



# Ethiopia IDELA Baseline Report

September 2018



## Contents

<b>Executive Summary</b> .....	3
<b>Introduction</b> .....	4
<b>Methodology</b> .....	5
Tools .....	5
Sample .....	5
Data Analysis .....	6
<b>Summary Statistics</b> .....	7
Caregiver Questionnaire .....	7
<b>Child Development: IDELA</b> .....	12
Social emotional development .....	14
Emergent Numeracy .....	15
Emergent Literacy .....	17
Gross and Fine Motor Development .....	19
Executive Function .....	20
<b>Predictors of Child Development</b> .....	21
<b>Conclusion</b> .....	22
<b>Appendix</b> .....	23
Appendix A: Proportion of caregivers reporting availability of print materials and toys at home by zones (in %) .....	23
Appendix B: Proportion of caregivers reporting participation in home learning and playing activities by zones (in %) .....	24
Appendix C: Average IDEA and Domain Scores by zones (in %) .....	25
Appendix D: Average scores in Social Emotional Development sub-tests by zones (% of questions answered correctly) .....	26
Appendix E: Average scores in Emergent Numeracy sub-tests by zones (% of questions answered correctly) .....	27
Appendix F: Average scores in Emergent Literacy sub-tests by zones (% of questions answered correctly) .....	28
Appendix G: Average scores in Emergent Literacy sub-tests by zones (% of questions answered correctly) .....	29
Appendix H: Regression Results (Predictors of domain scores) .....	30

## Executive Summary

This report presents the results of a baseline IDELA Assessment that took place in November 2017 in Gedeo, Hadiya, Sidama, Wolyata zones and in Halaba Special Woreda in South Nation, Nationalities and People's Region (SNNPR) in Ethiopia. The main objective of the baseline study is to test whether children (age 6 ) who will receive the O Class intervention (from the 25 target schools with 50 sections in year 1) and children in the comparison group (from 25 schools with 50 sections, where business continues as usual in year 1) are equal in terms of socioeconomic characteristics, home learning environments and early development skills.

At baseline, the intervention group and the comparison group have comparable skills in all core domains except social-emotional development. Children from the comparison group had significantly stronger skills than the treatment group in the social-emotional development domain. We also observe that children in the comparison group are spending considerably more time doing chores and have fewer toys at home than children in the treatment group. No significant differences were observed between the intervention and comparison groups in terms of print rich material at home and home learning and playing activities. Gender differences can be observed at baseline, with boys performing significantly better than the girls in the numeracy domain of the IDELA assessment.

The results from regression analysis suggest that mothers' literacy is a strong predictor of children's performance in the IDELA assessment. Children who have literate mothers are likely to perform better in the IDELA assessment than children who have illiterate mothers. An unexpected relationship is observed between the number of print reading materials at home and children's early development. The analyses of the baseline data suggests that children with more print reading material tend to have lower scores in the IDELA than students with lesser print reading material. This could be a result of the small sample size or other confounding factors. This result will be further investigated in the end line study.

Based on this report, O class interventions need to focus on the following:

- O class facilitators should make an effort to engage boys and girls equally in classroom activities. Awareness activities with caregivers must incorporate positive gender messages.
- More than half the caregivers in the sample have reported spanking or yelling at their children to discipline them. Caregiver sensitization activities should be oriented towards positive disciplining techniques.

## Introduction

Save the Children is expanding its work in the area of Early Childhood Care and Education through school-readiness O classes in the South Nation, Nationalities and People's Region (SNNPR) in Ethiopia to improve school readiness in six new zones and one special woreda, in addition to the rural areas of South Omo.

Save the Children is working in collaboration with the Zonal Education Departments and woredas (districts), and the SNNPR Regional Education Bureau to develop and showcase innovative teaching methodologies for engaging six-year old children in O classes. The project targets 58 schools in the South Nation, Nationalities and People's Region (SNNPR). The project is currently being implemented in fourteen woredas in six zones (2-3 woredas from each zone) and one special woreda. These are Gedeo, Guraghe, Hadiya, Sidama, Wolyata, as well as Halaba Special Woreda. The six zones and the special woreda have been selected in consultation with the regional education bureau and the Save the Children Hawassa hub office.

The project intends to contribute to the school readiness of the students in the 58 target schools, during three school years. The project will support 25 schools in the first year and then all 58 schools in year 2 and 3. Currently there are 127 O classes spread across these 58 primary schools.

The main objective of the baseline analysis is to test whether intervention children (from the 25 target schools with 50 sections in year 1) and comparison children (from 25 schools or centers with 50 sections, where business continues as usual in year 1) are equal in terms of socio-economic characteristics and early development skills. Some of the research questions this baseline aims to answer are:

1. What is the baseline status of early learning and development of children in the program area?
2. Are children and caregivers in the intervention and comparison groups statistically similar in terms of background characteristics, learning materials and practices, and child development levels?
3. What is the relationship between home learning environments and child developmental outcomes?

## Methodology

### Tools

The International Development and Early Learning Assessment (IDELA) was used to measure child development and learning and the IDELA Caregiver Questionnaire was used to interview parents/caregivers. IDELA is an international assessment tool developed by Save the Children that has been used in over 50 countries to measure child development and learning, and was used to assess children aged 3-6 years old. The IDELA child assessment contains 22 direct assessment items covering four domains: motor development, emergent literacy, emergent numeracy and socio-emotional development. In addition, two optional direct assessment items were added to measure children’s executive functioning, as well as assessor-reported items focused on children’s learning approaches.

The IDELA Caregiver Questionnaire contains questions about children’s family and household environments. Specifically, caregivers are asked about their educational background, daily play and learning interactions with children, feeding and health practices, and disciplinary behaviors. Additionally, they are also asked about their expectations and attitudes regarding their children’s development and the importance of education for their future.

**Table 1. IDELA domains and subdomains**

<b>Motor Development</b>	<b>Emergent Literacy</b>	<b>Emergent Numeracy</b>	<b>Social-emotional Development</b>
<b>Hopping on one foot</b>	<b>Print awareness</b>	<b>Measurement and comparison</b>	<b>Peer relations</b>
<b>Copying a shape</b>	<b>Expressive vocabulary</b>	<b>Classification/Sorting</b>	<b>Emotional awareness</b>
<b>Drawing a human figure</b>	<b>Letter identification</b>	<b>Number identification</b>	<b>Empathy</b>
<b>Folding Paper</b>	<b>Emergent writing</b>	<b>Shape identification</b>	<b>Perspective taking</b>
	<b>Initial sound discrimination</b>	<b>One-to-one correspondence</b>	<b>Self-awareness</b>
	<b>Listening comprehension</b>	<b>Simple operations</b>	<b>Conflict resolution</b>
		<b>Simple problem solving</b>	
<b>Executive function: Short-term memory and inhibitory control</b>			
<b>Approaches to Learning: Persistence, motivation and engagement</b>			

### Sample

In 2017 Save the Children conducted a baseline study in four Zones and one special woreda: Gedeo, Wolayita, Hadiya and Sidama Zones as well as Halaba, special woreda in the South Nation, Nationalities and People’s Region (SNNPR) in Ethiopia. A sample of 50 O Classes were

randomly drawn from these 5 zones. Of these 50 centers, 25 were randomly assigned to receive the “O” Class treatment and 25 were randomly assigned to the comparison group, where business ran as usual. In total 503 students were in the treatment group and 504 students were in the comparison group. The sample consisted of an almost equal number of boys (506) and girls (501). Children’s caregivers were also interviewed in order to obtain more background information.

**Table 2. Sample in intervention and Comparison Centers**

	<b>Intervention</b>	<b>Comparison</b>	<b>Total</b>
<b>Centers</b>	25	25	50
<b>Students</b>	505	503	1008

### **Data Analysis**

This quantitative analysis aims to investigate the current status of caregiver knowledge and behaviors related to early development, care and learning, as well as the status of children’s development. Summary statistics will be presented to display performance on all areas of the parent and child questionnaires. In addition, this report will use multivariate regression models to explore relationships between early learning and development and parental knowledge, attitudes and home environment.

## Summary Statistics

### Caregiver Questionnaire

Caregivers were asked about their age and level of education, as well as the number of children they were caring for. Mothers' average age is 32 years old, while Fathers' average age is 39 years old. About 40 percent of the mothers can read and only 33 percent reported completing secondary education. On the other hand, about 77 percent of the fathers can read and 61 percent<sup>1</sup> of them reported completing secondary education. On average, intervention and comparison groups reported having 4.6 and 4.8 children, respectively. Finally, 14 percent of the comparison group children and 15 percent of the children from intervention group do chores. There is a statistically significant difference between the comparison and intervention groups in the time spent by children doing house chores.

Table 3. Parent's characteristics

Variable	Intervention	Comparison	Significance
Child is female (%)	49.7	50.2	
Age of Child (years)	6	6	
Mother's Age (years)	31.5	32	
Mother can read (%)	38	41	
<b>Mother's Education</b>			
None (%)	40	36	
Primary (%)	7	9	
Secondary (%)	33	32	
Higher (%)	6	4	
Father's Age (years)	39	39.6	
Father can read (%)	78	75	
<b>Father's Education</b>			
None (%)	5	6	
Primary (%)	6	9	
Secondary (%)	64	57	
Higher (%)	17	18	
Number of Children	4.6	4.8	
Child does chores (%)	14	15	
Child Chores (time in minutes)	61	95	***

Statistical significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

<sup>1</sup> 62 percent of the sample refused to or did not know the answer to this question.



Parents were also asked about common household items that they possessed in order to gather information on the relative wealth of families. Very few households reported having a fridge, bicycle, or motorbike in both groups. About 66 percent of the caregivers reported having mobile phones. A majority of the caregivers reported the possession of land and livestock. Statistically significant differences were observed between the intervention and comparison group in terms of land and livestock possession and in the number of rooms in their households.

Table 4. Household possessions

Variable	Intervention	Comparison	Significance
Number of Rooms	2.1	2.4	**
Bedroom (%)	70	79	**
Kitchen (%)	57	67	**
Living Room (%)	68	67	
Washroom (%)	13	18	*
Toilet in the house (%)	36	34	**
Number of Appliances	1.9	1.6	**
Radio (%)	53	53	
Refrigerator (%)	3	2	
Bike (%)	5	6	
Motorbike (%)	7	9	
Mobile Phone (%)	67	65	
Land (%)	83	89	**
Livestock (%)	73	81	**
Cement/Metal Roof (%)	63	59	
Brick/Cement Wall (%)	2	4	

Statistical significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

The caregiver questionnaire included questions related to the print materials and toys available in caregivers' homes as well as the activities they participated in with their children. There are significant differences between the intervention and comparison groups. Larger proportion of caregivers in the comparison group reported having textbooks and comic books in their homes. However, a larger proportion of caregivers in the intervention group reported having hand-eye toys and house objects in their homes than the caregivers in the comparison group. Overall,



intervention group caregivers reported a larger number of toys at their homes than comparison group caregivers, on average.

Table 5. Print material at home

Variable	Intervention	Comparison	Significance
Number of reading materials (out of 7)	0.910	1.105	
Storybook (%)	16	17.5	
Textbook (%)	19	25	*
Magazine (%)	10	10	
Newspaper (%)	10	11	
Religious Book (%)	33	38.5	
Coloring Book (%)	8	10	
Comic Books (%)	4	8	*

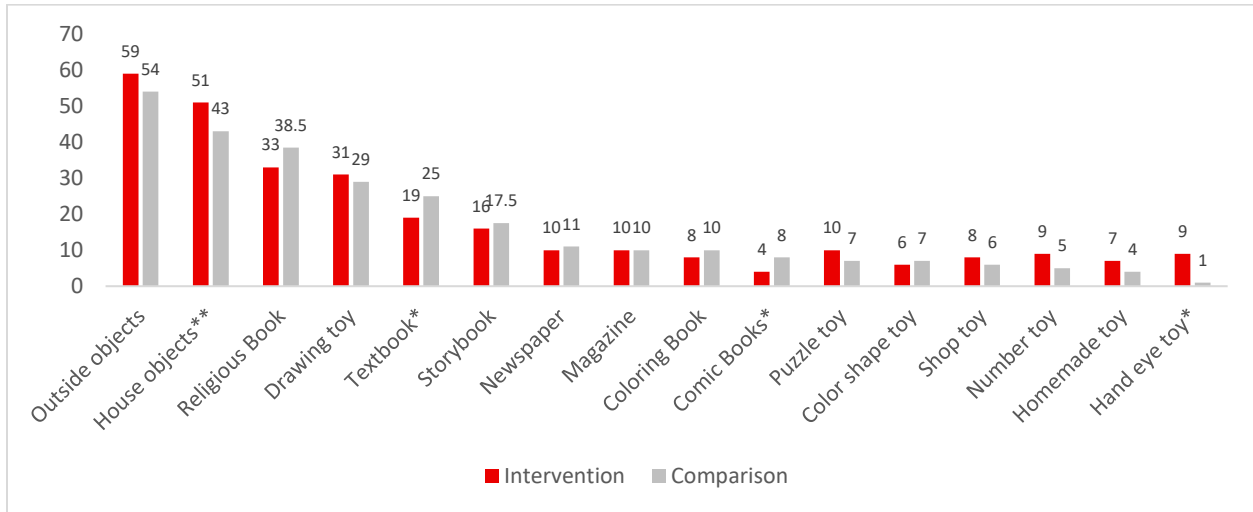
Statistical significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 6. Toys at home

Variable	Intervention	Comparison	Significance
Number of toys (Out of 9 toys)	1.6	1.3	***
Homemade toy (%)	7	4	
Shop toy (%)	8	6	
House objects (%)	51	43	**
Outside objects (%)	59	54	
Drawing toy (%)	31	29	
Puzzle toy (%)	10	7	
Hand eye toy (%)	9	1	*
Color shape toy (%)	6	7	
Number toy (%)	9	5	

Statistical significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

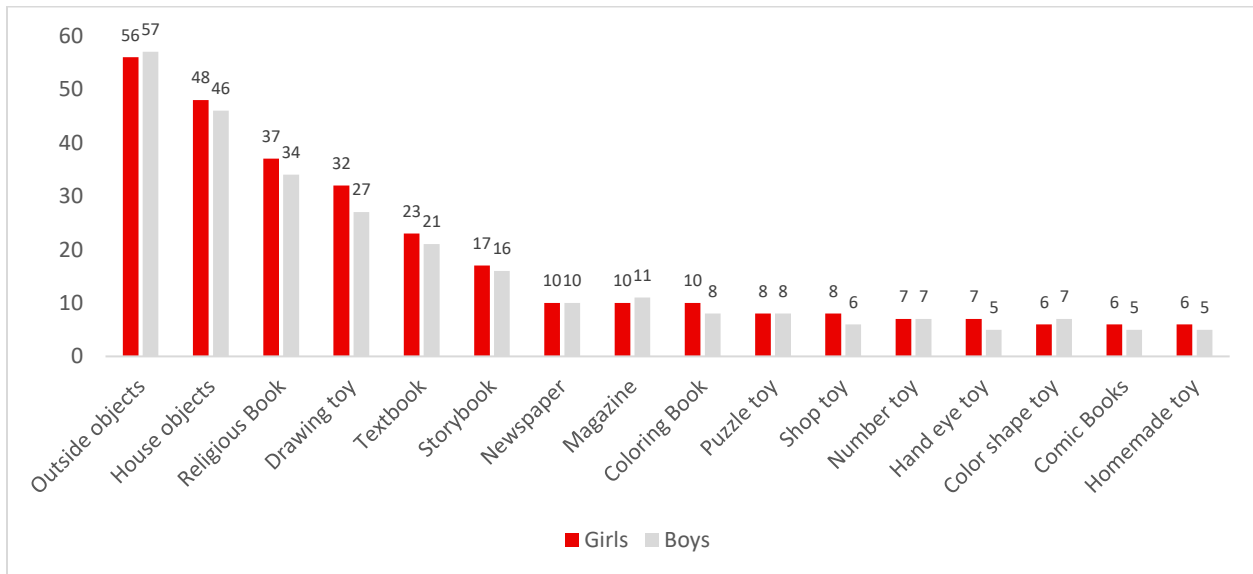
Figure 1. Proportion of caregivers reporting availability of print materials and toys at home by intervention and comparison group (in %)



Statistical significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

No statistically significant differences were observed between boys and girls with respect to the availability of types of print materials and toys at home. A detailed break-down of the availability of toys and print materials by zones can be found in [Appendix A](#).

Fig 2: Proportion of caregivers reporting availability of print materials and toys at home by Sex (in %)



Statistical significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Additionally, caregivers reported on the frequency of learning/play activities as well as harsh discipline they engaged in with children. On average, caregivers reported engaging in 4-5 learning

activities with their children in the past week. Overall, there were no significant differences between caregiver-child interactions in the comparison and intervention group.

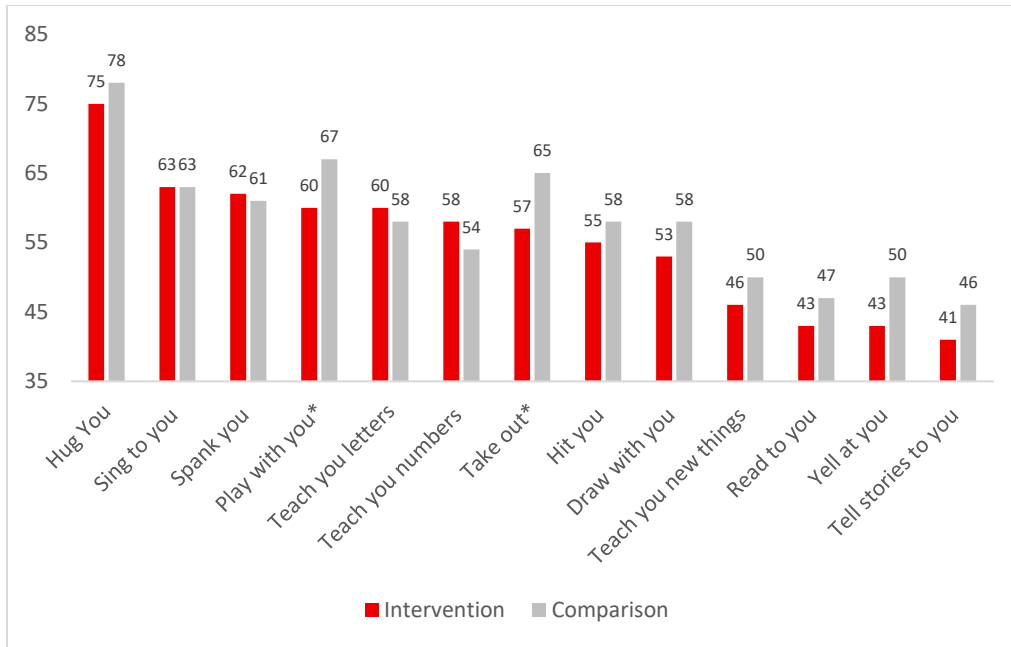
Table 7. Learning/play activities at home

Statistical significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Variables	Intervention	Comparison	Significance
<b>Number of learning and play activities (out of 9)</b>	4.515	4.869	
<b>Read to you (%)</b>	43	47	
<b>Tell stories to you (%)</b>	41	46	
<b>Sing to you (%)</b>	63	63	
<b>Take out (%)</b>	57	65	*
<b>Play with you (%)</b>	60	67	*
<b>Draw with you (%)</b>	53	58	
<b>Teach you new things (%)</b>	46	50	
<b>Teach you letters (%)</b>	60	58	
<b>Teach you numbers (%)</b>	58	54	
<b>Hug You (%)</b>	75	78	
<b>Spank you (%)</b>	62	61	
<b>Hit you (%)</b>	55	58	
<b>Yell at you (%)</b>	43	50	

Looking at specific activities, a larger proportion of caregivers in the comparison group have reported engaging in activities such as playing with the child and taking the child out than the caregivers in the intervention group. These results are the only statistically different behaviors. However, a larger proportion of parents in the intervention group reported teaching their children numbers and letters than the parents in the comparison group. 3 out of 4 parents in both the intervention group and comparison groups reported hugging their children in the last week, while disciplining behaviors such as spanking and hitting were also reported by more than half the caregivers in both intervention and comparison groups.

Figure 2. Proportion of caregivers reporting learning/play activities at home by intervention and comparison group (in %)



Statistical significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Apart from teaching new things, there were no significant differences between boys and girls with respect to learning and playing activities at home. A detailed break-down of participation in home learning and playing activities by zones can be found in [Appendix B](#).

Table 8: Proportion of caregivers reporting learning/play activities at home by Sex (in %)

	Girls	Boys	Significance
Read to you	46	44	
Read story to you	43	44	
Sing to you	63	63	
Play with you	60	63	
Draw with you	56	55	
Teach you new things	50	45	*
Teach you letters	60	57	
Teach you numbers	58	54	
Hug/Love you	77	76	
Spank you	61	63	
Hit you	56	57	
Yell at you	49	44	

Statistical significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

### Child Development: IDELA

This section details children’s performance on the IDELA assessment. Total domain scores are calculated by adding the weighted score for each core domain (social-emotional development,

emergent numeracy, emergent literacy, and motor development) so that all domains contribute equally to the total score. Executive function items are not included in the total IDELA score because they are not considered a core domain. Due to the difference in the administration style between the direct child assessment items and the enumerator reported learning approaches items, these items are not included in the total IDELA scores. This baseline assessment did not collect data on the 'Approaches to learning' domain.

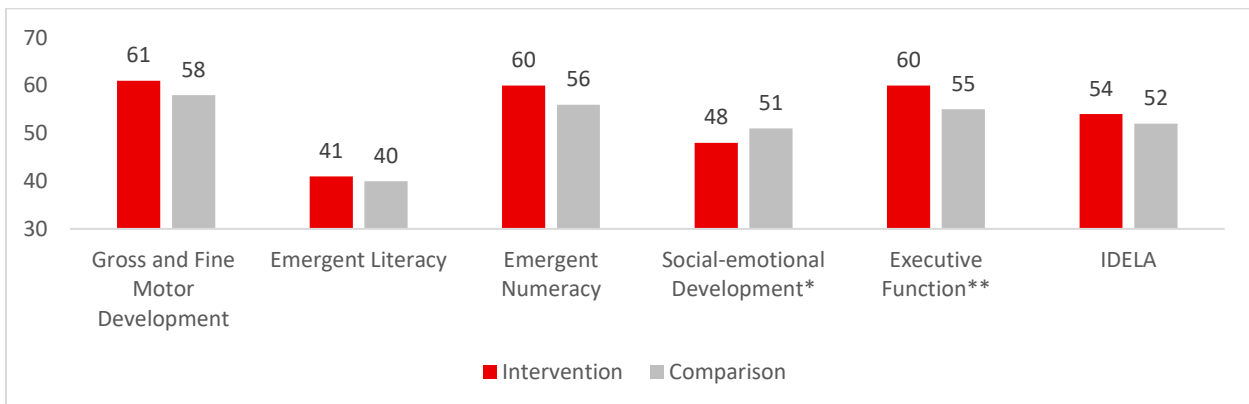
Table 9. Domain scores and IDELA score (% of questions answered correctly)

Variables	Intervention	Comparison	Significance
Gross and Fine Motor Development (%)	61	58	
Emergent Literacy (%)	41	40	
Emergent Numeracy (%)	60	56	
Social-emotional Development (%)	48	51	*
Executive Function (%)	60	55	**
IDELA (%)	54	52	

Statistical significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

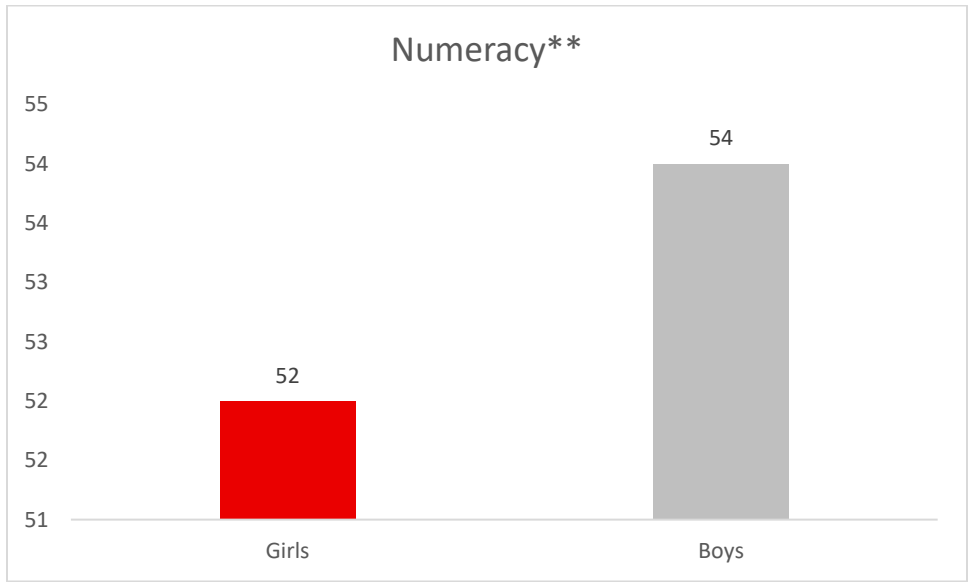
After controlling for children’s age and gender, analyses find that children have comparable skills in all domains except social-emotional development and executive function. At baseline, Children in the comparison group had significantly stronger skills than children in the intervention group in the social emotional development domain and intervention students had significantly stronger skills than the comparison group students in the executive function domain. We also find that girls display significantly weaker skills in numeracy compared to boys. A detailed break-up of the IDELA and domain scores for each zones can be found in [Appendix C](#).

Figure 3. Average domain and IDELA score by intervention group (in %)



Statistical significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Figure 4: Average Literacy, Numeracy and IDELA score by sex (in %)



Statistical significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Social emotional development**

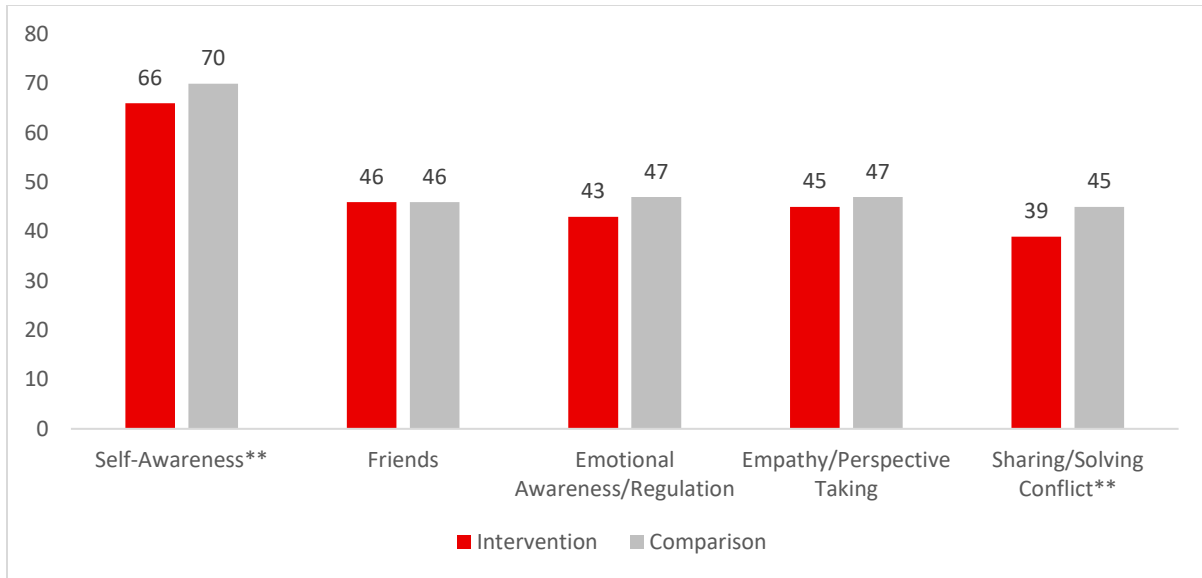
Table 10. Scores in Social-emotional development sub-tests (% of questions answered correctly)

Variables	Intervention	Comparison	Significance
Self-Awareness (%)	66	70	**
Friends (%)	46	46	
Emotional Awareness/Regulation (%)	43	47	
Empathy/Perspective Taking (%)	45	47	
Sharing/Solving Conflict (%)	39	45	**

Statistical significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Within the social-emotional development domain, the comparison group performed better than the intervention group at the self-awareness sub-test and the solving conflict sub-test. These results were statistically significant. Both the groups had the strongest performance in the self-awareness skill and the weakest performance in the solving conflict skill in the social emotional development domain.

Figure 6. Average scores in Social-emotional development sub-tests by intervention group (in %)



Statistical significance: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table 11. Scores in Social-emotional development sub-tests by sex (% of questions answered correctly)

	Girls	Boys	Significance
<b>Self-Awareness</b>	67	68	
<b>Friends</b>	44	47	*
<b>Emotional Awareness/Regulation</b>	44	45	
<b>Empathy/Perspective Taking</b>	44	49	**
<b>Sharing/Solving Conflict</b>	41	42	

Statistical significance: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Statistically significant differences were observed between boys and girls in their scores in friends and empathy/perspective taking sub-tests of this domain. A detail break-down of student performance in all sub-tests of the social-emotional development domain by zones can be found in [Appendix D](#).

### Emergent Numeracy

Table 11. Scores in Numeracy sub-tests (% of questions answered correctly)

	Intervention	Comparison	Significance
<b>Shape Identification (%)</b>	43	42	
<b>Number Identification (%)</b>	25	25	
<b>One-to-One Correspondence (%)</b>	71	74	

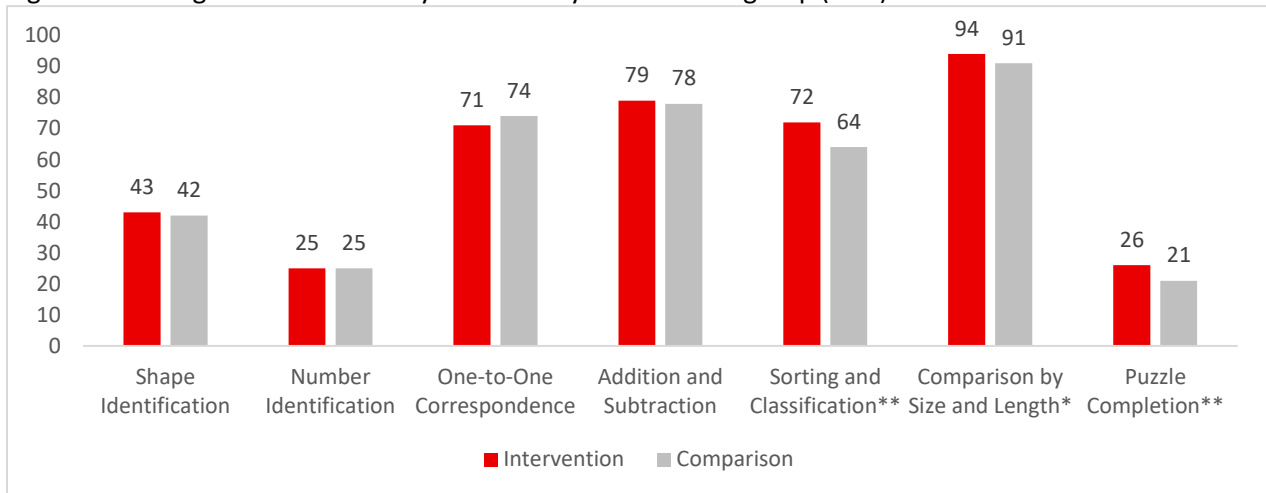


<b>Addition and Subtraction (%)</b>	79	78	
<b>Sorting and Classification (%)</b>	72	64	**
<b>Comparison by Size and Length (%)</b>	94	91	*
<b>Puzzle Completion (%)</b>	26	21	**

Statistical significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Children in the intervention group have performed significantly better than the children in the comparison group in the areas of puzzle completion, comparison (by size and length) and sorting/classification in the Numeracy domain. The children in both groups have the strongest skills in the comparison sub-test and the one-to-one correspondence sub-test. On the other hand, children tend to struggle with the puzzle completion and number identification sub-test. This follows a pattern seen in other countries; the measurement items are relatively easier for children and number identification and problem solving are more difficult.

Figure 7. Average scores Numeracy sub-tests by intervention group (in %)



Statistical significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Boys displayed significantly stronger skills than girls in the Sorting and Classification, Comparison and Puzzle Completion sub-tests in the Emergent Numeracy sub-test. Overall, boys' numeracy skills were significantly stronger than girls as seen in Figure 4. A detailed break-down of children's Emergent Numeracy skills in all sub-tests by zone can be found in [Appendix E](#).

Table 11. Scores in Numeracy sub-tests by sex (% of questions answered correctly)

	<b>Girls</b>	<b>Boys</b>	<b>Significance</b>
<b>Shape Identification</b>	40	45	***
<b>Number Identification</b>	21	29	***
<b>One-to-One Correspondence</b>	71	74	

<b>Addition and Subtraction</b>	78	78	
<b>Sorting and Classification</b>	66	71	**
<b>Comparison by Size and Length</b>	92	94	
<b>Puzzle Completion</b>	21	25	**

Statistical significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

### Emergent Literacy

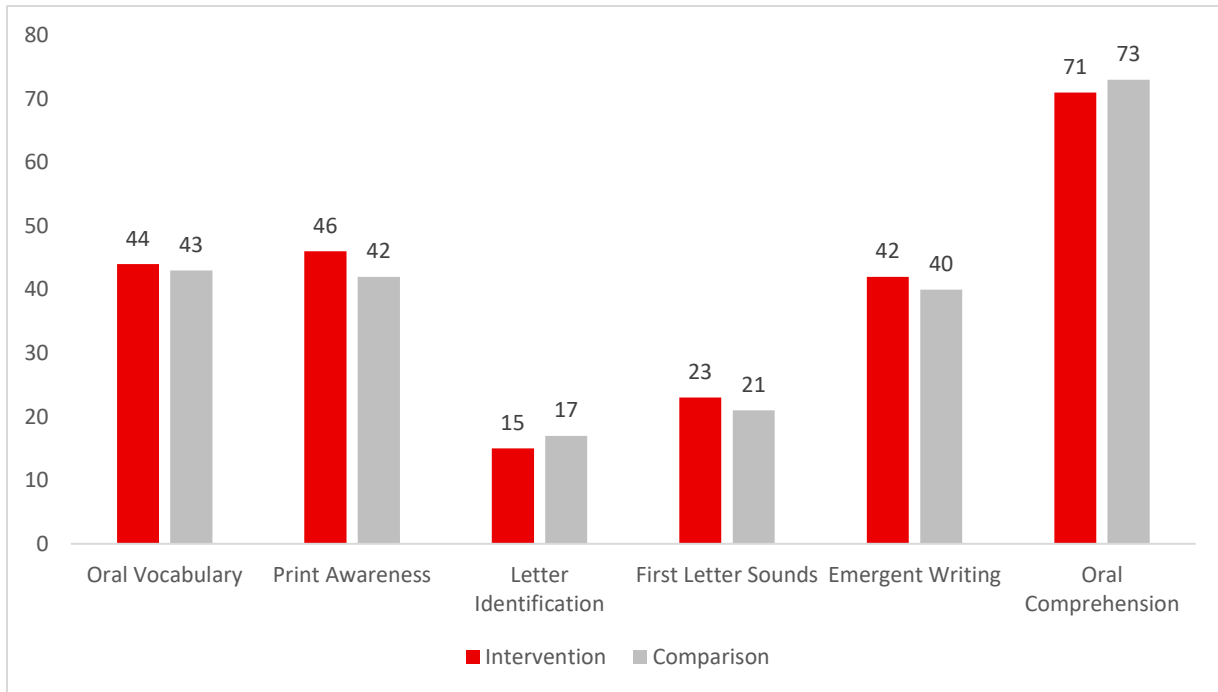
Within the literacy domain, children in both groups (intervention and comparison), showed the strongest performance in their oral comprehension skills sub-test. Children had the lowest scores in the sub-tests that assessed their letter identification and letter sound identification skills. No statistically significant difference were observed between the intervention group and the comparison group.

Table 12: Scores in Literacy sub-tests (% of questions answered correctly)

<b>Vocabulary</b>	<b>Intervention</b>	<b>Comparison</b>	<b>Significance</b>
<b>Oral Vocabulary (%)</b>	44	43	
<b>Print Awareness (%)</b>	46	42	
<b>Letter Identification (%)</b>	15	17	
<b>First Letter Sounds (%)</b>	23	21	
<b>Emergent Writing (%)</b>	42	40	
<b>Oral Comprehension (%)</b>	71	73	

Statistical significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Figure 8: Average Scores in Literacy sub-tests by intervention group (in %)



Statistical significance: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table 13. Scores in Literacy sub-tests by sex (% of questions answered correctly)

	Girls	Boys	Significance
<b>Oral Vocabulary</b>	44	43	
<b>Print Awareness</b>	44	44	
<b>Letter Identification</b>	15	17	
<b>First Letter Sounds</b>	22	23	
<b>Emergent Writing</b>	41	41	
<b>Oral Comprehension</b>	71	72	

Statistical significance: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

There are no statistically significant differences between girls and boys in their baseline emergent literacy skills. A detailed break-down of children’s Literacy skills by zone can be found in [Appendix F](#).

## Gross and Fine Motor Development

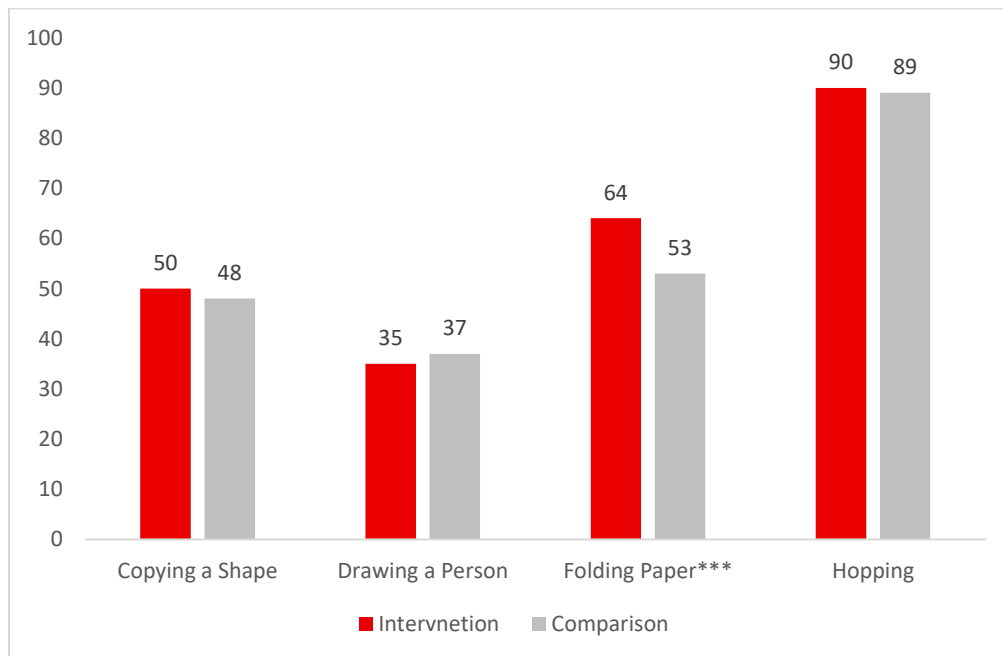
Table 13: Scores in Gross and Fine Motor Development sub-tests (% of questions answered correctly)

Variables	Intervention	Comparison	Significance
Copying a Shape (%)	50	48	
Drawing a Person (%)	35	37	
Folding Paper (%)	64	53	***
Hopping (%)	90	89	

Statistical significance: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Within the motor development skills, the strongest skill was hopping on one foot (gross motor), and children tended to struggle more with the fine motor skills of drawing a person and copying a shape. Statistically significant differences were observed between the children in the intervention group and the comparison group in the folding paper sub-test in this domain. Children in the intervention group performed better than the children in comparison group in the folding paper sub-test.

Figure 8: Average Scores Gross and Fine Motor Development sub-tests by intervention group (in %)



Statistical significance: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

There are no statistically significant differences between girls and boys in their baseline emergent fine and gross motor development skills. A detailed break-down of children’s Motor development skills by zone can be found in [Appendix G](#).

Table 13: Scores in Gross and Fine Motor Development sub-tests by sex (% of questions answered correctly)

Variables	Girls	Boys	Significance
Copying a Shape (%)	47	51	
Drawing a Person (%)	35	36	
Folding Paper (%)	60	57	
Hopping (%)	90	90	

### Executive Function

In addition to the core domains, the child assessment also included items related to executive function. These items focus on how children process information as opposed to learned skills like letter or number identification, and underlie children’s ability to learn new skills.

The intervention group has performed better than the comparison group in both the sub-tests. However, the difference is weak statistically. Additionally, boys perform better than girls in the short-term memory sub-test. This difference in their performance is significant.

Table 13: Scores in Executive Function sub-test (% of questions answered correctly)

Variables	Intervention	Comparison	Significance
Inhibitory Control (%)	60	54	*
Short-term Memory (%)	60	56	*

Statistical significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## Predictors of Child Development

Using the caregiver and the child development questionnaires, we use multivariate regression analyses to assess the relationship between children's early development and their background characteristics such as age, sex, socio-economic status and home literacy engagement. The full results for the multi-variate regression analysis can be found in [Appendix H](#).

The results from the regression analysis suggest that mothers' literacy is a strong predictor of the children's performance in the IDELA assessment. Children who have literate mothers are more likely to perform better in the IDELA assessment than children with illiterate mothers. Mother's literacy is a fairly consistent predictor of performance across most domains in the IDELA assessment.

The results from this analysis also show that girls' performance in the numeracy and social-emotional development domain of the IDELA assessment is weaker than that of boys' performance. An unexpected relationship is observed between the number of print reading materials at home and children's early development. The analyses suggests that children with more print reading material tend to have lower scores in the IDELA than students with lesser print reading material. This can be a result of the small sample size or other confounding factors. This result will be further investigated in the end line study.

## Conclusion

At baseline, the intervention group and the comparison group have comparable skills in all core domains except social-emotional development. The comparison group has performed significantly better than the treatment group in this domain. We also observe that children in the comparison group are spending considerably more time doing chores and have fewer toys at home than children in the treatment group. No significant differences were observed between the intervention and comparison group in terms of print material at home and home learning and playing activities. Boys have also performed significantly better than the girls in the numeracy domain of the IDELA assessment.

The results from regression analysis suggest that mothers' literacy are strong predictors of the children's performance in the IDELA assessment. Children who have literate mothers are likely to perform better in the IDELA assessment than children who have illiterate mothers. An unexpected relationship is observed between the number of print reading materials at home and children's early development. The analyses suggests that children with more print reading material tend to have lower scores in the IDELA than students with lesser print reading material. This could be a result of the small sample size or other confounding factors. This result will be further investigated in the end line study.

Based on this report, "O" class interventions need to focus on the following:

- O class facilitators should make an effort to engage boys and girls equally in classroom activities. Awareness activities with caregivers must incorporate positive gender messages.
- More than half the caregivers in the sample have reported spanking or yelling at their children to discipline them. Caregiver sensitization activities should be oriented towards positive disciplining techniques.



## Appendix

Appendix A: Proportion of caregivers reporting availability of print materials and toys at home by zones (in %)<sup>2</sup>

	<b>Gedio</b>	<b>Hadiya</b>	<b>Halaba</b>	<b>Sidama</b>	<b>Wolayita</b>
<b>Storybook</b>	18	3	9	19	31
<b>Textbook</b>	29	7	7	26	32
<b>Magazine</b>	18	3	1	15	11
<b>Newspaper</b>	14	4	2	12	15
<b>Religious</b>	49	27	22	35	28
<b>Coloring</b>	15	4	1	16	5
<b>Comics</b>	8	1	1	10	6
<b>Handmade Toys</b>	3	3	3	5	10
<b>Shop Toys</b>	2	-	3	7	15
<b>House Objects</b>	37	49	42	44	63
<b>Outside Objects</b>	46	66	44	54	69
<b>Draw Toys</b>	39	18	13	34	37
<b>Puzzle Toy</b>	16	1	0	13	7
<b>Hand Eye Toy</b>	4	-	-	21 <sup>3</sup>	-
<b>Color Shape Toy</b>	6	1	2	5	19
<b>Number Toy</b>	13	3	3	13	-

---

<sup>2</sup> No data was collected/available in zones with a “-“

<sup>3</sup> Data was collected from only 19 individuals. Out of the 19 (4%) reported having access to hand eye toy at home.

Appendix B: Proportion of caregivers reporting participation in home learning and playing activities by zones (in %)

	<b>Gedio</b>	<b>Hadiya</b>	<b>Halaba</b>	<b>Sidama</b>	<b>Wolayita</b>
<b>Read to you</b>	63	28	37	47	45
<b>Read story to you</b>	59	40	38	43	37
<b>Sing to you</b>	77	57	27	64	70
<b>Play with you</b>	81	46	40	61	68
<b>Draw with you</b>	74	34	65	56	54
<b>Teach you new things</b>	72	25	53	45	50
<b>Teach you letters</b>	72	41	46	57	70
<b>Teach you numbers</b>	75	35	46	52	68
<b>Hug/Love you</b>	82	75	67	75	78
<b>Spank you</b>	54	67	49	61	70
<b>Hit you</b>	49	68	28	58	64
<b>Yell at you</b>	49	51	18	50	48

Appendix C: Average IDEA and Domain Scores by zones (in %)

	<b>Gedio</b>	<b>Hadiya</b>	<b>Halaba</b>	<b>Sidama</b>	<b>Wolayita</b>
<b>IDELA</b>	63	43	49	52	57
<b>Emergent Literacy</b>	52	30	33	41	41
<b>Emergent Numeracy</b>	66	51	56	58	58
<b>Social-Emotional Development</b>	61	42	36	44	63
<b>Gross and Fine Motor Development</b>	67	49	58	63	60

Appendix D: Average scores in Social Emotional Development sub-tests by zones (% of questions answered correctly)

	<b>Gedio</b>	<b>Hadiya</b>	<b>Halaba</b>	<b>Sidama</b>	<b>Wolayita</b>
<b>Self-Awareness</b>	82	61	58	67	68
<b>Friends</b>	42	44	46	41	59
<b>Emotional Awareness/Regulation</b>	64	37	15	39	60
<b>Empathy/Perspective Taking</b>	60	35	24	38	71
<b>Sharing/Solving Conflict</b>	58	33	38	29	54

Appendix E: Average scores in Emergent Numeracy sub-tests by zones (% of questions answered correctly)

	<b>Gedio</b>	<b>Hadiya</b>	<b>Halaba</b>	<b>Sidama</b>	<b>Wolayita</b>
<b>Shape Identification</b>	58	39	31	39	42
<b>Number Identification</b>	31	16	26	29	22
<b>One-to-One Correspondence</b>	81	68	71	69	74
<b>Addition and Subtraction</b>	86	64	92	76	77
<b>Sorting and Classification</b>	69	64	58	73	71
<b>Comparison by Size and Length</b>	98	90	88	90	96
<b>Puzzle Completion</b>	38	17	18	26	17

Appendix F: Average scores in Emergent Literacy sub-tests by zones (% of questions answered correctly)

	<b>Gedio</b>	<b>Hadiya</b>	<b>Halaba</b>	<b>Sidama</b>	<b>Wolayita</b>
<b>Oral Vocabulary</b>	47	41	39	35	57
<b>Print Awareness</b>	62	39	16	47	44
<b>Letter Identification</b>	16	10	17	19	17
<b>First Letter Sounds</b>	39	16	11	25	16
<b>Emergent Writing</b>	60	10	36	48	48
<b>Oral Comprehension</b>	79	76	63	65	75

Appendix G: Average scores in Emergent Literacy sub-tests by zones (% of questions answered correctly)

	<b>Gedio</b>	<b>Hadiya</b>	<b>Halaba</b>	<b>Sidama</b>	<b>Wolayita</b>
<b>Copying a Shape (%)</b>	57	35	55	48	53
<b>Drawing a Person (%)</b>	59	12	10	43	41
<b>Folding Paper (%)</b>	66	52	69	65	46
<b>Hopping (%)</b>	82	97	93	86	93



Appendix H: Regression Results (Predictors of domain scores)

	<b>IDELA (1)</b>	<b>Motor (2)</b>	<b>Literacy (3)</b>	<b>Numeracy (4)</b>	<b>Social Emotional (5)</b>
<b>Child's Age</b>	0.021	0.020	0.001	0.005	-0.011
	(0.017)	(0.029)	(0.029)	(0.026)	(0.021)
<b>Sex</b>	-0.027	-0.011	-0.019	-0.049**	-0.042*
	(0.017)	(0.023)	(0.018)	(0.015)	(0.020)
<b>Mother is literate</b>	0.050**	0.057*	0.041*	0.025	0.048*
	(0.019)	(0.022)	(0.019)	(0.021)	(0.020)
<b>Number of children in household</b>	0.005	0.007	0.002	0.003	0.001
	(0.003)	(0.004)	(0.004)	(0.003)	(0.003)
<b>Number of reading materials at home</b>	-0.015*	-0.008	-0.013	-0.020**	-0.000
	(0.006)	(0.008)	(0.007)	(0.006)	(0.008)
<b>Number of toys at home</b>	0.013	0.031**	0.011	0.006	0.015
	(0.008)	(0.011)	(0.006)	(0.010)	(0.008)
<b>Positive caregiver-child interactions</b>	0.003	-0.002	0.008*	0.006	0.002
	(0.004)	(0.004)	(0.003)	(0.004)	(0.005)
<b>Number of possessions at home</b>	0.002	-0.006	-0.000	0.013	-0.016**
	(0.006)	(0.010)	(0.008)	(0.007)	(0.006)
<b>Treatment group</b>	0.021	0.033	0.004	0.046	-0.019
	(0.039)	(0.047)	(0.039)	(0.038)	(0.054)
<b>Constant</b>	0.334***	0.354	0.336*	0.465**	0.574***
	(0.100)	(0.183)	(0.162)	(0.154)	(0.126)
<b>N</b>	290	385	350	366	433