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# Youth Volunteers Can Contribute to Significant Reading Gains: Evidence from the HYVALL project in Senegal

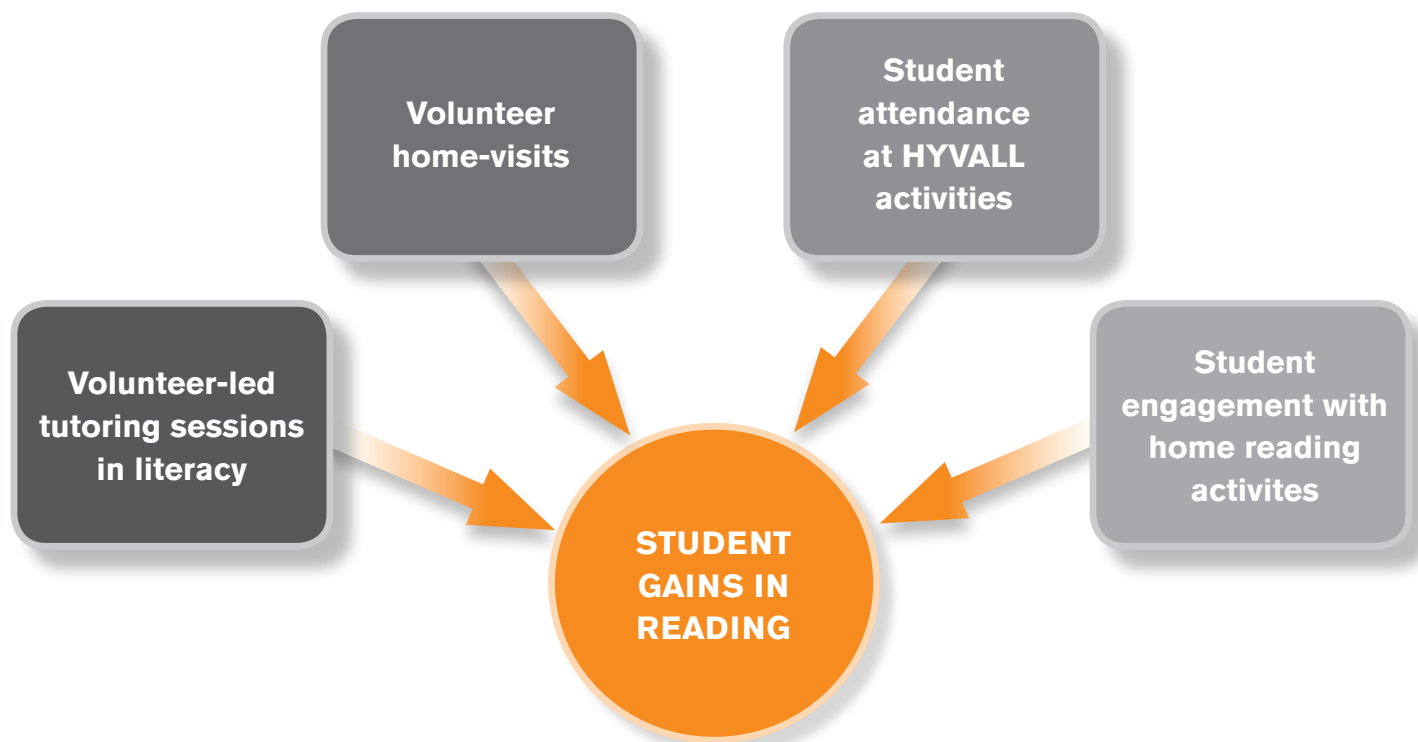
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The Harnessing Youth Volunteers as Literacy Leaders (HYVALL) project in Senegal was a two-year education program financed by the United States Agency for International Development (USAID) under the *All Children Reading Grand Challenge* and implemented by YMCA Senegal with technical assistance from Education Development Center, Inc. (EDC). The program was designed to assess the impact of continuous tutoring in literacy by community youth volunteers, for students considered to be at risk for poor literacy development. 395 local volunteers were trained in the application of literacy activities and 6,260 students participated in project activities.

The program tested a theory of change which posited that weekly support to students by community volunteers using structured lesson plans and appropriately leveled reading materials would result in significant gains in literacy for these students. The evaluation explored the potential links between specific elements of the intervention and student reading gains, specifically: 1) volunteers' fidelity of implementation of tutoring sessions and home visits, 2) students' home-reading activities and attendance at HYVALL sessions, and 3) community members' perceptions of their roles in children's literacy development.

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**An intervention like HYVALL, which gives students opportunities for reading instruction outside the school setting (increasing time on task), provides regular one-on-one tutoring and mentoring, and encourages parents' involvement in the reading development of their children, can lead to significant student improvement in reading.**

Overall, students who participated in the HYVALL intervention exhibited dramatically larger gains in their fluency and reading comprehension from baseline to endline than their comparison group counterparts ( $p < .001$ ). These results suggest that an intervention like HYVALL, which gives students opportunities for reading instruction outside the school setting (increasing time on task), provides regular one-on-one tutoring and mentoring, and encourages parents' involvement in the reading development of their children, can lead to significant student improvement in reading.

### **Program context and description**

Students in Senegal spend only 15-30% of their school hours in actual learning, and time spent reading, both during and after school, is minimal. Ninety percent of Senegal's schools lack libraries or reading rooms (World Bank, 2012<sup>1</sup>). Low-income families have sporadic or no after-school supervision through which to encourage children's practice of reading; while better-off children often receive one-on-one private tutoring. Teachers resist providing additional tutoring for students who are struggling, citing heavy workloads or requesting additional pay or incentives. As a result, students who do not learn to read by grade 3 often leave school.

To address this lack of literacy support for struggling students, the HYVALL project tapped into existing community youth volunteer networks (such as the scouts association of Senegal and student alumni associations) and provided them with training, easy-to-use materials, and ongoing support to provide mentorship and tutoring to those students most at risk of failure and dropout. Struggling students were identified by their teachers and school directors and referred to the program.

<sup>1</sup> <http://siteresources.worldbank.org/AFRICAEXT/Resources/SDI-Technical-Report-Senegal.pdf>

Students were then tutored in reading and writing by a youth volunteer, twice weekly for a period of 1.5 years. Volunteers were provided with leveled reading materials, lesson plan templates for each level, and scripted activity guides. They also received a four-day training in planning, applying the literacy activities, and using the session plan templates for each tutoring session. The training also included a shadowing experience in which volunteers accompanied the regional project supervisors in a tutoring session.

Volunteers were assigned groups of students to tutor, with the median ratio of volunteers to students at 1 to 10. In order to group students by level, short screening assessments were individually administered. Students were placed in emergent, beginning, or transitional reading groups according to their screening scores. Volunteers then selected activities listed in their session plan templates to carry out in their 45-minute tutoring sessions. In addition to the two 45-minute reading sessions per week, students also participated in a month-long reading summer camp offered during the 2014 summer vacation. In these summer camps, 45-minute reading sessions were held every day of the week for one month. 69% of students reported having attended the summer camp and 90% of sampled students reported regularly attending the after-school reading sessions. These sessions were very popular with students because they culminated in “reading competitions” in which they could demonstrate their improvements in reading and writing to their peers and community members.

To encourage students to practice reading at home and to establish a link between center activities and the home, the youth volunteers conducted initial home visits to help students’ families identify one person in their household or community who could provide follow up for the child’s home literacy activities. After these initial visits, the volunteers returned once a quarter to support family members. To track students’ home literacy activities, each student was also provided with a Reading Passport that traveled between the student’s home and the center once a week. The Reading Passport was also discussed during home visits to give parents examples of the types of literacy practice activities (such as reading a book, free writing, or retelling stories they’d heard at the center) they could encourage their children to do at home. On average, students engaged in 2 reading activities per week at home.



**Activités du centre à faire à la maison**

- A lu \_\_\_ minutes avec un membre de la famille.
- A écrit ou dessiné.
- Un membre de la famille raconte une histoire.



## Evaluation Data Collection Instruments

- Student reading assessment tool (reading outcomes)
- Student questionnaire (opinions of their literacy)
- Parent interview (literacy environment scan questionnaire)
- The Reading Passport (tracking home reading activities)
- Volunteer observation tool (fidelity of implementation)

## Evaluation Methodology

A sample of 600 students was randomly selected from 19 of the 30 HYVALL schools and their identified “comparison” counterpart schools (10 intervention and 9 comparison) at baseline. The study was designed to longitudinally track these students to measure their gains at the end of the intervention period. Just over a half of the sample (332 students, 205 intervention, 127 comparison) of the original baseline sample participated in the endline testing; the remaining 268 students were not tested at the endline because they had gone onto secondary school and could not be tracked. Endline data represented students in grades 3 to 6, because those in grade 1 and 2 at baseline had moved into the upper grades by endline. This tracking of the same students permitted longitudinal analysis of student scores across the 1.5 years of the intervention. The comparison group was used to compare against intervention student progress.

Several instruments were used in the evaluation.

The **student reading assessment**, administered at baseline and endline, was designed to measure students’ level of oral reading fluency (reading accuracy and speed) and reading comprehension at their “independent” or “instructional” level. This level was identified as the test was administered. If students could not read the first grade-level text presented to them with 75% accuracy, they were asked to read a lower level text. This exercise was undertaken at the first reading of the text, which was limited to 60 seconds. After the first reading of the “independent-level” or “instructional level” text was completed, the student was asked a series of comprehension questions on the content of the text he/she managed to read without text support. Then, the same text was read by the student a second time. The second reading was timed but not limited to a specific time frame. Then the text was left in front of the student and questions were asked about the content of the entire text, with the addition of an inferential question which required the student to use the information from the text to provide a “plausible” answer.

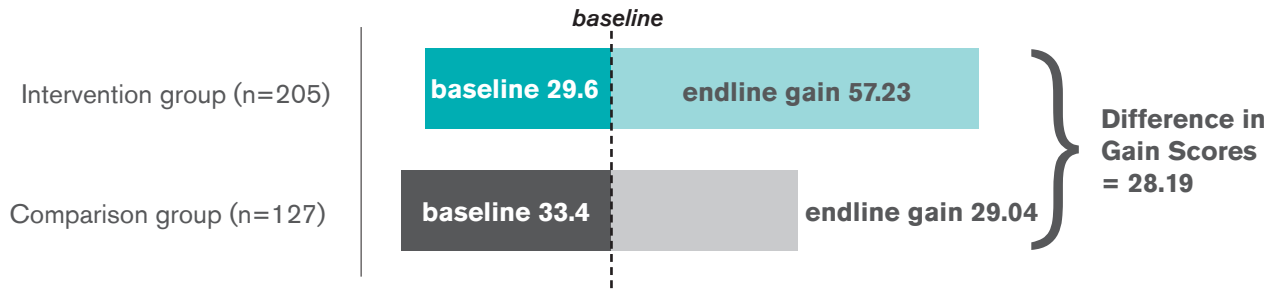
The **student questionnaire** was administered at endline following test administration. The questions captured students’ reported attendance at sessions, their opinions of their own literacy capabilities, and their preferences regarding reading and writing. **Parent interview** questions covered a range of information around the availability of books, parents’ opinions on literacy, the role the community could play in their children’s literacy development, and their opinions of their own children’s literacy capabilities. The **Reading Passport** was an illustrated checklist that parents could check off when their children engaged in home-literacy activities. The weekly data from this passport was recorded in a summary sheet by community volunteers. Finally, the **volunteer observation tool** administered quarterly by a regional project supervisor or master trainer captured the degree to which volunteers were loyal to the lesson plan sequence of activities. This instrument also served as a coaching tool to help support volunteers where they exhibited difficulties.

# Findings

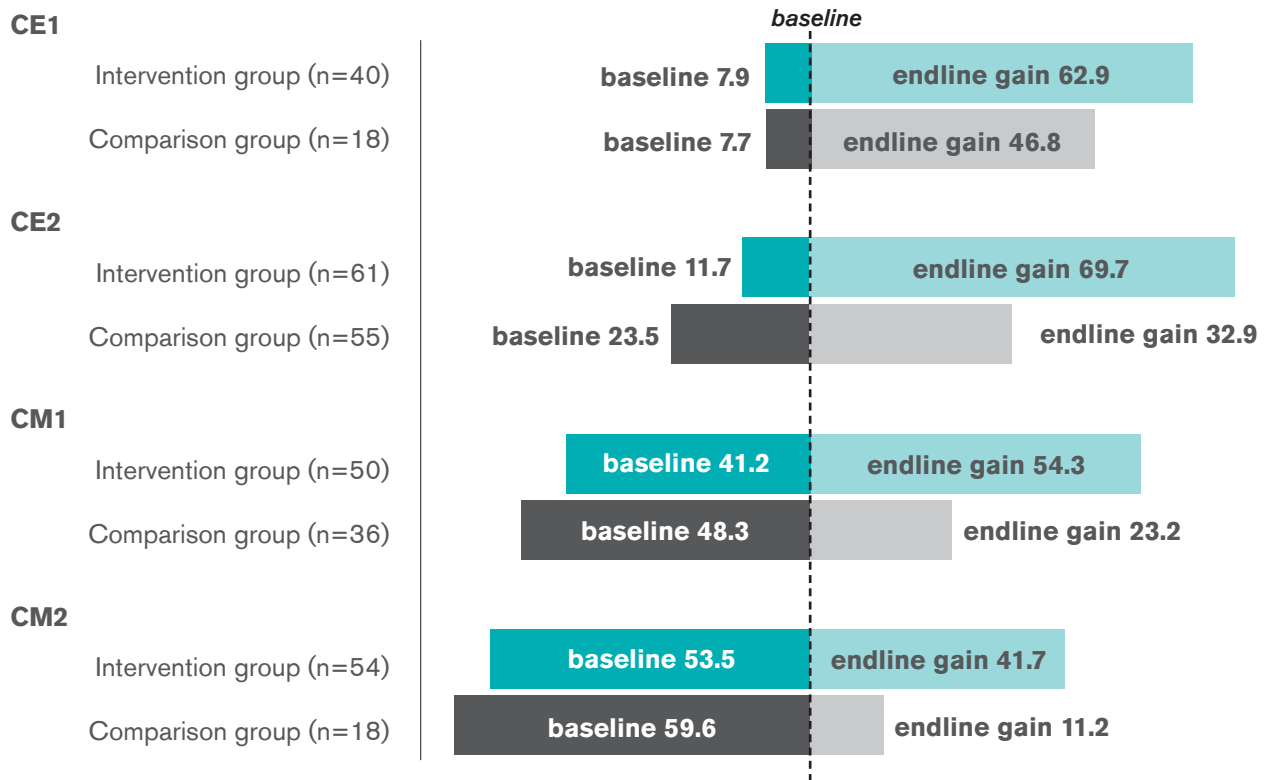
## Student Oral Reading Fluency

At endline, intervention students were found to read significantly faster and with greater accuracy than their comparison counterparts (ES=0.4). Accounting for the high participation rates in intervention activities and similar starting levels, this difference can be attributed to student participation in HYVALL activities.

### Overall Gains in Words Correct Per Minute (WCPM) from Baseline to Endline



### Gains in Fluency Performance (WCPM) From Baseline to Endline by Grade Level



**Intervention students not only gained in their reading fluency but significantly surpassed their comparison counterparts at endline.**

**Oral reading fluency results by grade level.** Student gains in words correct per minute (WCPM) were found to be more dramatic in grades 3 and 4 than in grades 5 and 6. As the students in these grades started with the intervention program in grades 1 and 2, the results suggest that intervening earlier can increase program impact on reading improvement. Comparison and intervention students in grade 1 (grade 3 at endline) started with similar mean scores, whereas in the other grade levels comparison students were better readers at baseline. For grade 3 students, however, intervention students not only gained in their reading fluency but significantly surpassed their comparison counterparts at endline. This reflects the potential of an intervention like HYVALL to change the broader national picture of literacy. Fluency scores on a 2010 nationally representative study averaged 18.4 words correct per minute for grade 3 students (RTI, 2010). Grade 3 students participating in HYVALL, on the other hand, averaged 70.8 words correct per minute.

## Student Reading Comprehension

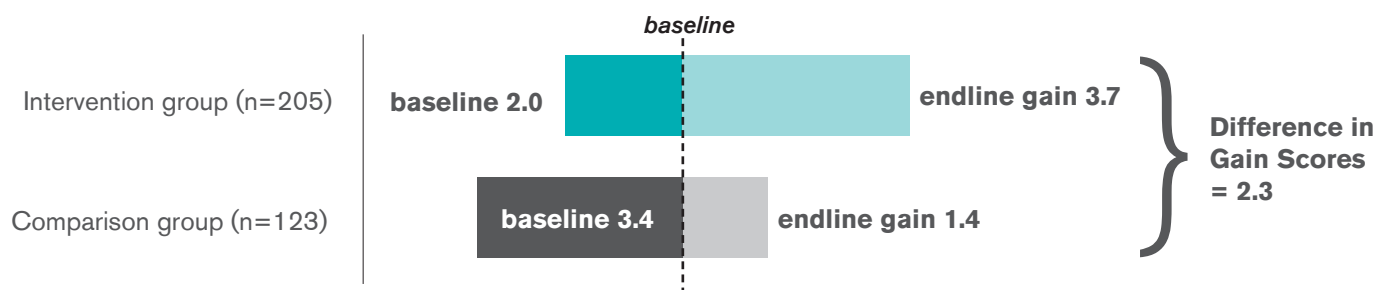
**Despite relative weaknesses in reading comprehension at baseline, students in the intervention group were able to surpass their comparison counterparts after only 1.5 years of this out-of-school intervention.** Intervention students, on average, were able to answer 3.67 (out of six) more questions correctly than they could at baseline. This gain for intervention students was significantly greater than that of their comparison counterparts (ES=0.45).

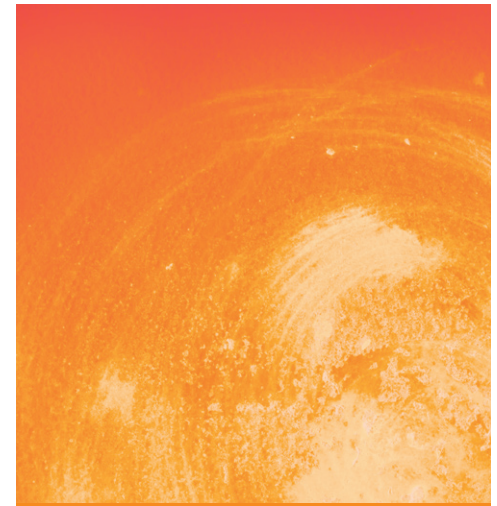
**Distribution of reading comprehension results by group.** The differences in mean gain scores between intervention and comparison groups in reading comprehension after the first reading are statistically significant, favoring the intervention group (ES=0.32). This same trend was found in the differences in mean gain scores in reading comprehension after the second reading (ES=0.49).

**Intervention students had an easier time answering comprehension questions, whether from memory or using a text support in front of them.** This suggests that HYVALL's focus on building oral language skills, vocabulary, and comprehension strategies, and engaging in post-reading writing activities contributed to students' vast improvement in reading comprehension.

**Reading comprehension results by grade level.** The largest gains in reading comprehension (at the second reading) were also at the grade 3 and 4 levels for both groups. HYVALL not only served to improve reading fluency for early learners but also was simultaneously successful in building their reading comprehension.

## Overall Summary of Gains in Reading Comprehension from Baseline to Endline (out of 5 questions)





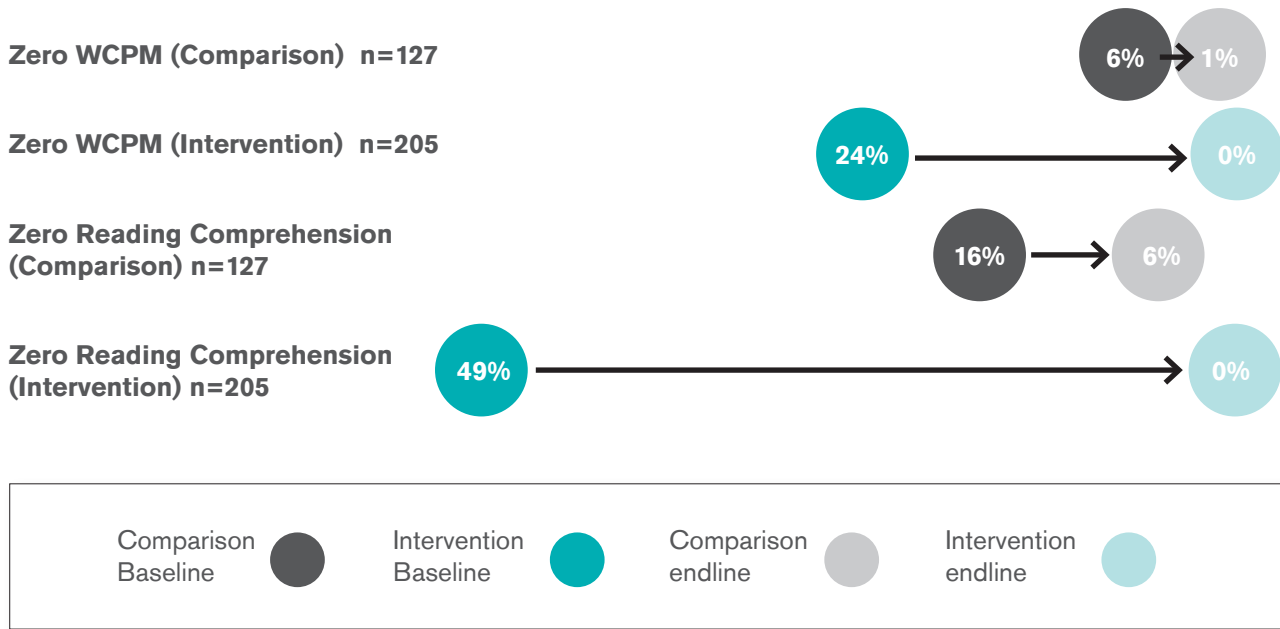
### Students moving away from zero scores

At baseline, a quarter of intervention students had “zero” scores in oral reading fluency and a half had “zero” scores in reading comprehension. A “zero” in oral reading fluency means a student could not read a single word correctly or did not make an effort to read at all. A “zero” in reading comprehension means that the student did not answer any questions correctly, did not attempt to respond, or failed to read the text (and, consequently, was not asked any comprehension questions on that text).

Participation in the HYVALL intervention helped struggling students get beyond basic reading skills to progress into rapid word decoding and deriving meaning from text. The intervention had a notable effect on zero scores: at baseline, 24% of the intervention students scored zero in fluency, and 49% scored zero in comprehension. After participating in HYVALL, none scored zero at endline. This was a much more dramatic reduction in zero scores than that in the comparison group, as shown below.

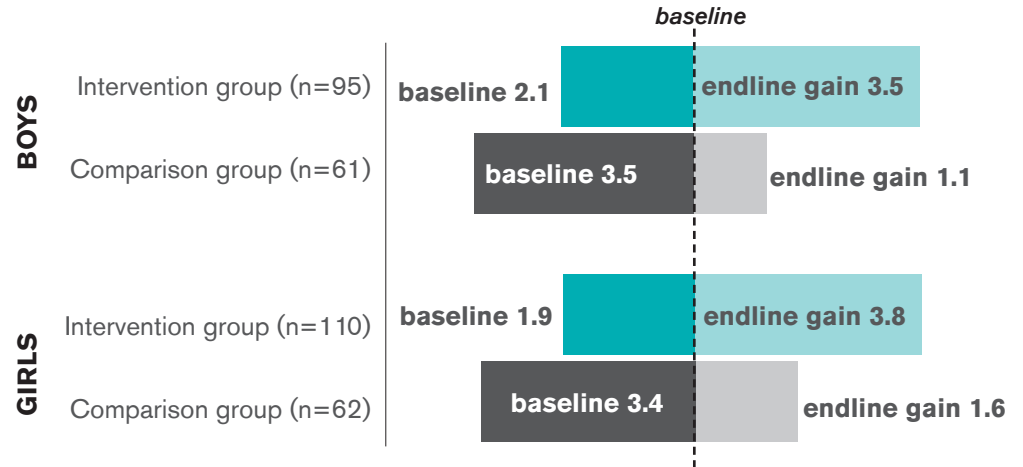
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### Change In Zero Scores In Fluency And Comprehension, Between Baseline And Endline



**Gendered effects of HYVALL.** The project had a particularly positive effect on girls. Girls in both comparison and intervention groups were found to make greater gains than boys in terms of accuracy and reading speed from baseline to endline. **In reading comprehension, intervention group girls gained significantly more than comparison group girls (ES=0.48), and also outscored comparison boys at endline.** This reverses the common trend found in a nationally representative study in Senegal which found girls to significantly underperform boys in comprehension (RTI, 2010).

### Summary of Gains in Reading Comprehension (Out Of 6) Across Baseline and Endline, by Sex





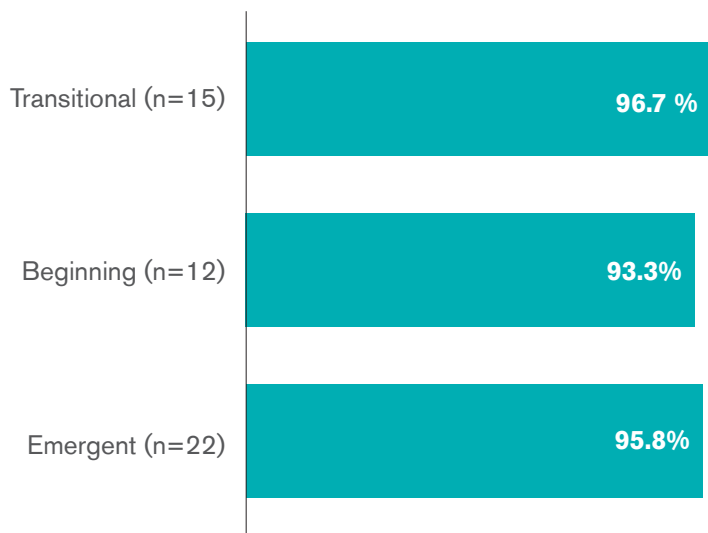
## Factors influencing program success

### Fidelity of implementation.

Understanding how closely volunteers followed the session plans was crucial to testing the model of the program. On average, volunteer fidelity of implementation of the reading activities was very high, meaning that the program was implemented as designed: volunteers followed the session plans as modeled in their training and as stated in their reading activity guide. The reading guide activities and materials were easy to follow and use and the project supervisors were effective in supporting youth volunteers to implement the sessions.

The volunteers' high fidelity of implementation of reading activities, coupled with significant improvements in student performance in reading, suggests that the session plans, materials, and activity guide were well designed for the program's objectives and context and contributed to the reading improvements in participating students.

Literacy volunteers' fidelity of implementation of tutoring sessions, by reader type (n=45)



### Home reading activity effects

Determining students' application of home reading activities outside the reading sessions (as tracked in the Reading Passport) was also important, as a core element of the theory of change was that family involvement would support literacy improvements. The analysis revealed that intervention students' gains in reading comprehension were significantly correlated with their participation in home reading activities. This suggests that there is significant added value in the home-literacy component of this program, through which students increased the amount of time in which they practiced their literacy skills and engaged with family support for reading and writing activities. Indeed, 10.6% of the variation in students' reading comprehension scores could be explained by their engagement in home-based literacy activities ( $ES=.74$ ).

10.6% of the variation in students' reading comprehension scores could be explained by their engagement in home-based literacy activities



**Perceptions of community engagement.** Engaging local youth as the implementers of the program also had a broader effect on the perception among parents of the potential for community support for children's literacy. When parents were asked about the advantages of having local community volunteers involved in their children's literacy development, they cited a range of positive factors, such as:

- Helps them be successful in school;
- Helps students better understand language;
- Help to prepare students for school;
- Helps to improve my child's participation in class;
- Helps to improve school attendance rates;
- Provides a good model for what it is to be a good student;
- Motivates the student to be well-behaved in class;
- Models positive attitudes towards literacy.

These factors are useful to help the program better understand the types of positive impacts on education that parents perceive community volunteers to have on their children's literacy development. Follow up focus group data revealed parents' requests for the continuation of the program as they witnessed the positive impact it had on their children's educational achievement and motivation to learn. Parents were even willing to pay a small contribution to continue the program. In terms of ensuring program sustainability, this established demand and buy-in from parents is exciting and promising.

## Implications and recommendations

**The HYVALL reading intervention was effective in improving oral reading fluency and comprehension for the students it served, for boys and girls in all participating grades.** The effect was greater for younger students than older students, but older students were still found to greatly benefit from the intervention. The program's theory of change is confirmed by the strong implementation and attendance data which indicate high fidelity of program implementation. The success of the intervention with respect to increasing reading gains is likely due to the increased exposure to literacy activities it offered (time on task), as well as to the close and regular mentorship it provided its beneficiary students. In addition to the activities it provided outside of school, the program also promoted student practice at home, allowing students to take home writing samples they had produced in the centers, to practice reading and writing further. This not only served to continue supporting students' literacy development beyond the centers but also involved family members in their children's literacy development, contributing to the establishment of a culture of reading. For the youth volunteers, this program also provided an opportunity to serve as education leaders in their communities.

### **The HYVALL design has potential for scalability without losing quality.**

The use of existing youth volunteer networks to tutor students in reading is not only sustainable but provides both student and youth with opportunities for learning and growth. However, the success of this model depends on the commitment of community volunteers. HYVALL initially faced a challenge of youth volunteers dropping out because the project was unable to cover any transport fees. The project then adapted to incentivize participation by rewarding the most committed volunteers by inviting them to run the reading summer camp activities -- for their participation, they received daily transport to the camp site. In order to continue fostering the culture of volunteerism, we recommended implementing an incentive system that formally recognizes the contribution of the volunteers and grants them credits that can be allocated for university, employment or for the civil service. Alternatively, youth could be offered leadership and entrepreneurship training in addition to literacy training, in order to increase the perceived value of their participation.

## References:

Research Triangle Institute (RTI) (2010). Evaluation des Compétences Fondamentales en Lecture au Senegal. Found at: <https://www.eddataglobal.org/documents/index.cfm?fuseaction=showdir&pubcountry=SN&statusID=3&showall=Yes>

World Bank (2012) Service Delivery Indicator Report. Found at: <http://siteresources.worldbank.org/AFRICAEXT/Resources/SDI-Technical-Report-Senegal.pdf>



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The HYVALL program is an application of EDC's Read Right Now! early grade and youth literacy initiative. Read Right Now is an adaptable, evidence based literacy program for low capacity and resource-lean environments.