather more information related to the outcome indicators.

Both quantitative and qualitative data was collected through structured interviews, in-depth interviews (IDIs), focus group discussions (FGDs), and observation checklists. These research instruments were prepared by MRSS in consultation with AIF. In addition, the Learner's Achievement Tests (LATs) conducted during the baseline study were repeated during the endline study in both treatment and control schools to measure the change in LOs with LRCs.

Scope of work included:

- Desk research: Secondary literature and data review
- Exploratory field visit: A joint AIF–MRSS India visit to Nuapada in January 2017 for formative research
- LATs for Mathematics, Science, and Language (Odia)
  a. Baseline LAT (before the commencement of the new LRC session) conducted by AIF
  b. Endline LAT (after the completion of the LRC session) conducted by MRSS India
- Quantitative data collection through structured questionnaires: Structured interviews with SMC

members—sarpanch/ward member, SMC president, students, and parents

- Qualitative research:
  a. through IDIs with:
     i. Head teachers
     ii. Spoke teachers (classes I and II)
     iii. LRC facilitators
     iv. Block coordinators
     v. Assistant District Education Officer (ADEO)
     vi. Parents
     vii. Students
  b. observation of classroom transaction

2.3 Sample Size and Sampling Plan

2.3.1 School Sample Size

The endline study was conducted in the 25 hub schools (across five blocks of Nuapada) with one spoke school each (randomly selected) (Table 2.1). For each hub–spoke pair, a non-intervention (control) school from the same block (to ensure similar conditions and context) was randomly selected for comparison.

2.3.2 Student Sample Size

Within the sample schools a second level of sampling was done

Table 2.1: Sample School Coverage and Geographical Spread

Block	Hub schools	Spoke schools	Control schools
Boden	5	5	5
Khariar	6	6	6
Komna	4	4	4
Nuapada	5	5	5
Sinapali	5	5	5
Total	25	25	25

to select respondent students. All the students of classes III–VIII were covered in the hub schools to test LOs in Mathematics, Science, and Language (Odia). All hub-school students of classes I and II were also covered using the School Readiness Instrument (SRI).[1] In each of the spoke and control schools, however, only six students were randomly selected from each class (III–VIII) to test LOs in Mathematics, Science, and Language (Odia). Similarly, six students were randomly selected from each class (I and II) for SRI. Number of sample students by type of school and class is provided in Table 2.2. Number of sample students by class, subject, and type of school is listed in Table 2.3.

2.3.3 Sample Size for SMC Members

Across the five intervention blocks in Nuapada, in the interest of complete representation from all stakeholders, interviews were conducted with all the SMC members—parents, students, anganwadi workers (AWWs), the SMC president, and sarpanch/ward member (Table 2.4).

2.3.4 Sample Size for Qualitative Research

As mentioned earlier, FGDs and IDIs with key stakeholders such as head teachers, teachers, parents, LRC facilitators, block coordinators, ADEO, and students were conducted to evaluate the impact of the LRC intervention, specifically addressing the evaluation questions 3–6 listed in Section 2.1 (Table 2.5).

The IDIs and FGDs were conducted in the same five intervention blocks as the quantitative survey.

Apart from IDIs and FGDs, 28 classroom observations across the five intervention blocks captured the quality of classroom transaction, lesson delivery, and classroom environment.

2.4 Research Instruments

In accordance with global best practices as well as the general

[1] The School Readiness Instrument, developed and standardized by World Bank in 2009, is an activity-based tool conceptualized as a dip stick measure for the assessment of the readiness of children for school at a systemic level. It specifically measures certain cognitive and language skills and concepts that have proven to be good indicators of school readiness.

Table 2.2: Number of Sample Students by Type of School and Class

	Classes I and II	Class III	Class IV	Class V	Class VI	Class VII	Class VIII	Total
Baseline	1,377	517	817	1,452	1,568	1,624	1,486	8,841
Endline: Hub	894	287	489	541	674	717	636	4,237
Endline: Spoke	282	118	142	139	143	142	139	1,105
Control	306	140	151	156	157	151	149	1,209

Table 2.3: Number of Sample Students by Class, Subject, and Type of School

Mathematics						
	Class III	Class IV	Class V	Class VI	Class VII	Class VIII
Baseline	539	821	1,437	1,566	1,621	1,475
Endline: Hub	284	487	541	671	712	642
Endline: Spoke	124	152	142	146	151	141
Control	145	151	156	156	155	148
Science						
	Class III	Class IV	Class V	Class VI	Class VII	Class VIII
Baseline	488	808	1,460	1,553	1,614	1,502
Endline: Hub	292	496	540	677	717	637
Endline: Spoke	112	134	135	135	138	135
Control	138	151	155	161	144	148
Language (Odia)						
	Class III	Class IV	Class V	Class VI	Class VII	Class VIII
Baseline	523	823	1,459	1,584	1,637	1,481
Endline: Hub	284	483	542	673	722	629
Endline: Spoke	118	140	140	148	138	140
Control	137	150	156	155	154	150
Student Sample: SRI						
	Classes I and II					
Baseline	1,377					
Endline: Hub and Spoke	1,176					
Control	306					

Table 2.4: SMC Sample Coverage

SMC Members	Sample Size
Anganwadi workers	12
Sarpanch/ Ward Members	11
SMC Presidents	9
Students	9
Parents	8
Total	49

Table 2.5: Participants in IDIs and FGDs

Stakeholder	Sample Size	Research Instrument
Head teachers	5	IDI
Teachers	5	IDI
Parents	10	IDI
LRC facilitators	5	IDI
Block coordinators	3	IDI
ADEO	1	IDI
Students	2	FGD

testing and performance standards followed for developing the Annual Survey of Education Report (ASER) in India, all students were tested for mastery over minimum learning competencies from two classes lower than the class they currently occupied.[2]

Separate instruments were designed for qualitative and quantitative research. Understandably, the quantitative tools had coded responses with no open-ended questions. The research instruments included the following:

- **Quantitative research instruments:**
  - **LAT questionnaires:** The LATs for classes III to VIII were based on standardized questions adopted, prepared and translated by practicing teachers in Odisha. Six questionnaires, one for each class (III to VIII), were developed for each testing area, Mathematics, Science, and Language bringing the total to 18 questionnaires.
  - **SRI:** World Bank's SRI was adapted to the local context for assessing the school readiness of students currently in classes I and II.
  - **SMC questionnaires:** Aimed at SMC members, the enquiry areas included awareness

[2] Annual Survey of Education Report at www.asercentre.org.

about: (i) SMC conduct; (ii) meeting protocols; (iii) SMC functions; and (iv) LRC and perspective on its operations.

- **Qualitative research instruments:**
  - **Discussion guide for IDI of the head teachers of the hub schools:** The questionnaire was designed to collect information on the head teacher's roles and responsibilities, awareness regarding LRC, feedback on the support provided, and the head teacher's point of view on the effectiveness and sustainability LRCs.
  - **Discussion guide for IDI of teachers of classes I and II of spoke schools:** The questionnaire was designed to collect information on the head teacher's roles and responsibilities, awareness regarding LRC, feedback on the support provided, and the teacher's point of view on the effectiveness and sustainability LRCs.
  - **Discussion guide for IDI of parents of LRC students:** The questionnaire was designed to collect information on parental understanding of LRCs, their engagement with the child's education, their views on the school infrastructure, engagement with the teachers, and feedback on the LRC.
  - **Discussion guide for IDI of LRC facilitator:** The questionnaire was designed to collect information on the roles and responsibilities of the LRC facilitator, activities in the LRC, challenges faced during the implementation on themes of learning spaces, encouragement provided to children, word load and schedule management, training attended, outcomes, and their opinion on the sustainability of the LRC.
  - **Discussion guide for IDI of Block coordinator:** The questionnaire was designed to collect information about the roles and responsibilities of the Block coordinator, day-to-day activities, monitoring of LRCs, engaging with the communities and government officials, etc.
  - **Discussion guide for IDI of the ADEO:** The questionnaire was designed to assess the ADEO's awareness about and support to LRC, challenges faced in the LRC's implementation and feedback for the program.

> ***"The questionnaire was designed to collect information on the head teacher's roles and responsibilities, awareness regarding LRC, feedback on the support provided, and the teacher's point of view on the effectiveness and sustainability LRCs.***

"The field supervisors along with the research coordinators were responsible for data collection and quality assurance. Every effort was made to ensure quality data with consistency checks and correction incorporation at various levels.

- **Discussion guide for FGDs among students:** FGDs were held among 7–10 students in each sample school exploring their interest in Mathematics, Science, and Odia, most and least favorite aspects of LRC, and their feedback on the program.

- **Classroom observation:** Observations of hub and spoke classrooms aimed to capture the interaction between students and the teacher, lesson delivery, and classroom environment.

2.5 Field Work Execution

2.5.1 Quantitative Research

Field work for the LRC endline study was conducted with checks and verifications at multiple stages and points to ensure data quality. The survey tools were pre-tested during the baseline study and the endline questionnaire was designed on similar lines. Pilots of both baseline and endline assessment papers were run to check the reliability of these sets in assessing the learning outcomes per their grade level. The purpose of such testing at the baseline was to fine tune the overall framework of questions, assess the time required, and the quality and quantum of information available.

Endline research instruments were translated to Odia and the quantitative survey investigators and supervisors, recruited from across the five intervention blocks, were trained in the last week of March 2018 in Khariar. The survey team consisted of five supervisors and 24 investigators, managed by research coordinators. The field work was undertaken during April–May 2018.

The field supervisors along with the research coordinators were responsible for data collection and quality assurance. Every effort was made to ensure quality data with consistency checks and correction incorporation at various levels. Research coordinators visited at least 20% of the schools with the investigators to ensure quality. Data from another 20% was cross checked during repeat visits by supervisors. At the close of each day, the supervisors would scrutinize the questionnaires to identify gaps and errors which would be rectified the following day.

2.5.2 Qualitative Research

The qualitative research was undertaken by a separate team of researchers from MRSS. The three researchers knew Odia and were aware of the ethical issues, operational guidelines, and the purpose of the qualitative research in LRC evaluation. The qualitative research field work was accomplished during April 2018 along with the quantitative field work.

2.6 Data Entry and Analysis

A data entry format was developed in MS-Excel for the student questionnaires and test

papers. Initially the format was piloted with a small sample of completed questionnaires to flag and weed out errors and inconsistencies. Data entry and cleaning was completed during May–June 2018 and analysis of the clean primary data accomplished during the month of June 2018.

The data analysis consisted of the following items:

1. Analyzing secondary data for comparison: Average performance of students belonging to Nuapada district, Odisha across Mathematics, Science, and Language was compared with the district average drawn from the ASER and national average drawn from the National Achievement Survey.[3]

2. Assigning weights to each question using the baseline student data: To normalize the responses for comparisons, weight was assigned to each question based on the percentage of correct responses in the baseline dataset. These weights were applied to both the baseline and endline data to arrive at a weighted score for each student.

3. Assigning weights to each LO using the baseline student data: Each LO is tested by a set of questions; an LO is marked correct only if a student answered at least a third of these questions correctly. Weight was assigned to each LO based on the percentage of correct responses in the baseline dataset. These weights were applied to both the baseline and endline data to arrive at an LO weighted score for each student.

4. Statistical analysis: Based on the LO weighted scores, statistical tests were applied to establish if the differences between score means, variance, correlation, and regression etc. of the treatment and 'control' groups were significant. Chapter 3 of this report is dedicated to the statistical methods applied to arrive at the results.

5. Comparison of LOs: The LO weighted scores were compared across:

a. baseline and endline data,
b. treatment and control data, and
c. hub and spoke datasets

6. Qualitative assessment based on FGDs and IDIs: FGD and IDI transcripts were analyzed and summary sheets were prepared based on various themes such as, benefits accrued from LRC, LOs of students, incidence of dropout, parent engagement with children's education, feedback on training imparted to LRC facilitators and teachers, and implementation challenges and sustainability of the LRC.

7. Integration of information: All the data sources—secondary, primary and qualitative—were integrated to present a coherent picture for each outcome indicator.

[3] Annual Survey of Education Report at www.asercentre.org. National Achievement Survey conducted by the Ministry of Human Resource Development, Government of India at https://mhrd.gov.in/nas.

11

Higher Transition Rates

"If my children had not enrolled in the LAMP in 2013, they may have been migrating with us even today. I will always remain thankful to LAMP for its support to my children as well as many others."

–Lambodar Bag

Lambodar Bag, a resident of Fursund village of Nuapada district, is a landless laborer. Prior to 2013, his three young children would accompany him and his wife to the brick kilns of Andhra Pradesh annually, dropping out of school during the migration period. In 2013, when they learned about LAMP they approached the teacher for enrolling their children in the LRC.

The following season, Lambodar and his wife migrated to the brick kilns, leaving their children behind with a relative. They hoped that the LRC support would help the children to cope with studies in school. Their son Hemant was in Grade V at the time. He has now completed schooling and is studying at Sinapali College.
The daughters are younger and continuing their schooling.
Jyoti has passed Grade VIII scoring 70% and Sandhya has cleared Grade VII. LAMP's LRC classes have helped in bridging their learning gaps and reaching learning levels appropriate for their respective grades.

Girls from Brahmaniguda village in Nuapada, Odisha, who have transitioned to High School. Their higher education was covered through scholarships under LAMP
Photo Courtesy: Prashant Panjiar

Grapes
Mulberries
Tangerine
Watermelon
Peach
Cherries
Gooseberries

3

Statistical Methods

Experimental or quasiexperimental methods are used to observe and quantify changes in outcomes of interest, before and after a program is introduced, through baseline and endline surveys and applying statistical tests to determine whether any changes observed between a 'control' and 'project' group are significant.

In the context of LRC, the difference found between learning achievements of baseline and endline respondents was significant enough to indicate that it was unlikely that the results occurred by chance and the difference found in the sample probably also existed in the larger student population.

For evaluation of the LRC intervention 2017–18, the baseline was compared with the endline to gauge the change pre- and post-intervention. Comparison was also made across hub, spoke, and control schools to understand the impact under LRC.

Experimental or quasi-experimental methods are used to observe and quantify changes in outcomes of interest, before and after a program is introduced, through baseline and endline surveys and applying statistical tests to determine whether any changes observed between a 'control' and 'project/ treatment' group are significant. In order to attribute impact by comparing changes against the 'counterfactual', an effort is made to measure the impact in the absence of the intervention. By surveying a statistically similar control group along with the project group, comparisons can be made not only 'before and after' but also 'with and without' the intervention. This is the essential logic of the before–after and after–after: the difference in the indicator of interest between the project and control group, before and after the intervention is introduced is termed as 'attributable' impact.

For evaluation of the LRC intervention 2017–18, the baseline was compared with the endline to gauge the change pre- and post-intervention. Comparison was also made across hub, spoke, and control schools to understand the impact under LRC. To establish the significance of results, statistical tests were conducted.

3.1 Assigning Weights to Questions

Most examinations include a mix of questions of low, medium, and high difficulty and this partly influences the student's performance. Questionnaire designing thus involves identification of questions and their respective difficulty level. Based on the selection of questions appropriate marks are assigned to each. Because the LRC baseline questionnaire for each subject had equal weightage to each question, weights were assigned to each question post-endline data collection.

Weights were calculated based on the percentage of students correctly answering the question and a Z score was calculated to standardize the raw scores. These weights were applied to all the datasets for comparison.

3.2 Assigning Weights to LOs

Learning outcomes are assessment standards indicating the levels of learning that children are expected to achieve for that class. These outcomes are used as check points to assess learning at different points of time.[1] For LRC evaluation, LOs for each class and subject were drawn from a document prepared by the National Council of Educational Research and Training.[2]

Each LO, therefore, was tested by a set of questions. An LO was marked correct only if a student answered at least a third of the questions correctly. Weight was assigned to each LO based on the percentage of correct responses in the baseline dataset. These weights were applied

[1] See at: http://mhrd.gov.in/draft-learning-outcomes

[2] See at: http://mhrd.gov.in/sites/upload_ files/mhrd/files/Learning_ outcomes.pdf

to both the baseline and endline data to arrive at an LO weighted score for each student.

3.3 Comparing Standardized Scores of Students

3.3.1 The t-Test

The t-test is a type of inferential statistic which is used to determine whether there is a significant difference between the means of two groups such as learning achievements of baseline and endline respondents in the case of LRC. The t-test indicates with a degree of confidence if the difference obtained between the means of the sample groups is too great to be a chance event. In the context of LRC, the difference found between learning achievements of baseline and endline respondents was significant enough (p-value<=0.05) to indicate that it was unlikely that the results occurred by chance and the difference found in the sample probably also existed in the larger student population.

3.3.2 Analysis of Variance

Analysis of Variance (ANOVA) is used to determine whether there is a significant difference between the means of more than two groups at the same time. The test was applied to determine if there is a significant difference in learning achievements of students belonging to hub, spoke, and control schools. In the context of LRC, the difference found across learning achievements of students belonging to hub, spoke, and control schools in the sample were significant (p-value<=0.05). This signified that it was unlikely that the results occurred by chance and the difference found in the sample probably also existed in the larger student population.

III

Unlocking Government Resources

Children of an LRC conduct an interview with the Sarpanch in preparation for a Children's Seminar in Magudpani village near Nuapada, Odisha.
Photo Courtesy: Prashant Panjiar.

> "LAMP trained Panchayat members to know their rights and ideate on ways to improve education in the villages. I was also fortunate to be part of exposure visits to LRCs and other model schools. The SMCs presented the needs of the schools and I strategized to invest more panchayat funds on education."
>
> –Rohit Rout

Rohit Rout was the Sarpanch of the Boirbadhi Gram Panchayat in 2017. Around 51% of the population of Boirbadhi belonged to ST, 45% to OBCs and the rest were SCs. At the time, the Panchayat authorities were more concerned with issues like roads, sanitation, and drinking water, rather than education. However, children studying in LAMP's LRC approached the Sarpanch for a discussion on his plans to improve education in the village.

This encouraged Rout to call for an SMC meeting and form an Education Standing Committee slated to meet every quarter to plan and implement initiatives for school infrastructure improvement, playground development, sports activities, and management of a seasonal hostel for children from migrating families. The chairpersons of SMCs, head masters of schools, ward members and representatives from ICDS, Health Department and Panchayati Raj Department were members of this committee.

Under Rout's leadership, the Panchayat invested more than INR 3 million on school infrastructure and electricity. In the current year, the Panchayat has allocated more than INR 2 million for continuing the work in government schools.

4

Results of the Learner's Achievement Tests

Students of Class III–VIII were evaluated on the learning outcomes appropriate for their level, ranging from simple concepts such as identification of shapes and counting to more complex concepts related to financial calculations, decimals, fractions, factors and multiples.

Learning objectives identify what the learner should know and be able to do (reliably demonstrate competency in) by the end of a course or program. Learning outcomes mirror learning objectives and refer to observable and measurable achievements (learner knows and can demonstrate) in terms of knowledge, skills, and attitudes (KSA).

Research instruments designed for LRC consisted of questions that tested the KSA learning domains in Mathematics, Science, Language (Odia), and School Readiness Instrument.

Each LRC is supported by trained facilitators in the hub schools and trained school teachers in the spoke schools. It was observed during field visits that each LRC was equipped with a complete range of study materials including pattern blocks, fraction kits (for Mathematics), Science and electronics kits, dictionaries, globes, atlases, maps, charts, sports, art and craft material. Besides the study material, each LRC had a technology-aided classroom (a computer and a camera) and provided an enabling environment for reducing learning deficit and improving LOs.

Learning objectives identify what the learner should know and be able to do (reliably demonstrate competency in) by the end of a course or program.[1] Learning outcomes mirror learning objectives and refer to observable and measurable achievements (learner knows and can demonstrate) in terms of knowledge, skills, and attitudes (KSA). Research instruments designed for LRC consisted of questions that tested the KSA learning domains in Mathematics, Science, Language (Odia), and School Readiness Instrument.

4.1 Learning Outcomes: Mathematics

4.1.1 Teaching–Learning Material for Mathematics

Each LRC was provided with TLM such as *Ganitmala*, *Rangometry*, *Zodostra*, fraction kit, number ball, maan card, balance (brass), volume measuring set, number catcher, number *tilli* (matchsticks),fraction dice, number dice, yellow and blue clips, and story props such as *tota* (parrot), along with geometry box, textbooks, and workbooks. Besides the classes conducted by the LRC facilitator, students are supported by these TLMs which are available for use and practice, thus incorporating a culture of self-learning.

4.1.2 Learning Outcomes Identified for Mathematics

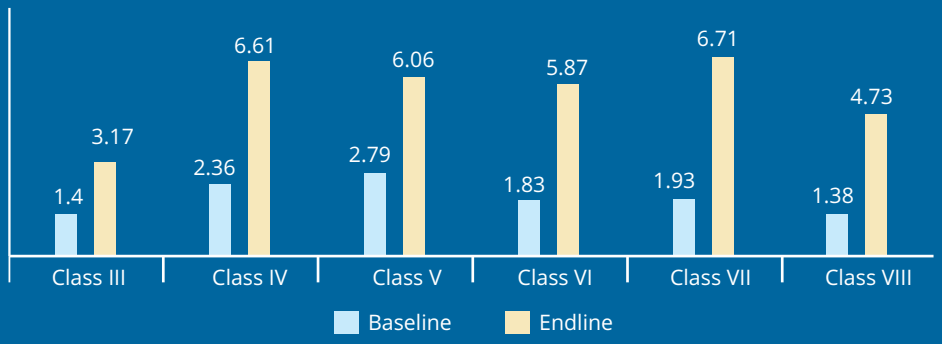
As mentioned in the earlier chapters, students of Class III–VIII were evaluated on the LOs appropriate for their level, ranging from simple concepts such as identification of shapes and counting to more complex concepts related to financial calculations, decimals, fractions, factors, and multiples (Annex Table A4.1).

4.1.3 Mathematics Learning Achievements: Endline versus Baseline

Learning achievements of post-intervention students improved across all Mathematics LOs as compared to the baseline (Annex Table A4.2, Figure 4.1). On an average the endline scores were almost thrice (2.89 times) the baseline and the improvement in the scores was statistically significant for all classes barring Class III (which did improve but not significantly). This was probably because Class III

[1] See at: http://liad.gbrownc.on.ca/programs/InsAdult/currlo.htm

Figure 4.1: Weighted Mean Mathematics LO Scores: Endline versus Baseline



Source: Study team analysis

students had been exposed to the LRC intervention for only one year.

According to ASER 2016 for Nuapada, Odisha, only 19.7% of students (Class III to V) could do at least subtraction.[2] In comparison, 97.5% of Class III students studying in LRCs could do both addition and subtraction.

Across all LOs, a higher percentage of students achieved each LO in the endline study than the baseline. The specific LO in which endline students of each class performed the best (as compared to baseline) is listed in Table 4.1.

4.1.4 Mathematics Learning Achievements: Treatment versus Control Group

Students studying in LRCs had smaller learning deficit as compared to students of control schools. Average scores of LRC students were 1.22 times that of non-LRC students. The difference in mean scores was statistically significant for all classes (Annex Table A4.3, Figure 4.2).

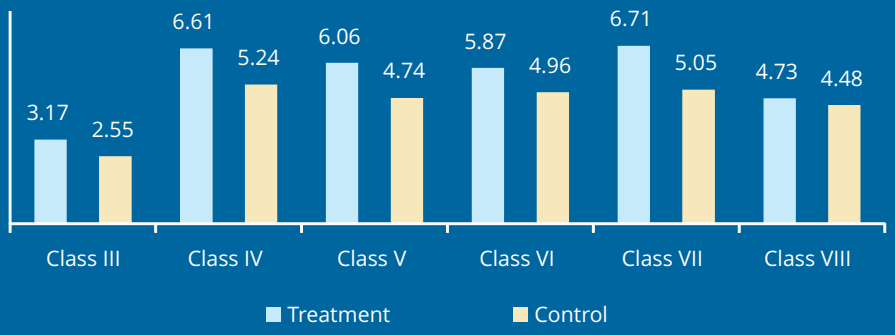
Across all LOs, a higher percentage of students achieved each LO in the endline study than the control group. The specific LO in which endline students of each class performed the best (as compared to control group) is listed in Table 4.2.

Table 4.1: The Mathematics LO in Which Students Showed Greatest Improvement (by Class): Endline versus Baseline

Class III	Financial calculations: multiplication
Class IV	Counting
Class V	Financial calculations: addition, subtraction, multiplication, and division
Class VI	Exploring patterns in numbers while doing various operations
Class VII	Working with fractions
Class VIII	Financial calculations: group distribution, subtraction, multiplication, and division

[2] http://img.asercentre.org/docs/Publications/ASER%20Reports/ASER%202016/District%20Estimates/odisha.pdf

Figure 4.2 Weighted Mean Mathematics LO Scores: Treatment versus Control Group



Source: Study team analysis

Table 4.2: The Mathematics LO in Which Students Showed Greatest Improvement (by Class): Treatment versus Control Group

Class III	Daily tasks: days, time, and recognizing coins
Class IV	Identifying shapes
Class V	Daily tasks: studying the calendar, days, and time
Class VI	Financial calculations: addition, subtraction, multiplication, division
Class VII	Daily life situations related to unit, distance, weight, currency, time, calendar involving four basic arithmetic operations, and understanding directions
Class VIII	Applying HCF, LCM in a given situation

'AIF supports us with handholding. It has provided a lot of facilities to students. The LRC offers a pleasant environment for students to learn with the help of TLMs and activity-based sessions.'

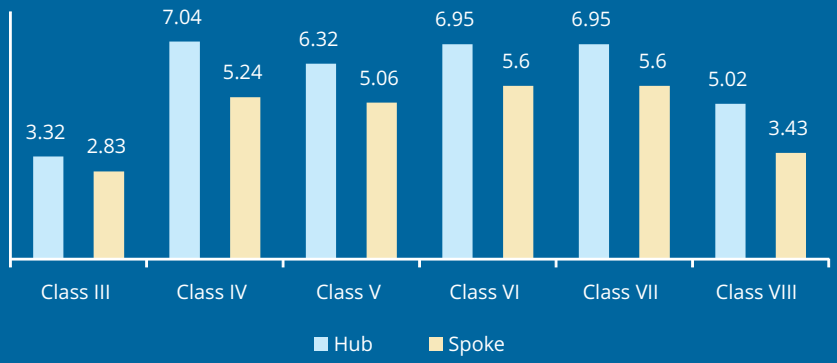
—Government teacher at a spoke school

4.1.5 Mathematics Learning Achievements: Hub versus Spoke

By the design of the LRC intervention, students in the hub school received more intensive guidance than spoke school students. Each hub school had a dedicated LRC facilitator who taught students of classes III to VIII before and after school hours. Since each LRC facilitator was associated with 5–6 spoke schools, he/she could visit each spoke school only once a week. Teachers of classes I and II of spoke schools were trained under the LRC facilitator to bridge the learning deficit of students. These students also approached the LRC facilitator during his/her visit for clearing doubts. While the LRC facilitators tried their best to ensure that students of the spoke schools attended school regularly and performed better in all the subjects, during the study, it was anticipated that hub schools would perform better than spoke schools, a conclusion that was substantiated by the statistical results as well.

Students studying in hub schools had lower learning deficit than spoke school students. Average scores of hub students were 1.24 times that of spoke students. The difference in mean scores was statistically significant for all classes (Annex Table A4.4, Figure 4.3).

Figure 4.3 Weighted Mean Mathematics LO Scores: Hub versus Spoke



Source: Study team analysis

Overall, all hub schools had higher LO scores as compared to spokes with the exception of the LO 'counting numbers' in Class III in which the spoke students performed better than the hub students.

The specific LO in which hub students of each class performed the best (as compared to spoke school students) is listed in Table 4.3.

4.2 Learning Outcomes: Science

4.2.1 Teaching–Learning Material for Science

To make Science more hands-on, each LRC is provided with TLMs such as science kits, experiment glass, maps (district, state, and world), atlas, science dictionary, internet, laptop and projector, locally available resources, books for all classes, magnet, electric bulb, wire, ball, bottles, dust bin, and first aid box. Besides the classes conducted by the LRC facilitator, students are supported by these TLMs which are available for use and practice, thus incorporating a culture of self-learning.

4.2.2 Learning Outcomes Identified for Science

Students of classes III–VIII were evaluated on the LOs appropriate for their level ranging from simple concepts such as parts of the human body to more complex concepts related to shapes, volumes, weights, and mixtures (Annex Table A4.5).

Table 4.3: The Mathematics LO in Which Students Showed Greatest Improvement (by Class): Hub versus Spoke

Class III	Financial calculations: multiplication
Class IV	Working with 2-digit numbers: addition, subtraction
Class V	Financial calculations: addition, subtraction, division, multiplication
Class VI	Financial calculations: addition, subtraction, division, multiplication
Class VII	Identify and count 2D and 3D shapes
Class VIII	Financial calculations: group distribution, subtraction, division, and multiplication

"We play together and learn new things at the LRC. It enables us with practical learning. Subjects that are tough, like Science and Math, have now become easy to understand.

— Students at a hub school during the FGD

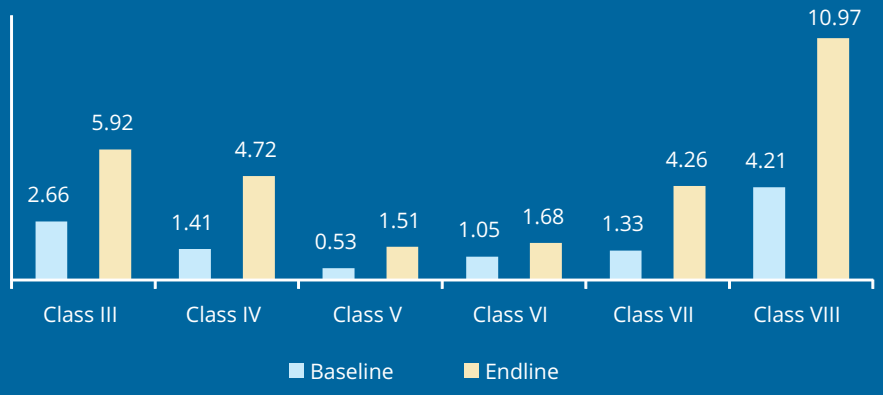
4.2.3 Science Learning Achievements: Endline versus Baseline

Performance of students, post–intervention, improved across all LOs in Science. LRC students reported that they enjoyed coming to class and conducting the experiments with the science kits independently. It was an engaging process wherein students assembled into groups, conducted the experiments, and discussed the outcomes. Instant results such as change of color, lighting up of a bulb, or emission of a sound excited them. In the words of a student, 'I repeat this activity as many times as I need to. Practice helps me learn at each step'.

On an average the endline scores were more than double (2.63 times) the baseline and the improvement in the scores was statistically significant for all classes.

On an average the endline scores were more than double (2.63 times) the baseline and the improvement in the scores was statistically significant for all classes (Annex Table A4.6, Figure 4.4).

Figure 4.4 Weighted Mean Science LO Scores: Endline versus Baseline



Source: Study team analysis

According to National Achievement Survey (NAS) 2017 for Nuapada about 63.18% students of Class III in the district could identify the relationships with and among family members.[3] In comparison, 81.9% of LRC students in Class III answered questions related to the same LO correctly.

Similarly, according to NAS the district average for Class VIII students who could explain process and phenomena was 41.07%.[4] In comparison, 84.5% of Class VIII LRC students answered questions related to the same LO correctly.

The specific LO in which endline students of each class performed the best (as compared to baseline) is listed in Table 4.4.

4.2.4 Science Learning Achievements: Treatment versus Control Group

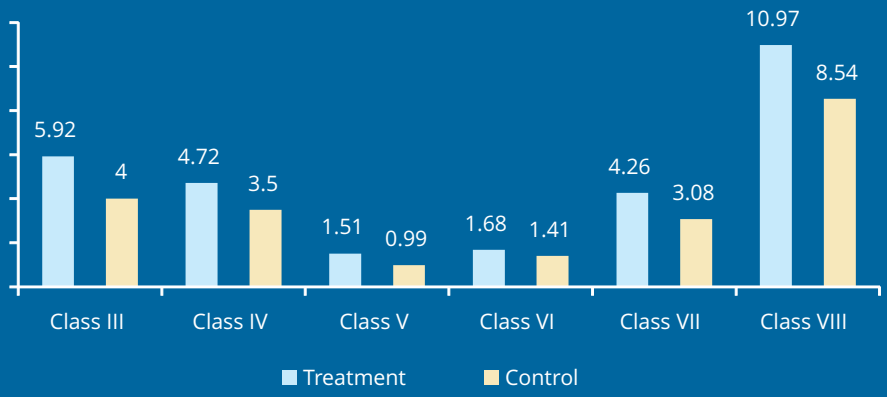
Students studying in LRCs had smaller learning deficit as compared to students of control schools. Average scores of LRC students were 1.35 times the average scores of non-intervention students. The mean difference was statistically significant for all classes (Annex Table A4.7, Figure 4.5).

Table 4.4: The Science LO in Which Students Showed Greatest Improvement (by Class): Endline versus Baseline

Class III	Identifying simple observable features in human body
Class IV	Identifying vegetables, fruits, shrubs, trees
Class V	Explaining unusual features of animals and their responses
Class VI	Applying scientific concepts to day-to-day life
Class VII	Measuring and calculating
Class VIII	Differentiating materials and organisms on the basis of their properties

[3] http://www.ncert.nic.in/programmes/NAS/DRC.html
[4] http://www.ncert.nic.in/programmes/NAS/DRC.html

Figure 4.5 Weighted Mean Science LO Scores: Treatment versus Control Group



Source: Study team analysis

Across all LOs, a higher percentage of students achieved each LO in the treatment group than the control group. The specific LO in which treatment students of each class performed the best (as compared to control group) is listed in Table 4.5.

> 'The LRC teacher uses TLMs for Science and Math. He has taught us topics like matter, water, light, and human body in Science. We understand these concepts better when the LRC teacher visits our school.'
>
> - Students at a spoke school during the FGD

4.2.5 Science Learning Achievements: Hub versus Spoke

Students studying in hub schools had lower learning deficit than spoke school students. Average scores of hub students were 1.29 times that of spoke students. The mean difference was statistically significant for all classes (Annex Table A4.8, Figure 4.6).

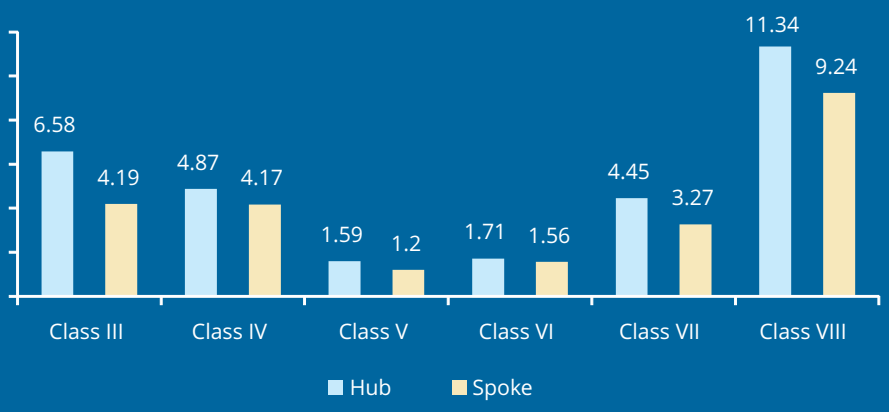
Overall, all hub schools reported higher LO scores as compared to spokes with the exception of the LO 'Recording observations about the neighborhood and identifying India's festivals/ national bird/flower/ animal' in Class IV in which the spoke students performed better than the hub students.

The specific LO in which hub students of each class performed the best (as compared to spoke school students) is listed in Table 4.6.

Table 4.5: The Science LO in Which Students Showed Greatest Improvement (by Class): Treatment versus Control Group

Class III	Identifying occupations
Class IV	Voicing opinions on issues observed/experienced in family/neighborhood
Class V	Recording observations in an organized manner
Class VI	Applying scientific concepts to day-to-day life
Class VII	Measuring and calculating
Class VIII	Conducting simple investigations to seek answers to queries

Figure 4.6 Weighted Mean Science LO Scores: Hub versus Spoke



Source: Study team analysis

Table 4.6: The Science LO in Which Students Showed Greatest Improvement (by Class): Hub versus Spoke

Class III	Identifying occupations
Class IV	Voicing opinions on issues observed/experienced in family/neighborhood
Class V	Explaining unusual features of animals & their responses
Class VI	Classifying materials, organisms, and processes based on observable properties
Class VII	Identifying materials and organisms on the basis of observable features
Class VIII	Applying scientific concepts in day-to-day life

4.3 Learning Outcomes: Language (Odia)

4.3.1 Teaching–Learning Material for Language (Odia)

Teaching–learning material for language learning (Odia) includes drawings, library books, textbooks, guidelines for writing essays and letters, and dictionaries. These TLMs are available on the hub school premises for students to achieve fluency in Odia and expand their vocabulary from the resource material.

4.3.2 Learning Outcomes Identified for Language (Odia)

Students of classes III–VIII were evaluated on the LOs appropriate for their level ranging from basic oral competency to more complex comprehension of stories and poems, sequence of ideas and events (Annex Table A4.9).

4.3.3 Language (Odia) Learning Achievements: Endline versus Baseline

Every language evolves through history based on the influence of culture, geography, neighbors, foreign incursions, migration, trade relations etc. Because Nuapada shares borders with the Hindi-speaking (and mainly tribal) state of Chhattisgarh, students pick up local dialects of both Odia and Hindi. The village-level dialects have certain peculiarities and are frequently difficult to comprehend because oftentimes, the same words convey entirely different things or the same words may be spoken in a completely different way or context. Intervention in Language (formal Odia) is thus very relevant to students of Nuapada district.

Overall, the students in the endline survey performed better than at the baseline. On an average the endline scores were more than double (2.64 times) the baseline and the improvement in the scores was statistically significant for all classes (Annex Table A4.10, Figure 4.7).

The specific LO in which endline students of each class performed the best (as compared to baseline) is listed in Table 4.7.

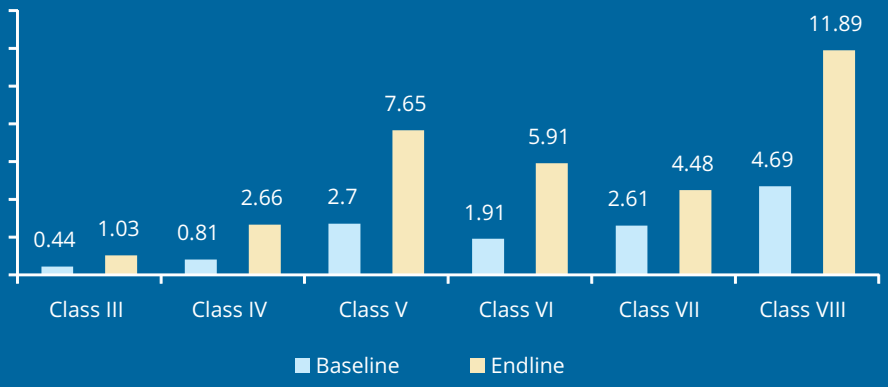
4.3.4 Language (Odia) Learning Achievements: Treatment versus Control Group

Students studying in LRCs had smaller learning deficit as compared

'Earlier, students were unable to understand Odia as in this village, the language spoken is Chhattisgarhi/ Laria. And now, they read well, write well, speak well in Odia and answer any question in Odia freely.'

—LRC facilitator, Pipalchhendi village, Nuapada block

Figure 4.7: Weighted Mean Language (Odia) LO Scores: Endline versus Baseline



Source: Study team analysis

According to National Achievement Survey (NAS) 2017 for Nuapada about 50.42% students of Class VIII in the district could read and understand textual/non-textual material in Odia and identify the details, characters, main idea, and sequence of ideas and events.[5] In comparison, 93.4% of LRC students in Class VIII answered questions related to the same LO correctly.

Table 4.7: The Language (Odia) LO in Which Students Showed Greatest Improvement (by Class): Endline versus Baseline

Class III	Correct the spelling/sentence
Class IV	Infer meaning of word
Class V	Correct the spelling/sentence
Class VI	Synonyms and antonyms
Class VII	Infer meaning of word
Class VIII	Correct the spelling/sentence

to students of control schools. Average scores of LRC students were 1.3 times that of non-LRC students. The mean difference was statistically significant for classes III and VII but not so for the others (Annex Table A4.11, Figure 4.8). This does not mean that the LRC intervention is not making an impact on the Odia competence of classes IV, V, VI and VIII. The mean difference may be statistically insignificant for these classes because the treatment group includes both hub and spoke children. It is possible that variance between only hub and control children would be much higher, as intensity of engagement in LRCs is much more than that of the spokes.

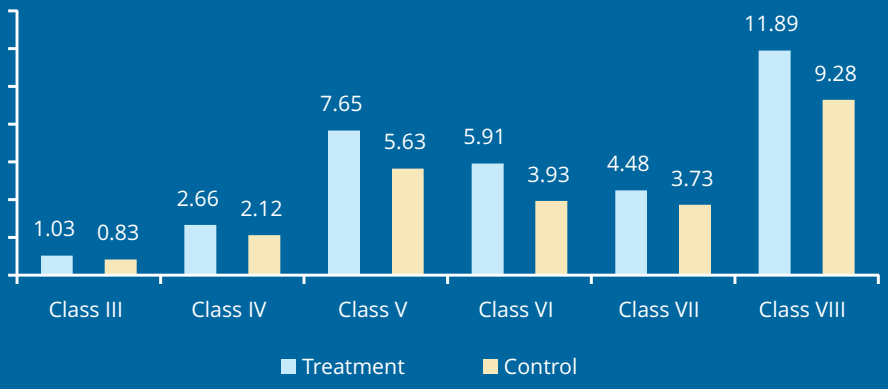
The specific LO in which endline students of each class performed the best (as compared to control group) is listed in Table 4.8.

4.3.5 Language (Odia) Learning Achievements: Hub versus Spoke

Students studying in hub schools had lower learning deficit than spoke school students. Average scores of hub students were 1.19 times that of spoke students. The mean difference was statistically significant for all classes (Annex Table A4.12, Figure 4.9).

[5] http://www.ncert.nic.in/programmes/NAS/DRC.html

Figure 4.8: Weighted Mean Language (Odia) LO Scores: Treatment versus Control Group



Source: Study team analysis

Table 4.8: The Language (Odia) LO in Which Students Showed Greatest Improvement (by Class): Treatment versus Control Group

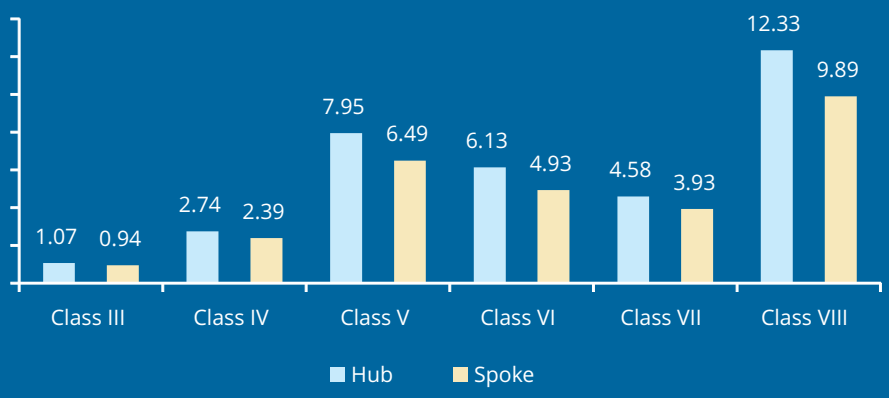
Class III	Correct the spelling/sentence
Class IV	Infer meaning of word
Class V	Correct the spelling/sentence
Class VI	Infer meaning of word
Class VII	Identify details, characters, main ideas, and sequence of ideas and events
Class VIII	Infer meaning of word

Overall, all hub schools reported higher LO scores as compared to spokes. The specific LO in which hub students of each class performed the best (as compared to spoke school students) is listed in Table 4.9.

4.4 Learning Outcomes: School Readiness

School readiness refers to the skills and concepts which if

Figure 4.9: Weighted Mean Language (Odia) LO Scores: Hub versus Spoke



Source: Study team analysis

Table 4.9: The Language (Odia) LO in Which Students Showed Greatest Improvement (by Class): Hub versus Spoke

Class III	Correct the spelling/sentence
Class IV	Synonyms and antonyms
Class V	Synonyms and antonyms
Class VI	Infer meaning of word
Class VII	Identify details, characters, main ideas, and sequence of ideas and events
Class VIII	Correct the spelling/sentence

developed well in children in the early pre-school years help them to enhance their social competence, adjust better in school, and learn the skills of literacy and numeracy more effectively and in a more sustained manner.[6] To prepare students for higher grades in school, art plays an important role, and is thus incorporated into LRCs. Material available for students includes colors, glue, A4 blank sheets, drawing sheets, markers, sketch pens, newspapers, butter paper, colored paper, chalk, bucket, jug, mirror, brush, camera, match box, thermocol, knife, scissors, plaster of Paris, foam, and locally available resources.

4.4.1 Learning Outcomes Identified for School Readiness

Students of classes I and II were evaluated on the LOs identified for school readiness ranging from pre-number and space concepts to pattern making, object matching, comparison of greater or lesser values etc. (Annex Table A4.13).

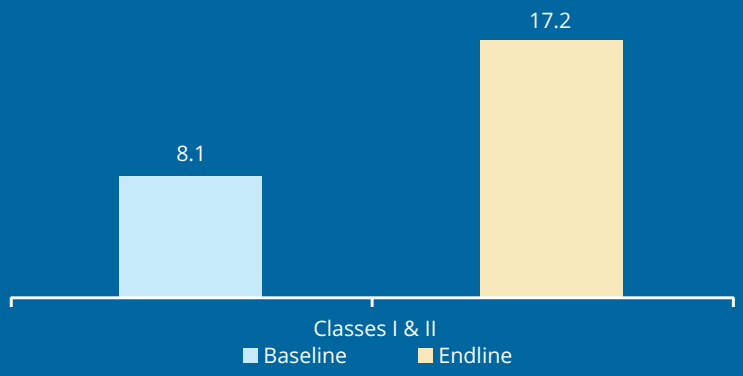
4.4.2 School Readiness Learning Achievements: Endline versus Baseline

Learning achievements of students, post–intervention, improved across all learning outcomes in school readiness. LRC students were more school-ready than at the baseline. 'Ready children' transition to higher classes more easily. On an average, LAT scores of LRC students were more than double (2.12 times) the scores at the baseline. The mean difference of these scores was also statistically significant for classes I and II (Annex Table A4.14, Figure 4.10).

Learning achievements of class I and II students improved considerably post-LRC with a much higher percentage of students answering LAT questions correctly in the endline than the baseline survey. For instance, for the LO 'Pre-number concept', percentage of students who gave correct responses at the baseline trailed behind the endline

[6] See at: http://siteresources.worldbank.org/INTSOUTHASIA/Resources/ECE_Toolkit.pdf

Figure 4.10: Weighted Mean School Readiness LO Scores: Endline versus Baseline



Source: Study team analysis

respondents by 75 percentage points (Annex Table A4.15).

4.4.3 School Readiness Learning Achievements: Treatment versus Control Group

Students who had undergone LRC intervention were somewhat better enabled to transition to higher grades in school as compared to non-intervention students. Average school readiness score of LRC students was 1.03 times that of control students implying that the school readiness of control group was quite comparable to the treatment group.

The mean difference of the scores was statistically significant (Annex Table A4.16).

4.5 Understanding the Results

The findings of this study are relevant to understand how LAMP is helping to improve the quality of learning through LEP in the Nuapada district of Odisha. The study indicated that the focus on teaching Language, Science, and Mathematics along with the government school teacher training, school governance, and community engagement provide an effective solution to addressing learning needs of children in resource deficient schools/ geographies. These findings are:

- **School readiness:** Students of classes I and II are today more school ready than they were before the intervention was initiated. The SRI helped in preparing the children gain social competence and develop basic numeracy and literacy skills. Such skills and competencies will certainly help them cope with the academic demands of higher grades.

- **Learning outcomes in Language:** Statistically significant score improvement was seen post-intervention (endline versus baseline) at all levels of school children with respect to language competency LOs (mother tongue, Odia, in this specific context). Also, when compared with the control group, the treatment group showed statistically significant improvement in mean scores across all levels.

- **Learning outcomes in Mathematics:** Improved outcomes were witnessed in comparison to the baseline. These were evident at all levels and were also statistically significant.

- **Learning outcomes in Science:** Students receiving inputs from the LRCs under LEP gained significantly in comparison to baseline indicators. Endline scores were seen to be more than double the baseline in Science.

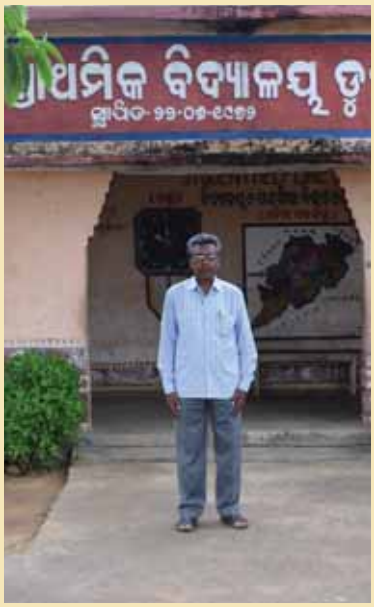
Findings also revealed that LRC students performed significantly better than non-intervention students across all classes and subjects. This shows that employing strategies such as child-centric pedagogy, contextual and activity-based experiential learning, aided with interactive TLMs, and innovative technology can lead to improvement in learning levels even among children who have learning gaps.

IV

Improved Enrolment and Attendance

"In Nuapada district, more than 10,000 households migrate to other states in search of better employment opportunities. Before LAMP, there was no awareness on the significance of education among migrant parents. School dropout rates were very high and almost all migrant children travelled with their parents to worksites. Post LAMP, all children (6–14 years) are enrolled in schools and school attendance is more than 90%."

–Sudarsan Panda



Headmaster Sudarsan Panda standing in front of his school in Dudkibahal village, Nuapada, Odisha.
Photo Courtesy: Lokadrusti

Sudarsan Panda is Headmaster of Dudkibahal School in Boden block since 2012 where LAMP started an LRC in 2015. Apart from providing after-school support to LRC children, LAMP has trained SMC members to monitor seasonal hostels and created awareness in the community on the Right to Education Act, 2009.

Over 90% households in Dudkibahal survive below the poverty line and about 30% migrate annually in search of employment opportunities. Children of migrating families stay either in a seasonal hostel or with caregivers and they are either in high school or college. The LRCs and seasonal hostels have truly helped in improving education in these villages and providing a bright future for the children.

LAMP trainings and exposure visits of SMCs to LRCs have helped to improve the quality of government schools. Moreover, the day-to-day engagement of SMCs with school governance and quality has also improved. Last year LAMP trained SMCs and other community members to conduct community-led learning audit. SMC members presented the outcomes of the audit at public meetings. SMCs now have the capacity to make quality School Development Plans (SDPs). Because our last few SDPs were approved, the school got regular power and water supply, toilets, additional classrooms, and teachers.

5

Impact of LRCs: Results from the Quantitative and Qualitative Surveys

The quantitative survey based on LATs and structured interviews was augmented with qualitative research based on in-depth interviews (IDIs) and focus group discussions (FGDs) across key stakeholders.

The qualitative study aimed to elicit stakeholder suggestions on areas of improvement for the intervention.

As outlined in Chapter 2, the quantitative survey based on LATs and structured interviews was augmented with qualitative research based on in-depth interviews (IDIs) and focus group discussions (FGDs) across key stakeholders to evaluate the impact of LRC on community engagement, stakeholder engagement, teacher training, and pedagogical effectiveness. The qualitative study also aimed to elicit stakeholder suggestions on areas of improvement for the intervention.

5.1 Perspective of School Management Committees

School management committees (SMCs) are composed of representatives from among parents, students, teachers, school authorities, and the community. The Right to Education Act 2009 envisions the SMC as the basic unit of a decentralized model of governance with active involvement of parents in the school's functioning. Active parental participation has the potential to improve the efficiency of a school as parents have the highest incentive to demand better quality of education for their children.[1] As part of their job role, LRC facilitators hold monthly meetings with SMCs and share insights and feedback with the parents and the community in a bid to keep them engaged and clued in on the quality of education the children are receiving.

As part of this study, 49 SMC members were interviewed across the five sample intervention blocks of Nuapada using structured questionnaires. The interviewees included anganwadi workers (AWWs), parents, SMC presidential members, students, sarpanch/ward members.

The research revealed that the SMC members were aware of their roles and responsibilities, they discussed performance and progress of school children during SMC meetings; they focused on the LRC intervention, and felt that it helped retain children in school (Figure 5.1). The community was clearly deeply involved with the education of its children.

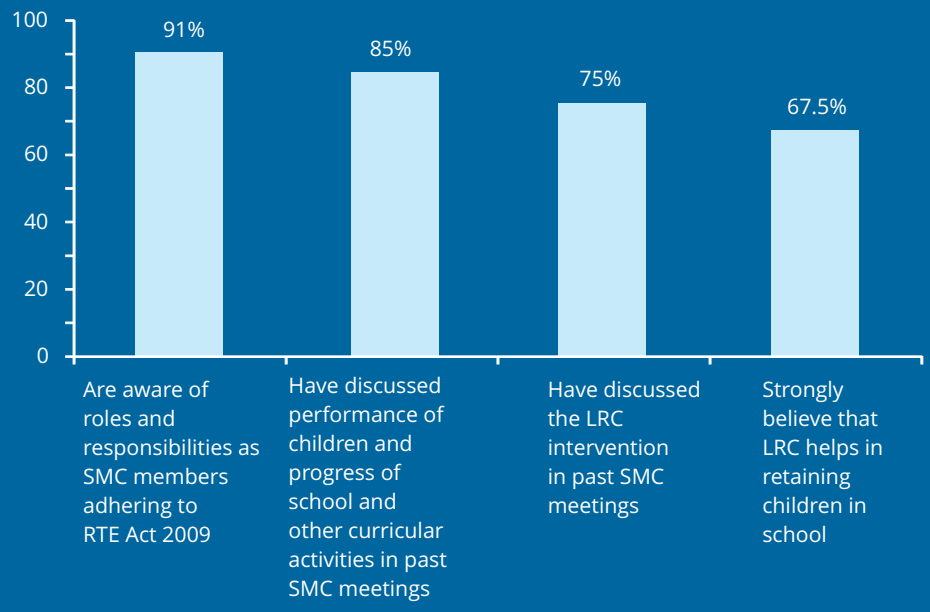
Students who were members of the SMC conveyed that they had the freedom and opportunity to voice their opinions and participate in SMC meetings. Other children of the school approached them freely with issues and concerns

"The research revealed that the SMC members were aware of their roles and responsibilities, they discussed performance and progress of school children during SMC meetings; they focused on the LRC intervention, and felt that it helped retain children in school.

[1] A. Banerjee, R. Banerji, E. Duflo, R. Glennerster, S. Khemani (2010), 'Pitfalls of Participatory Programs: Evidence from a Randomized Evaluation in Education in India', *American Economic Journal: Economic Policy*, 2:1, pp: 1–30. https://economics.mit.edu/files/3117. Accessed on 23 May 2019.

SMC chairperson Saibani Majhi presenting to the community, the performance chart of children in the LRC at Pipelchhendi village, Nuapada, Odisha.
Photo Courtesy: Prashant Panjiar

Figure 5.1: Summary Responses of SMC Members during In-depth Interviews



This is a positive achievement for the LRC wherein the community's responsibility has extended to being involved in the child's progress at school.

that needed to be raised in such meetings. An enabling environment on school premises, free of fear and apprehension had instilled curiosity in students and increased their confidence.

5.2 Perspective of Head Teachers of Hub Schools

The five head teachers of the hub schools shared the following observations during IDIs:

'Now, Ganiary village is a 100% student enrolment and drop-out-free village. Not a single child in the village is out of school.'

— Head teacher of government school, Ganiary village

1. Improvement in learning outcomes: LRC students fared much better in terms of learning outcomes when compared to non-LRC students. The exposure to LRC's pedagogical methods and TLMs undoubtedly led to this change.

2. Reduction in absenteeism: Absenteeism and incidence of dropping-out had both come down with the LRC intervention.

3. Capacity building: The LRC training of teachers was regular and effective. It focused on lesson presentation, classroom management, use of TLM, motivation, questions, reinforcement etc. The quality of training could be rated as 8 on 10. It would be great if education experts could impart future training using TLM separately designed for each topic.

4. Community engagement: Interaction with community members to understand their perspective is both regular and deep. With LRC, awareness of parents regarding the education

of their children has gone up. They regularly send their children to school and participate in monthly meetings.

5.3 Perspective of Class I and II Teachers from Hub and Spoke Schools

In this section the term 'teachers' refers to those who teach classes I and II in hub and spoke schools. During IDIs, these teachers shared the following insights:

1. Capacity building: Support and handholding by the LRC facilitators and the TLMs provided have improved the quality of teaching and class transactions. It would be great if LRC experts could continue imparting training in the future.

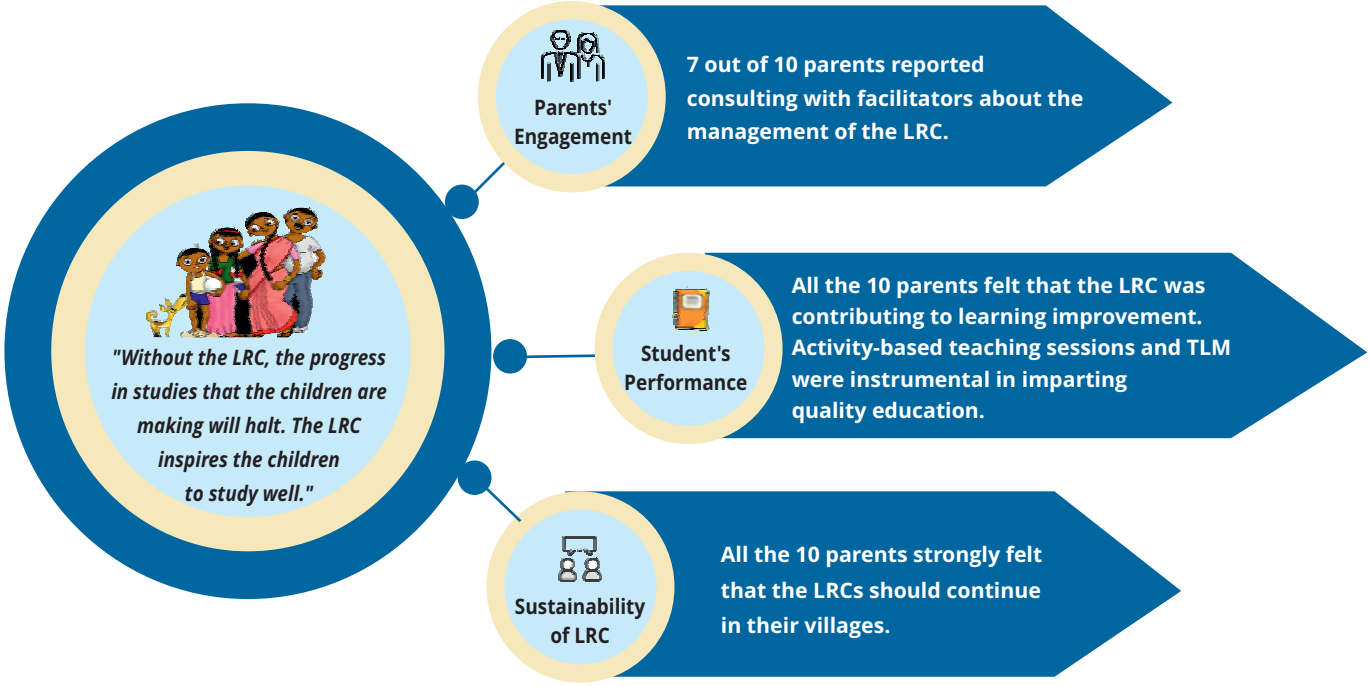
2. Community engagement: Initially it was difficult to convince the parents about the efficacy of the LRC teaching methods (through activities, art work, playing, dancing etc.). However, as the children began to show greater inclination to participate in school-work and their results improved, the parents too changed their minds.

'We greatly value the learning support provided in the LRC to our students. It engages them in study beyond school hours, which is fostering a positive attitude towards learning. I have noticed a great change in the learning behavior of students. This year, I asked the Xth Class students about their performance in the Matric exam, and found all of them to be confident of their grades. Now our students do very well in music, dance, drawing, debate, science fairs, competitions at the Block level and win prizes for our school.'

— Head teacher of a hub school

'Parents are seen to be leaving the children to continue schooling while they are migrating for livelihood. Students are not migrating now because they are doing well in learning. Midday meal is also motivating them.'

— Teacher of government school



'The LRC provides TLMs and training through audios, videos, and storytelling activities. We use these tools in teaching Classes I and II.'

— Teacher of government school

'This is a backward region. The education of our children will be hampered if there are no LRCs. We will explore options for support from community members to keep the LRCs running.'

— Parents' view on whether LRCs should be discontinued

5.4 Perspective of Parents

During IDIs parents shared their apprehensions about the impact of the withdrawal of LRCs from the village. They were very happy with the progress of the children and keen for the initiative to continue.

1. Parents' engagement: LRC facilitators engage with parents every month to discuss management of the LRC, progress of students, and corrective course of action. Parents also arrange for education fairs/ melas in the village.

2. Students' performance: The LRC has made a huge contribution to learning improvement of students. Activity-based teaching sessions and TLMs help impart quality education.

3. Sustainability of LRC: LRCs should continue to operate so that students can draw its benefits. If they are discontinued all the good work will be lost and the children will regress to the old state poor learning attainments and disinterest in school-work.

5.5 Visits to the LRCs: Perspective of LRC Facilitators

The LRC facilitators are responsible for preparing schedules and TLM prior to each class, conduct classes pre- and post-school hours in hub schools and visit spoke schools during school hours to provide technical assistance to government school teachers. Facilitators also meet parents and community members formally or informally for awareness building and to discuss student enrolment, LRC management, etc.

5.1.1 Way of Teaching

All facilitators have their unique way to conducting a class. They create their own recipe based on the local context and culture, the moods and vibes of the children, the locally available material to repurpose as TLM etc. Besides the prescribed experiment kits and TLM, the facilitators use practical everyday objects to demonstrate activities.

'To teach "color" we ask children to collect different types of soil and use soil colors to draw pictures on drawing sheets.'

'We make dolls using mud and soil colors. We also prepare models of traditional farm instruments by using the branches of trees.'

'Every object available in our surrounding can be used as TLM.'

— LRC facilitators

5.1.2 Self -learning Environment in LRCs

Each LRC has a Science corner, Math corner, Language corner, and a library for the kids. Displays of different activity material and danglers prepared by LRC facilitators and students are a common sight. LRC facilitators are responsible for creating an environment of self-learning for students. This is done by adding books and TLMs in the library space and encouraging art work and group work in classroom sessions. The set up encourages students to go back to the library, read the study material and use readily available material to come up with demonstrations. Each LRC is full of sketches, craftwork, demonstrations, and maps. Students in the remediation class are encouraged to explore and develop their curiosity and ask questions.

5.1.3 Feedback from Facilitators

It might be useful to extend the intervention from Mathematics, Science, and Language to English and Computers. Other improvements could be an increase the number of library books, more rigorous subject training for the facilitator, and the provision of a community hall in each village so that LRCs always have space to operate.

5.6 Sustainability of LRCs

Every stakeholder involved in the LRC program either as a beneficiary or a contributor understands its

pivotal role in improving students' performance, enhancing their confidence, and engaging the community in the education of its children. Some of the initiatives taken up by the community to sustain LRCs include:

1. Zero rent infrastructure: LRCs operate from within the government school premises or local community halls so there is no need to buy or rent real estate to run the LRC.

2. Ownership shift to youth: Each LRC needs a dedicated facilitator to conduct classes and engage with the community. LRC involves the educated youth of the village in teaching, community engagement, and organizing of community activities such as education fairs. This provides employment opportunities for the village youth and ensures a longer association with the program.

3. Community fund: The community wants LRCs to continue in the future and they realize the relevance of fund flows to ensure smooth functioning. Community members have started collecting funds to this end, though there are no set rules and rates and the funds raised depend on the community's will and capacity to contribute.

5.7 Classroom Observations

Apart from attending classes held by LRC facilitators, regular classes held at LRCs by government school teachers were also observed to understand the classroom environment. For teachers to establish a positive, encouraging, and non-discriminating environment, they should demonstrate appropriate competencies that represent a combination of traits,

Table 5.1: Classroom Observation: Performance Parameters Studied Across 27 Classrooms (figures indicate number of classrooms where said parameter was observed and categorized)

	Always	Sometimes	Rarely	Never
Teacher–Student Interaction				
Teacher follows a prepared lesson plan	20	7	0	0
Teacher attends to all children and responds to the specific learning needs of children	15	12	0	0
Lesson Delivery				
Children frequently ask questions and respond to questions	15	12	0	0
Teacher enjoys the company of children	18	8	1	0
Classroom Environment				
There is an indication of positive learning; children are motivated frequently	20	7	0	0
Teacher promotes or teaches children to initiate and respond to their peers	15	12	0	0
The child's work is monitored and corrected by the teachers	16	10	1	0

abilities, knowledge, and skills such communication skills, patience, creativity, empathy, etc.[2]

Classroom observations covered areas such as the interaction between teachers and students, lesson delivery by teachers, and environment of the classroom (Table 5.1). The classes were found to be interactive and the teachers seemed motivated to conduct the classes and respond to students' queries properly. However, there is a need to adjust teaching methods and strategies to support emotional, behavioral, and social development of children from the marginalized communities.

[2] Stojiljković, SnežanaandDjigic, Gordana and Zlatković, Blagica (2012), 'Empathy and Teachers' Roles'. *Procedia - Social and Behavioral Sciences*, 69,pp: 960–66. 10.1016/j.sbspro.2012.12.021.

V

Child-Migration-Free Villages

> "In the last two years, all children of the primary and upper primary schools including girls, have transitioned to high school and have completed studies till Grade X. In 2019, 11 children including 7 girls appeared for and passed the Grade X board examinations. Today, the village is child-labor and child-migration free."
>
> – Nira Hans

Nira Hans is an SMC member and resident of Dudkibahal village that has around 180 households. Of these, 44% belong to ST, 7% to SC and 48% to OBC communities. The SMC members meet every month to discuss and take action on issues related to student attendance, teacher attendance, learning outcomes, teaching–learning materials, midday meals, school infrastructure, water, and hygiene. LAMP has been working with the SMC since 2015 and has trained them on the Right to Education (RTE) Act, roles and responsibilities, seasonal hostel management and monitoring.

One of Nira's children, who completed Grade VIII, also studied at the LAMP LRC. Apart from receiving academic support, LRC children get hands-on experience and exposure to art work, science experiments, computers, internet, etc. One of the key changes among school children, especially LRC children, is that they have become punctual and dedicated to their studies. There is this renewed interest in reading and children read even when they are back home.

This school has earned respect in the area for the quality of teaching at the LRC and attracts children from nearby villages. Migrant parents in and around the village enrol their children in the Dudkibahal Seasonal Hostel and feel safe about their decision.

Children from Sanmaheshwar LRC dance on the theme of RTE during the SMC meeting. Photo Courtesy: Prashant Panjiar

6
Conclusion

Findings of the evaluation study are of interest to the central and state governments, educationists, policy makers, and practitioners as they demonstrate the fact that continued access to basic learning resources and support along with community participation leads to improvement in public education provisioning and learning outcomes.

Education is fundamental to the qualitative development of human resources of a country.

Education is fundamental to the qualitative development of human resources of a country. This is why the Government of India amended the Constitution to provide free and compulsory education for all children in the age group 6 to 14 years, as a fundamental right.

Education is fundamental to the qualitative development of human resources of a country. This is why the Government of India amended the Constitution to provide free and compulsory education for all children in the age group 6 to 14 years, as a fundamental right. The Right of Children to Free and Compulsory Education (RTE) Act, 2009, means that every child has a right to full-time elementary education of satisfactory and equitable quality in a formal school which satisfies certain essential norms and standards. However, the quality elementary education remains a serious concern and is being discussed across India today, with almost all state governments striving to introduce several measures to address this issue.

AIF's signature education program LAMP is one such intervention which works toward creating demand for quality education in some of the most underserved regions of India. A third-party evaluation undertaken in 2017–18 attempted to assess the impact LRCs had on children, communities, and government schools. Based on a hub-and-spoke model, the LRCs run in community-owned spaces/government schools, are equipped with innovative learning materials and interactive technology that address different learning needs of children across grades. The overall aim of the LRC at the hub is to demonstrate to spoke schools as well as other schools in the area, strategies to improve the quality of education by bridging learning deficits, strengthening STEM, improve transition rates and promote school completion.[1]

The LRC is a space where children across ages and grades can come and enrich their learning. An LRC is typically set-up in a room given by the Panchayat, or any other space that is not in use. Some LRCs have also been set-up within government schools, at the request, or with the permission, of the SMC. In one village, Baddarlipada (Nuapada, Odisha), where the village infrastructure is really poor, the local youth built the LRC themselves with bamboo, mud, and straw. Wherever LRCs are set up, they are always zero-rent spaces. The community also contributes towards the refurbishment and repairs of the LRC to make the spaces child-safe and child-friendly. This demonstrates that if the community sees benefit and quality, the members go out of the way to support education of their children. LRCs also provide support to the government school teachers towards improving learning among school children.

The LRC (at the hub) is supposed to be a demonstration model for quality education delivery aimed to convince stakeholders including the community, parents, and the government of its teaching approach and methods. The decision on the number of spoke schools depends on a variety of factors (distance from

[1] STEM is a curriculum based on the idea of educating students in four specific disciplines — science, technology, engineering and mathematics — in an interdisciplinary and applied approach.

the hub, size of schools, topography etc.). The LRC facilitators generally take a demo session at the LRC hub, and then visit the nearby spoke schools during the day. This allows the intervention to reach out to multiple schools with the same resources.

The study reveals that LRC intervention has been successful in improving the learning outcomes of students at the endline vis-à-vis baseline across Math, Science, and Bhasha (language). The results are valid for learning outcomes intended for each class.

Students of hub schools have performed better than spoke schools across all classes and subjects. This is expected, given the intervention design under which, students of hub schools receive rigorous inputs through daily LRC classes conducted before and after school hours. In comparison, LRC facilitators only clarify doubts of spoke school students of classes III to VIII once a week.

Findings also reveal that LRC students have performed significantly better as compared to non-LRC students across all classes and subjects. On similar lines, students of classes I and II of LRC schools are more prepared/ ready for school in comparison to non-LRC students. This outcome may show larger impact on the learning achievement in higher classes as the learning deficit is bridged early.

Community engagement of LRCs is deep and sustained. After the intervention, parents and other

stakeholders associated with the SMCs were found to be more aware of their role in the management of the schools. Community members including the parents, teachers, sarpanch, AWWs, and the SMC president discuss the management of LRC in monthly meetings organized with LRC facilitators and block coordinators. They have a say in the areas of improvement for LRCs, organizing education fairs in the village and in planning the LRC's future course of action. Communities have started maintaining LRC funds to tide over situations where shortage of funds disrupts LRC functioning. Such corpus may not always be sufficient but it is indeed a great source of motivation indicating the genuine interest of the community in the education of its children. Parents discuss their child's progress in school with LRC facilitators. They firmly believe in the LRC way of teaching.

> ***The engagement of teachers in teaching also increased with demonstrated renewed interest in learning pedagogy.***

The engagement of teachers in teaching also increased with demonstrated renewed interest in learning pedagogy. Teachers, post LRC inputs, acquiesced to being able to better conduct classes than earlier. Classroom observations (Table 5.1) indicated that a majority of the teachers came prepared for the classroom teaching and were able to create a positive environment to motivate children. However, many teachers were found to be spending less time than required on classroom management and organization, improving participation of children, providing feedback and indicating corrective action. If the learning capability of students as well as their performance is to be improved and enhanced then all the factors of a teacher personality need to be developed. Government teachers in the school were found to be motivated to implement the recommended teaching–learning process with the assistance of TLMs provided and regular training conducted. Teachers expressed interest in receiving regular training in the future on specific topics under subject experts. They also expressed the desire to have the LRC way of teaching extended to other subjects such as English and Computers.

The study indicated how timely and age-specific intervention could enhance the quality of education and assure long-term sustainability, improvement in teaching–learning processes (pedagogy), school leadership and community participation.

However, there are some challenges which need to be addressed:

1. Shortage of teachers in government schools, particularly in rural areas, puts immense pressure on LRC facilitators as schools expect them to fill in for missing teachers, apart from conducting the routine LRC activities.

2. Engagement with students of spoke schools is not as deep as that in the hub school. As a result, the bridging of learning deficits in spoke schools is not as comprehensive as in the hub LRC.

3. The LRC intervention has created a sort of dependency among the community given the shortage of teachers and resources that they face. While LRCs to a large extent have been successful in bridging learning deficit in intervention schools, there is no clear-cut exit plan.

Findings of the evaluation study are of interest to the central and state governments, educationists, policy makers, and practitioners as they demonstrate the fact that continued access to basic learning resources and support along with community participation leads to improvement in public education provisioning and learning outcomes.

Investments, if made by the government and other agencies (under public–private partnership), in initiating LRC will help in improving learning outcomes and expanding such efforts across locations on a large scale.

VI

Technical Support to Seasonal Hostels

> "Nuapada is a migration sensitive district. Seasonal migration is linked to debt cycles and the need for money to repay debts, which compels the resident-villagers into forced labor conditions and exploitation. This often results in children at risk of dropping out from school, and the only way out is to provide safe spaces for them to stay and learn. Seasonal Hostels and LRCs have helped in reducing drop-out rates."
>
> – Hemanta Kumar Bhoi

Seasonal hostels, a concept originally started by AIF and its partner Lokadrusti in the year 2004 and adopted by the government in 2008, are now managed by SMCs. In 2018–19, there were 60 seasonal hostels in Nuapada, with an intake of 3,150 students. AIF through Lokadrusti, provides technical support, migration mapping, community mobilization, counseling of parents, and TLMs for students. They also carry out capacity building of SMC members and caretakers running the hostels.

Hemanta Kumar Bhoi is in charge of the implementation of inclusive education activities and community mobilization activities of the Sarva Shiksha Abhiyan (SSA) in Nuapada. During his visits to LAMP's LRCs, Hemanta observed an improvement in the learning levels of students, their engagement with co-curricular activities, as well as significant personal development, wherein they appeared as vocal, smart, and cheerful young people. "With local educated youth recruited as LRC facilitators, there is no language barrier, and a friendly teaching-learning environment is ensured", he adds.

Balmati Majhi (red sari), the cook, and her helper at the Khamtarai Seasonal Hostel.
Photo Courtesy: Prashant Panjiar

Annexes

Table A 4.1: Learning Outcomes: Mathematics

Class III	Class IV	Class V
1. Identifying shapes 2. Counting numbers 3. Addition and subtraction 4. Measuring lengths and weights 5. Daily tasks: days, time, and recognizing coins 6. Financial calculation: multiplication	1. Identifying shapes 2. Counting numbers 3. Working with 2-digit numbers: addition and subtraction 4. Comparing objects as heavier/lighter, taller/shorter, and capacity of different containers 5. Daily tasks: Days, time, and recognizing coins, observing and studying the calendar 6. Financial calculation: addition, subtraction, multiplication, and division	1. Acquiring understanding about shapes 2. Arithmetic operations in a equation 3. Comparison (>,=,<), increasing/decreasing order 4. Comparing objects as heavier/lighter, longer/shorter, and capacity of different containers 5. Daily tasks: Studying the calendar, days and time 6. Financial calculation: addition, subtraction, multiplication, and division
Class VI	**Class VII**	**Class VIII**
1. Identify 2D and 3D shapes 2. Explore patterns in numbers while doing various operations 3. Comparison (more than, equal to, farthest/closest) 4. Daily life situations related to unit conversion, weight, time, calendar involving four basic arithmetic operations and understanding directions 5. Financial calculation: addition, subtraction, multiplication, and division	1. Identify and count 2D and 3D shapes 2. Explore numbers while doing various operations, usage of variables in equations 3. Use unitary method in solving various word problems 4. Daily life situations related to unit, distance, weight, currency, time, calendar involving four basic arithmetic operations and understanding directions 5. Financial calculation: addition, subtraction, multiplication, division, chart, graph, page number referencing 6. Work with fractions 7. Work with terms: equal to, greater than, most, smallest, and between	1. Solve problem related to angles, sides, corners of shapes 2. Explore numbers while doing various operations, usage of variable in equation 3. Recognize pattern in operations, observe reflection in mirror 4. Daily life situations related to unit, volume involving four basic arithmetic operations and understanding directions 5. Financial calculation: group distribution, subtraction, multiplication, and division 6. Work with fractions and decimals 7. Work with terms: more, maximum, closest, smallest, even, round-off 8. Apply HCF, LCM in a given situation

Table A4.2: Mean Difference in Mathematics LO Scores: Endline versus Baseline

	No. of students/respondents		Average endline score/average baseline score	Mean difference	p-value
	Baseline	Endline			
Class III	539	408	2.26	1.77	0.40
Class IV	821	639	2.80	4.25	0.00*
Class V	1437	326	2.17	3.27	0.00*
Class VI	1566	817	3.21	4.04	0.00*
Class VII	1621	863	3.48	4.78	0.00*
Class VIII	1475	783	3.43	3.35	0.00*

Note: *Where p-value<=0.05, the mean difference is significant at 95% confidence interval

Table A4.3: Mean Difference in Mathematics LO Scores: Treatment versus Control Group

	No. of students/respondents		Average treatment score/ average control group score	Mean difference	p-value
	Treatment (hub + spoke)	Control			
Class III	408	145	1.24	0.62	0.00*
Class IV	639	151	1.26	1.37	0.00*
Class V	326	156	1.28	1.32	0.00*
Class VI	817	156	1.18	0.91	0.00*
Class VII	863	155	1.33	1.66	0.00*
Class VIII	783	148	1.06	0.25	0.00*

Note: *Where p-value<=0.05, the mean difference is significant at 95% confidence interval

Table A4.4: Mean Difference in Mathematics LO Scores: Hub versus Spoke

	No. of students/respondents		Average hub score/ average spoke score	Mean difference	p-value
	Hub	Spoke			
Class III	284	124	1.17	0.49	0.00*
Class IV	487	152	1.34	1.80	0.00*
Class V	541	142	1.25	1.26	0.00*
Class VI	671	146	1.24	1.35	0.00*
Class VII	712	151	1.24	1.35	0.00*
Class VIII	642	141	1.46	1.58	0.00*

Note: *Where p-value<=0.05, the mean difference is significant at 95% confidence interval

Table A4.5: Learning Outcomes: Science

Class III	Class IV	Class V
1. Identifying simple observable features of the human body 2. Grouping objects based on similarities and differences 3. Identifying relationships in the family 4. Voicing opinions on good/bad behavior 5. Recording observations, experiences, information on objects/activities/places 6. Identifying professions	1. Recording observations regarding the neighborhood and identifying India's festivals/ national bird/flower/animal 2. Identifying important days based on historic significance 3. Identifying simple features of objects 4. Identifying vegetables, fruits, shrubs, trees 5. Explaining the process of producing and procuring objects of daily needs 6. Voicing opinions on issues observed/ experienced in family/neighborhood 7. Explaining herd/group behavior 8. Identifying **r**elationships in the family	1. Grouping objects and materials according to various features/ properties 2. Recording observations in an organized manner 3. Explaining unusual features of animals and their responses 4. Voicing opinion on issues observed 5. Guessing conditions of phenomena 6. Identifying signs and directions of different objects
Class VI	**Class VII**	**Class VIII**
1. Identifying materials and organisms on the basis of observable features 2. Explaining processes and phenomena 3. Classifying materials, organisms, and processes based on observable properties 4. Applying learning of scientific concepts in day-to-day life	1. Identifying materials and organisms on the basis of observable features 2. Differentiating materials and organisms on the basis of their properties 3. Explaining processes and phenomena 4. Measuring and calculating	1. Differentiating materials and organisms on the basis of their properties 2. Explaining processes and phenomena 3. Understanding shapes, volumes, weights, and mixtures 4. Classifying materials and organisms based on properties 5. Applying learning of scientific concepts in day-to-day life 6. Conducting simple investigations to seek answers to queries

Table A4.6: Mean Difference in Science LO Scores: Endline versus Baseline

	No. of students/respondents		Average endline score/ average baseline score	Mean difference	p-value
	Baseline	Endline			
Class III	488	404	2.23	3.26	0.00*
Class IV	808	630	3.35	3.31	0.00*
Class V	1460	675	2.85	0.98	0.00*
Class VI	1553	812	1.60	0.63	0.00*
Class VII	1614	855	3.20	2.93	0.00*
Class VIII	1502	772	2.61	6.77	0.00*
Note: *Where p-value<=0.05, the mean difference is significant at 95% confidence interval					

Table A4.7: Mean Difference in Science LO Scores: Treatment versus Control Group

	No. of students/respondents		Average treatment score/ average control group score	Mean difference	p-value
	Treatment (hub + spoke)	Control			
Class III	404	138	1.48	1.92	0.00*
Class IV	630	151	1.35	1.23	0.00*
Class V	675	155	1.53	0.52	0.00*
Class VI	812	161	1.19	0.27	0.00*
Class VII	855	144	1.38	1.19	0.00*
Class VIII	772	148	1.28	2.43	0.00*
Note: *Where p-value<=0.05, the mean difference is significant at 95% confidence interval					

Table A4.8: Mean Difference in Science LO Scores: Hub versus Spoke

	No. of students/respondents		Average hub score/ average spoke score	Mean difference	p-value
	Hub	Spoke			
Class III	292	112	1.57	2.39	0.00*
Class IV	496	134	1.17	0.70	0.00*
Class V	540	135	1.33	0.40	0.00*
Class VI	677	135	1.10	0.14	0.005*
Class VII	717	138	1.36	1.18	0.00*
Class VIII	637	135	1.23	2.10	0.00*
Note: *Where p-value<=0.05, the mean difference is significant at 95% confidence interval					

Table A4.9: Learning Outcomes: Language (Odia)

Class III	Class IV	Class V
1. Communicate in own bhasha (oral competency) 2. Respond to comprehension questions related to stories and poems orally and in writing 3. Word meaning 4. Identify main ideas and draw conclusions 5. Synonyms and antonyms 6. Correct the spelling/sentence	1. Communicate in own bhasha (oral competency), bird/flower/animal 2. Respond to comprehension questions related to stories and poems orally and in writing 3. Infer meaning of word 4. Synonyms and antonyms 5. Correct the spelling/sentence	1. Communicate in own bhasha (oral competency) 2. Respond to comprehension questions related to stories and poems orally and in writing 3. Infer meaning of word 4. Synonyms and antonyms 5. Correct the spelling/sentence
Class VI	**Class VII**	**Class VIII**
1. Communicate in own bhasha (oral competency) 2. Respond to comprehension questions related to stories and poems orally and in writing 3. Identify details, characters, main ideas, and sequence of ideas and events 4. Infer meaning of words 5. Synonyms and antonyms 6. Correct the spelling/sentence	1. Communicate in own bhasha (oral competency) 2. Respond to comprehension questions related to stories and poems orally and in writing 3. Identify details, characters, main ideas, and sequence of ideas and events 4. Infer meaning of words 5. Synonyms and antonyms 6. Correct the spelling/sentence	1. Communicate in own bhasha (oral competency) 2. Respond to comprehension questions related to stories and poems orally and in writing 3. Identify details, characters, main ideas, and sequence of ideas and events 4. Infer meaning of words 5. Correct the spelling/sentence

Table A4.10: Mean Difference in Language (Odia) LO Scores: Endline versus Baseline

	No. of students/respondents		Average endline score/ average baseline score	Mean difference	p-value
	Baseline	Endline			
Class III	1346	402	2.34	0.59	0.003*
Class IV	1346	623	3.28	1.85	0.012*
Class V	1459	682	2.83	4.95	0.000*
Class VI	1584	821	3.09	4.00	0.000*
Class VII	1637	860	1.72	1.86	0.000*
Class VIII	1481	769	2.54	7.19	0.000*

Note: *Where p-value<=0.05, the mean difference is significant at 95% confidence interval

Table A4.11: Mean Difference in Language (Odia) LO Scores: Treatment versus Control Group

	No. of students/respondents		Average treatment score/ average control group score	Mean difference	p-value
	Treatment (hub + spoke)	Control			
Class III	402	137	1.24	0.20	0.007*
Class IV	623	150	1.25	0.53	0.308
Class V	682	156	1.36	2.03	0.898
Class VI	821	155	1.50	1.98	0.519
Class VII	860	154	1.20	0.75	0.000*
Class VIII	769	150	1.28	2.61	0.110
Note: *Where p-value<=0.05, the mean difference is significant at 95% confidence interval					

Table A4.12: Mean Difference in Language (Odia) LO Scores: Hub versus Spoke

	No. of students/respondents		Average hub score/average spoke score	Mean difference	p-value
	Hub	Spoke			
Class III	284	118	1.14	0.12	0.001*
Class IV	483	140	1.15	0.34	0.000*
Class V	542	140	1.22	1.47	0.000*
Class VI	673	148	1.24	1.19	0.000*
Class VII	722	138	1.17	0.65	0.000*
Class VIII	629	140	1.25	2.44	0.000*
Note: *Where p-value<=0.05, the mean difference is significant at 95% confidence interval					

Table A4.13: Learning Outcomes: School Readiness

Classes I and II
1. Pre-number concepts 2. Space concept 3. Classification of fruits and vegetables 4. Following instructions 5. Number/object matching 6. Pattern making 7. Relative comparisons: number – greater/ lesser

Table A4.14: Mean Difference in School Readiness LO Scores: Endline versus Baseline

	No. of students/respondents		Average endline score/ average baseline score	Mean difference	p-value
	Baseline	Endline			
Classes I and II	1377	1176	2.12	9.10	0.006*

Note: *Where p-value<=0.05, the mean difference is significant at 95% confidence interval

Table A4.15: Percentage of Students (Classes I and II)Achieving School Readiness Learning Outcomes (Endline versus Baseline)

	Learning Outcome	Percentage of Students Who Answered Correctly	
		Baseline	Endline
1	Pre-number concepts	17.6	93.4
2	Space concept	29.3	89
3	Classification of fruits and vegetables	56.7	90.9
4	Following instructions	34.9	94.9
5	Number/object matching	81.7	91.2
6	Pattern making	28.1	71.3
7	Relative comparisons: number – greater/ lesser	50.3	63.9

Table A4.16: Weighted School Readiness Mean Scores: Treatment versus Control Group

	Treatment		Control		Treatment mean score/Control mean score	Mean difference	*p-value*
	No. of respondents	Mean score	No. of respondents	Mean score			
Classes I and II	1176	17.20	306	16.68	1.03	0.52	0.00*

Note: *Where p-value<=0.05, the mean difference is significant at 95% confidence interval

Strengthening Learning Outcomes for Children of Migrant Communities

AN EVALUATION OF THE LEARNING AND MIGRATION PROGRAM (LAMP)

> As the child migrates during the critical part of the school year, and does that for a few years, getting her back to school, especially in an age-appropriate class becomes more and more distant a possibility. In this context, LAMP is not just a relevant but a crucial intervention. As the report shows, the results have been encouraging...the schools that are part of LAMP show significantly higher achievement levels. Further, the study found that students were more 'school ready' which meant they were better prepared both technically and socially to deal with a new school and classroom environment. All in all, there is every reason to believe that the intervention is worth replicating at scale.

—Shankar Venkateswaran, Foreword to the Report

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