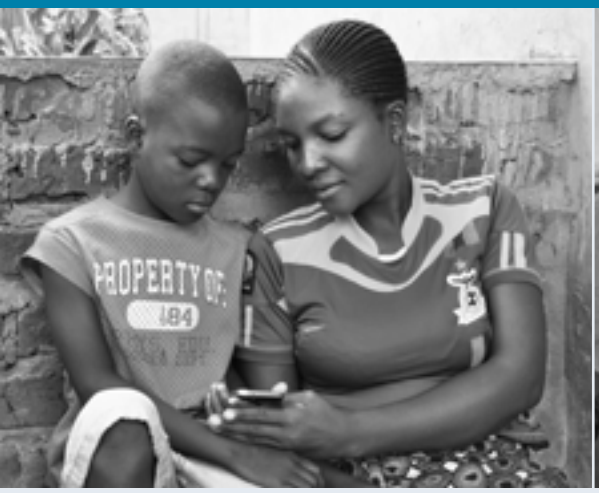
ALL CHILDREN READING:
GRAND CHALLENGE FOR DEVELOPMENT

Engaging Families and Communities to Support Student Reading Skills Development

Lessons from Four All Children Reading:
A Grand Challenge for Development Projects




Prepared by School-to-School International (STS)
For All Children Reading: A Grand Challenge for Development (ACR GCD)

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Photos:
This page: Sesame Workshop India
Cover photos (l to r): Creative Associates International, Sesame Workshop India, Qué Funciona para el Desarrollo

I

Introduction

Family and community engagement is a key factor contributing to children's educational achievement.[1, 2] Families who engage with their children's learning have the potential to encourage their children to spend more time learning and increase their motivation to learn. Families and communities can also invest time and resources to support children's achievement.[3]

Despite the empirically proven benefits of family and community engagement,[4, 5] there are many factors that impact families' ability or willingness to support their children's learning. These factors include **parents' motivational beliefs**, including their sense of responsibility for their children's educational outcomes and their sense of efficacy (i.e., whether they believe their involvement is likely to have a positive influence); **perceptions of invitations to engage**, including those from schools, teachers, their children, or other actors; and **life-context variables**, including parents' understanding of their own skills and knowledge, time or energy, and local culture of family involvement in education.[6]

All Children Reading: A Grand Challenge for Development (ACR GCD)—a partnership between the United States Agency for International Development (USAID), World Vision, and the Australian Government—is an ongoing series of competitions that leverage science and technology to source, test, and disseminate scalable solutions to improve the literacy skills of early grade learners in developing countries. Round 2 of ACR GCD[7] supports technology-based innovations to improve early grade reading outcomes, with three focus areas,[8] one of which is family and community engagement.[9]

In recognition of the critical role that families and communities can play in their children's learning, and acknowledging that families and communities are often underutilized, four of the 12 ACR GCD Round 2 projects implemented focused on family and community engagement:[10]

1. **Makhalidwe Athu (Our Way of Staying)**, *implemented in Zambia*
2. **Your Child, Reading, and You**, *implemented in Mali*
3. **Mundo de Libros (World of Books)**, *implemented in Mexico*
4. **Play. Connect. Learn**, *implemented in India*

To understand the ability of technology-based innovations to improve literacy skills, ACR GCD and School-to-School International (STS) collaborated with each grantee to develop a robust research study design and advise on the sampling and research groups; conduct Early Grade Reading Assessments (EGRAs)[11] at baseline and endline; and provide technical assistance on monitoring and evaluation, and fidelity of implementation activities. STS also conducted qualitative end-of-project interviews to explore lessons learned from project implementation, understand the impact on beneficiaries, and assess the potential scalability.[12, 13]

This summary report examines the approaches used by the ACR GCD Round 2 projects to engage families and communities and the reading gains children achieved. It then offers a case study highlighting promising practices used in the *Your Child, Reading, and You* project. Finally, this report outlines lessons learned from implementation and explores whether the projects mitigated factors known to limit family engagement. Specifically, the following key questions are answered:

1. **What methods were used to engage families and communities?**
2. **How did projects use technology to engage families and communities?**
3. **What future project design and research considerations are needed to understand the impact of using technology to encourage family and community engagement?**

II

ACR GCD Round 2 Grantees in the Family and Community Engagement Focus Area

The ACR GCD Round 2 grantees featured in this report worked in four countries on projects focused on family and community engagement, with each project having a different implementation model that targeted a variety of skills on the reading spectrum.[14] Details on the project components, particularly regarding how the projects engaged families and communities through technology, are detailed in Table 1. Table 2 provides a summary of the research design and EGRA results for the four projects.

TABLE 1

Makhalidwe Athu

INTERVENTION DESCRIPTION

Students in rural Zambia received text message stories and comprehension questions on their parents' or caretakers' phone in their mother tongue language, ciNyanja. Parents and caretakers attended monthly meetings about the program, and many received home visits from community mobilizers. Family and community members submitted their own stories to be used in the program.

Country/Grantee	Language	Targeted Reading Skills	INTERVENTION Hardware	INTERVENTION Software & Literacy Content
Zambia - Creative Associates International	ciNyanja	1 — 2 — 3	Mobile phones	Forty-one text message stories with comprehension questions Hard copies of stories distributed at the end of project Audio recording of stories

Your Child, Reading, and You

INTERVENTION DESCRIPTION

Students in the Segou region of Mali visited community libraries stocked with books and literacy games in Bamanankan. A trained volunteer librarian led reading activities including games, songs, and reading practice. They also visited homes to show parents how to engage in reading with their children. Half the students had access to the Stepping Stone application containing digital audio, text, and interactive literacy activities.

Country/Grantee	Language	Targeted Reading Skills	INTERVENTION Hardware	INTERVENTION Software & Literacy Content
Mali - Œuvre Malienne d'Aide à l'Enfance du Sahel	Bamanankan	1 — 2 — 3	Tablets Mobile phones	Digital application featuring stories with audio and interactive literacy games Seventy-five total stories (50 leveled and 25 from local community)

Pre-reading 1 Foundational 2 Reading comprehension 3

Photos: Sesame Workshop India

TABLE 1 *(CONTINUED)*

Mundo de Libros: Matching Children with Level-Appropriate Books and Engaging Families

INTERVENTION DESCRIPTION

Students had access to libraries stocked with children's books. A web-based platform provided individualized book recommendations to students. Half of the parents were provided workshops and related materials to improve engagement in their child's reading.

Country/Grantee	Language	Targeted Reading Skills	INTERVENTION Hardware	INTERVENTION Software & Literacy Content
Mexico - Qué Funciona para el Desarrollo, A.C.	Spanish	1 — 2 — 3	Computers Tablets	Website with student profiles and individualized book recommendations from 295 unique titles available for borrowing MATCH algorithm provided personalized book recommendations based on the student's baseline EGRA results and the books' difficulty scores

Play.Connect.Learn

INTERVENTION DESCRIPTION

Students in six districts in Maharashtra played with the *Play.Connect.Learn* application on their parents' smartphone. Families received monthly visits by a community facilitator.

Country/Grantee	Language	Targeted Reading Skills	INTERVENTION Hardware	INTERVENTION Software & Literacy Content
India - Sesame Workshop India Trust	Marathi	1 — 2 — 3	Smartphones	Digital application contained 12 e-books with corresponding literacy games and 28 supplementary PDF stories

Photo: Creative Associates International

Eastern Province, Zambia

Makhalidwe Athu

Creative Associates International (Creative) implemented the *Makhalidwe Athu* project in two districts in the Eastern Province of Zambia. The project sent SMS stories to families from March through December 2016. The *Makhalidwe Athu* project's goal was to improve children's reading abilities—specifically vocabulary, oral reading fluency, and comprehension—by providing reading materials in ciNyanja, the predominant mother tongue language in the targeted communities, as well as supporting reading activities through text messaging.

A total of 267 local stories in ciNyanja were crowdsourced from families and community members at the school, through *Breeze FM*, on the project website, or by leaving a message via Interactive Voice Response (IVR) technology. Each book was then assessed for reading level and edited. Of these, 41 stories were then split into three segments, of about 160 characters in length, and accompanying reading comprehension questions were added. Three times per week, the *Makhalidwe Athu* project texted one of the segments of the short stories to be used by children to practice reading. Parents and caretakers were instructed to observe their children as they transcribed the stories into notebooks and to read the stories and answer the reading

Photo: Creative Associates International

comprehension questions with their children. In addition to the text messages, the *Makhalidwe Athu* project provided participants with the option of making a pre-paid call to hear a recorded voice message using IVR. The recording contained the same stories and comprehension questions that were texted and served as an alternative way to access the material, especially to engage parents and caretakers who were unable to read. Data from an uptake survey showed that about 68 percent of respondents who received text messages said they listened to the voice recording with their child at least once throughout the project.

Creative encouraged parent and caretaker engagement by holding monthly meetings for participating children and their parents and caretakers. During the meetings, community mobilizers from the *Makhalidwe Athu* team discussed stories from the previous month, asked children to volunteer to read stories aloud in front of the group, and reviewed ways that parents and caretakers should support their children's reading. Community mobilizers made home visits to parents who did not attend meetings, and parent volunteers were mobilized to support the project. In addition to these monthly meetings, the *Makhalidwe Athu* project broadcast a radio show every Saturday on local station, *Breeze FM*. During the broadcast, that week's story was read out loud, and community members were encouraged to call in with questions. Local experts were also invited on the show to discuss literacy topics. EGRA results from an external evaluation conducted by NORC at the University of Chicago showed statistically significant impacts for the nonword reading, oral reading fluency, and reading comprehension subtasks (see Table 2) with effect sizes of 0.2, 0.3, and 0.2 respectively.[15, 16] Data from an uptake survey at the project's midpoint revealed that 88 percent of households reported that they received stories and had discussed the comprehension questions and had conversations about the stories.

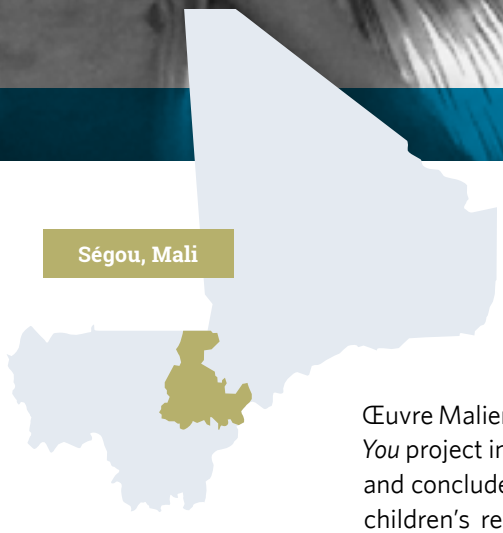
The *Makhalidwe Athu* project reached 1,106 students in Grades 2 and 3. The grant award was $857,889.

The Makhalidwe Athu project reached

1,106
STUDENTS

in Grades 2 and 3

Photo: Œuvre Malienne d'Aide à l'Enfance du Sahel



Your Child, Reading, and You

Œuvre Malienne d'Aide à l'Enfance du Sahel (OMAES) implemented the *Your Child, Reading, and You* project in ten communities in the Ségou region of Mali. The project began in February 2015 and concluded in June 2017. The *Your Child, Reading, and You* project aimed to improve Malian children's reading abilities—specifically pre-reading and foundational skills—by increasing family and community members' commitment to their children's reading abilities and by increasing access to print and digital reading materials that supported reading acquisition.

The *Your Child, Reading, and You* project created community libraries that offered literacy activities to children, parents, and caretakers; the libraries were stocked with hard copies of materials developed in the Bamanankan language for beginning readers, including leveled books and locally sourced stories. In five communities, Family Plus libraries provided participants with access to digital audio, texts, and interactive reading activities on low-cost tablets and mobile phones using Stepping Stone,[17] a digital learning application (app). This was done to measure the difference in reading skills gains among students who attended libraries only with print materials and those who attended Family Plus libraries that offered the Stepping Stone technology.

Photos: Œuvre Malienne d'Aide à l'Enfance du Sahel

All libraries also held writing workshops to promote a culture of reading in the communities. During the workshops, community members could contribute local stories that were then developed into books and subsequently distributed to all community libraries. Children and their parents were invited to visit the library three times per week at fixed times, though children could go to the library unaccompanied at any time. The *Your Child, Reading, and You* project staff also conducted home visits to teach family members different games and activities to help their children learn to read. Parents and caretakers who attended Family Plus libraries could also upload Stepping Stone and the accompanying electronic materials onto their mobile phones. EGRA results show that students with access to the community libraries outperformed students in the comparison group (Table 2). Students from Family Plus libraries had effect sizes of 1.0 and 0.7 on the letter sound identification and nonword reading subtasks, respectively.[18]

The *Your Child, Reading, and You* project reached 500 students in Grades 1 through 3. The grant award was $388,416.

The Your Child, Reading, and You project reached

500
STUDENTS

in Grades 1 through 3

Photo: All Children Reading: A Grand Challenge for Development

Estado de México, Mexico

Mundo de Libros

Qué Funciona para el Desarrollo (QFD) collaborated with Fundación Proacceso to implement the *Mundo de Libros* project in ten digital libraries[19] in Estado de México in Mexico. The project began in February 2015 and concluded in April 2017. The *Mundo de Libros* project aimed to improve reading skills—specifically reading fluency—and reading habits of students enrolled in Grades 1 through 3.

QFD developed the innovative MATCH algorithm, which used students' literacy level and the difficulty level of books to make personalized reading recommendations. QFD also built a web-based platform to share these recommendations with students through individual student profiles. In addition, the project granted students access to libraries with a high-quality selection of children's books, developed a system for leveling books, and provided workshops for parents and caretakers to support children's reading. Children could access their book recommendations through the *Mundo de Libros* platform and check out books from the libraries. The digital libraries had computers or tablets available for students to use to access the platform.[20]

To engage families and communities, QFD hosted workshops for parents and caretakers at participating libraries every two months for a total of five workshops over the course of the *Mundo de Libros* project. The *Mundo de Libros* project team members led the workshops, which centered around a variety of topics, including good reading habits (e.g., recommended reading session length and activities to do before and after reading), the importance of summer reading, and reading resources available outside of school. QFD distributed informational handouts during each workshop that attendees could share with others in the household. The project also encouraged parents and caretakers to accompany their children to the digital libraries and to help them use the *Mundo de Libros* web-based platform. QFD did not require that the parents directly interact with the technologies used through the project. Children could attend the library unaccompanied. Students who participated in the *Mundo de Libros* project showed statistically significant reading gains across all EGRA subtasks from baseline to endline; however, it is not possible to assess to what extent reading gains were the result of the intervention or an additional year of schooling due to the research design of the project.

The *Mundo de Libros* project reached 856 students in Grade 1 through 3.[21] The grant award was $317,387.

The Mundo de Libros project reached

856
STUDENTS

in Grades 1 through 3

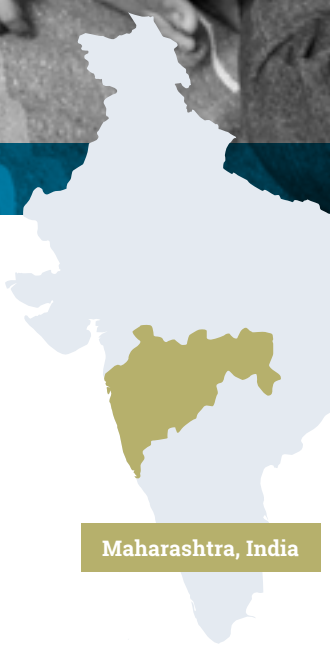
Photos: Sesame Workshop India

Play.Connect.Learn

Sesame Workshop India Trust (SWI) implemented the *Play.Connect.Learn* project in six districts of Maharashtra, India. The project began in April 2015 and concluded in August 2017. The *Play.Connect.Learn* project aimed to improve children's early grade reading skills—specifically, foundational literacy skills and reading comprehension—in their mother tongue, Marathi, by creating and distributing the *Play.Connect.Learn* smartphone app to families for use by their children outside of school.

For the *Play.Connect.Learn* project, parents and caretakers provided children with a smartphone equipped with the *Play.Connect.Learn* app and ensured that the children spent at least 1.5 hours each week on the self-paced app. Students read and listened to each audio storybook and completed the accompanying comprehension games and quizzes. The *Play.Connect.Learn* app used characters from *Galli Galli Sim Sim*, India's locally produced version of Sesame Street. SWI instructed parents and caretakers to engage their children in discussions about the storybooks on the app and, if needed, read along and help their children answer the questions on the comprehension games. On average, students who participated in the *Play.Connect.Learn* project had statistically significantly greater gains than comparison group students over the life of the project on pre-reading subtasks as well as on the familiar word reading and oral reading fluency subtasks. The project showed effect sizes of 0.3, 0.2, 0.2, and 0.2 on the letter name identification, syllable identification, familiar word reading, and oral reading fluency subtasks, respectively.[22]

The *Play.Connect.Learn* project reached approximately 12,445 students in Grades 1 and 2.[23] The grant award was $318,995.



The Play.Connect.Learn project reached

12,445
STUDENTS

in Grades 1 and 2

TABLE 2

Summary of Research Design and EGRA Results by Project

	Project	Makhalidwe Athu	Your Child, Reading, and You	Mundo de Libros	Play.Connect.Learn
	Research Design/Groups	Randomized controlled trial: (1) treatment and (1) control	Quasi-experimental: (2) intervention and (1) comparison	Reflexive comparison: (1) intervention	Quasi-experimental: (1) intervention and (1) comparison
	Sample Size[24]	2054	562	457	627
Targeted EGRA Reading Skills and Results by Subtask	PRE-READING: Letter Sound Identification/ Letter Name Identification		↑↑	✓	↑
	PRE-READING: Syllable Identification				↑
	FOUNDATIONAL: Nonword Reading	↑	↑↑	✓	
	FOUNDATIONAL: Familiar Word Reading			✓	↑
	FOUNDATIONAL: Oral Reading Fluency	↑	⇈	✓	↑
	FOUNDATIONAL: Listening Comprehension		⇈		
	COMPREHENSION: Reading Comprehension	↑	⇈	✓	

Subtask not on EGRA

Targeted skill

↑ Gain of one intervention group was statistically significantly greater than the gains of the comparison group.

✓ One intervention group had statistically significantly higher scores at endline than at baseline.

↑↑ Gains of two intervention groups were statistically significantly greater than the gains of the comparison group.

⇈ Endline scores of two intervention groups were statistically significantly higher than endline score of the comparison group.

III

How did ACR GCD Round 2 grantees' approaches for engaging families and communities compare?

There was overlap in the approaches used by the projects to engage families and communities in their children's literacy skills development. Two of the projects were implemented in the household, while two were implemented in libraries. Two projects specifically engaged families with the technologies they already owned that were then leveraged by the projects. Three projects held trainings or workshops for families to teach them how to support their children's reading outside of school. Two projects engaged the local community by crowdsourcing stories that were developed into project content.

TABLE 3

Intervention Approaches Across Projects

Project	Intervention Setting	Implementation Approaches		
		Content Delivered through Families' Technology	Trainings or Workshops for Families and Communities	Crowdsourcing Content from Families and Communities
Makhalidwe Athu	HOUSEHOLD			
Your Child, Reading, and You	LIBRARY			
Mundo de Libros	LIBRARY			
Play.Connect. Learn	HOUSEHOLD			

Across the four projects, end-of-project interviews with parents and caretakers underscored the benefits of providing reading projects outside of the traditional school environment. Projects did not systematically collect empirical data about parents' knowledge, attitude, and practices related to their motivational beliefs—their sense of personal or shared responsibility for their child's educational outcomes and their sense of efficacy on their children's learning; therefore, knowledge about changes in these beliefs due to the interventions is limited. However, STS conducted end-of-project interviews with parents and caretakers in three of the four

projects. Feedback indicates an increased awareness among parents and caretakers of their role and ability to provide support. Parents and caretakers from the different projects noted that, prior to the projects, they did not believe their children's reading was something they could support; instead many thought that learning happened at school—a cultural barrier that often discourages families from engaging. By introducing parents and caretakers into their children's reading development process, the projects created the conditions to change traditional mentalities regarding parents' and caretakers' roles in their children's education. Given the prevalence of teacher absenteeism, and strikes in some contexts, engaging parents outside of the traditional school environment is a strong supplement to in-school interventions.

ACR GCD Round 2 grantees implemented their interventions in two types of locations—households and libraries—and there were benefits to both approaches. **The two projects that intervened at the household level—*Makhalidwe Athu* and *Play.Connect.Learn*—explicitly linked parents and caretakers to the project. These projects also required greater levels of engagement from parents and caretakers with the intervention technologies.** Both projects also created opportunities for children to request support from their families to read together at home. The *Makhalidwe Athu* project required families to engage directly in the project, as all reading materials were delivered to their mobile phones. Similarly, SWI uploaded the *Play.Connect.Learn* app directly onto parents' or caretakers' smartphones, requiring children who wanted to use the app to get their families' permission or have their supervision. These projects also offered families advice on how often children should use the reading materials, which encouraged families to think about and plan time to provide supplementary reading time outside of the classroom. As a result, the projects may have changed families' beliefs about how they could support their children's learning, building their children's reading skills and knowledge. Indeed, anecdotal feedback from the *Makhalidwe Athu* project management, and from school directors in target communities, indicated that family members participating in the project appeared to be more engaged in their children's reading at the end of the intervention period.

The Makhalidwe Athu and Play.Connect.Learn projects required greater levels of engagement from parents and caretakers with the intervention technologies. As a result, the projects may have changed families' beliefs about how they could support their children's learning, building their children's reading skills and knowledge.

This approach, however, was not without challenges. Children were reliant upon their parents' or caretakers' technology to access reading materials. If parents were busy or not at home, children could not access the literacy content. Also, if family members needed to travel and take their phones, or if the technology was broken or uncharged, children's access to the intervention was limited. A benefit of the *Makhalidwe Athu* project was the ability to access the story and reading content through neighbors' devices, or by attending the workshops, listening to the radio, or calling the recorded voice message. This way, if a family's phone was unavailable, children had multiple alternatives for accessing the reading content. Similar alternatives did not necessarily exist for beneficiaries of the *Play.Connect.Learn* project, which did not feature recorded voice messages or workshop options.

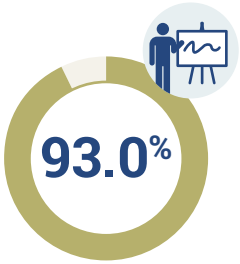
The *Your Child, Reading, and You* project and the *Mundo de Libros* project did not require the same level of direct family engagement: children in both projects could attend the libraries with or without a family member. **The library-based interventions, however, allowed for participation from the wider community: libraries were accessible to children and community members who were not direct beneficiaries of the projects.** Anecdotal evidence collected through end-of-project interviews suggests that these projects may have helped promote a reading culture in the wider community. Many other children and community members, beyond the project's participants, attended the *Your Child, Reading, and You* project libraries—so many, in fact, that there was oversubscription and librarians had to limit the greater community's access. In the *Mundo de Libros* project, many children, after seeing the books and learning about the project from their peers, became interested in attending the libraries after the enrollment period ended.

As a result, the *Mundo de Libros* project opened registration beyond the planned cut-off to allow additional children access to reading materials. Further, other children, including siblings of those enrolled in the project, often read books at the libraries, although they were not allowed to borrow books and did not have access to the *Mundo de Libros* platform.

Many other children and community members beyond the project's participants attended the Your Child, Reading, and You libraries—so many, in fact, that there was oversubscription and librarians had to limit access.

Feedback from end-of-project interviews suggests that time and energy were barriers to family engagement regardless of whether the intervention took place at the household or library level. Many parents and caretakers in the *Your Child, Reading, and You* project and the *Mundo de Libros* project cited lack of time or too many other commitments as the main reason that they did not attend libraries with their children. Parents and caretakers in the *Play.Connect.Learn* project also expressed time as an impediment to providing their children with exposure to the project app. In many cases, their jobs required them to be out of the house for most of the day, and they took their phones with them.

Although three of the four projects—*Makhalidwe Athu*; *Your Child, Reading, and You*; and *Mundo de Libros*—held trainings or workshops for families, these sessions had mixed rates of attendance and engagement. **The primary limitations to the success of training or workshops tended to be related to families' perception of the time and energy they had available to dedicate to their children's learning.** The *Makhalidwe Athu* project held monthly meetings for families and communities, which were attended by parents and caretakers as well as children. The sessions were regularly delivered by the project's community mobilizers, who also spent time in the communities outside of workshop sessions to support families and children. More than 100 parent volunteers were engaged to assist with meetings, and they encouraged other parents to attend via personal invitations and text messages. The *Makhalidwe Athu* project experienced high attendance rates—93.0 percent of parents or caretakers reported attending at least one workshop. Project management anecdotally noted higher attendance rates in rural communities versus urban communities.



93.0% of parents and caretakers reported attending at least one workshop for the Makhalidwe Athu project

The *Mundo de Libros* project offered five workshops that were hosted in the same five libraries over 11 months. The workshops, which promoted parental engagement in their children's reading, were led by project staff, who had strong relationships with the communities because of their work on the project. Despite many different efforts to engage parents and caretakers, the project reported very low attendance at the workshops. Some of the factors cited by QFD for the low attendance included a general lack of time; conflicts, such as summer vacation or poor weather; and lack of promotion of workshops. Furthermore, QFD noted that the original name they used to describe the workshop in Spanish, *talleres*, may have denoted a formal training, which intimidated family members and discouraged them from attending. Overall, out of the 290 students who attended QFD libraries that held workshops, only 19.7 percent had a parent attend at least one workshop.

No data were available from OMAES on family attendance at trainings. In end-of-project interviews, parents reported that children often went to the libraries alone or with siblings, indicating that attendance at the library trainings may have been low.

Furthermore, crowdsourcing content may have served to better engage attendees in the projects by inviting them to participate in children's learning, reframing parents' understanding of their skills, and building a reading culture within the communities. Results from *Makhalidwe Athu* show that 21 percent of parents and caretakers who received stories said they had submitted a story or idea to the *Makhalidwe Athu* project. More research should be done to explore crowdsourcing content as a strategy to engage family and community members.

IV

Mali

CASE STUDY

Œuvre Malienne d'Aide à l'Enfance du Sahel and the Your Child, Reading, and You project

Between the four ACR GCD Round 2 projects focused on family and community engagement, the *Your Child, Reading, and You* project implemented by OMAES is exemplary due to its unique implementation and research design that allowed for an understanding of the impact of the technology, its positive EGRA results, and its promising potential for scale-up.[25] This case study will highlight these key factors in detail to provide a better understanding of how this project demonstrated that technology can be leveraged to engage family and communities to improve children's literacy.

Unique Implementation and Research Design

The *Your Child, Reading, and You* project, which aimed to improve Malian children's reading abilities, gave students in Grades 1 through 3 and their family members access to community libraries that offered literacy activities and developed mother tongue reading materials, including leveled books and locally sourced stories. For the technology component, the project also provided digital audio, texts, and interactive reading activities through the Stepping Stone app, a mobile delivery platform that children and family members used on low-cost tablets and mobile phones at community libraries.

The research design for the *Your Child, Reading, and You* project included two intervention groups and one comparison group:

- ***Intervention A:*** Access to Family Plus libraries, which offered literacy activities and mother tongue reading materials, including leveled books and locally sourced stories as well as digital audio, texts, and interactive reading activities through Stepping Stone on tablets and mobile phones (five villages)
- ***Intervention B:*** Access to community libraries, which offered literacy activities and mother tongue reading materials, including leveled books and locally sourced stories but no access to technology (five villages)
- ***Comparison:*** No access to libraries (three villages)

By having two intervention groups—one that provided access to community libraries and materials and a second that provided access to these materials through the Stepping Stone app on tablets and mobile phones—the project could better understand the reading gains associated with access to community libraries and materials and those associated with access to technology. This implementation and research design model should be considered by projects looking to introduce new content and new technologies to assess the added value of the respective components.

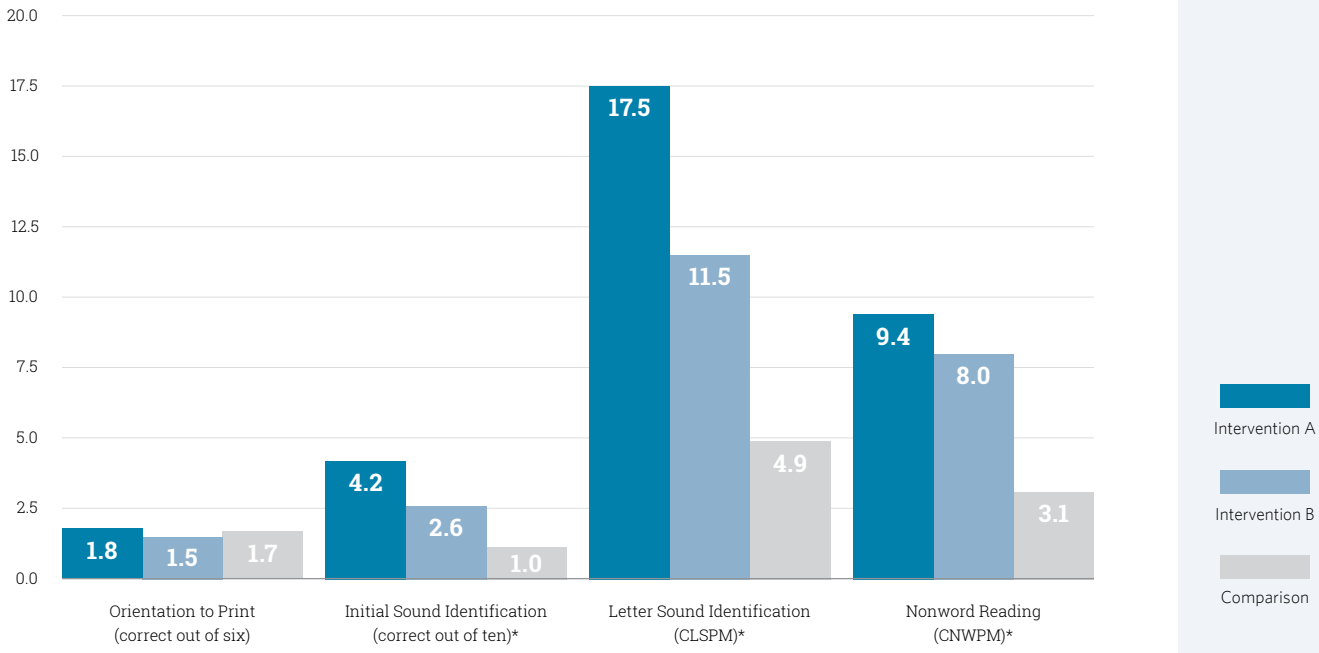
Photos: Œuvre Malienne d'Aide à l'Enfance du Sahel

Positive EGRA Results

EGRA results from baseline and endline indicated that the *Your Child, Reading, and You* project had a positive impact on children's reading skills. Participants in the project showed greater improvements in targeted pre-reading and foundational skills over the life of the project than their peers who did not participate, measured by the initial sound identification, letter sound identification, and nonword reading subtasks (Figure 1).

FIGURE 1

Average Gain Scores by Group—Orientation to Print, Initial Sound Identification, Letter Sound Identification, and Nonword Reading[26]

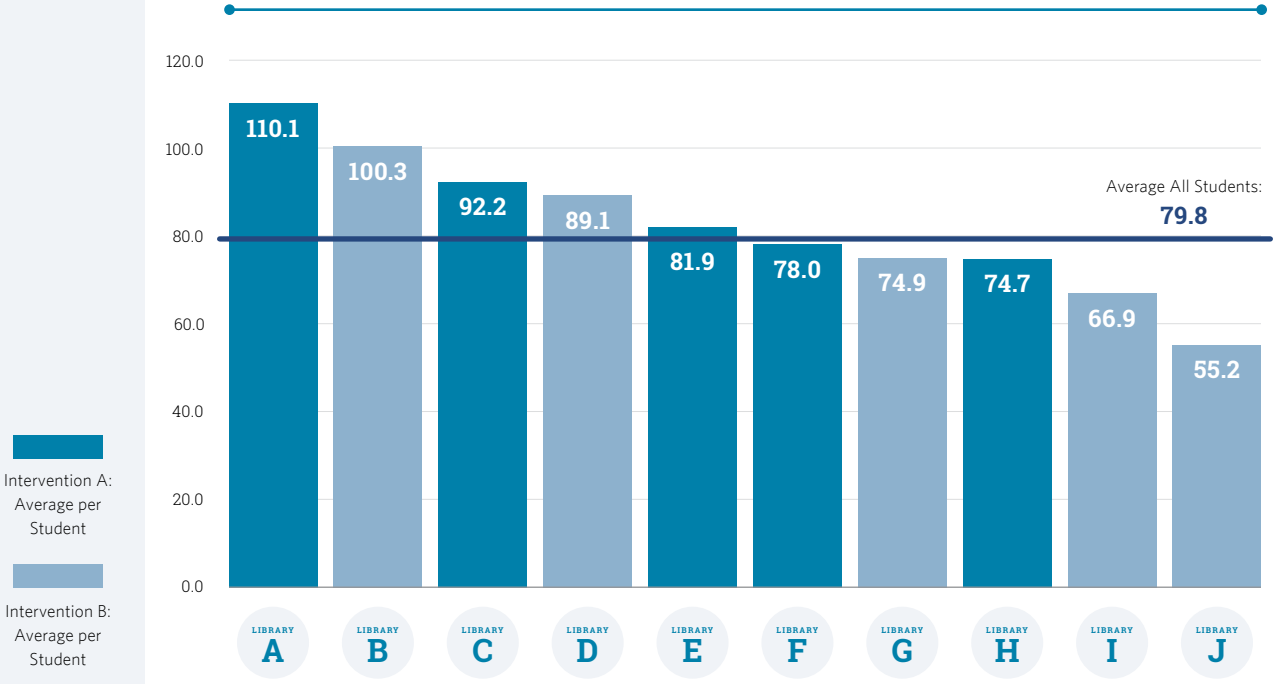


Further, students in intervention A—those who attended libraries that provided access to tablets and mobile phones with the Stepping Stone app and digital reading content—appear to have benefitted most from the project. Intervention A students had significantly higher gains in mean scores on the initial sound identification, letter sound identification, and nonword reading subtasks than did their peers in intervention B or the comparison group.

Libraries also collected attendance for students when they visited. Across the 12 months of intervention, students visited their community library an average of 79.8 times. Students in library A, an intervention A library, visited an average of 110.1 times over 12 months as compared with library J, an intervention B library, which students visited an average of 55.2 times over 12 months.

FIGURE 2

Average Number of Student Visits per Library



By monitoring library attendance, the project could address attendance issues during implementation and contextualize EGRA findings.

Promising Scalability Potential

ACR GCD Round 2 focused on implementing small-scale pilot projects. An important consideration after each project was the feasibility of replicating or expanding the technology-based innovation and project models to a different or larger population or area.

A scalability assessment was conducted on the *Your Child, Reading, and You* project to determine if the project, including the technology, were suitable for scaling. Through an indirect approach that relied on qualitative descriptions of project performance around seven parameters of sustainability, the *Your Child, Reading, and You* project showed promising potential for scale. The

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strongest indicators of potential for scale up were seen on the credibility, relevance, and relative advantage parameters. The observability, ease of transfer and adoption, and testability parameters also indicate a potential for scaling, although it is less conclusive. Additional information is needed to better understand the potential for scale-up under these parameters.

TABLE 4

Summary of Scalability Assessment Results

Credibility	Observability	Relevance	Relative Advantage	Ease of Transfer and Adoption	Testability
✓ STRONG	? LESS CONCLUSIVE	✓ STRONG	✓ STRONG	? LESS CONCLUSIVE	? LESS CONCLUSIVE

Case Study Conclusion

Overall, the implementation, research design, positive EGRA results, and the scalability assessment make this project an attractive model for scale-up. Through its research design, the *Your Child, Reading, and You* project could understand the added value—in this case, positive reading gains—from the technology component of the project. Further, because the project engaged family and community members to provide children with reading materials access and support at community libraries, it provides a strong, complementary approach to the Government of Mali's focus on improving early grade reading through formal schooling.

V

Lessons Learned for Future Funding

Projects that captured output data on short-term variables—such as family attendance at training or workshops or the number of face-to-face support visits conducted by staff with families—were better able to respond to and address project implementation challenges over the life of the project.

The ACR GCD Round 2 grantees that collected information on family engagement output variables throughout the project were better able to understand to what extent the project was being implemented with fidelity, determine whether changes needed to be made in the implementation approach, and identify key challenges limiting families' abilities to engage in the project. These data can also be used to understand better how attendance at training or workshops or face-to-face support visits change outcome-level results—such as increasing skills and knowledge or changing perceptions about families' abilities to support children's reading.

Projects that measured family and community engagement, even in limited ways, were able to show relationships between exposure to the project and children's literacy skills.

Some of the projects that focused on family and community engagement captured parental perceptions and attendance in training and workshops, although the majority relied on anecdotal or qualitative data from families or their children. Results from the four projects were all promising, indicating that exposure to the project was associated with positive reading gains. Projects for which family and community engagement is an essential component should capture information regarding parent and caretaker beliefs and perceptions about their ability to support their children's learning, family time spent reading with children outside of school, changes in specific skills and knowledge, and any changes in cultural perceptions about the role of parents and caretakers in the education system.

Projects that considered the limitations in parents' and caretakers' time and energy were better able to develop interventions and approaches that addressed these challenges.

In projects where parents and caretakers were interviewed at the end of the project, individuals most frequently cited lack of time as the biggest challenge they faced in supporting their children. This feedback applied to projects that were delivered at both the household and the library level. Although training or workshops outside of the household were often difficult for

families to attend due to lack of time, projects that used face-to-face contact with parents and encouraged their participation had higher rates of participation. Projects should work to understand the time and energy barriers that limit family engagement in interventions and determine creative ways to overcome them.

Projects learned that engaging families effectively might require greater in-depth skills and sensitivity training for parents and caretakers.

Some of the major barriers that impede families' engagement relate to perceptions about their sense of personal or shared responsibility for their children's educational outcomes, their sense of efficacy, and the cultural issues surrounding whether they should be involved at all. Across projects, qualitative research indicated that families did not recognize whether, or how, they should support their children—often, they believed that teaching resides within the confines of the school. Projects that engage families and communities in supporting their children's learning should continue to explore heavier-touch interventions that work to contribute to family learning in tandem with children learning.

Projects demonstrated that it might be beneficial to include schools in interventions that promote family and community engagement outside of schools.

Although the ACR GCD Round 2 grantees that implemented projects focused on the family did not implement their projects within schools, anecdotal evidence from end-of-project interviews on the *Makhalidwe Athu*, *Mundo de Libros*, and *Play.Connect.Learn* projects suggested that teachers and school directors were interested in using the materials provided by the projects in their classrooms. Grantees could facilitate linkages between projects that are implemented inside the classroom and those that are implemented outside it to create new opportunities for parents to engage in their children's learning within schools.

Projects modeled a range of promising approaches that could be used to deliver reading content through technology, via either family-owned technology or community-based technology.

Two projects—*Makhalidwe Athu* and *Play.Connect.Learn*—delivered their interventions directly to families through parents' or caretakers' mobile phones. Anecdotal and qualitative evidence from these projects suggested that this method had the potential to be a catalyst for increased family engagement. However, it could also limit children's access to the reading materials if the mobile phones were inaccessible due to a parent or caretaker being out of the home. The two remaining projects—*Mundo de Libros* and *Your Child, Reading, and You*—gave children access to reading content through technologies in community libraries. Although family members sometimes accompanied children to the libraries, the project did not directly engage parents or caretakers through the technologies. Further, family participation was not a requisite for a child to access reading materials, as children could attend the libraries by themselves. Future research could explore if family engagement increases when projects deliver interventions directly through technology owned and operated by parents or caretakers and if reading gains differ according to the technological approach implemented by these projects.

FOOTNOTES

1 McNeal, R. B. J. (1999). Parental involvement as social capital: Differential effectiveness on science achievement, truancy, and dropping out. *Social Forces, 78*(1), 117-144.

2 Scribner, J. D., Young, M. D., & Pedroza, A. (1999). Building collaborative relationships with parents. In P. Reyes, J. D. Scribner, & A. P. Scribner (Eds.), *Lessons from high-performing Hispanic schools: Creating learning communities* (pp. 36–60). New York: Teachers College Press.

3 Banerji, R., Berry, J., & Shotland, M. (2017). The impact of mother literacy and participation programs on child learning: Evidence from a randomized evaluation in India. *American Economic Journal: Applied Economics, 9*(4).

4 National Research Council. (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.

5 Lin, Q. (2003). Parent Involvement and Early Literacy. Family Involvement Research Digests, Harvard Family Research Project. Retrieved from www.hfrp.org/publications-resources/browse-our-publications/parent-involvement-and-early-literacy.

6 Hoover-Dempsey, K., Walker, J., Sandler, H., Whetsel, D., Green, C., Wilkins, A., & Closson, K. (2005). Why Do Parents Become Involved? Research Findings and Implications. *The Elementary School Journal, 106*(2), 105-130.

7 Round 2 of ACR GCD started in 2014 and continues through 2018.

8 Additional focus areas include mother tongue instruction and reading materials, and children with disabilities.

9 All Children Reading. (2017, June). *About us*. Retrieved from www.allchildrenreading.org/about-us.

10 The *Your Child, Reading, and You*; *Mundo de Libros*; and *Play.Connect.Learn* projects were awarded under the family and community engagement focus area. While awarded under the mother tongue instruction and reading materials focus area, the *Makhalidwe Athu* project is included in this discussion because of its strong component of family engagement.

11 The EGRA is an oral assessment that measures students' most basic foundational literacy skills in the early grades—specifically, recognizing letters of the alphabet, reading simple words, understanding sentences and paragraphs, and listening with comprehension. The EGRA methodology was developed under EdData II and has been applied in more than 30 countries and 60 languages.

12 ACR GCD Round 2 projects that focused on family and community engagement did not have the capacity or resources to systematically measure changes in familial engagement from before and after the projects' implementations. At endline, students responded to yes-no questions related to family reading support; findings from this were used to better understand factors that may have influenced changes in students' EGRA scores. Correlation analyses did not show consistent relationships between EGRA gains and family reading support based on student responses at endline. More robust quantitative measures on family and community engagement were not commissioned and were not part of the research design; thus, most findings in this report come from qualitative evaluation interviews. For project-level EGRA results and correlations with family support for reading, see evaluation reports for each project accessible via https://allchildrenreading.org/research/project-evaluations.

13 STS did not conduct end-of-project interviews with children and parents from the *Makhalidwe Athu* project, as the project was still being implemented at the time of data collection. STS did conduct interviews with *Makhalidwe Athu* project management and key stakeholders.

14 Additional information on the ACR GCD reading spectrum is accessible via www.allchildrenreading.org/resources/acr-gcd-reading-spectrum.

15 NORC at the University of Chicago. (2017). "USAID impact evaluation of the Makhalidwe Athu project (Zambia): Endline report." Unpublished paper.

16 Effect sizes mathematically normalize the average raw gain in a population by the variability, or pooled standard deviation, in individuals' scores; it yields a measure of how substantially the scores differ. Effect size has no upper boundary, though effect sizes are generally less than 2.0. Effect sizes indicate practical significance, or how important a difference in relative gains between groups actually is. The larger an effect size, the more important the difference. An effect size is measured as the difference in the number of standard deviations between an intervention group's mean scores and a comparison group's mean scores, and it allows for comparisons across projects with different sample sizes or scales.

17 More information on Stepping Stone can be found at sstone.edc.org.

18 For more information on the effect sizes, see "Technology-Based Innovations to Improve Early Grade Reading Outcomes in Developing Countries: Lessons from 11 ACR GCD Projects," accessible at www.allchildrenreading.org.

19 Digital libraries are community spaces to consult and create digital content, access information, read, learn, and meet academic, personal, professional, and social needs. They are equipped with computers and tablets with internet access; however, before this project, they had no physical stock of books nor library furniture.

20 The *Mundo de Libros* project did not provide hardware; Fundación Proacceso's digital libraries were already equipped with computers and tablets.

21 The research study evaluated 457 students who had enrolled in the project by January 2016.

22 For more information on the effect sizes, see "Technology-Based Innovations to Improve Early Grade Reading Outcomes in Developing Countries: Lessons from 11 ACR GCD Projects," accessible at www.allchildrenreading.org.

23 The research study evaluated 313 students who received the intervention and a comparison group of 314 students who did not receive the intervention.

24 Sample size for the final analysis, which does not include students who were assessed at baseline but not at endline.

25 Scalability assessment results for the *Mundo de Libros* and *Play.Connect.Learn* projects can be found in their evaluation reports (https://allchildrenreading.org/research/project-evaluations) and in "Technology-Based Innovations to Improve Early Grade Reading Outcomes in Developing Countries: Lessons from 11 ACR GCD Projects" (www.allchildrenreading.org). STS did not conduct a scalability assessment on the Makhalidwe Athu project.

26 An asterisk (*) indicates that student gains were significantly different across intervention groups at $p<0.05$.

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