Save the Children®

ECCD FOR ROMA CHILDREN IN ALBANIA
IDELA ENDLINE ASSESSMENT

CONTENT

Title picture: IDELA assessment in Rrapishte kindergarten (Save the Children, March 2018)

Executive Summary

This study provides an overview of young children's skills and development in four Kindergartens in Elbasan (Rrapishtë and Abdyl Paralloi kindergartens) and Fier (Levan and Roma Village kindergartens). The study was conducted as part of a third assessment for the Medicor Foundation- and REF-funded project to improve access and quality of ECCE for Roma children in the municipalities of Elbasan and Fier in Albania. Save the Children's International Development and Early Learning Assessment (IDELA) was used to measure children's early development and learning and a caregiver questionnaire was used to interview parents. Across the four Kindergartens and the three years of assessments (2017, 2018 and 2019), a total of 171 children between 5 and 6 years old and 201 caregivers were selected. The main purpose of this analysis was to investigate the current status of children's development and the status of caregiver behaviors related to early development, care and learning.

In conclusion, children in 2018 and 2019 present significantly higher proportions in "mastering" and lower proportions in "struggling" with the IDELA test items compared to the baseline assessment in 2017. Between 2017 and 2019, the percentage of Roma children in kindergartens struggling with the IDELA test items went down from 16% (2017) to 2% (2019). At the same time, the percentage of Roma children mastering the IDELA test items went up from 9% in 2017 to 35% in 2019.

Moreover, the analysis shows a general increase (especially for 2019) in the interactions of caregivers with their children at home, which could be a consequence of the parenting education activities (Your Story and Parenting with Confidence) and the parental awareness raising sessions conducted by this project. The IDELA caregivers' survey shows that on average, caregivers in 2019 reported engaging in 6.9 learning activities with their children per week. This is a significant improvement from the baseline in 2017. Parents in 2019 report engaging on average in significantly more activities related to reading books and telling stories with respect to 2017. The same is true for activities as playing games, drawing and teaching new things.

Regardless of the improved availability of learning and play materials in Roma homes, there were no relationships found between availability of learning materials (except for the number of toys) or learning/play activities and child development. This could be due in part to the small sample size. The impact on children of these increased caregiver-child activities at home might be only visible in future learning outcome evaluations. In fact, previous research from Save the Children and globally has highlighted the importance of strong home learning environments of children's optimal development.

I. Introduction

Through this project, Save the Children supports the integration of Roma children in four Kindergartens in Elbasan (Rrapishtë and Abdyl Paralloi kindergartens) and Fier (Levan and Roma Village kindergartens). The project aims to support early childhood care and development of Roma children through teacher trainings, infrastructure development, parental education, community outreach and facilitation of linkages with health, civic, social and education services. The project reached 506 Roma children and 127 disadvantaged non-Roma children between the age of 0-6 and their parents by the end of 2018.

The expected results of this project are:
R1: Roma children 0-3 & their families in the targeted areas are provided with improved health, civic and education services which are safe, protective & holistic.
R2: 300 Roma children age 3-6 enroll/attend & reach their full potential through participation in the mainstream kindergarten program.
R3: 300 Roma parents have increased their knowledge and skills through their participation into the parenting program to foster positive child rearing practices

The project is a three-year intervention that supports the development and early learning outcomes of marginalized children and will facilitate their successful transition into primary school.

The aim of conducting the three different IDELA studies in 2017, 2018 and 2019 is to measure how children 5-6 years old in project kindergartens are performing on children's learning outcomes. The sample for all three assessments (2017, 2018 and 2019) comprised Roma children 5-6 years old attending project kindergartens in Elbasan (Rrapishtë and Abdyl Paralloi kindergartens) and Fier (Levan and Roma Village kindergartens).

II. Methodology

2.1 Assessment 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, which has been used in over 50 countries to measure child development and learning. 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 and daily play and learning interactions with children.

Table 1. IDELA domains and subdomains

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

2.2 Data collection methodology

Instrument and Criteria:

The IDELA children questionnaire was used to interview children 5-6 years old attending the project kindergartens and the IDELA caregiver questionnaire was used to interview the parents of the children. During the three different evaluations (2017, 2018 and 2019) different samples of children of the age group 5-6 years old were interviewed.

Some days before the evaluations took place, the kindergarten staff and implementing partners had collected written forms of parents' consent allowing their children to be interviewed. The data collectors were trained in advance on how to administer the questionnaire and how to approach the child during the interview. In 2017, the data collectors were Roma university students trained by the project to conduct such an assessment. One SC staff was present in the project location (kindergartens), in order to ensure the quality of the data collection. In two project kindergartens (Rrapishte – Elbasan, Roma village – Fier) the data collectors were assisted by the Roma translators when interviewing the children – those who could not speak Albanian fluently.

The 2018 and 2019 data were collected through application of ODK (Open Data Kit) by using tablets. Data were transmitted to SC's ODK server. SC staff and local partner organisations were present in the project location kindergartens in order to monitor the process during the data collection, but were not present at the interviews.

Inclusion Criteria for children were the followings:

- Roma child of current age 5-6 years old
- Having obtained the parents written consent form
- Voluntary participation in the interview

Exclusion criteria for children:

- Not having obtained parent's consent
- Children age 5-6 who had recently joint (a few weeks or months) the kindergarten prior to the assessment date (for the data collection of 2018 and 2019)

Inclusion Criteria for caregivers:

- Be the parent of the interviewed child
- Be the grandparent of the interviewed child

Data collection time

- 2017 data collection: took place during February-March 2017
- 2018 data collection: took place during March 2018
- 2019 data collection: took place during March-April 2019

Geographic areas: Data collection for the 2017 assessment covered 2 geographic areas of Fier (Roma Village and Levan) and Elbasan (Rrapishtë and Abdyl Paralloi).

Evidence presented in this report on children's learning and development applied the same tool used in the 2017 and 2018 data collection - International Development and Early Learning Assessment, or IDELA to measure children learning and development. Alongside we used the same caregivers' questionnaire to see the changes in regard to parenting practices and home environment.

2.3 Sampling

The number of interviews conducted in each location were as below mentioned (during the assessment of 2019):

- Elbasan: 14 children in Rrapishtë and 26 children in Abdyl Paralloi - Elbasan
- Fier: 8 children in Drizë (Roma Village) and 14 children in Levan - Fier

62 children participated in the final assessment, 32 were girls and 30 boys.

On average, during the 2019 assessment 26% of the children were 5 years old, while 74% were 6 years old. In the table below the age distribution during the 2017, 2018 and 2019 data collection is reported.

Table 2. Child sample by age

Child age	2017	2018	2019	Total
5 years	29	19	16	64
6 years	28	33	46	107
Total	57	52	62	171

2.4 Data analysis

The main purpose of the quantitative analysis is to investigate the current status children's development, as well as the status of caregiver behaviors related to early development, care and learning. Summary statistics will be presented to display performance on areas of the parent and child questionnaires. In addition, this report will look to multivariate regression models to explore relationships between early learning and development and parental knowledge, attitudes and home environment. Throughout the report statistical significance is defined in line with social science research standards at the probability of rejecting the null hypothesis due to random sampling error less than 5 percent.

2.5 Caregiver questionnaire

Family and caregiver characteristics

Caregivers were asked about their age and level of education. The female caregiver's average age is 29 years old, while the male caregiver's average age is 32 years old. Around 62 percent of the female caregivers can read and only 33 percent have completed at least primary education. 52 percent of the male caregivers can read and 32 percent of them have at least completed primary education.

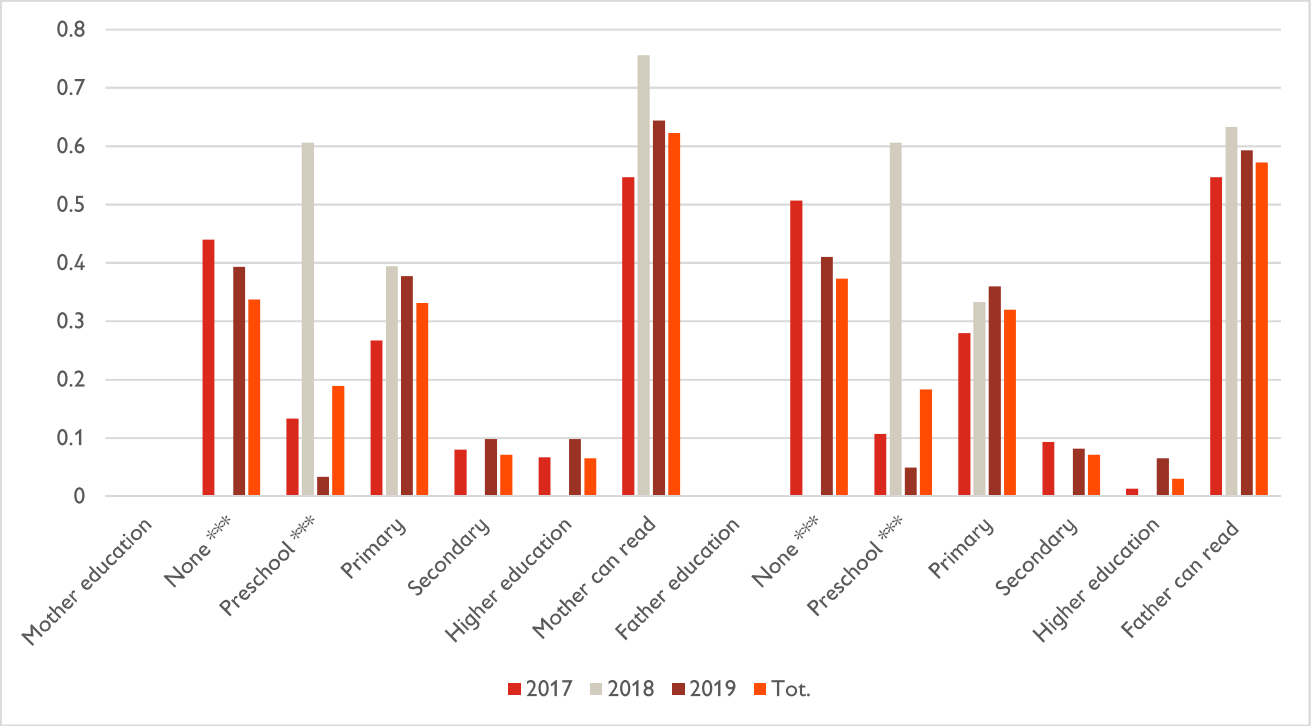
There are statistically significant differences between the three years in the levels of "no schooling" and "pre-schooling" of the caregivers. On average in 2018 more caregivers completed preschool, compared to 2017 and 2019, where on average more caregivers did not complete any schooling.

Table 3. Parent's characteristics by sample group

	Group				Significance			
	2017	2018	2019	Tot.	17-18	17-19	18-19	Tot.
Child is female	53%	52%	44%	50%				
Child age	5.4	5.5	5.7	5.5		**		**
Female caregiver's age	30	28.8	27.7	28.9				
Female caregiver's education								
None	44%	0%	39.3%	33.7%	***		***	***
Preschool	13.3%	60.6%	3.3%	18.9%	***		***	***
Primary	26.7%	39.4%	37.7%	33.1%				
Secondary	8%	0%	9.8%	7.1%				
Higher education	6.7%	0%	9.8%	6.5%				
Female caregiver can read	54.7%	75.6%	64.4%	62.3%				
Male caregiver's age	32.01	31.73	32.83	32.26				
Male caregiver's education								
None	50.7%	0%	41%	37.3%	***		***	***
Preschool	10.7%	60.6%	4.9%	18.3%	***		***	***
Primary	28%	33.3%	36%	32%				
Secondary	9.3%	0%	8.2%	7.1%				
Higher education	1.3%	0%	6.5%	3%				
Male caregiver can read	54.7%	63.3%	59.3%	57.2%				

Statistical significance: *** p<0.001, ** p<0.01, * p<0.05

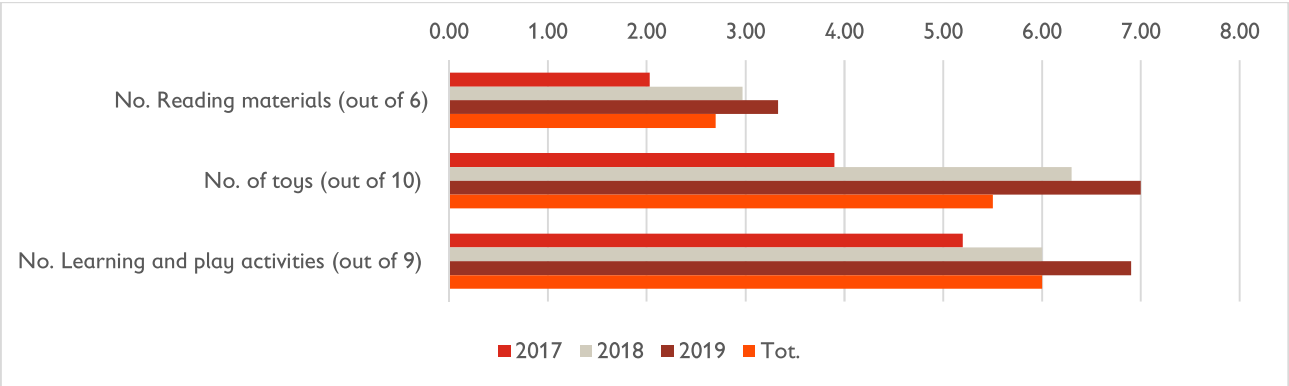
Figure 1. Parent's educational background



Total statistical significance: *** p<0.001, ** p<0.01, * p<0.05

The caregiver's questionnaire included questions related to the materials available in their homes as well as the activities they participated in with their children. In the figure below it is possible to observe the average number of reading and play materials available in the homes and the average number of caregiver-child activities per week. We see a significant increase in the availability of reading materials and toys in Roma homes. Moreover, the number of learning and play activities, in which caregivers engaged with their children per week has increased significantly. More detailed information on the reading and play materials and the caregiver-child activities will follow in the sub-chapters below.

Figure 2: Average number of materials available in the homes and child-caregiver activities by yr



There are significant differences for the number of reading materials between the different years. Caregivers in 2017 reported having less reading materials compared to caregivers in 2018 and /or 2019. This was especially

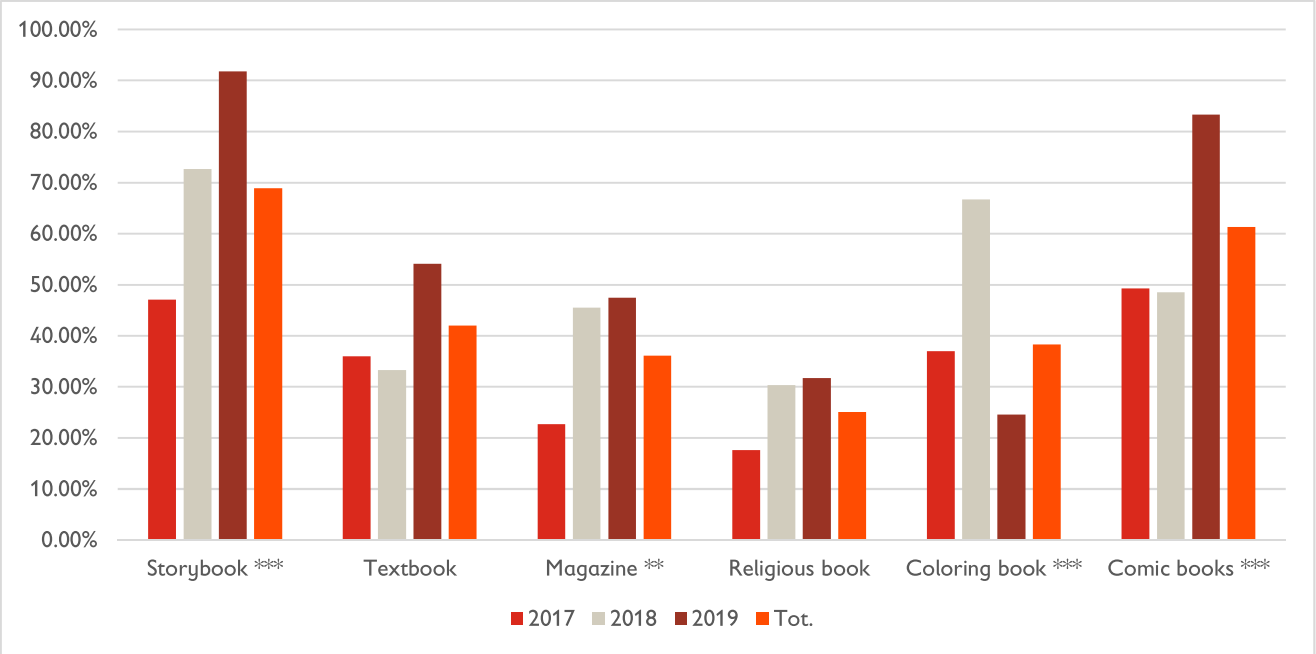
true for storybooks, magazines and comic books, which is probably an effect of the distribution of storybooks in the framework of the *Your Story* activity of the project.

Table 4. Types of reading materials by year

	Group				Significance			
	2017	2018	2019	Tot.	17-18	17-19	18-19	Tot.
No. reading materials (out of 6)	2.03	2.97	3.33	2.7	*	***		***
Storybook	47.1%	72.7%	91.8%	68.9%	*	***		***
Textbook	36%	33.3%	54.1%	42%				
Magazine	22.7%	45.5%	47.5%	36.1%		**		**
Religious book	17.6%	30.3%	31.7%	25.1%				
Coloring book	37%	66.7%	24.6%	38.3%	**		***	***
Comic books	49.3%	48.5%	83.3%	61.3%		***	**	***

Statistical significance: *** p<0.001, ** p<0.01, * p<0.05

Figure 3. Types of reading material by year



Total statistical significance: *** p<0.001, ** p<0.01, * p<0.05

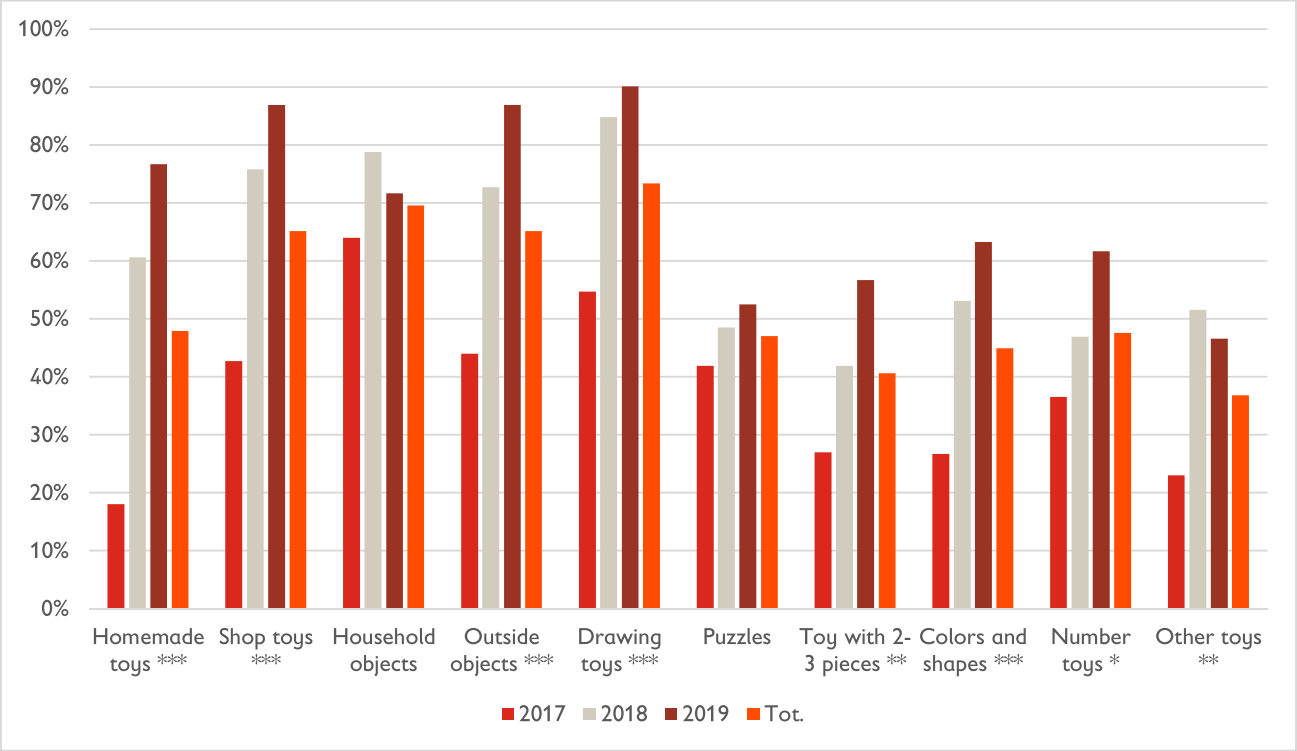
Caregivers also reported having less toys at home during 2017 compared to caregivers in 2018 and / or 2019. In fact, on average there are statistically significant differences for instance for the ownership of homemade toys, shop toys, outside objects, drawing toys, toys with 2-3 pieces, etc. It is likely that this significant increase is due to the distribution of pedagogical toys to families in the framework of the project.

Table 5. Types of toys by year

	Group				Significance			
	2017	2018	2019	Tot.	17-18	17-19	18-19	Tot.
No. of toys (out of 10)	3.9	6.3	7	5.5	***	***		***
Homemade toys	18%	60.6%	76.7%	47.9%	***	***		***
Shop toys	42.7%	75.8%	86.9%	65.1%	***	***		***
Household objects	64%	78.8%	71.7%	69.6%				
Outside objects	44%	72.7%	86.9%	65.1%	**	***		***
Drawing toys	54.7%	84.8%	90.1%	73.4%	**	***		***
Puzzles	41.9%	48.5%	52.5%	47%				
Toy with 2-3 pieces	27%	41.9%	56.7%	40.6%		***		**
Colors and shapes	26.7%	53.1%	63.3%	44.9%	*	***		***
Number toys	36.5%	46.9%	61.7%	47.6%		*		*
Other toys	23%	51.6%	46.6%	36.8%	*	*		**

Statistical significance: *** p<0.001, ** p<0.01, * p<0.05

Figure 4. Type of toys by year



Additionally, caregivers reported on the frequency of learning/play activities they engaged in with children. On average, caregivers reported engaging in 6.9 learning activities with their children per week in 2019. This is a significant improvement from the baseline in 2017. Looking at specific activities, parents in 2019 report engaging on average in significantly more activities related to reading books and telling stories with respect to 2017. The same is true for activities as playing games, drawing and teaching new things. This might also be related with the parenting education activities of the project (Your Story, Parenting with Confidence, awareness raising

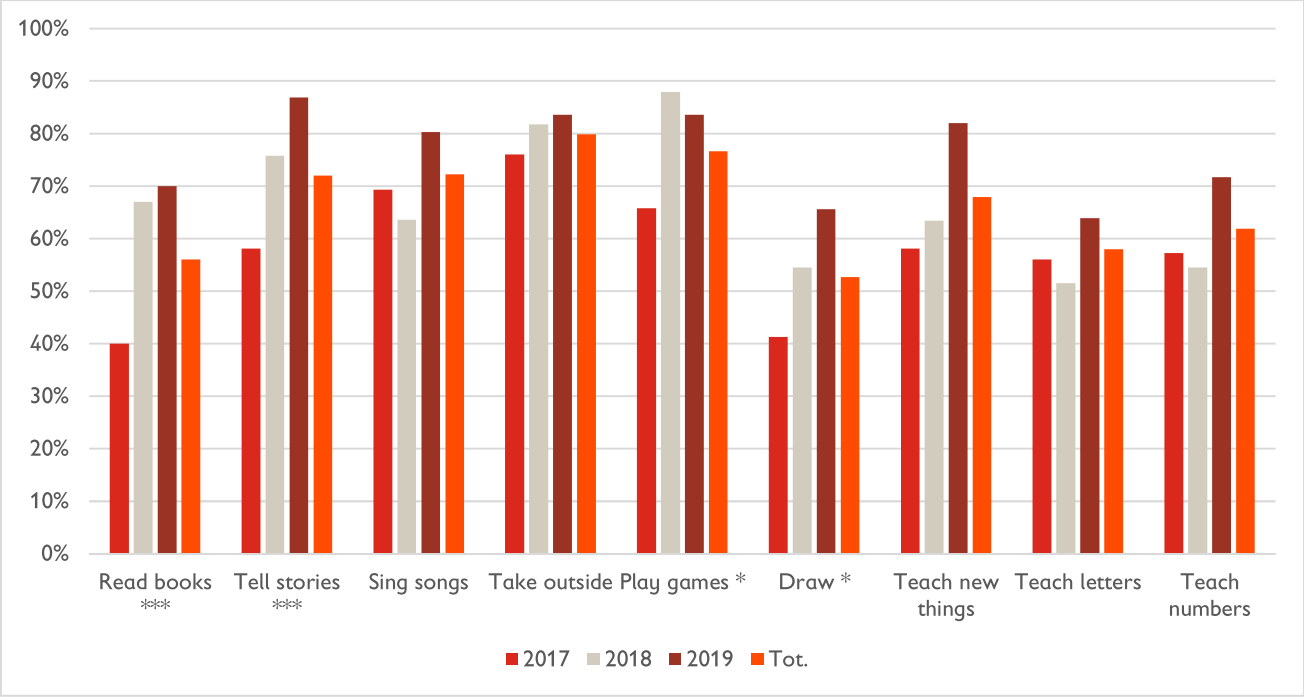
sessions for parents, etc.), all underscoring the value of playing with children, looking at books with children, dedicating time for interacting with children.

Table 6. Caregiver-child activities (per week) by year

	Group				Significance			
	2017	2018	2019	Tot.	17-18	17-19	18-19	Tot.
No. learning & play activities (out of 9)	5.2	6	6.9	6		***		**
Read books	40%	67%	70%	56%	*	**		***
Tell stories	58.1%	75.8%	86.9%	72%		***		***
Sing songs	69.3%	63.6%	80.3%	72.2%				
Take outside	76%	81.8%	83.6%	79.9%				
Play games	65.8%	87.9%	83.6%	76.6%	*	*		*
Draw	41.3%	54.5%	65.6%	52.7%		*		*
Teach new things	58.1%	63.4%	82%	67.9%		**		
Teach letters	56%	51.5%	63.9%	58%				
Teach numbers	57.3%	54.5%	71.7%	61.9%				

Statistical significance: *** p<0.001, ** p<0.01, * p<0.05

Figure 5. Caregiver-child activities (per week) by year



III. 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. 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. Executive functioning items are also not included in the total IDELA score because they are not considered a core domain.

The method with which the data is analyzed consists of a comparison against benchmarks year-on-year. With this method we analyze the proportion of children meeting a benchmark at the end of their time in ECCD (5 and 6 years old). While there are no empirically derived benchmarks for IDELA, we can define "mastering" as scoring 75% correct or better on the overall assessment and "struggling" as scoring under 25% correct. We classify children as "emerging" when they score from 25-74% correct. These distinctions were driven based on the reasoning that children scoring 25% correct or less at the time of entry into primary school (fewer than 1 in 4 questions answered correctly) are not meaningfully engaging with the content of the assessment, whereas those scoring 75% or higher (3 out of 4 questions correct or better) are displaying mastery of the content.

As already mentioned in the introduction, T-tests of the samples were conducted, in order to test the difference in proportions from year to year. It is however important to notice, that without a comparison group, it is impossible to make a causal claim that improvements on IDELA are a result of the impact of the programme. Moreover, it is essential to keep in mind that comparisons between years should be taken with caution, since the composition of the samples of 2017, 2018 and 2019 might drive the differences in the findings.

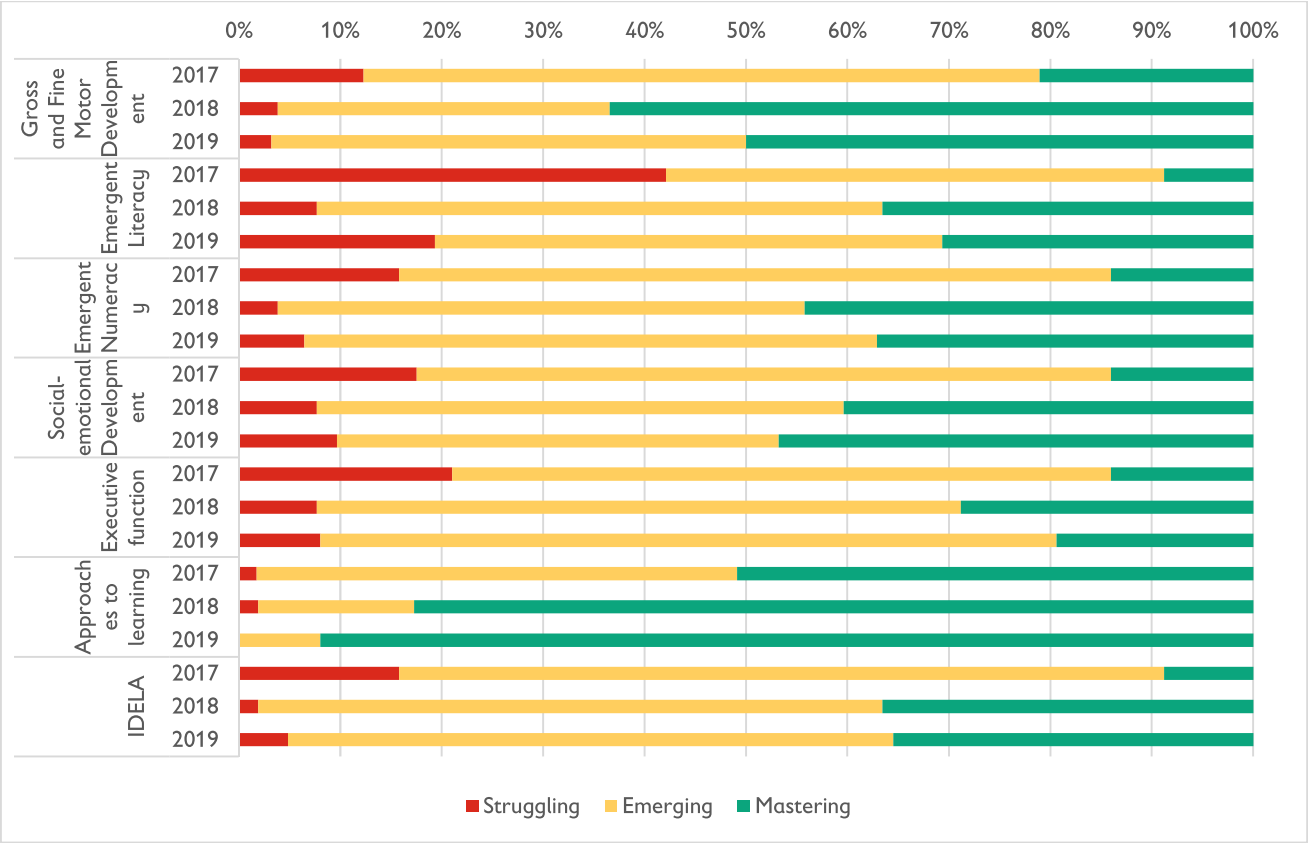
All the specific benchmarks for all IDELA dimensions and the statistical differences can be observed in the table and the figure below. In 2017, 16% of students were "struggling" and only 9% of students were "mastering" the IDELA test items overall. In 2018 only 2% of children were "struggling" and 37% "mastering", while in 2019 5% were "struggling" and 35% "mastering". We thus see the proportion of children struggling learning decrease and the proportion of children mastering improve.

As can be noticed, statistically significant differences between the proportions of children by year are especially found for the comparisons between the evaluations of 2017 and 2018 and the one of 2017 and 2019. Overall, a positive trend can be noticed in 2018 and 2019 compared to 2017. The slight decrease between children "mastering" between 2018 and 2019 can be due to the small sample size.

Table 7. Average benchmarks of total IDELA domains

		2017	2018	2019	Tot	*17-18	*17-19	*18-19	*Tot
Gross and Fine Motor Development	Struggling	12%	4%	3%	6%				
	Emerging	67%	33%	47%	49%	***			**
	Mastering	21%	63%	50%	44%	***	**		***
Emergent Literacy	Struggling	42%	8%	19%	23%	***	**		***
	Emerging	49%	56%	50%	52%				
	Mastering	9%	37%	31%	25%	**	*		**
Emergent Numeracy	Struggling	16%	4%	6%	9%				
	Emerging	70%	52%	56%	60%				
	Mastering	14%	44%	37%	32%	**	*		**
Social-emotional Development	Struggling	18%	8%	10%	12%				
	Emerging	68%	52%	44%	54%		*		*
	Mastering	14%	40%	47%	34%	**	***		***
IDELA	Struggling	16%	2%	5%	8%	*			*
	Emerging	75%	62%	60%	66%				
	Mastering	9%	37%	35%	27%	**	**		***
Executive function	Struggling	21%	8%	8%	12%				*
	Emerging	65%	63%	73%	67%				
	Mastering	14%	29%	19%	21%				
Approaches to learning	Struggling	2%	2%	0%	1%				
	Emerging	47%	15%	8%	23%	***	***		***
	Mastering	51%	83%	92%	75%	***	***		***

Figure 6. Average benchmarks of total IDELA domains



Furthermore, no significant differences are present between male and females in all IDELA dimensions for the overall sample of 2017, 2018 and 2019.

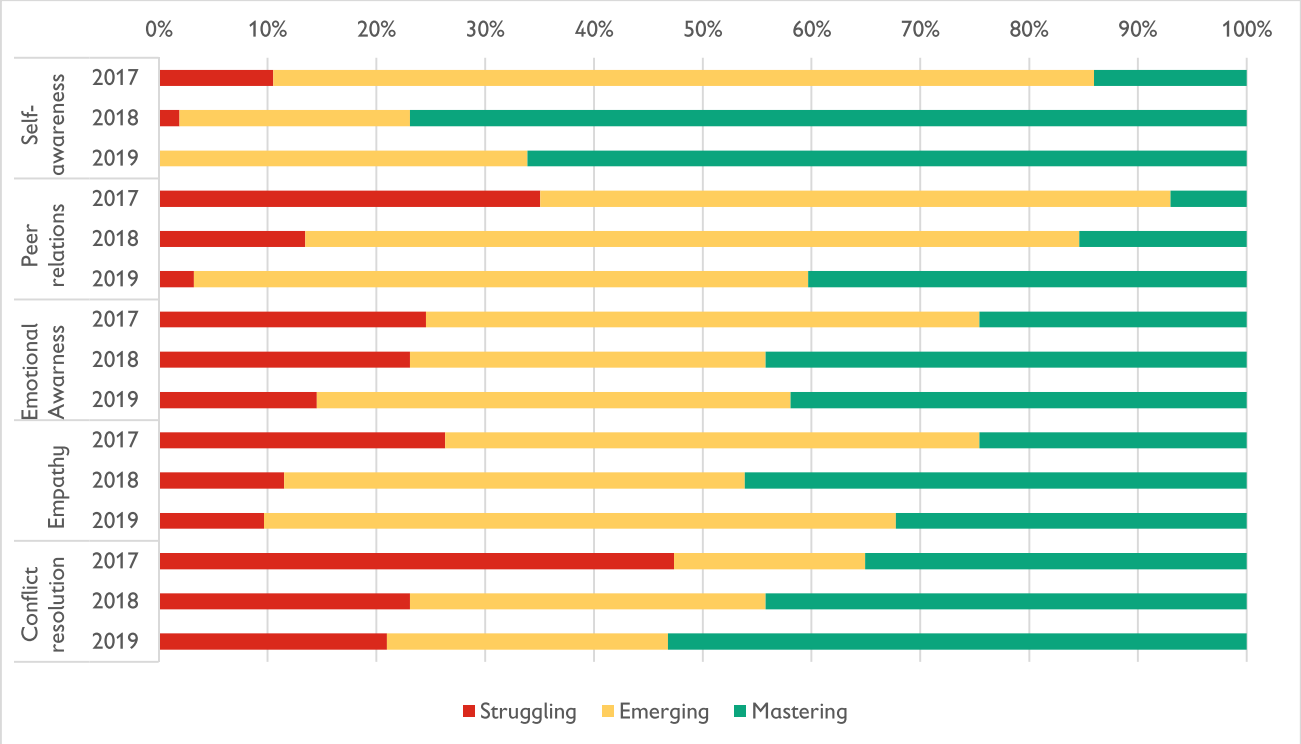
3.1 Social-emotional Development

In 2017 for the overall social-emotional skills, 18% of children scored "struggling", while 14% of children scored "mastering". This proportions improved significantly during 2018 and 2019, specifically the children that were struggling decreased, while the ones achieving mastering levels augmented. In fact, both "struggling" and "mastering" proportions presented statistically significant differences between 2017-2018 and between 2017-2019. On average, self-awareness presented the highest percentage of children "mastering", while conflict resolution showed on average the highest percentage of children "struggling".

Table 8. Average benchmarks of social-emotional development skills

		2017	2018	2019	Tot	*17-18	*17-19	*18-19	*Tot
Self-awareness	Struggling	11%	2%	0%	4%		*		**
	Emerging	75%	21%	34%	44%	***	***		***
	Mastering	14%	77%	66%	52%	***	***		***
Peer relations	Struggling	35%	13%	3%	17%	***	**	***	
	Emerging	58%	71%	56%	61%				
	Mastering	7%	15%	40%	22%	***	***	***	
Emotional Awarness	Struggling	25%	23%	15%	21%				
	Emerging	51%	33%	44%	43%				
	Mastering	25%	44%	42%	37%				
Empathy	Struggling	26%	12%	10%	16%		*		*
	Emerging	49%	42%	58%	50%				
	Mastering	25%	46%	32%	34%				
Conflict resolution	Struggling	47%	23%	21%	30%	*	**		**
	Emerging	18%	33%	26%	25%				
	Mastering	35%	44%	53%	44%				

Figure 7. Average benchmarks of social-emotional development skills



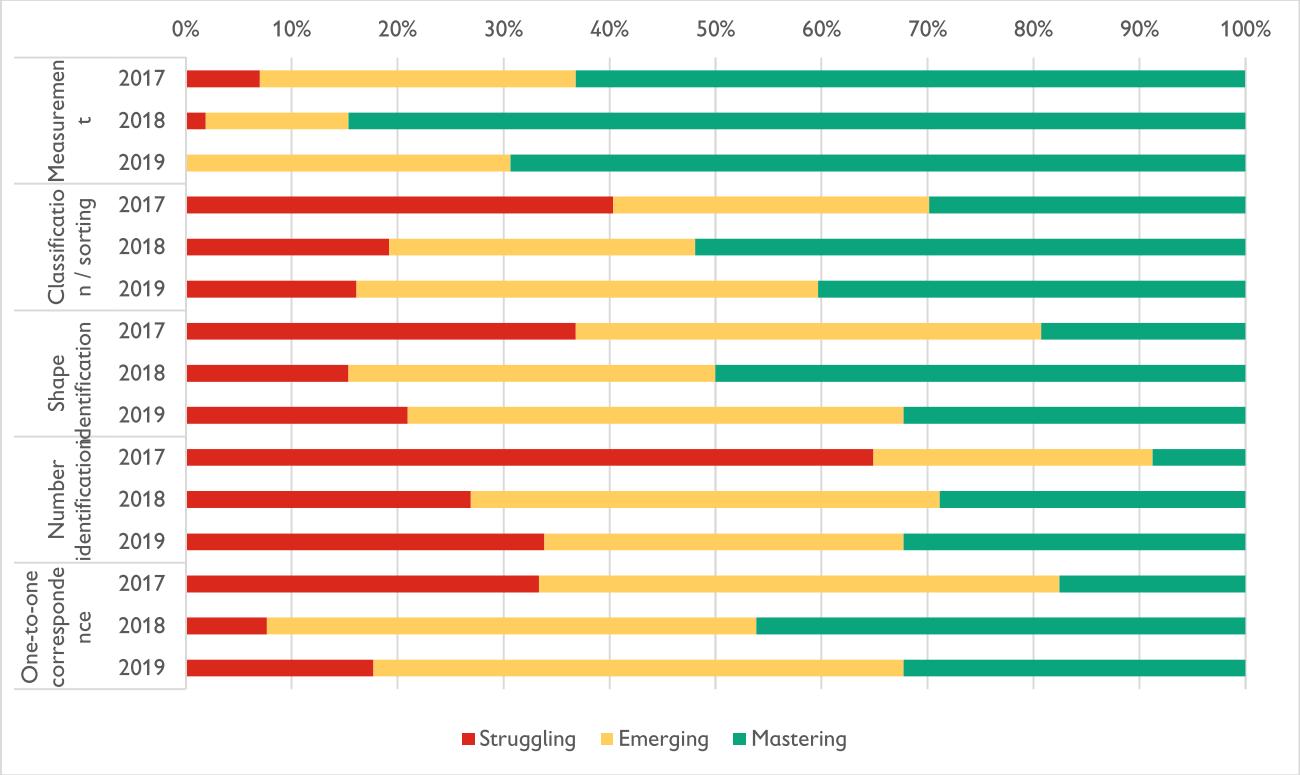
3.2 Emergent Numeracy

In 2017 for the overall emergent numeracy skills, 16% of the children were "struggling", while 14% of the children were evaluated as "mastering". The percentages of children "struggling" and "mastering" improved during 2018 and 2019. Significant differences can be found in the "mastering" proportion of children by comparing the assessment of 2017 with the one of 2018 and the one of 2019. On average, the measurement domain presented the majority of children in the "mastering" category, while number identification resulted in the highest percentage of children scoring with "struggling". This follows a pattern seen in other countries: the measurement items are relatively easier for children, while number identification is more difficult.

Table 9. Average benchmarks of emergent numeracy skills

		2017	2018	2019	Tot	*17-18	*17-19	*18-19	*Tot
Measurement	Struggling	7%	2%	0%	3%				
	Emerging	30%	13%	31%	25%				
	Mastering	63%	85%	69%	72%	*			*
Classification / sorting	Struggling	40%	19%	16%	25%	*	**		**
	Emerging	30%	29%	44%	35%				
	Mastering	30%	52%	40%	41%				
Shape identification	Struggling	37%	15%	21%	25%	*			*
	Emerging	44%	35%	47%	42%				
	Mastering	19%	50%	32%	33%	**			**
Number identification	Struggling	65%	27%	34%	42%	***	***		***
	Emerging	26%	44%	34%	35%				
	Mastering	9%	29%	32%	23%	*	**		**
One-to-one correspondence	Struggling	33%	8%	18%	20%	**			**
	Emerging	49%	46%	50%	49%				
	Mastering	18%	46%	32%	32%	**			**
Simple operations	Struggling	18%	15%	19%	20%				
	Emerging	44%	33%	26%	34%				
	Mastering	39%	52%	55%	49%				
Problem solvings	Struggling	39%	23%	6%	22%		***		***
	Emerging	47%	29%	48%	42%				
	Mastering	14%	48%	45%	36%	***	***		***

Figure 8. Average benchmarks of emergent numeracy skills



3.3 Motor Skills

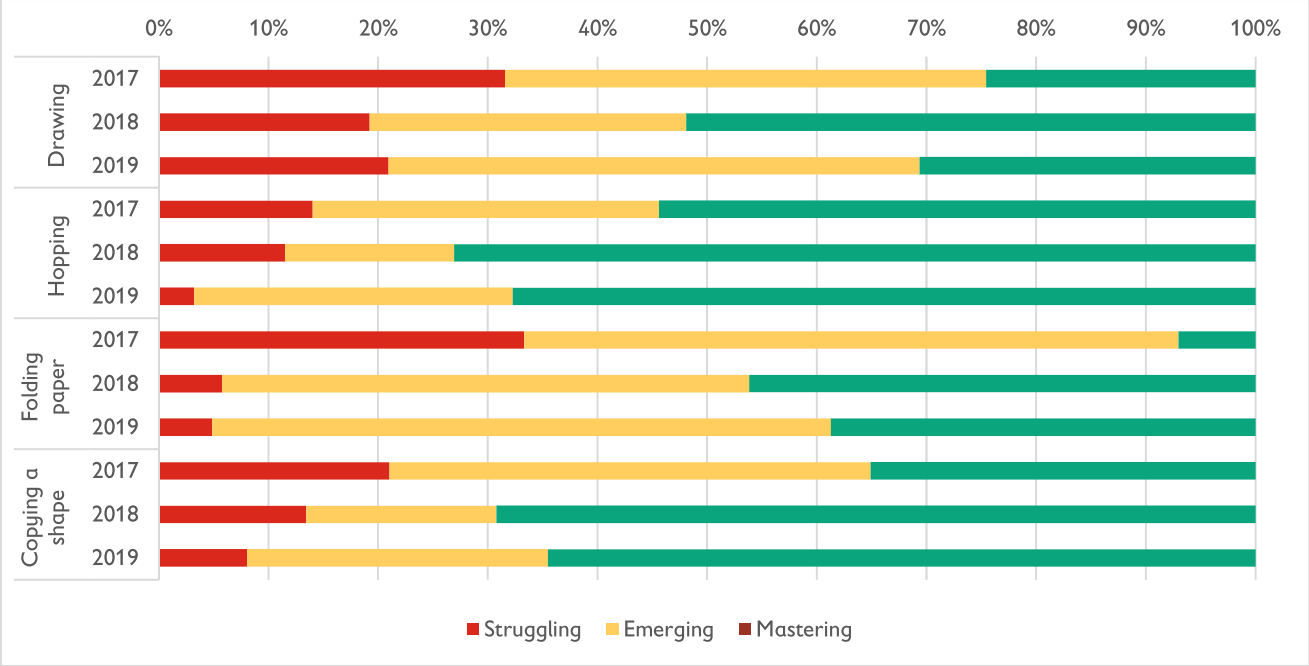
In 2017 for the overall motor skills, 12% of the children were evaluated as "struggling", while 21% as "mastering". These proportions enhanced during 2018 and 2019. Statistically significant differences were found for the proportions of children in the "emerging" and "mastering" category for the years 2017-2018 and in the "mastering" category for the comparison of the years 2017-2019. On average, children are "struggling" the most in hopping and present more developed skills in drawing.

Table 10. Average benchmarks of motor skills

		2017	2018	2019	Tot	*17-18	*17-19	*18-19	
Drawing	Struggling	32%	19%	21%	24%				
	Emerging	44%	29%	48%	41%				
	Mastering	25%	52%	31%	35%	**		*	**
Hopping	Struggling	14%	12%	3%	9%				
	Emerging	32%	15%	29%	26%				
	Mastering	54%	73%	68%	65%				
Folding paper	Struggling	33%	6%	5%	15%	***	***		***
	Emerging	60%	48%	56%	55%				

	Mastering	7%	46%	39%	30%	***	***		***
Copying a shape	Struggling	21%	13%	8%	14%				
	Emerging	44%	17%	27%	30%	**			**
	Mastering	35%	69%	65%	56%	***	**		***

Figure 9. Average benchmarks of motor skills



3.4 Emergent Literacy

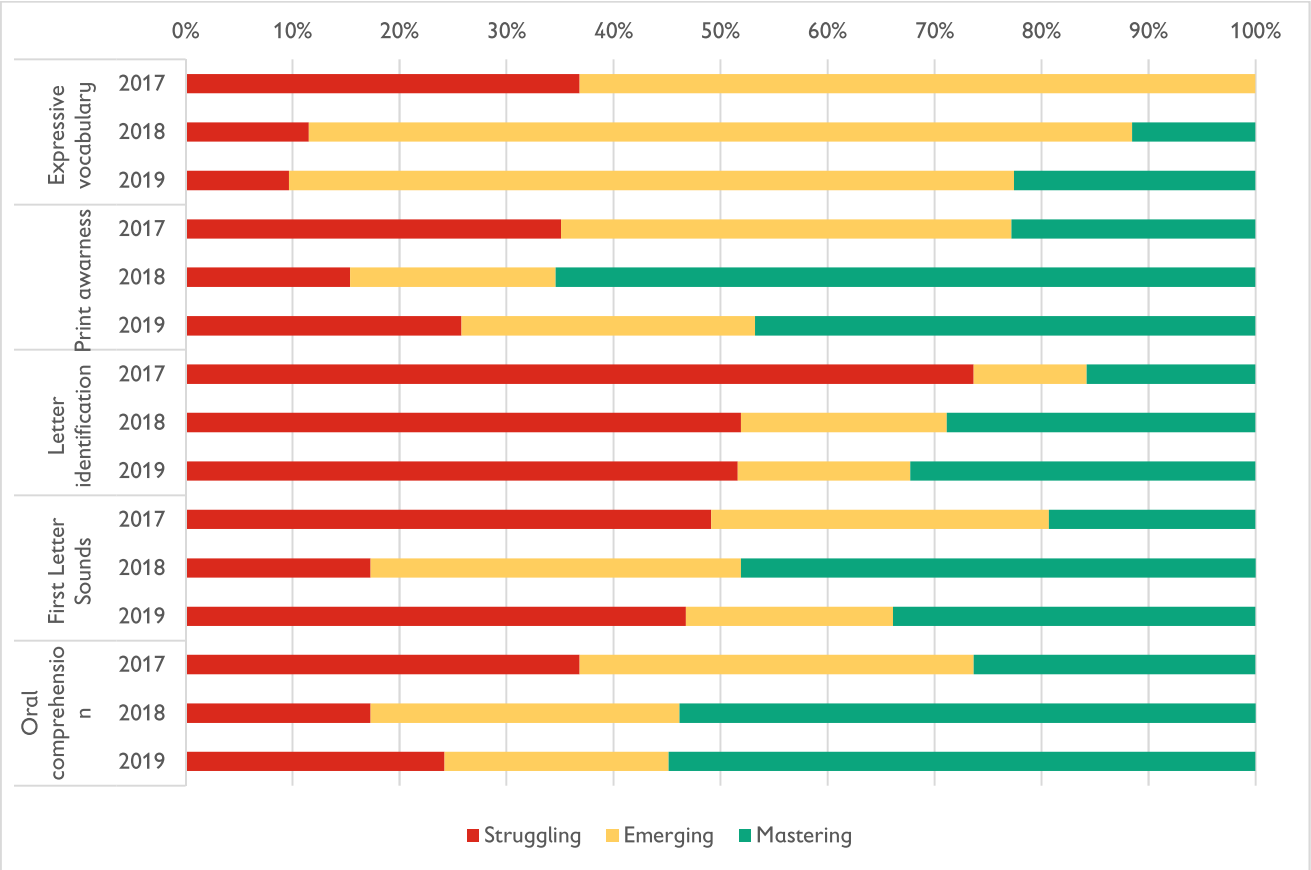
In 2017 for the overall literacy skills, 42% of the children were "struggling", while 21% were on average "mastering". Also the proportions of the emergent literacy domain improved during 2018 and 2019. Statistically significant differences were found between the years 2017-2018 and between the years 2017-2019 in the "struggling" and "mastering" benchmarks. On average, children are having most difficulties in "letter identification", while they were performing best in "print awareness" were all children are evaluated as "mastering" for all the three years.

Table 11. Average benchmarks of literacy skills

		2017	2018	2019	Tot	*17-18	*17-19	*18-19	*Tot
Expressive vocabulary	Struggling	37%	12%	10%	19%	**	***		***
	Emerging	63%	77%	68%	69%				
	Mastering	0%	12%	23%	12%		***		***
Print awareness	Struggling	35%	15%	26%	26%				
	Emerging	42%	19%	27%	30%	*			*

	Mastering	23%	65%	47%	44%	***	*		***
Letter identification	Struggling	74%	52%	52%	59%	*			*
	Emerging	11%	19%	16%	15%				
	Mastering	16%	29%	32%	26%				
First Letter Sounds	Struggling	49%	17%	47%	39%	**		**	***
	Emerging	32%	35%	19%	28%				
	Mastering	19%	48%	34%	33%	**	**		
Oral comprehension	Struggling	37%	17%	24%	26%				
	Emerging	37%	29%	21%	29%				
	Mastering	26%	54%	55%	45%	*	**		**
Emergent writing	Struggling	44%	10%	15%	23%	***	***		***
	Emerging	32%	25%	40%	33%				
	Mastering	25%	65%	45%	44%	***			***

Figure 10. Average benchmarks of literacy skills



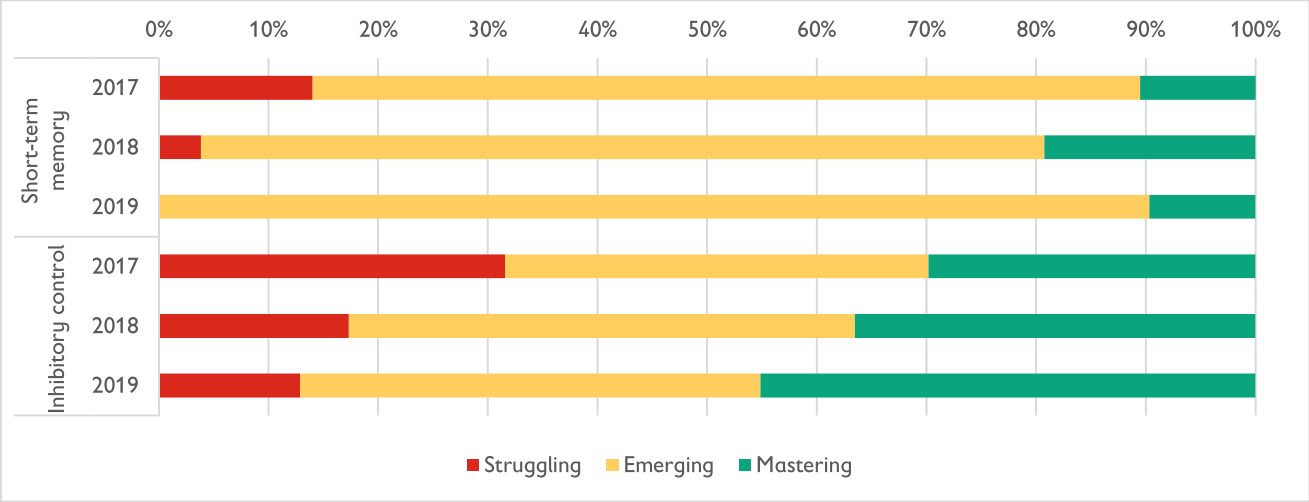
3.5 Executive Function

In addition to the core domain, the child assessment also included items related to executive functioning. 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 information. In 2017 21% of the sample was struggling and 14% was "mastering" in the overall executive function skills. Children improved during 2018 and 2019 under this dimension. On average children were struggling most in the "inhibitory control" dimension. However, this dimension presented also on average the highest percentage of children categorized as "mastering". For "short-term memory" most of the children were scoring as "emerging".

Table 12. Average benchmarks of executive function skills

		2017	2018	2019	Tot	*17-18	*17-19	*18-19	*Tot
Short-term memory	Struggling	14%	4%	0%	6%		**		**
	Emerging	75%	77%	90%	81%				
	Mastering	11%	19%	10%	13%				
Inhibitory control	Struggling	32%	17%	13%	21%		*		*
	Emerging	39%	46%	42%	42%				
	Mastering	30%	37%	45%	37%				

Figure 11. Average benchmarks of executive function skills



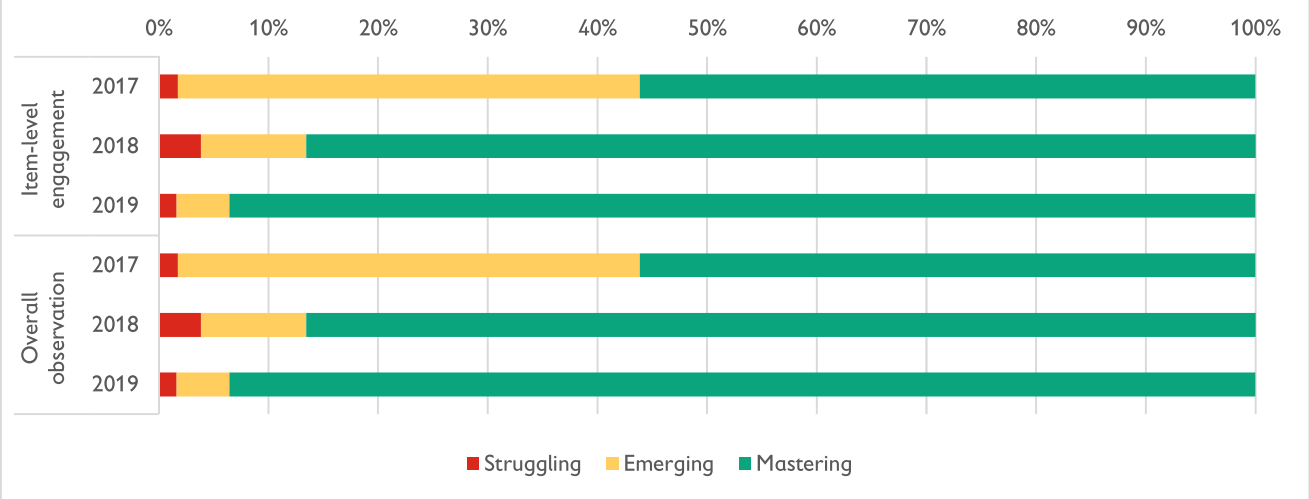
3.6 Approaches to learning

Finally, assessors also rated children's persistence and attention during the IDELA assessment. These items focus on how children approach the new problems presented in the assessment and their level of engagement with completing these tasks. Approaches to learning presents overall the highest percentage of children categorized as "mastering". Children in fact score very well in the "item level engagement" and the proportion of children under "mastering" grew over the three years. Statistically significant differences can be find especially in the comparison of the years 2017-2018 and 2017-2019 for the "emerging" and "mastering" benchmarks.

Table 13. Average benchmarks of approaches to learning skills

		2017	2018	2019	Tot	*17-18	*17-19	*18-19	*Tot
Item-level engagement	Struggling	2%	4%	2%	2%				
	Emerging	42%	10%	5%	19%	***	***		***
	Mastering	56%	87%	94%	79%	***	***		***
Overall observation	Struggling	2%	4%	2%	2%				
	Emerging	42%	10%	5%	19%	***	***		***
	Mastering	56%	87%	94%	79%	***	***		***

Figure 12: Average benchmarks of approaches to learning skills



IV. Predictors of child development

Using both the caregiver and the child development questionnaires, we can analyse the relationship between children's early development and their home environments. The analysis was performed using 108 observations over the three years due to the difference in the sample sizes for caregivers and children. After matching these data sets and considering the missing variables, the final sample for the regressions consisted in 108 observations.

In this study, child age is a predictor of the level of motor development, which is one of the domains which is usually developing in a quite linear way as the child grows older. Furthermore, there are also positive relationships between the number of toys present in a household and dimensions such as emergent literacy, socio-emotional development skills, and the total IDELA dimension.
No consistent significant relationships were found between the gender, the literacy of the caregivers and some home learning environment dimensions (as reading materials and learning/play activities). This could be due in part to the small sample size.
All the specific results of the regression analysis can be found in Appendix 1.

Conclusion

In conclusion, this study has found an overall improvement in child development outcomes over the project period. Between 2017 and 2019, the percentage of Roma children in kindergartens struggling with the IDELA test items went down from 16% (2017) to 2% (2019). At the same time, the percentage of Roma children mastering the IDELA test items went up from 9% in 2017 to 35% in 2019. As already mentioned above, it is important to take the comparisons between years with caution, as the samples differed and were small in size. Nevertheless, this analysis shows overall a positive picture of the learning development of the different year-samples of children. Furthermore, no significant differences were found between girls and boys in all IDELA domains.

Moreover, the analysis shows a general increase (especially for 2019) in the interactions of caregivers with their children at home, which could be a consequence of the parenting education activities (Your Story and Parenting with Confidence) and the parental awareness raising sessions conducted by this project. The IDELA caregivers' survey shows that on average, caregivers in 2019 reported engaging in 6.9 learning activities with their children per week. This is a significant improvement from the baseline in 2017. Parents in 2019 report engaging on average in significantly more activities related to reading books and telling stories with respect to 2017. The same is true for activities as playing games, drawing and teaching new things. Moreover, we see a significant increase in the availability of reading materials and toys in Roma homes, which could be a consequence of the distribution of such materials in the framework of the parenting education activities and increased parental awareness.

The baseline study has some limitations, which need to be taken into account when looking at the results:

- statistically significant differences were found specifically between the evaluation of 2017 and the ones of 2018 and 2019 in the education levels of the parents, the reading materials and toys present at home and the learning and play activities conducted by the parents with the children. These differences in the children's environment could have influenced the findings of the learning outcomes.
- Without a comparison group, it is impossible to make a causal claim that improvements on IDELA are a result of the impact of the program. Future IDELA assessments should attempt to include control groups (SC refrained from doing so for the current project due to budgetary reasons).

In conclusion, despite the differences in the home environments (especially between 2017 and 2018-2019) and the limitations mentioned above, it is possible to observe higher levels in the proportion of children "mastering" IDELA test items in 2018 and 2019, which might also indicate a higher probability that an increased number of Roma children will transition and succeed in primary schools.

V. Appendix

	(1) Motor	(2) Literacy	(3) Numeracy	(4) Socio-emotional	(5) IDELA
Child age	0.166**	0.037	0.011	-0.019	0.049
	(0.052)	(0.058)	(0.055)	(0.052)	(0.047)
Gender	0.009	-0.036	-0.027	0.049	-0.001
	(0.047)	(0.053)	(0.053)	(0.053)	(0.045)
Female caregiver is literate	0.096	0.109	0.079	-0.003	0.070
	(0.061)	(0.062)	(0.053)	(0.061)	(0.047)
Male caregiver is literate	0.078	0.107	0.016	0.071	0.068
	(0.059)	(0.063)	(0.054)	(0.057)	(0.047)
N. of reading materials	-0.008	0.000	0.011	-0.041	-0.009
	(0.020)	(0.023)	(0.024)	(0.025)	(0.020)
Number of toys	0.021	0.032*	0.022	0.043**	0.030*
	(0.013)	(0.015)	(0.014)	(0.014)	(0.012)
Caregiver-child activities	0.015	0.011	0.008	0.019	0.013
	(0.014)	(0.016)	(0.017)	(0.016)	(0.014)
Constant	-0.562	-0.068	0.314	0.422	0.027
	(0.297)	(0.317)	(0.298)	(0.299)	(0.260)
Observations	91	91	91	91	91
Adjusted R-squared	0.323	0.291	0.140	0.191	0.284

Standard errors in parentheses
* p < 0.05, ** p < 0.01, *** p < 0.001