

## **Early Childhood Education Research Study**

Sampling Methodology

December 2019

### **INTRODUCTION**

Under the USAID Education Data activity, an Early Childhood Education research study will be conducted to provide meaningful data to inform MoGE and Let's Read decision-making. The sampling methodology is presented in this document.

### **RESEARCH QUESTIONS**

The Early Childhood Education Research Study aims to answer the following research questions:

1. What are the baseline levels of cognitive, pre-mathematics and pre-literacy, social and emotional and language measures of learners who have just entered ECE?
2. What differences in cognitive, pre-mathematics, pre-literacy, social and emotions skills, if any, can be observed between Grade 1 learners who attended ECE the year before and those that did not?
3. How are ECE teachers teaching the ECE curriculum to ECE learners? What pedagogies do they employ?
4. How is the ECE classroom and school environment set up for ECE learners?
5. What materials are available and used by ECE teachers to teach the ECE curriculum?
6. What differences in ECE' learners' cognitive, social and language skills are observed with the Let's Read ECE interventions in comparison to the absence of the ECE interventions?

### **SAMPLING METHODOLOGY**

The USAID Education Data Activity will use a multi-step process for selecting provinces, schools and learners to administer the IDELA and MELE data collection tools. The baseline EGRA sample conducted in November 2018 was used as the sampling frame for this sample selection of the ECE Research study given its dataset provided verifiable information on whether each GRZ school had an active ECE classroom and a designated ECE teacher. USAID Education Data first randomly selected two of the five provinces.

Second, USAID Education Data activity applied a selection parameter within each sampled province to enable it to have a sufficient sample size in each sampled school to assess research question two. All GRZ schools that met this selection parameter will be assessed. The selection parameter was a threshold of 70 – 30 for ECE participation within the school. Schools where more than 70% of learners reported that they did not attend ECE were excluded, and schools where less than 30% of students reported that they attended ECE were also excluded. This ensures that each grade 1 class would have both a sample of learners that attended ECE and learners who did not attend ECE. The selection parameter was determined through an analysis of the 2018 baseline EGRA learner questionnaire data. By drawing the sample of learners who attended ECE and those who did not from within the same schools, Education Data activity is able to control for some community and school-level factors in the results. Within each sampled school,

up to 10 ECE learners, up to 6 Grade 1 learners who attended ECE last year and up to 6 Grade 1 learners who did not attend ECE last year will be randomly selected with equal gender parity.<sup>1</sup> The sampling strategy includes representation from GRZ schools within all districts within the two selected provinces that have GRZ schools with ECE programs. Both urban and rural schools will be assessed in relation to their proportion within the general school population.

USAID Education Data activity followed these steps to select the sample of schools:

SAMPLING METHODOLOGY		RESULTING SAMPLE SELECTION		
<b>Step 1</b>	Randomly select two provinces	Eastern Province	Western Province	
<b>Step 2</b>	Determine the number of GRZ schools with ECE programs in the two selected provinces	Eastern Province	Western Province	
		70 schools	48 schools	
<b>Step 3</b>	Apply selection parameter – include GRZ schools that have at least a 70 - 30 distribution in ECE participation to ensure there is a sufficient sample in each school to answer research question two.	<ul style="list-style-type: none"> <li>Eastern Province: 27 GRZ schools</li> <li>Western Province: 25 GRZ schools</li> </ul>		
<b>Step 4</b>	At each sample school for the baseline data collection in January, assessors will randomly select with equal number of boys and girls: <ol style="list-style-type: none"> <li>Up to 10 ECE learners</li> <li>Up to 6 Grade 1 learners – ECE last year</li> <li>Up to 6 Grade 1 learners – no ECE last year</li> </ol> The ECE classroom will also be observed at each sample school	<b>Baseline Sample</b>	<b>Eastern</b>	<b>Western</b>
		ECE learners (baseline)	270	250
		Grade 1 Learners with ECE (comparison)	163	150
		Grade 1 learners without ECE	163	150
		Total learners assessed	1146 <sup>2</sup>	
		ECE Classroom Observations	52 <sup>3</sup>	
<b>Step 5</b>	At end line in January 2021, data collection will take place at the same schools assessed at baseline. Assessors will randomly select an equal number of girls and boys: <ol style="list-style-type: none"> <li>Up to 10 Grade 1 learners who just completed ECE in December 2020</li> <li>ECE classrooms will also be observed at each of the sampled schools</li> </ol>	<b>Endline Sample</b>	<b>Eastern</b>	<b>Western</b>
		Grade 1 learners (just completed ECE with Let's Read)	270	250
		Maximum number of learners assessed	520	
		ECE Classroom observations	52	

<sup>1</sup> Statistical analysis determined that a minimum sample size of 264 learners per treatment and control for a total of 528 learners drawn from 52 schools are required to report statistically significant differences in mean scores of 5% or greater.

<sup>2</sup> Some schools may not have the number of learners we intend to assess and as such the total numbers presented are estimates. The final number will be determined upon arrival at each of the sampled schools when school enrollment is verified.

<sup>3</sup> Each ECE teacher must provide consent to conduct the classroom observation. Some teachers may decline consent and as a result, the number may be slightly less.