E.A.R.C
Education Assessment and Research Center

2024–25 EXTERNAL EVALUATION REPORT FOR THE LUMINOS FUND IN GHANA: SUMMARY

DECEMBER 2025

THE LUMINOS FUND

Executive Summary

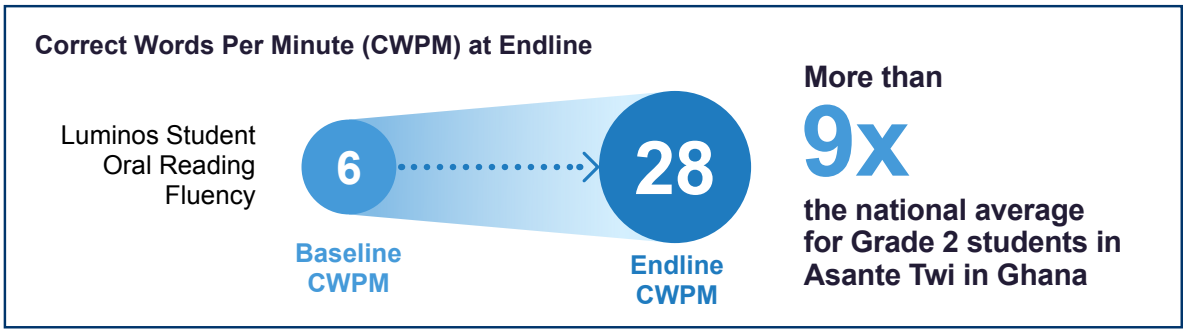
Since 2021, the Luminos Fund has partnered with the Complementary Education Agency (CEA) of the Ministry of Education in Ghana and community-based organizations to scale its accelerated learning program, reaching more than 12,260 vulnerable and out-of-school children. This report summarizes findings of an independent external evaluation conducted during the 2024–25 school year by the Educational Assessment and Research Centre (EARC).

2024–25 School Year

2,039	80	4
students	classrooms	districts

During the 2024–25 school year, Luminos students made remarkable progress in literacy and numeracy.

At the start of the program, students read on average only 6 correct words per minute (CWPM), demonstrating that they were unable to read and comprehend words and connected text. By the end of the program, **students could read short passages with an average fluency of 28 correct words per minute (CWPM)—more than 9 times the national average for Grade 2 students in Asante Twi, according to Ghana's 2015 Early Grade Reading Assessment.[1] Students also achieved strong gains in early phonics skills, identifying an average of 51 correct letter sounds in a minute by endline, an improvement of 35 correct letter sounds at the start of the program. In numeracy, students made consistent progress across all subtasks with strong fluency gains in number recognition and basic arithmetic.**



Background

The Luminos program in Ghana builds on the country's national accelerated learning initiative, known as Complementary Basic Education (CBE). Implemented in partnership with two community-based organizations, Link Community Development and School for Life, the Luminos program equips vulnerable and out-of-school children with foundational literacy and numeracy skills, preparing them to transition into government schools to continue their education.

Using a phonics-based, student-centered approach, the Luminos program reaches the most vulnerable children through joyful learning. Structured, daily lessons incorporate traditional games, songs, and stories, creating a highly interactive environment where children learn with enthusiasm and confidence.

Since 2021, Luminos has supported over 12,260 children ages 8–14 in Ghana's Ashanti region. Classes are taught in Asante Twi, a predominant local language, and run for three hours per day, five days a week, over a nine-month school year. To ensure high-quality teaching, Luminos has trained over 444 community teachers—young adults from the same communities as the students. Each year, teachers complete approximately 30 days of training in the Luminos Method and receive ongoing classroom coaching and mentorship.

1 RTI International, Ghana 2015: Early Grade Reading Assessment and Early Grade Mathematics Assessment: Report of Findings (Research Triangle Park, NC: RTI International, November 2016).

During the 2024–25 school year, Luminos supported 2,039 children across 80 classrooms in four districts.

Evaluation Overview & Method

The evaluator (EARC) partnered with the Luminos Fund in Ghana to assess student learning progress in literacy and numeracy at the beginning and end of the 2024–25 school year. The evaluation measured changes in literacy and numeracy scores using Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) tools. EARC conducted baseline and endline assessments with a random sample of seven students from each of 80 Luminos classrooms, totaling 560 students (48 percent girls and 52 percent boys).

560 students

48% girls

52% boys

80 classrooms

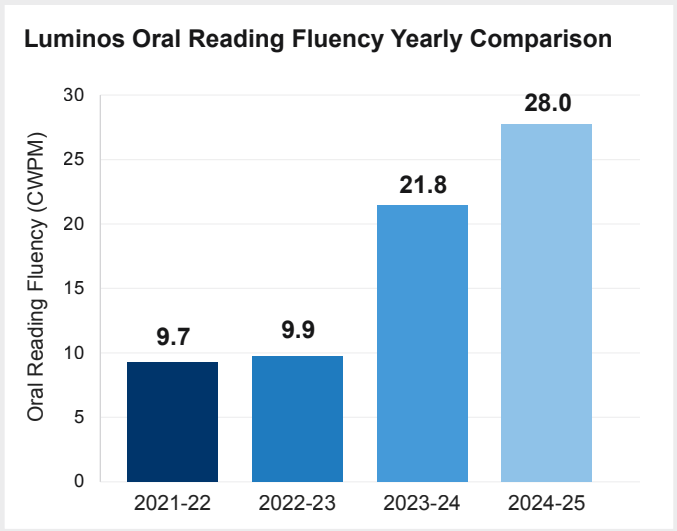
Enumerators completed five days of training, including field practice and inter-rater reliability testing. Data were collected using the Tangerine mobile platform and analyzed for mean, percentage-correct, and per-minute fluency scores, disaggregated by gender, prior schooling, and language spoken at home.

Results

Students in the Luminos program achieved impressive gains across both literacy and numeracy, marking the strongest learning outcomes to date. This pattern held across all subgroups, though students' prior schooling and language backgrounds impacted relative learning gains.

Literacy

By the end of the school year, **students achieved an average oral reading fluency of 28 CWPM compared to 6 CWPM at baseline—9 times the national average for Grade 2 students in Asante Twi.** This represents a transformational leap for children, many of whom entered the program unable to read even a single word.



Students also showed strong progress in other areas of reading fluency: letter sound identification scores improved from an average of 17 correct letter sounds in a minute to 51 correct letter sounds, and familiar word reading scores improved from 5 correct words in a minute to 23 correct words in a minute. These results demonstrate that children in the program are building the decoding and automaticity skills essential for lifelong learning.

While fluency gains were strong, comprehension skills advanced more gradually, likely because more than half of the students do not speak the language of instruction (Asante Twi) at home and may have faced language-related challenges in the classroom. By the end of the program, students scored an average of 1.6 out of 5 reading comprehension items and 2.1 out of 3 listening comprehension items.

Together, these findings highlight meaningful progress toward understanding connected text—an important next step as children transition into government schools and continue their learning journey. Please see

Tables 1a and 1b[2] for more details; for a full description of the EGRA subtasks see the Appendix on page 6.

Table 1a: Students' Performance on Timed EGRA Subtasks in Ghana

Subtasks	Mean Scores		
	Baseline	Endline	Gain
Letter Sound Identification	16.6	51.1	+34.5
Familiar Word Reading	5.3	23.2	+17.9
Nonword Reading	3.4	18.4	+15.0
Oral Reading Fluency	5.9	28.2	+22.3

Table 1b: Students' Performance on Untimed EGRA Subtasks in Ghana

Subtasks	Max Score	Mean Scores			Percent Correct Scores		
		Baseline	Endline	Gain	Baseline	Endline	Gain
Initial Sound Identification	10	4.6	8.5	+3.9	45%	85%	+40%
Reading Comprehension	5	0.3	1.6	+1.3	5%	33%	+28%
Listening Comprehension	3	1.4	2.1	+0.7	48%	70%	+22%

Numeracy

Among timed tasks, students achieved the largest fluency gains in number identification and Level 1 addition, reflecting increased speed, confidence, and understanding in basic number sense and math skills. By the end of the school year, students correctly identified an average 23 numbers in a minute, up from a baseline of 13 numbers in a minute. In Level 1 arithmetic, their fluency increased from 6 to 13 correct addition items in a minute, and from 4 to 11 subtraction items in a minute.

In untimed assessments, students made strong gains in number discrimination, which measures their ability to identify the larger of two numbers. On average, students correctly selected the larger number in 8 out of 10 items. Notably, in Level 2 arithmetic, students progressed from being unable to complete any addition or subtraction items at baseline, to scoring an average of 2.8 out of 5 at endline in addition and 2.0 out of 5 in subtraction. Students also correctly answered an average of 3.6 out of 5 real world problems using basic addition and subtraction.

The results demonstrate strong program impact on early numeracy development. Please see Tables 2a and 2b[3] for more details; for a full description of the EGMA subtasks see the Appendix on page 7.

2 Table 1a presents timed subtasks scores, which assess the number of items students can correctly complete in one minute (fluency). Table 1b presents untimed subtasks, which assess students' average number of correct responses on a fixed set of questions.

3 Table 2a presents timed subtasks scores, which assess the number of items students can correctly complete in one minute (fluency). Table 2b presents untimed subtasks, which assess students' average number of correct responses on a fixed set of questions.

Table 2a: Students' Performance on Timed EGMA Subtasks in Ghana

Subtasks	Mean Scores		
	Baseline	Endline	Gain
Number Identification	12.7	23.1	+10.4
Addition Level 1	5.6	13.4	+7.8
Subtraction Level 1	3.5	10.7	+7.2

Table 2b: Students' Performance on Untimed EGMA Subtasks in Ghana

Subtasks	Max Score	Mean Scores			Percent Correct Scores		
		Baseline	Endline	Gain	Baseline	Endline	Gain
Number Discrimination	10	4.5	8.0	+3.5	45%	81%	+36%
Missing Number	10	2.2	5.3	+3.1	22%	53%	+31%
Addition Level 2	5	0.8	2.8	+2.0	16%	56%	+40%
Subtraction Level 2	5	0.4	2.0	+1.6	8%	41%	+33%
Word Problem	6	1.8	3.6	+1.8	29%	59%	+30%

Equity Analysis

Results by Gender

The sample comprised 48 percent girls and 52 percent boys. Both groups benefited from the program, achieving comparable gains in literacy and numeracy. Girls held a slight advantage in three numeracy assessments: Level 1 addition, Level 2 addition, and word problems.

Results by Prior Schooling

Of the students sampled, 53 percent had no prior schooling which contributed to lower baseline scores compared with peers who had previous school experience. Nonetheless, both groups made substantial gains by endline.

In subtasks measuring early literacy and numeracy skills (e.g., letter sound identification, number identification, and number discrimination), children who had no prior schooling quickly narrowed the gap with their peers. For example, the 1.6 point gap in initial sound identification at baseline (3.8 vs 5.4 word sounds) decreased by 0.6 points by endline (8.2 vs 8.6). In contrast, children who had prior schooling progressed faster in more advanced skills (e.g., nonword reading, oral reading fluency, reading comprehension, and Levels 1 and 2 subtraction).

Results by Language Spoken at Home

More than half of the students sampled (58 percent) did not speak the language of instruction, Asante Twi, at home and may have faced language-related challenges in the classroom. While both groups made strong gains in literacy, students who spoke the language of instruction at home held a consistent advantage, showing larger improvements across subtasks. For instance, in oral reading fluency, they achieved a +27 CWPM gain compared to +16 CWPM for students who did not speak the language of instruction, and in

reading comprehension, they achieved a +1.9 gain compared to +0.9 for students who did not speak the language of instruction. Similar advantages were observed in numeracy assessments such as addition, subtraction, and missing number problems.

The results indicate that language backgrounds impacted students' relative progress in both literacy and numeracy, reflecting a broader challenge in Ghana stemming from mismatches between home and school languages, even when the language of instruction is an African language. This underscores the need for further language-responsive teaching and support to help students with limited proficiency in the language of instruction to prepare to continue their education with peers in government schools.

Conclusion

The 2024–25 external evaluation confirms that Luminos' accelerated learning program in Ghana is enabling vulnerable and out-of-school children to make substantial progress in literacy and numeracy. **Within one school year, students could read on average 28 CWPM—more than 9 times the national average for Grade 2 students in Asante Twi.** Children who began the program unable to recognize letters and words are now reading short stories and solving basic math problems, proving that the program supports children to build foundational skills at remarkable speed.

Appendix

Early Grade Reading Assessment (EGRA)

Subtask	Reading Skill	Description
Letter Sound Identification	Alphabet knowledge	Students read letters and accurately say their corresponding sounds in one minute
Initial Sound Identification	Phonemic awareness	Students correctly identify the initial sounds of words
Nonword Reading	Decoding	Students read simple nonsense words in one minute
Familiar Word Reading	Word recognition	Students read frequent grade level appropriate words in one minute
Oral Reading Fluency	Oral reading fluency	Students read a short, written passage in one minute
Reading Comprehension	Reading comprehension	Students are asked to answer up to five questions relating to the text they read aloud for the oral reading fluency subtask
Listening Comprehension	Oral language comprehension	Students are asked questions relating to a short passage read aloud to them

Early Grade Math Assessment (EGMA)		
Subtask	**Numeracy skill**	**Description**
Number Identification	Number knowledge	Students are given one, two, and three-digit numbers and asked to identify the numbers in one minute
Number Discrimination	Comparing numbers	Students are given a series of problems where they are asked to identify which number is bigger
Missing Number	Number patterns	Students are presented with sets of numerical sequences and asked to identify the number that belongs in the empty box
Addition Level 1	Addition fluency	Students are asked to solve a series of basic addition problems in one minute (no problems are greater than 20)
Addition Level 2	Application of procedural addition	Students are asked to solve 5 more complicated addition problems (no problems are greater than 70)
Subtraction Level 1	Subtraction fluency	Students are asked to solve a series of basic subtraction problems in one minute. Problems are the inverse of the Addition Level 1 items
Subtraction Level 2	Application of procedural subtraction	Students are asked to solve 5 more complicated subtraction problems
Word Problems	Real world problems	Students are asked to solve real world problems using basic addition and subtraction

E.A.R.C
Education Assessment and Research Center

About the Evaluator

The Educational Assessment and Research Centre (EARC) is an independent research organization based in Accra, Ghana. Founded in 2002, EARC specializes in education monitoring, evaluation, and research. The organization has led numerous large-scale assessments in Ghana and Nigeria and has contributed to Ghana's National Literacy Acceleration Programme (NALAP).