E QUIP2

Educational Quality Improvement Program
Policy • Systems • Management

Using Opportunity to Learn and Early Grade Reading Fluency to Measure School Effectiveness in Woliso, Ethiopia

Executive Summary

In 2008, the Educational Quality Improvement Program 2 (EQUIP2), in partnership with Save the Children, conducted a study of school effectiveness in Ethiopia. Data were collected from 24 schools (15 community and 9 government schools) in Woliso, Dendi, Goro, and Bacho, four adjoining districts located about two hours southeast of Addis Ababa in the Oromo Region. All of the community schools and three of the government schools included in the study were supported under a Save the Children project. The study aimed to determine whether schools provide adequate opportunities to learn and whether teachers and students use those opportunities to ensure that children learn to read fluently in the language of instruction (Afan Oromo) by Grade 3.

The study found that few children at the start of Grade 3 had learned to read fluently enough to ensure comprehension. Thirty-six percent of the students could not read a single word of either Grade 2 or 3 level text. Only 15 percent of the students could read at a rate of 40 words per minute (wpm) or faster, a rate that may be fluent enough to ensure comprehension. Though most of the students read below a desirable level for Grade 3, almost all students were found to have adequate pre-literacy skills (knowing letters and the ability to properly orient themselves in relation to text). Differences in reading fluency between girls and boys were not pronounced, but one sub-group of children (boys who reported working outside their home for money) had reading fluency levels 23 percent below those who did not work to earn money. We also found that the percentage of Grade 3 children able to read fluently varied considerably across schools. The biggest difference across schools was in the percentage of students who could not read at all, ranging from no students in that category to 75 percent of students not being able to read a single word.

The data collected on opportunities to learn reveals that the overall low performance of students in reading was, in part, attributable to the amount of potential instructional time not used in these schools. School being closed and teacher and student absence combined to reduce the amount of time available for instruction by as much as 43 percent in government schools and 29 percent in community schools. Overall, the equivalent of 43 out of the 203 days in the school year was lost in community schools and 60 days in government schools.

The actual time available for instruction—the time when school was open and teachers and students were present—was further reduced by the manner in which teachers and students used time during class. Observations of student and teacher activity in Grade 1, 2, and 3 classrooms revealed that, on average, 64 percent of students were not engaged

in learning (i.e., off task) during a lesson. Students were most frequently off task when the teacher was off task (i.e., the teacher was not actively leading a lesson or assigning activities to the students). When these measures of time-on-task were taken into account, we found that schools lost the equivalent of an additional 91 days of potential instruction time because of off-task students and teachers.

Closer examination of the data on classroom activity determined the amount of time students spent on reading-related activities. Students were noted doing any reading activities during only 11 percent of the classroom observations, and during those reading-related activities, only one-third of the students were engaged.

The low levels of reading fluency noted in the students we tested is most likely attributable to the vast amount of wasted potential instructional time. School being closed, teachers and students being absent, and most significantly, poorly structured lessons and lack of engagement in instructional activities all reduced actual instructional time to less than one-third of the officially allocated time. Furthermore, we observed little instruction in reading, very little student use of books or other written materials, and almost no students reading.

This research demonstrates that: a) teacher and student attendance need to be more closely monitored and the factors that impact them addressed; b) the daily school schedule needs to be better managed to ensure adequate time for reading instruction in the early grades; and c) teachers need to learn instructional strategies to ensure that students are engaged in reading or reading-related exercises. Furthermore, given the low levels of reading fluency, schools need strategies for building the reading skills of students throughout the primary grades, as few, if any, of them are learning to read well enough to learn across all subject areas.

Introduction

Save the Children USA has had considerable success working with communities and education authorities in the Ethiopian districts (woredas) of Woliso, Bacho, Dendi, and Goro to establish schools in villages where they had not previously existed. Almost 9,000 children previously unlikely to go to school now walk short distances to attend classes each day. However, Save the Children was not satisfied with only ensuring greater access to schooling and chose to collaborate with EQUIP2 to assess the effectiveness of the schools in providing a quality education. This study measures school effectiveness in these Save the Children schools, as well as government schools, by examining children's reading abilities and schools' provision of consistent, quality opportunities to learn. We hope this study helps improve the quality of education available not only in these districts, but throughout Ethiopia.

Background and framework

Progress toward providing education for all requires countries to identify and employ models of effective schooling that can reach rural, poor children. Beginning in 2003, the Education Quality Improvement Program 2 (EQUIP2) examined whether

complementary, community-based schools were such a model. Through a series of ten case studies titled *Meeting EFA: Reaching the Underserved through Complementary Models of Education*, EQUIP2 developed a methodology for assessing complementary programs' cost-effectiveness in terms of providing access, ensuring completion, and promoting learning.

Based on this research, EQUIP2 found that some programs supporting complementary models are more cost-effective than their public school counterparts in part because they offer a more consistent opportunity to learn. Complementary program schools were found to share a number of characteristics: schools are located near students, school schedules are adjusted to fit the local lifestyle, student attendance is more regular, locally recruited teachers attend more regularly, and the curriculum is scaled back to focus on core skills.

To build on these findings, EQUIP2 examined opportunity to learn as a framework for understanding how schools can improve teaching and learning. In *Opportunity to Learn: A high impact strategy for improving educational outcomes in developing countries* EQUIP2 identified and justified eight[1] factors of a foundational opportunity to learn:

1. Amount of instructional time available in the school year;
2. Frequency of school closures and distance from students;
3. Teacher attendance;
4. Student attendance;
5. Student–teacher ratios;
6. Availability and use of instructional materials;
7. Time-on-task within the school day and within lessons; and
8. Development of reading skills in early grades.

To understand how these factors interact to promote learning, better tools for evaluating student literacy skill development are needed. One drawback of the EQUIP2 complementary education research was the scarcity of data on student learning outcomes. The use of proxies such as end-of-cycle exams is not ideal because, as Thomas Kellaghan has noted, such exams discriminate between high achieving students rather than reflect the range of all students' performance. USAID investment in early grade reading assessment (EGRA) methodologies offered EQUIP2 a chance to expand its research on school effectiveness.

EGRA provides a methodology for quickly assessing a variety of early literacy skills, which can be used to gauge school and/or system effectiveness at fostering acquisition of those skills. The EdData II project in particular has been instrumental in promoting and improving EGRA and has supported its application in almost 20 countries. However, one of EGRA's limitations is the floor effect: It does not measure the skills of students unable to read letters, words, or connected text. To remedy this, the Concepts About

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1   EQUIP2 originally identified these 8 factors, which were later expanded to 12 factors based on the findings from the case studies in Guatemala, Honduras, and Nepal. For more information on the expanded factors, please see EQUIP2's synthesis of its school effectiveness case studies, *Using Opportunity to Learn and Early Grade Reading Fluency to Measure School Effectiveness in Ethiopia, Guatemala, Honduras, and Nepal.*

Print (CAP) methodology was used to evaluate pre-reading skills in students who are non-readers.

The combination of the opportunity to learn framework, EGRA, and CAP is the inspiration behind EQUIP2's research on effective schools. This research is based on the idea that school effectiveness, as measured by whether the school enables children to learn to read, is a function of how well the school ensures an opportunity to learn and whether it draws on teaching approaches that make the best use of instructional time. With this in mind, the study attempts to answer the following research questions:

- Are schools effective?
  - Are students able to read fluently by Grade 3?
  - Do the schools ensure that students receive an adequate opportunity to learn?
- What factors account for variations in school effectiveness?
  - What explains variations among individual students' ability to read fluently?
  - What explains variations in school effectiveness?

Through the partnership, Save the Children gave EQUIP2 access to an area in Ethiopia in which Save the Children operates schools and lent the services of a research intern. This paper presents the results of this collaboration between Save the Children and EQUIP2 in Ethiopia.

Context

Amid rolling fields of wheat and teff 114 km southeast of Addis Ababa, lies the rural, impoverished district of Woliso. Woliso is in Ethiopia's Oromo Region, one of the country's nine regions, each of which is responsible for providing its children with education programming. With the advent of regionalization in the mid-1990s, local languages have been the media of instruction in primary schools. Afan Oromo is the language of instruction in all the schools included in this study.

In 2001, Save the Children began providing access to basic education for children living in remote areas of Woliso and the adjoining districts of Bacho, Dendi, and Goro. Save the Children manages four programs from its Woliso office, focusing on primary education, early childhood development, school health and nutrition, and adolescent development. The primary education program includes two main components. One encourages remote villages to create community-based schools with the goal of transferring the schools to the formal government system. The other component helps existing government schools build classrooms, install water sources, supply student desks, and provide vitamin supplements and de-worming treatment. As summarized in Table 1, there are just over 100 schools in this target area serving more than 63,000 students.

When establishing a school, Save the Children helps create and train members of a parent-teacher association and contributes 85–90 percent of school construction costs. The association decides the school's location, mobilizes local contributions (communities contribute about 10 percent of operating costs), and manages the school's operations.

The school's management committee selects paraprofessional teachers, to whom Save the Children provides honoraria payment, ongoing support, and training (Save the Children pays for select staff enrollment in government-run teacher training programs). As teachers complete their formal training and become certified, they are placed onto the government payroll. Once all teachers are certified, a community school is converted to an official government school.

Table 1: Basic information about schools in the target area

	Community	Government	Total
Total Number of Schools	28	73	101
Total Enrollment	5,887	57,757	63,644
% girls	48%	45%	47%
Schools in Woliso	12	32	44
Dendi	11	-	11
Goro	5	17	22
Bacho	-	34	34
Schools receiving support:	28	22	49
for more than 5 years	9		
for 3 or 4 year	9		
new in 2008	10		

Sampling and Methodology

Sampling

To select the sample, we eliminated schools that did not include Grades 1 through 3, that did not teach in Afan Oromo, or that were government schools located in towns (a sign that the school was too large for the study). This reduced the universe of schools from 101 to 74. From those we chose 24 for the sample; the number that could be studied in the time available. Schools were selected according to size, distance from a main town, and duration of Save the Children support. School size was divided into three categories: small (enrollment of less than 200 students); medium (200 to 400); and large (400 to 600). Distance from town was divided into four categories: less than 10km; 10 to 20; 20 to 30; and over 30. Years of support was divided into three categories: newly supported in 2008; supported for 3 to 5 years, and supported for 6 to 7 years. The characteristics of sample schools are summarized in Tables 2 and 3.

The sample included 15 community and 9 government schools. All of the community schools in the sample have been supported by Save the Children. Only three government schools received some support from SC, although the length of support was not known. The other six government schools were considered the control group, as they received no support from Save the Children. Many of the schools serve students in both the morning and afternoon.

Table 2: Characteristics of sample schools by type

	Community	Government	Total
Total Number of Schools	15	9	24
Receiving SC support:	15	3	18
for 5 years or more	7		
for 3 or 4 year	5		
new in 2008	3		
Total Enrollment	4,480	3,035	7,515
Grade 3 Enrollment	1,045	581	1,626
Average Grade 3 class size	44	48	46

Table 3: Characteristics of sample schools by school

Community Schools (CS)

	Total Enrollment	Distance from district town	Years in the SC Program	Teacher Years Experience	% Female Teachers	% teachers with TTI
Chancho Soyoma	258	< 10 km	6	4.1	43%	86%
Haro Abdi	330	< 10 km	4	3.8	38%	88%
Worka Kore	192	< 10 km	new	1.8	38%	75%
Jemjem Lega Batu	203	10 - 20 km	new	2.3	44%	89%
Kono Lafe Arba	338	10 - 20 km	5	4.3	63%	88%
Maru Babeli	429	10 - 20 km	5	4.3	33%	100%
Soma	179	10 - 20 km	3	2.0	50%	38%
Tiki Doyo	322	10 - 20 km	3	1.9	71%	43%
Derare Ebicha	319	20 - 30 km	5	4.4	13%	75%
Handhura Maru	245	20 - 30 km	5	2.8	25%	88%
Mekena Rogda	231	20 - 30 km	3	2.0	25%	25%
Maru Sombo	340	20 - 30 km	7	4.2	33%	50%
Honche Bite	317	20 - 30 km	new	1.8	33%	33%
Jelisa Cheka	281	> 30 km	4			
Kennera Labu	496	> 30 km	7	4.7	0%	90%
CS Totals	**4480**			**3.2**	**36%**	**39%**

Government Schools (GS)

	Total Enrollment	Distance from district town	Support Received from SC*	Teacher Years Experience	% Female Teachers	% teachers with TTI
Dilallaa	718	< 10 km	4	21.1	30%	90%
Kantero Bido	215	10 - 20 km	1	0.8	50%	100%
Hale Koya	400	> 30 km	3	1.4	14%	86%
Gambela Goro **	254	< 10 km	-	2.6	80%	80%
Besa**	222	10 - 20 km	-	0.3	0%	100%
Chirecha Busa Tedira**	212	10 - 20 km	-	2.4	40%	100%
Gudina Boru**	428	10 - 20 km	-	3.2	17%	100%
Biftu**	203	20 - 30 km	-	0.8	0%	100%
Wasarbi Gabreli**	383	20 - 30 km	-	0.7	14%	100%
GS Totals	**3,035**			**3.7**	**27%**	**95%**
** Control School Totals	1,702			1.7	25%	97%
Grand Total	**7,515**			**3.4**	**33%**	**79%**

The number in the column "Support Received from SC" in the case of government schools indicates how many out of the five possible types of support (deworming, furniture, wells, latrines or additional classrooms) the government school has received.

*** The six government schools from the same geographic area that are included in the sample, but that received no support from Save the Children, are considered control schools for the sake of this study.*

Methodology

The research team spent one day visiting each school. A visit consisted of six activities:

- Two general observations at different times during the visit noting the presence of certain school facilities and whether students and teachers were inside or outside the classroom;
- One hour observations of student and teacher activity in Grade 1, 2, and 3 classrooms;
- A school director survey addressing student enrollment and attendance, teacher attendance, support visits received by the school, and the relationship between the school and the community/parents;
- Interviews with teachers from Grades 1, 2, and 3 to cross-reference results from the school director surveys;
- Student surveys inquiring about schooling and home life; and
- A battery of student reading tests.

For the student survey and reading tests, the team randomly selected 20 students from Grade 3 at each school in a boy-to-girl ratio reflective of the gender balance in the full class. The tests included CAP questions to assess pre-reading skills and student familiarity with printed text and books and EGRA components to assess the number

of letters recognized in isolation, the number of words read correctly in isolation, and the number of words read correctly in context per minute. The number of words read correctly per minute was used as the measure of reading fluency, a recognized and robust index of reading comprehension that reliably differentiates between strong and poor readers as demonstrated in Matthew Jukes' 2006 study, *Development of Assessments of Reading Ability and Classroom Behavior.*

Working with Ethiopian Save the Children staff, we composed a passage using vocabulary modeled on story books from local libraries and Grade 3 textbooks. (There were no reading passages in school textbooks for Grades 1 through 3, the team simply used vocabulary found in these books.) We similarly composed a Grade 2 passage and students were asked to read both. Finally, students were asked one, two, or three comprehension questions depending on how far they read in the passage.

Table 4: Characteristics of students in the sample

Number of Grade 3 students tested	456	
Boys	234	51%
Girls	222	49%
Language spoken as mother tongue:		
Afan Oromo	416	91%
Gurage	28	6%
Amharic	12	3%
Average age (years)	10.5	
% over age (older than 10 years)	71%	
% who attended kindergarten	28%	
% who did not repeat a grade	77%	
% who live 10 min. or less from school	37%	
% who walk 10 to 30 min. to school	45%	
% who walk more than 30 min. to school	17%	
Average family size	6.8	
% of students who earn money for work	26%	
% who have in their home: - a radio	82%	
a toilet	77%	
electricity	13%	
a television	3%	
a refrigerator	2%	
three or more of the above	11%	

As shown in Table 4, sampled students are evenly divided between boys and girls and most children speak Afan Oromo at home (91 percent), are overage (71 percent are older than 8 years), live within 30 minutes of school (82 percent), did not attend

kindergarten (72 percent), have not repeated a grade (77 percent), and are from similar socio-economic backgrounds.

Limitations of the Study

While the data from this study are robust and representative of education in these Ethiopian districts, there are important limitations to the methodology and data. The research was conducted at the start of the school year, so data on school opening and teacher and student attendance may not be representative of the full year. In addition, the study did not capture time loss due to late opening and early close, so it is likely that the estimates of available instructional time are overly optimistic. Low student performance on the reading assessment may be affected by their unfamiliarity with EGRA and the fact that reading abilities are probably at a low point after two months of vacation in environments that generally lack reading materials. We acknowledge that CAP and EGRA are not comprehensive measures of learning, but are targeted evaluations of student performance in pre-reading and reading. Our classroom observations also often covered lessons in more than one subject area; however the use of time in class was fairly consistent across all subjects observed. Finally, the interview protocols and questionnaires were developed in English and translated and culturally adapted into Afan Oromo, after which the responses were translated back into English for analysis. It is likely that some errors occurred while moving between languages.

Findings
Overall Results

We found strong relationships between the results of each EGRA component: letter recognition, word recognition, and reading fluency of text from Grades 2 and 3 were all highly correlated. Therefore, we used Grade 3 reading fluency as the indicator of student literacy. Letter recognition and CAP were used to examine the pre-reading skills in the students with the lowest reading fluency scores.

Many students in the sample schools in Woliso, Bacho, Dendi, and Goro were struggling to learn to read. As the frequency distribution depicted in Figure 1 shows, students unable to read made up the largest group at the beginning of Grade 3 (36 percent of those tested). Almost three-quarters of students read 30 words per minute (wpm) or less. In contrast, 15 percent read with a fluency of over 40 wpm.

For students with low levels of reading fluency, we examined their letter recognition and CAP results to determine their position on the path toward literacy acquisition. These findings are summarized in Table 5 and indicate a relationship between CAP questions, letter recognition, fluency of letter recognition, and ability to decode words. Students who read zero wpm answered correctly about 6 of 10 CAP questions and could read correctly about 20 out of 26 letters. Students able to minimally decode words (1–10 wpm) did better on the CAP questions and letter recognition. In all cases, students with minimal to no word reading ability at least had pre-reading skills.

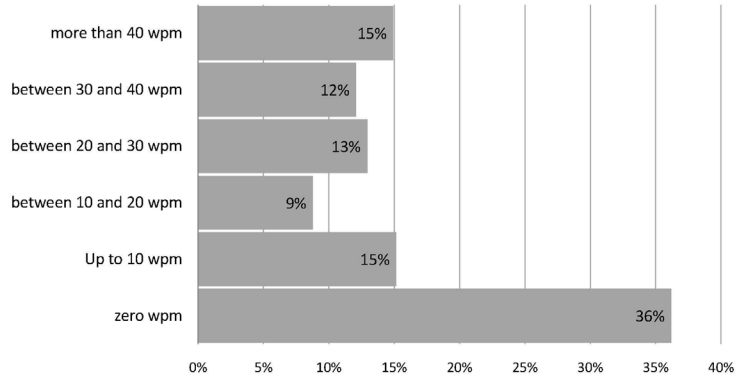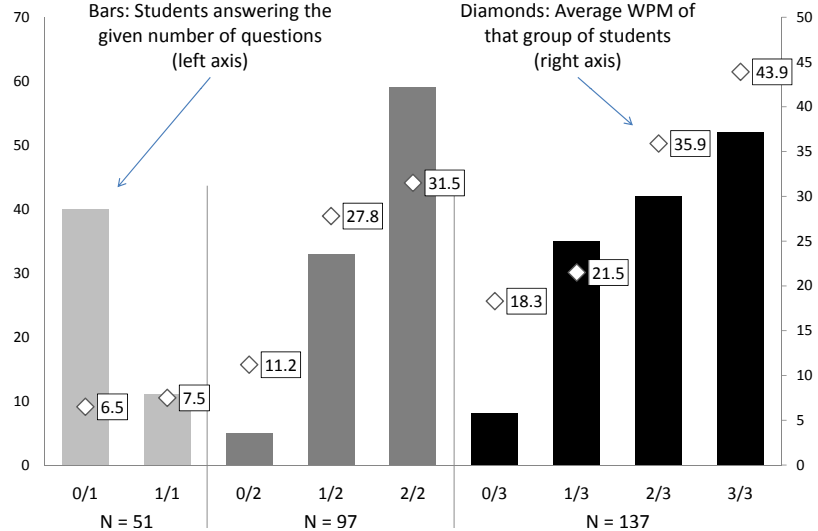**Figure 1: Reading fluency results, percentage of students who could read**

more than 40 wpm	15%
between 30 and 40 wpm	12%
between 20 and 30 wpm	13%
between 10 and 20 wpm	9%
Up to 10 wpm	15%
zero wpm	36%

Table 5: Test results for students with low levels of fluency

	Zero words per minute	1–10 words per minute
Number of students	165	69
Average # of correct CAP questions	6.2	7.3
Average # of letters read correctly	19.7	24.9
Average # of letters read per minute	32.9	53.1

Reading comprehension was assessed based on a set of one, two, or three questions asked after the reading passage, depending on how far the student read. The students who could not read were not asked the comprehension questions. Figure 2 depicts the relationship between reading fluency and the number of questions students were asked and correctly answered.

Figure 2: Reading fluency and number of questions asked and answered

Bars: Students answering the given number of questions (left axis)

Diamonds: Average WPM of that group of students (right axis)

	0/1	1/1	0/2	1/2	2/2	0/3	1/3	2/3	3/3
WPM	6.5	7.5	11.2	27.8	31.5	18.3	21.5	35.9	43.9

N = 51   N = 97   N = 137

The students who were asked only one question had read the least of the given text. Therefore it is not surprising that they had the lowest reading fluency scores and that most answered the question incorrectly. Those students asked all three questions clearly read more words per minute and almost 80 percent (who also read over 35 wpm) answered at least two of the questions correctly.

Results for Different Groups of Students

Table 6 shows the average reading fluency results by type of school, district, and student mother tongue. On average, Grade 3 community school students read 19.0 wpm correctly compared to 14.2 wpm for government school students. Control schools, as a subset of government schools, had an average reading fluency of 13.6 wpm. These differences were significant, but the effect size of differences between groups as a source of this variation is negligible (less than 2 percent). Most of the variation arises from differences between students within groups. In community schools, students in Woliso read with much greater fluency than those in Dendi and Goro. Students in government schools in Bacho read less well than those in government schools in Goro and Woliso although the differences, while significant, were not as pronounced as those with community schools.

More important than the variation among sub-groups at schools was the variation in student reading fluency from school to school. As shown in Table 6, the students of some schools performed much better than students in others. The frequency distribution of student reading fluency results, shown previously in Figure 1, indicated an overall distribution that is skewed toward zero wpm. The percentage of students who could not read a word on the EGRA was an important determinant of the variation of performance across schools. Figure 3 shows how the percentages of students in four categories of reading fluency varied from school-to-school. Each set of horizontal bars represents one school. The four colors correspond to four levels of reading fluency: zero wpm, 1 – 20 wpm, 21-40 wpm, and over 40 wpm.

The percentage of students able to read more than 40 wpm varied between 5 percent and 25 percent at all but two schools. For the most part, similar percentages of students were able to read between 1 and 40 wpm across all schools. The most significant variation across schools occurred in the students reading zero wpm. For the most part, schools with fewer students unable to read performed better overall and schools with larger percentages of students unable to read students performed worse overall. This may imply that out-of-school factors contributed to some students reading fluently while in-school factors determined the percentage of students unable to read.

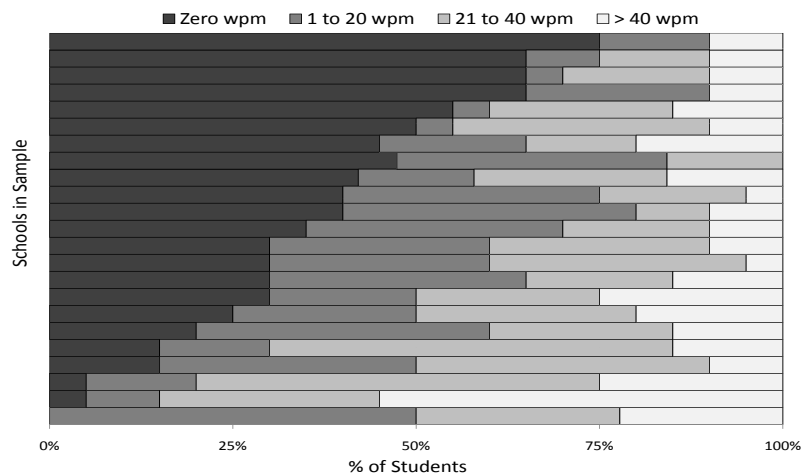**Figure 3: Reading fluency result variation among schools**

Table 6: Reading fluency results

	Average Words Per Minute			
	Community	**All Govt**	**Control**	
By type of school	19.0	14.2	13.6	
By district	Community	All Govt		
Bacho	-	13.5		
Dendi	10.3	-		
Goro	12.5	14.4		
Woliso	23.0	14.5		
By mother tongue	Woliso	Bacho	Dendi	Goro
Amharic	25.3			1.0
Afan Oromo	22.4	13.5	10.3	15.3
Gurage	13.5			6.2
Top Performing Schools	Average wpm	% not reading	Govt/Comm	SC Support
1	41.0	5%	C	5
2	31.2	5%	C	7
3	25.5	15%	C	5
4	23.2	0%	C	5
5	22.9	30%	C	5
Lowest Performing Schools	Average wpm	% not reading	Govt/Comm	SC Support
1	5.5	75%	C	3
2	7.4	65%	C	new
3	7.6	47%	G	no
4	10.6	65%	C	new
5	11.6	40%	G	no

Woliso students speaking Afan Oromo, Amharic, and Gurage read more fluently than their peers with the same mother tongues in the other districts. Gurage and Amharic speakers in Goro had the lowest reading fluency scores.

Understanding the Variation in Student Outcomes

The researchers took two approaches to explore the factors contributing to the variation seen among students, groups of students, and schools. First, we looked at individual student characteristics such as gender, age, and family status to see which, if any, related to variations in student reading fluency. Second, we examined school-level factors such as available instructional time, teacher and student absence, and time-on-task in classrooms.

Individual Factors

Boys had higher average reading fluency than girls, but slightly higher variance. More girls reported missing school the previous week, so boys' slightly higher reading fluency levels may be related to their higher attendance rate. Age was not consistently related to reading fluency, implying that students who start school at different ages were not learning at different rates.

To gauge socio-economic status, students were asked about the type and size of their home, their families' possessions and livestock, and whether the student earned money outside of the home. No relationships appeared between reading fluency results and these socio-economic proxy data for individual students, except for students earning income from work outside their homes. These students read at a significantly lower level, with boys in this group reading at a rate 23 percent lower than boys not earning money outside of home. There was not a statistically significant difference between these categories of girls.

In addition to the characteristics of students and their families, we examined students' schooling experiences. These variables included kindergarten attendance, repetition, shift attendance (morning or afternoon), school absence the week prior to the observation, and distance from school. The most pronounced differences in reading fluency were evident when comparing students who reported missing school the previous week to those who said they did not. Students reporting missing school (21 percent of the sample) read at an average fluency rate almost 50 percent lower than those who said they were present. Two-thirds of the students who reported being absent attended the morning shift.

Repetition was related to differences in the reading fluency of individual students in community schools, but not in government schools. Community school students who reached Grade 3 without repeating had a higher average reading fluency (20 wpm) than those who repeated once (16 wpm), and a much higher average than those who repeated twice (12 wpm).

School Factors

To look at school-level factors we return to EQUIP2's opportunity to learn framework. We used the eight opportunity to learn factors both individually and collectively to determine the effectiveness of each school in the study at maximizing opportunities to learn. Recall that the factors include:

1. Amount of instructional time available in the school year;
2. Frequency of school closures and distance from students;
3. Teacher attendance;
4. Student attendance;
5. Student–teacher ratios;
6. Availability and use of instructional materials;
7. Time-on-task within the school day and within lessons; and
8. Development of reading skills in early grades.

Factors 1 through 4: Available Instructional Time

In this study, we combined factors one through four into a measure termed available time for instruction. The objective was to compare the amount of time actually available to the amount of time theoretically available based on the official school calendar. Actual time was calculated by subtracting time lost from the theoretically available time, where time lost was determined by whether school was open when it should be, whether the school was managed so that teachers attend regularly, and whether the school was conveniently located and therefore easy for students to attend regularly.

Factors 1 and 2: Was school open?

In Ethiopia, the official school calendar includes 203 days. We collected data from the sample schools to show the number of days schools had actually been open since the start of the school year. From that base, we projected the equivalent number of days the school would be open for the full year (i.e., if a school was closed 10 percent of the available days since the beginning of the school year, we project a closure rate of 10 percent for the full year).

While no school in the sample was open every day on the school calendar, all but two were open more than 90 percent of the time. Many schools opened after the official start date and most were closed a few days after the first day of school. One school was closed almost all of the first three months of the school year. Government schools were closed more days than community schools.

Factor 3: Were teachers present at school?

Teacher attendance data were obtained from each sample school's official teacher attendance record. Teachers had an average attendance rate of 89 percent on the days school was open. Community school teachers were absent slightly more frequently than government school teachers. Three schools had teacher attendance rates of 70 to 80 percent, nine had teacher attendance rates of 80 to 90 percent, and nine had attendance rates above 90 percent.

Factor 4: Did students attend school regularly?

The data obtained from schools' official attendance books indicated that students in most schools were present more than 90 percent of the time over the first months of the school year. Only one school had an attendance rate lower than 90 percent (84 percent). All schools tended to draw students from their surrounding villages. More than

80 percent of the students in the sample live within a 30 minute walk to school, with 73 percent walking less than 10 minutes to and from school. This may account for the fairly high attendance rates.

The attendance data in the official register was cross-checked by verifying attendance in the observed classrooms. These data indicated a higher rate of absenteeism for many schools than is officially registered. The average attendance on observation days was only 84 percent, with wide variation. By this measure, only nine schools (37 percent of the sample) had attendance rates over 90 percent, while five had rates below 70 percent.

To estimate the number of days effectively available for instruction in each school, we subtracted the number of days a school was closed and the number of days lost due to teacher and student absence from the number of days on the school calendar (203). These estimates were not exact computations of the number of days of instruction, but rather indicated how three distinct aspects of school operation impact the available opportunities for students to learn. For example, governance and management decisions at the school level determine whether that school is open on any given day. Teacher accountability factors into whether teachers are present. Distance from school, as well as children's responsibilities at home and issues of health and nutrition impact student attendance. The combined effect of these factors is seen in Figure 4.

Time available to learn in government schools was most reduced by schools being closed, and especially so for the subset of government schools serving as our control group. In community schools, teacher attendance accounts for the largest loss of time.
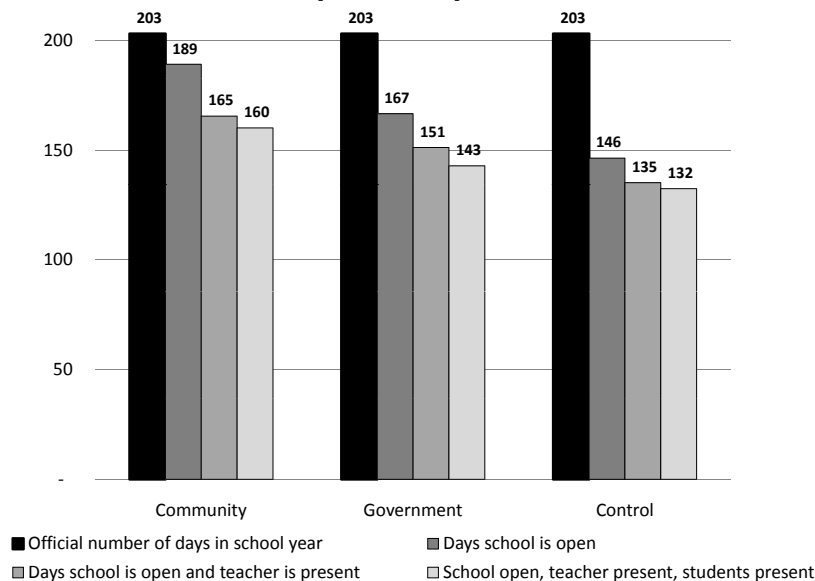
Beginning with the official total of 203 days, we subtracted the equivalent of the percentage of days when school was not open (as much as 18 percent in government schools). We then subtracted the days lost due to teacher absenteeism. For instance, if the attendance rate was 89 percent for the full sample, then a teacher was not present on the equivalent of 11 percent of the days school is open, leading to an additional loss of 22 days. Lastly, we subtracted the impact of student attendance.

If we use the single day observed attendance rates instead of the attendance recorded in the official school register, the time lost was greater in each category. Using this estimate, community schools on average lost 29 percent of available instructional days and government schools (including control schools) on average lost 43 percent.

As stated earlier, students who reported missing school the week prior to the observation had reading fluency rates half those of the students who said they had not missed school. The percentage of students in a school who reported missing at least one day the previous week was a strong predictor of that school's average reading fluency. By itself, student self-reported attendance explained 35 percent of the variation in a school's average reading fluency.

Figure 4: Time lost: Number of days effectively available for instruction

Community | Government | Control
- Official number of days in school year
- Days school is open
- Days school is open and teacher is present
- School open, teacher present, students present

Factor 5: Were class sizes reasonable?

Sample school class sizes in Grades 1 through 3 for the most part did not vary much. Most schools had average class sizes between 30 and 50 students. Five schools had class sizes larger than 50 students, three of which had more than 60 students on average. Only one school had fewer than 30 students in Grade 3.

In our data, class size had no relationship with student reading fluency and class size was not affected by distance of schools from town. Sample schools with the greatest total enrollment had larger class sizes in lower primary grades.

Factor 6: Were materials available for students?

In most observed classrooms, students were asked if they possessed pencils, notebooks, and textbooks in the language of instruction (Afan Oromo). Save the Children provides textbooks, but neither notebooks nor pencils. Throughout the sample schools in which these data were collected, large majorities of students, especially in Grades 2 and 3, had these basic materials.

Table 7 shows the percentage of students in Grades 1, 2, and 3 who possessed an Afan Oromo textbook. The table demonstrates that government schools better ensured access to textbooks. Those government schools receiving support from Save the Children (1 and 2) provided books to the majority of students in Grades 1 through 3. Those schools not receiving support tended to have fewer Grade 1 textbooks but enough books for the majority of students in Grade 2 and all students in Grade 3. It was not clear why government schools were better able to ensure textbook availability than community schools.

Table 7: Percentage of students with a language textbook

Community Schools	Gr. 1	Gr. 2	Gr. 3
1	47%	100%	na
2	100%	68%	95%
3	79%	100%	81%
4	na	na	100%
5	na	na	100%
6	100%	100%	100%
7	66%	na	na
8	100%	100%	100%
9	na	65%	84%
10	85%	na	na
11	89%	na	21%
12	100%	na	na
13	94%	na	28%
14	76%	100%	100%
Average	**85%**	**90%**	**81%**

Government Schools	Gr. 1	Gr. 2	Gr. 3
1	100%	100%	100%
2	96%	98%	100%
3	100%	93%	100%
4	39%	78%	100%
5	49%	100%	100%
6	37%	95%	100%
7	97%	100%	100%
Average	**74%**	**95%**	**100%**

Factors 7 and 8: Use of Available Time and Time-on-task

Factor 7: Did the school make good use of available time each day?

Earlier, we accounted for the loss of time in school due to school closure and teacher and student absence. In addition, we collected data to allow us to determine how much of the school day was used for instruction. In 23 of the 24 schools we were able to record the presence of teachers and students in class at two points during the school day (when we arrived and at another randomly chosen time). In total, we recorded whether students and teachers were in class 46 times in the 23 schools. Table 8 shows during how many of these observations all, some, or no students and teachers were in class.

Table 8: Classroom presence of teachers and students

	# of Observations	% of Total Observations
Total observations	46	
All teachers and students in class	11	24%
Some teachers and all students in class	16	35%
Some teachers and some students in class	10	22%
No teachers in class	9	20%

The observer noted whether no, some, or all teachers were in their classrooms, repeating this action for students. On nine occasions, no teachers were in class when they should have been. This clearly reduced the amount of instructional time. The cases during which only some students and teachers were in class or when all students, but only some teachers were in class also contributed to a loss of instructional time. This was mainly due to teachers being out of their rooms. Only in the case of all students and teachers being in class, which was observed on 11 out of 46 instances (24 percent), can we say that instructional time was not being lost due to this factor.

Another aspect of school organization in Ethiopia appeared to contribute to a loss of instructional time. Elementary schools are organized on a subject-based schedule. For Grades 1 through 3, the school week consisted of 1,200 minutes of instruction, which were divided among five required subjects: Afan Oromo (200 minutes), English (200), Math (200), Aesthetics (240), and Environmental Science (360). This schedule was evident in most schools, with only a few variations (e.g., to include health and nutrition instruction). In all sample schools, teachers were assigned by subject area and are supposed to change classrooms according to a fixed schedule of 40 minute periods. Our field teams, however, rarely saw the actual time of instruction match the official schedule. In fact, we noted several inefficiencies in how classrooms and teachers were used, leading to larger class sizes and less instructional time. In half of the sample schools, classrooms were unused during the morning or afternoon shift and teachers with free periods were often idle.

Factor 8: Did teachers use class time to engage students in productive instructional activities?

Using the Stallings Observation System, we observed teachers and students in Grades 1, 2, and 3 at each school (except where circumstances prevented completing all observations). With this instrument, the observer recorded the nature of the classroom activities and the type of materials being used at 10 minute intervals in each classroom. The observer noted whether the full class, a large group, a small group, or an individual student was involved in each "on-task" activity observed. Teacher and student activities deemed "off-task" were also noted. Teachers were off task if they were interacting socially with or disciplining students, managing the classroom (e.g., telling students to stand, sit, move in or out of the room), interacting with other adults, or out of the classroom.

Students were off task if they were interacting socially, being disciplined, involved with classroom management tasks, sitting idly, or out of the room.

The team observed 61 classrooms and recorded 583 instances of teacher and student activity that were classified into seven on-task categories: reading, demonstration, discussion, practice/drill, seatwork, copying, and verbal instruction, as well as the off-task activities mentioned above. Table 9 summarizes the frequency with which we observed activities in each of these categories.

Table 9: Frequency of observations of activities

Were observed doing tasks relating to:	% of obs. of Teachers	% of obs. of Students	Materials most frequently used
Reading	3%	11%	textbook
Demonstration	20%	21%	blackboard
Discussion	5%	5%	none
Practice/Drill	16%	18%	blackboard or none
Seatwork	8%	19%	notebook
Copying	5%	18%	notebook or blackboard
Verbal instructions	4%	4%	none
Were observed doing tasks unrelated to instruction	**38%**	**89%**	

By far the most frequently observed activity across all the grades and schools was students involved in off-task activities: We noted at least one student off task during 89 percent of the observations. Teacher and student demonstration, usually using the blackboard, was the most frequently observed on-task activity. We noted students engaged in reading activities, usually using a textbook, in only 11 percent of the observations, notably the only time when textbooks were seen in use. Seatwork, practice/drill exercises, and copying were all observed more often than reading. While teachers were observed doing demonstrations 20 percent of the time and practice/drills 16 percent of the time, teachers were most often observed off task (38 percent of the observations).

In addition to the frequency of different categories of activities, we noted the percentage of students participating in each on- and off-task activity, as summarized in Table 10.

For example, at least one student was observed reading during 11 percent of the observations. However, on average only 33 percent of the students in the class were engaged in the observed reading activity and 44 percent were off task. The categories of activities that on average engaged the highest percentage of students were practice/drill, discussion, and demonstration. Those that engaged the least were seatwork, reading, and

verbal instructions. Across all sample schools, students were off task 64 percent of the time during classroom observations.

When incorporated into our calculations of total time lost, this time spent off task by students equates to an estimated loss of 91 additional days of instruction, lowering the average amount of available time to only 32 percent of the original 203 days.

Table 10: Percentage of students engaged in activities

Were observed doing tasks relating to:	% of obs. where ≥ 1 doing the activity	% of students engaged	% of students off task
Reading	11%	33%	44%
Demonstration	21%	53%	39%
Discussion	5%	56%	41%
Practice/Drill	18%	57%	36%
Seatwork	19%	28%	56%
Copying	18%	41%	41%
Verbal instructions	4%	36%	54%
Were observed doing tasks not related to instruction	**89%**	**n/a**	**64%**

The difference between the percentage of students engage in the activity and the % of students off task equals the percentage of students who were engaged in a different category of activity.

Figure 5: Teacher's behavior when students were on or off task
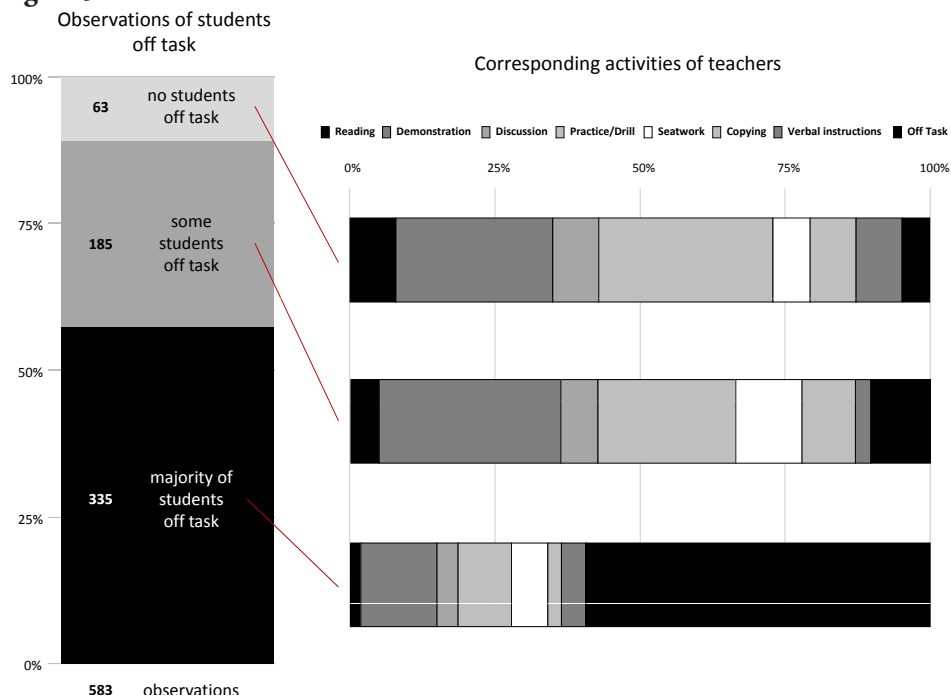
This time-on-task data can be mined further to match teacher activities to different degrees of student engagement. Figure 5 divides the 583 total observations into three categories: no students off task (63), some students off task (185), and the majority of students off task (335). The bars to the right indicate teachers' activities for each group of student off-task observations. When the majority of students were off task, teachers were most often observed to be off task as well (about 60 percent of the time). When no students were off task, teachers were often observed doing practice/drills (30 percent) or demonstration (27 percent). Teachers were rarely off task (5 percent) when all students were engaged in some instructional activity. This implies that the biggest cause of student non-engagement in instruction was the teacher being off task. In fact, when teachers were on task, 61 percent of students were on task. When teachers were off task, the average percentage of students on task dropped to 12 percent.

We also compared observation results for different grade levels and for the different subjects taught during the observations. The percentage of observations during which the teacher and students were on task did not vary across grades or subject areas.

The only category of observed activity that correlates significantly with a school's reading fluency was verbal instruction. The percentage of observations during which teachers were providing verbal instruction has a correlation coefficient of $r = 0.66$ with the average words per minute correctly read by Grade 3 students. Interestingly, the frequency of reading activity observations does not correlate significantly with reading fluency.

The relationship between observed categories of instructional activities and reading fluency appears to have been complex. The combination of classroom activities may have contributed to students acquiring reading fluency. For example, schools that performed best in terms of students' average words per minute had more instances of verbal instruction, more observed seatwork activity, and slightly more reading activities. The worst performing schools had fewer verbal instruction, seatwork, and reading activities, and more instances of discussion, demonstration, and copying. Another interpretation could be that the low correlation between activity categories or percentage of students on task and reading fluency was indicative of how little relationship there was between instruction and reading acquisition, a disheartening, but entirely possible circumstance. If most instructional strategies were not designed with literacy acquisition or reinforcement in mind, then it follows that no relationship would appear between instruction and student reading ability.

An Additional Factor: School Support
We collected data on two types of support received by schools and teachers: on-site support from school directors, other teachers, and parents and external support from Ministry of Education or Save the Children staff, teacher trainers, and donors. We defined on-site support as school directors observing and meeting with teachers as well as support from parents. External support included visits from Ministry of Education or

Save the Children staff, off-site teacher training, the schools' financial support, and the length of participation in Save the Children's program.

How regularly did school directors and teachers support each other?

All the data concerning school support were self-reported, so must be interpreted with caution. Nevertheless, school directors and teachers reported great variation in the frequency with which the director observes teachers giving lessons. There was less variation in teachers meeting among themselves in a school: most indicated that they meet twice each month. Table 11 shows the number of schools reporting various frequencies of observations and teacher meetings.

Table 11: School director and teacher support

	# of Obs. of Lessons by School Director	Teacher Meetings
Never	1	-
Twice per year	6	-
Four times per year	3	-
Monthly	5	3
Twice per month	3	13
Weekly	1	3

What roles did parents play in supporting their schools?

We collected data on 12 possible roles played by parents at schools such as raising and managing funds, purchasing and managing equipment, managing personnel, monitoring student and teacher attendance, monitoring quality, setting the calendar or schedule, resolving conflicts, and maintaining property and buildings. All schools noted that parents helped raise funds and maintain school infrastructure. No school indicated that parents helped monitor quality or set the calendar and schedule and we found no variation in how the school day was organized. At only three schools did parents provide support other than raising funds and maintaining infrastructure.

How regularly were schools visited and supported by outsiders?

Twenty schools provided information about visits from outside officials. When asked separately how frequently their school was visited, directors and teachers tended to answer consistently. Twelve schools reported monthly visits while one school reported two visits per month and five reported being observed weekly. Government schools reported being visited twice per month, compared to once per month for community schools. The frequency of support visits relates neither to a school's provision of opportunities to learn nor to students' reading outcomes.

When asked how many times their school had been visited by outside support staff since the beginning of the school year, responses ranged from zero to five. Visits were usually

from district-level education officials and from Save the Children project staff. School directors reported that these visits focused on a range of issues, including administration, teaching and learning, classroom management, and assessment. On average, government schools reported being visited slightly more than community schools.

Did teachers participate in training activities?

Teachers were asked if they had participated in formal training activities during the previous year. In five out of eight government schools, none of the teachers interviewed had attended training. In contrast, in 7 out of 15 community schools all the interviewed teachers reported having participated in training. Table 12 shows the number of schools in which the given fractions of teachers participated in training the previous year.

Table 12: Schools in which given fractions of teachers participated in training

	Community	Government
All	7	1
Two-thirds	3	-
Half	2	-
One-third	2	2
None	1	5
Total	15	8

What financial support did schools receive?

Schools were asked if they received financial support for salaries, materials, equipment, buildings, and other school expenses from any of four outside sources: government, Save the Children, the community, and other sources. As shown in Table 13, all but 1 of the 21 schools that answered this question received government support for teacher salaries. Save the Children paid teacher salaries in this one non-government supported school. Government financial support for equipment and buildings was evident almost exclusively in government schools. Eleven community schools indicated that they received teacher salary support from Save the Children. All the responding community schools and two government schools received support from Save the Children for materials and equipment and buildings. Three government and 14 community schools stated that they received support from the community for teacher salaries.

It is worth noting that schools that reported receiving more support had neither more materials, nor smaller classes, nor better average reading outcomes.

Table 13: Type of financial support received by schools

	Salaries	Materials & Equipment	Buildings	Other Expenses	
Government	8	7	4	0	Govt.
	12	1	0	2	Comm.
Save the Children	1	2	2	0	Govt.
	11	15	15	6	Comm.
The community	3	6	7	7	Govt.
	14	7	12	13	Comm.
Other sources	1	2	2	1	Govt.
	1	2	0	0	Comm.

How did Save the Children support affect schools?

Save the Children's presence in Woliso, Dendi, and Goro was the single most important variable in determining the reading outcomes obtained by schools. For community schools, the duration of Save the Children support correlated with the average reading fluency of students in each school (r = .68). Schools supported by Save the Children for the longest time had higher average reading fluency and a lower percentage of students unable to read. Table 14 and Figure 6 show these relationships.

The reading fluency of Grade 3 students in a community school had a correlation coefficient of r = 0.68 with years of support from Save the Children (significant at the p < .05 level). The percentage of students not able to read (scoring zero wpm on the EGRA test) had a correlation coefficient of r = -0.80 with years of Save the Children support (significant at the p < .005 level). The number of years of Save the Children support by itself accounted for 45 percent of the variation in the percentage of students unable to read in community schools. This may be partially attributed to the fact that many of the community schools opened upon Save the Children's arrival to the area. Therefore, the longer Save the Children had supported these schools, the longer they had existed and were able to stabilize a teaching force and gain school management experience.

Perhaps Save the Children's greatest success in this part of Ethiopia lies in helping create and stabilize schools in communities that otherwise would not have them. Over time, these schools become official and sustainable, but the level of school effectiveness as measured by Grade 3 reading aptitude, while better than at other schools we studied, remained low.

When government-supported and government control group schools were included, the relationships between reading fluency, the percentage of students unable to read, and levels of school support weaken, but remain significant.

Table 14: Student reading ability based on number of years of Save the Children support

Years of Support	Average Words Per Minute
7	31
7	20
6	20
5	23
5	23
5	25
4	15
4	19
3	15
3	5
2	41
new	7
new	13

Note: Each row represents one Save the Children-supported school.

Figure 6: Percentage of students unable to read and years of Save the Children support

$R^2 = 0.4$

% of students unable to read

Years of Save the Children Support
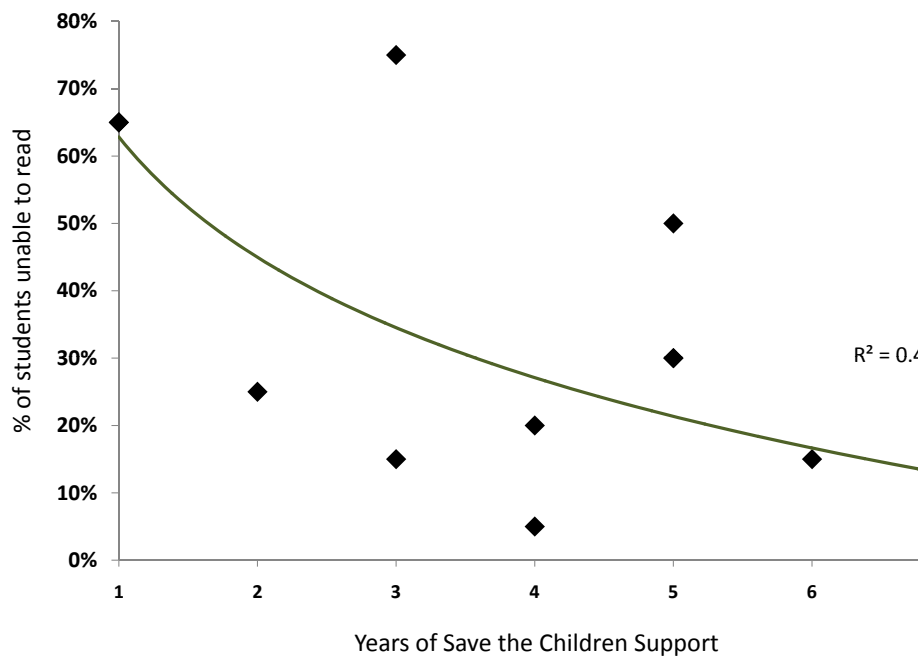
How Did the Opportunity to Learn Factors Inter-Relate?

Table 15 looks across the opportunity to learn factors and other key variables for each school. Schools were ranked according to the average reading fluency of Grade 3 students and were identified as either government (G) or community (C) schools.

Table 15: Summary of OTL factors, schools ranked by reading fluency

			Factors 1-2		Factor 5	Factor 6	Factor 7	Factor 8	Factor 9
Avg wpm	Gov/ Com	% Earn $	% of Available Time	% Not Absent	Class Size (3rd)	Student: Textbook Ratio	% Students Off Task	% Observed Reading	Save Support
41	C	20%	74%	95%	37	0.74	53%	1%	0.29
31	C	15%	83%	95%	37	1.00	51%	1%	1.00
25	C	10%	77%	85%	43	1.00	44%	0%	0.71
23	C	22%		80%	50				0.71
23	C	20%	55%	94%	39	0.87	79%	3%	0.71
20	C	40%	87%	95%	60	0.85	77%		1.00
20	C	20%	86%	90%	68	0.88	73%	1%	0.86
19	C	25%	79%	95%	41	0.66	53%	0%	0.57
19	G	15%	83%	85%	48	0.99	51%	3%	0.00
18	G	16%	88%	47%	31	0.77	69%	4%	0.00
17	G	30%	76%	53%	28	1.00	58%	7%	0.20
16	C	15%	81%	90%	45	0.92	57%	5%	0.43
15	C	6%		75%	38	1.00	67%	3%	0.57
15	C	60%	89%	75%	54	1.00	57%	8%	0.43
15	G	40%	78%	90%	70	0.98	45%	12%	0.60
14	G	55%	76%	85%	77			4%	0.80
13	C	20%	82%	70%	35	1.00	40%	0%	0.14
12	G	5%	85%	55%	39	0.72	59%	1%	0.00
12	G	40%		80%	47	0.98	60%	2%	0.00
11	C	25%	81%	70%	37	0.50	32%	8%	0.14
8	G	47%		89%	43	0.83	81%	5%	0.00
7	C	30%	84%	80%	41	0.55	55%	6%	0.14
5	C	15%	77%	45%	39	0.77	58%	4%	0.43

Data were then presented on the percentage of students who said they worked outside of their home to earn money (a correlate of reading fluency) and on the following variables as proxies for the key opportunity to learn factors:

- Percentage of Available Time: a calculation that accounts for time lost at each school due to school closure and teacher and/or student absence (Factors 1 through 4).
- Percentage Not Absent: the percentage of students at each school reporting they had

not been absent the previous week (Factor 4, used because it correlated strongly with reading fluency).

- Grade 3 Class Size: number of students in the Grade 3 class from which students were randomly sampled for the EGRA (Factor 5).
- Student to Textbook Ratio: the average ratio of students to language textbooks in Grades 1 through 3 (Factor 6).
- Percentage of Students Off Task: the average percentage of students identified as being off-task across all the observations in each school (Factor 7).
- Percentage Observed Reading: the percentage of observations at the school during which any students were seen to be engaged in reading activities (Factor 8).
- Save Support: a calculation that, for community schools, represents the number of years the school has received support out of the seven years possible. For government schools, this represents the number of supports received out of the five Save the Children makes available to government schools (additional classrooms, de-worming, furniture, latrines, and wells).

A cell was shaded if it was in the top five values for each variables in order to visually represent the confluence for some of the top performing schools among some of these variables and/or opportunity to learn factors.

Conclusions and Implications

This research brings into question several issues about school effectiveness in Woliso and its surrounding districts. Schools varied considerably in the nature and quality of their provision of opportunities to learn and varied also in the level of reading fluency obtained by their students upon reaching Grade 3. However, every school in the sample could be called underperforming. Why were opportunities to learn and learning so severely compromised in this part of Ethiopia?

First and foremost, our research indicates that most of the time available for effective instruction in these schools was wasted. Days were lost when school was closed and when teachers and students were absent. However, these factors were dwarfed by the loss of opportunity to learn stemming from off-task teachers and students in Grade 1, 2, and 3 classrooms. At least one student was off task during 89 percent of the observations, usually because their teacher was also off task. In general, we observed limited amounts of useful instruction in a typical lesson.

In addition to the loss of time-on-task evident in schools and classrooms in Woliso, Bacho, Dendi, and Goro, we observed that reading instruction is virtually non-existent. The vast majority of classroom activities we observed could be neither classified as instruction in reading, nor did they involve students reading text. While most students had Afan Oromo textbooks for their grade, we rarely observed students using these books. These books also contained neither reading passages nor stories. Students had little to no opportunity to interact with text at school. Most of the interaction observed was with simple sentences written on the blackboard and recited by individuals or groups. There appeared to be no structured approach to the teaching of reading in the schools included in this study.

While students' reading performances varied across schools, instructional practice was relatively homogeneous. Lessons were hauntingly similar across grades, subjects, and schools. A single approach to teaching seemed to predominate: demonstration at the blackboard followed by seatwork and copying. Save the Children is expending resources to train all community school teachers through one year rotations at a teacher training institute. This training focuses on certifying community school teachers and moving them onto the government payroll. However, no evidence of the pedagogical value of the Save the Children training was observed or revealed in our data.

As all teachers become certified and the school becomes an official government school, Save the Children can claim success in having helped establish a community's first officially recognized school. Investing in the sustainability of the schools launched by Save the Children and the participating communities is a laudable goal. However, the program in this part of Ethiopia appears to be sacrificing pedagogical and educational innovation for the sake of institutionalization.

Perhaps because of this overriding concern for institutionalization, we saw no innovation in the organization of the school day. In fact, every school followed the same or very similar schedules. The only variations were found in community schools that included a health and hygiene subject and in schools' usage of a free period. All schools used a compartmentalized approach to teaching, meaning teachers rotated in and out of classrooms based on subject.

This approach had two repercussions. First, compartmentalization led to some loss of time-on-task as teachers moved between classrooms, oftentimes ending lesson early. Second, teachers were underused. Every period two or three teachers were observed not teaching as their subject was not scheduled at that time. All the schools therefore had more teachers than pedagogical groups. Many of the schools also had more classrooms than pedagogical groups and could easily have reduced class sizes and increased teacher's contact time by doing away with a compartmentalized approach.

In other studies of community-based complementary education programs, EQUIP2 found that support services are a critical factor permitting community schools to produce results comparable to or better than government schools in some settings (DeStefano et al., 2007). However, the Save the Children program in Woliso, Bacho, Dendi, and Goro has been unable to provide the frequency of visits or the caliber of instructional support required to achieve these results. The Save the Children field offices have lacked sufficient staff to provide regular school visits although they have started working with Woliso's Woreda Education Office to share responsibility for supporting community-based schools. Whether such support can make up for the teaching deficiencies revealed by our research is an open question.

Save the Children has also introduced kindergarten through its community schools. This appears to boost the enrollment of younger students and may increase the net intake rate for schools in the area. However, we did not find a relationship between kindergarten attendance and acquisition of an acceptable level of reading fluency by Grade 3.

Even with an additional year of schooling, students showed no statistically significant difference in reading fluency. We cannot assess the quality of teaching and learning occurring in kindergarten classrooms as none were observed.

We did not find a strong relationship between opportunity to learn or other school factors and students' reading fluency. However, we may have stumbled upon a useful insight into the relationship between schools, instruction, and learning: There is no relationship. If we do not observe the teaching of reading, why should we expect to find a relationship between teaching and reading ability? Schools vary in an assortment of ways: how regularly teachers attend, how regularly students attend, whether or not schools have enough books, whether class size is reasonable, and how regularly schools are visited by education support personnel. In fact, we noted variation across all the opportunity to learn factors included in our research framework. However, despite those variations, in Woliso, Bacho, Dendi, and Goro there was a consistent lack of reading instruction, little exposure to text, and a common lack of opportunity for students to read. These observations go a long way to explain why 36 percent of students at the start of Grade 3 could not read a word.

The research team did note that community schools outperform government schools and, among community schools, those receiving Save the Children support the longest performed better, indicating that this support has improved opportunities to learn and learning outcomes. However, even in the best performing schools, opportunities to learn were few and reading fluency outcomes were low. There is significant room for improvement.

Given that Save the Children is supporting schools, the question then becomes how to maximize the impact of that support to ensure a consistent opportunity to learn and better literacy acquisition. Our research points to the following approaches as ways to obtain more impact for the effort being expended.

Teacher and student absenteeism need to be more closely monitored and the factors that impact them addressed
While we have no data on the causes for teacher absenteeism, systems for local accountability in other contexts have proven useful in combating teacher absenteeism. The maintenance of a teacher attendance book does not appear, by itself, to establish the needed accountability; teacher and student attendance may be worse than recorded in the register. Additionally, certain categories of students, such as those who earn money outside their homes, may be more prone to miss school. Strategies to address students' specific needs should be explored.

More of the school day needs to be effectively used and more time should be devoted to reading

The biggest loss of classroom time-on-task was due to students and teachers being off task. The compartmentalized schedule and subject-specific teaching assignments greatly reduced the efficient use of time and space during the school day. However, even when time is used effectively, schools must give more attention to reading. In particular, the early grades in primary school need to devote more time to reading: teachers reading to students, students reading aloud, and students reading in groups and individually. These activities, which are commonplace in any developed country primary school classroom, were rare to non-existent in the classrooms observed in Ethiopia.

Teacher training activities need to do more than ensure official certification

Teachers need teaching strategies to help students learn to read (either as part of or in addition to their certification-based training). Most students in this study recognized letters fairly well and could complete the CAP pre-literacy tasks. However, far too few made the transition from those initial steps to reading fluency. Teachers appear to lack techniques such as those that build site vocabulary or teach basic decoding.

More reading material needs to be made available

Textbooks were usually the only written material to which students were exposed, and we found these did not contain stories or other examples of connected text. Other than textbooks, students only had their notebooks to read, which contained text copied from the blackboard. There appeared to be an insufficiently literate environment to support regular reading. Schools need books and other printed materials that offer students a variety of opportunities and purposes to read.

While the building blocks of literacy need to be reinforced, students also need higher-order skills

It was not apparent that any activities observed in these schools help children learn to read for meaning. All subject areas should present opportunities for children to use text to develop higher-order reading skills and to use text as a tool of learning.

Schools need to employ remediation and more individualized instruction

Given that large numbers of students are not learning to read, schools need to employ remediation strategies to address this problem. Within any classroom, students' reading abilities vary dramatically, and therefore teachers should learn techniques to identify their students' reading levels and tailor instruction to each level. Simple tools for classifying students along a logical hierarchy would prove useful (e.g., knows letters, able to read simple words, able to read sentences, able to read connected text). Pratham, an NGO operating in India, has developed simple techniques for assessing students, analyzing reading levels within classrooms, and designing instructional approaches to meet each level's needs. Approaches like this would prove useful in Ethiopia.

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