

**International Development and Early Learning Assessment (IDELA) for children**

*End Line Report*



**Urban Childcare Project**



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## **1. Introduction and background**

The Phulki has been working in early childhood development services (ECD) specially for day care centre since 1991. Recognizing the serious gaps that exist in the provision and quality of ECD services - most specifically for children of low income working mothers residing in the more urban areas of Bangladesh - Phulki implemented the Urban Childcare Project from January, 2015. To better establish this project UCP is currently focusing on two project components: 1) Improve the developmental outcomes for children aged 2-6 of low-income working women in Dhaka and 2) Increase funding commitments by the private sector and communities for ECD initiatives in Dhaka.

To implement the first component, UCP has established 20 community-based childcare centres in selected areas of Dhaka and Gazipur, where children of low-income working mothers are eligible to enrol. The child-care centres are open from 7:30 am to 5 pm for 6 days a week, and each one has the capacity to accommodate a maximum of 30-35 children. Through these centres, children are provided with a full day of nurturing care and specialized early learning resources meant for their developmental age range. Through parenting sessions, the centre also provides families the opportunities to receiving training on different topics related to child rearing and development.

The findings of this report will serve to compare the base developmental status of beneficiary children with end line status so that the target outcomes can be reliably measured. This study also informs UCP itself and its stakeholders about the areas of strengths and challenges in regards to achieving the project outcomes, and further informs representatives how this specific program impacts beneficiary childhood development in comparison to non-intervention groups.

## **2. Purpose and aim of this study:**

The main purpose of this study is to track the developmental impacts of participating children to understand target outcomes and further inform future programming. As such, study was carried out at the six-month and above continuation to compare the developmental status of children participating in the intervention against baseline. End line study has taken place in October-November in 2019. End line was conducted with, children those who are continuing six months and above in the day care centres.

The on-going research questions we seek to answer are:

1. What is the developmental status of 3.5-6.5 year old children who are attending UCP centres?
2. What is the development impact of this ECD intervention on the target group of children at end line?
3. What is the progression between baseline and end line result with intervention children?

## **3. Methodology**

This is a randomised controlled study conducted on 3.5 to 6.5 years old children enrolled at a UCP centre those who are continuing six months and above in the day care centre in 2019.

### **3.1. Study Sample:**

The samples for this study were randomly selected from intervention populations children those who are continuing nine months and above in twenty day-care centres from Mohammedpur, Mirpur, Ashulia and Gazipur area under Dhaka and Gazipur Districts. First, a list was generated of children aged 3.5 to 6.5 years old who had been receiving intervention services for six months or longer. Every odd numbered child on the list was then selected as a study participant.

The child was then grouped by age. All intervention group's children belong to low-income families (defined by UCP centres as families whose monthly income is below BDT 20,000). A total of 190 children were randomly sampled (95 male and 95 female).

Table. 1: Study Sample

Age	Base line			End Line		
	Boys	Girls	Total	Boys	Girls	Total
3 years	10	10	20	18	16	34
4 years	34	22	56	14	22	36
5 years	32	27	59	39	34	73
6 years	10	8	18	24	23	47
Total	86	67	153	95	95	190

### 3.2. Instruments

The International Development and Early Learning Assessment (IDELA) tool developed by Save the Children, USA was used to measure children's development and learning. The IDELA child assessment contains 22 questions in four domains: motor development, emergent literacy, emergent numeracy, and socio-emotional development. It also contains two questions related to executive functioning (short-term memory and inhibitory control), as well as assessor-rated questions related to children's approaches to learning.

Table.2: IDELA Domains and Skills

Gross and Fine Motor Development	Emergent Literacy and Language	Emergent Numeracy	Socio-emotional Development	Executive Function
Hopping on one foot	Print awareness	Measurement and comparison	Peer relations	Short-term memory
Copying a shape	Expressive vocabulary	Classification/ Sorting	Emotional awareness	Inhibitory control
Drawing a human figure	Letter identification	Number identification	Empathy	
Folding Paper	Emergent writing	Shape identification	Conflict resolution	
	Initial sound discrimination	One-to-one correspondence	Self-awareness	
	Listening comprehension	Simple operations		
Problem solving				

### 3.3. Training on Data collection tool

The same Bangla version of IDELA data collection tool was used for End line data collection that was used in baseline assessment. Field Research Assistants (FRAs) were received four days long training before baseline data collection, a day long refreshers training was conducted to rigours review of the IDELA tool. MERL Adviser was conducted the training/orientation who was received IDELA Masters trainers training from Save the Children USA, which was conducted in 2016. FRAs were engaged in data collection in first week of November in 2019. Each FRA collected data from six sampled children each day and it took seven days to complete the whole data collection from a total of 190 children. The quality of data collection was ensured by the M&E officer and Training officer of UCP.

### **3.4. Data analysis**

For purpose of data analysis, each data set was scored according to IDELA scoring guideline. IDELA questions were scored as below:

- Question & answer: Every correct answer was scored 1 (one) and every wrong answer was scored 0 (zero)
- Identification of letter, numbers, shape and size: for each correct identification of letter(s), number(s), shape and size was scored 1, and no score was given for wrong identification.
- Performance based score: Puzzle game, paper folding, hopping, writing and drawing items was scored on the basis of performance as per the scoring guideline.
- Total domain scores: Calculated by adding the weighted score of each item in the domain so that all items contributed equally to the domain score.
- The total direct child assessment score: calculated by adding the weighted total scores from all domains (motor, literacy, numeracy, socio-emotional) so that all domains contribute equally to the total score.
- Executive functions and assessor's observation score has shown in separate score table.

The field data was then entered, compiled, and cleaned for data analysis in November 2nd & 3rd Week, 2019. This was followed by data analysis in 1<sup>st</sup> week of December and then reporting by December 20<sup>th</sup>, 2019.

### **4. Limitations**

Though there was control in terms of children's age, gender, and level of program intervention, one of the limitations of this study was not considering parents' educational background or the home environment of the child. Therefore, there remains a chance that parental education and other home environment factors (such as multi parent households vs. single parent households, income variations etc.) may have influence over either groups overall performance.

### **5. Study findings**

This section describes the snap shot of children's progress found from the end line assessment, with a focus on differences between the skills of children in different age groups. Analyses presented below show that children in different sample groups correctly answered a certain percentage of questions and/or completed certain percentage of activities in the different domains. Each domain showed a noteworthy distinction between the two assessments, with the end line respondents performing considerably better in every category of every age group. The result shown significant progress of around 22% compared to the children who did not attend any day care centers.

#### **Key Findings:**

The end line report does not only highlight the progress of children in UCP but also signifies the positive impact which is much needed in early childhood development. Below are few key findings from the end line report:

- **Target score of 80% achieved by children aged 6 years**

As per the IDELA tool measuring parameters for 6 years old, scoring 75% and above in the overall assessment is defined as “mastering”. The six years old children attending the day care centers are already at a crucial stage of entering in primary schools. To attain this mastering milestone, a lot of efforts have been gone into by the faculties which equipped these children with better skills for their primary schooling.

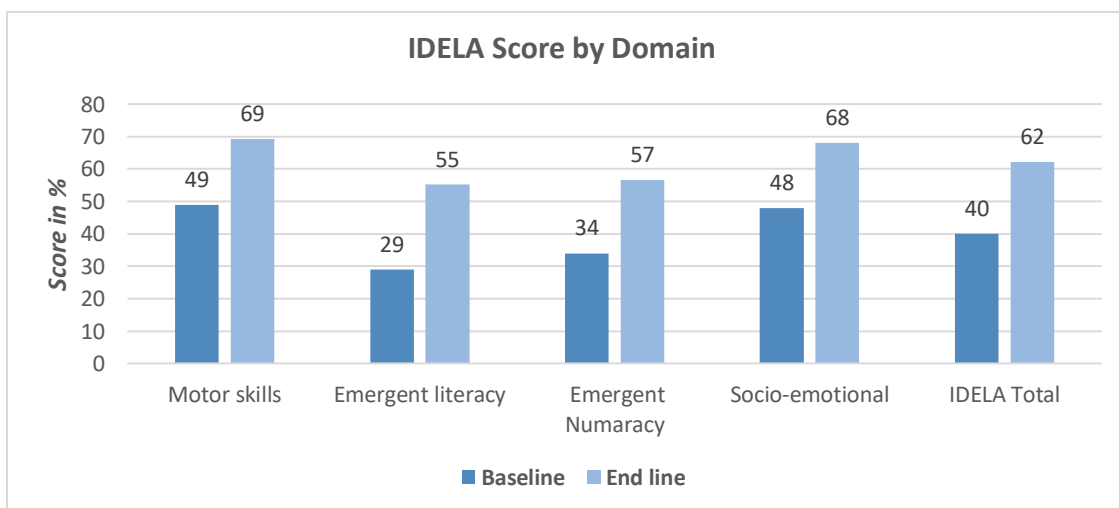
- **Social-Emotional Development has a significant growth**

Social and emotional development is a very challenging aspect of any education plan, as it deals with the personality that is most difficult to monitor and measure in children. Moreover, those with higher levels of social and emotional skills (e.g. self-confidence and perseverance) are likely to benefit more from further investment in cognitive skills. The social-emotional abilities need to be cultivated by teachers, parents and caregivers as this builds their character eventually.

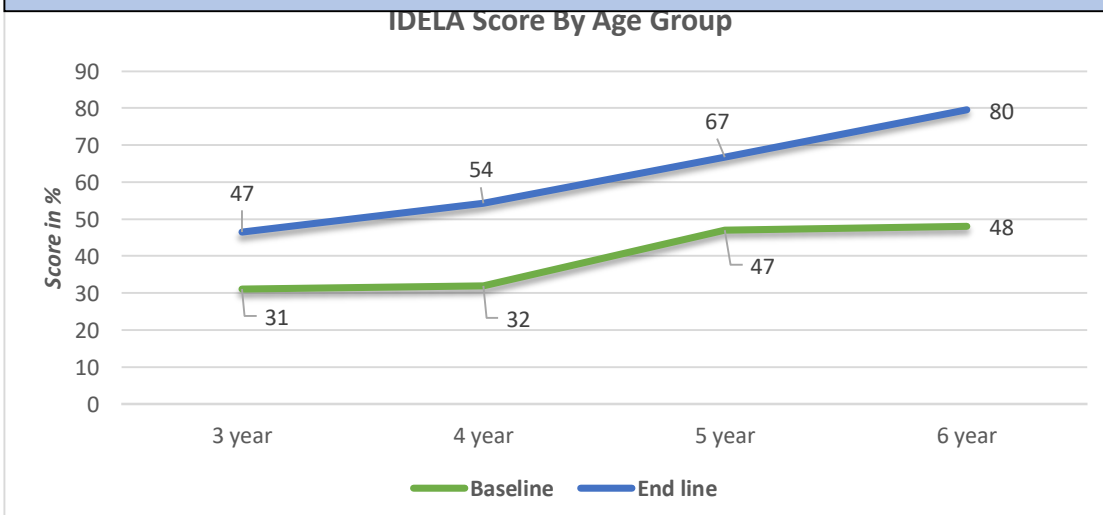
- **Focus on developing Emergent literacy and numeracy skills**

Since project has improved a lot on literacy and numeracy skills, still there is room to improving numeric abilities of children. The detailed study shows that children are proficient with addition and subtraction of numbers. However, the challenge comes when the children have to deal with sorting of shapes and identifying numbers.

**IDELA Score by Domain**



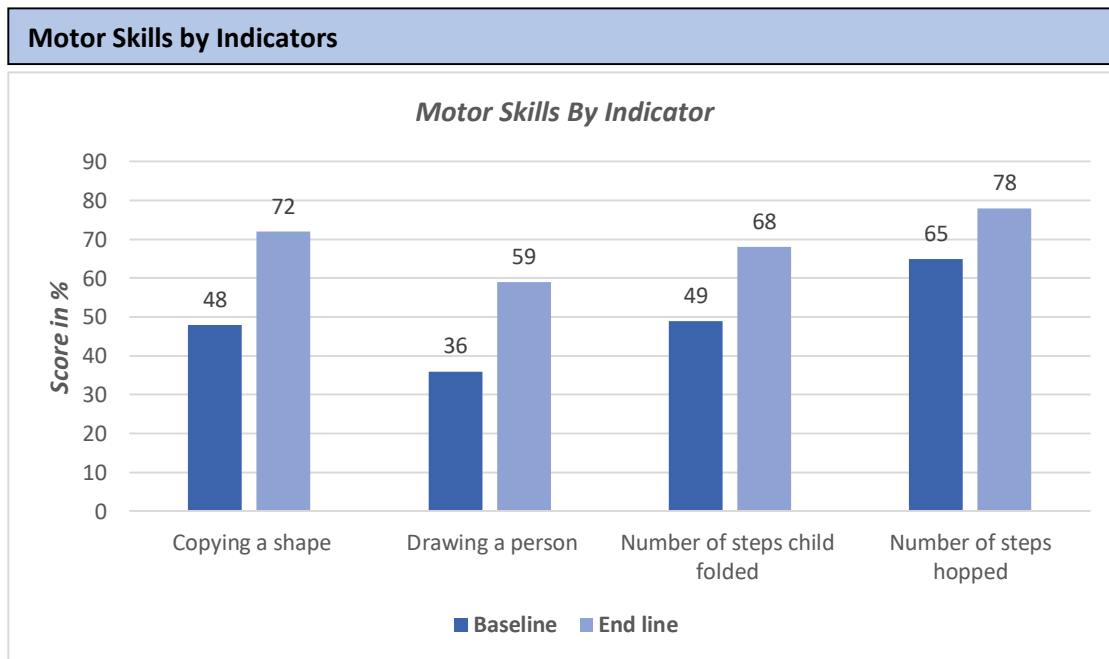
**IDELA Score by Domain**



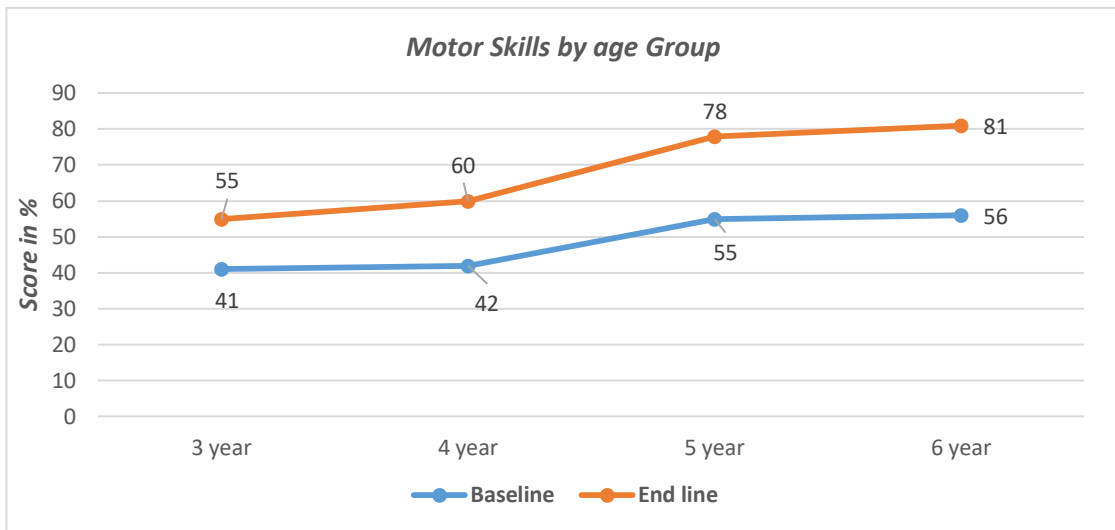
### 5.1 Motor Skills

*Overall progress in Motor skills is quite significant as compared to Baseline. More than 20% end line score has been achieved with intervention of more than 6 months continue in DCC.*

- UCP provides play based learning activities which provides ample scope for art and craft activities. Hence, children are well-acquainted with fine motor and gross motor activities.
- Six years old children old already achieved motor skills target (80%)
- Five and Six years old children have already achieved the median score as per the IDELA measuring parameters.
- Highest progress achieved in coping a shape (24%)
- The statistics shows that efforts are required on 3-4 years old children for developing their motor skills.



**Motor Skills by Age group**

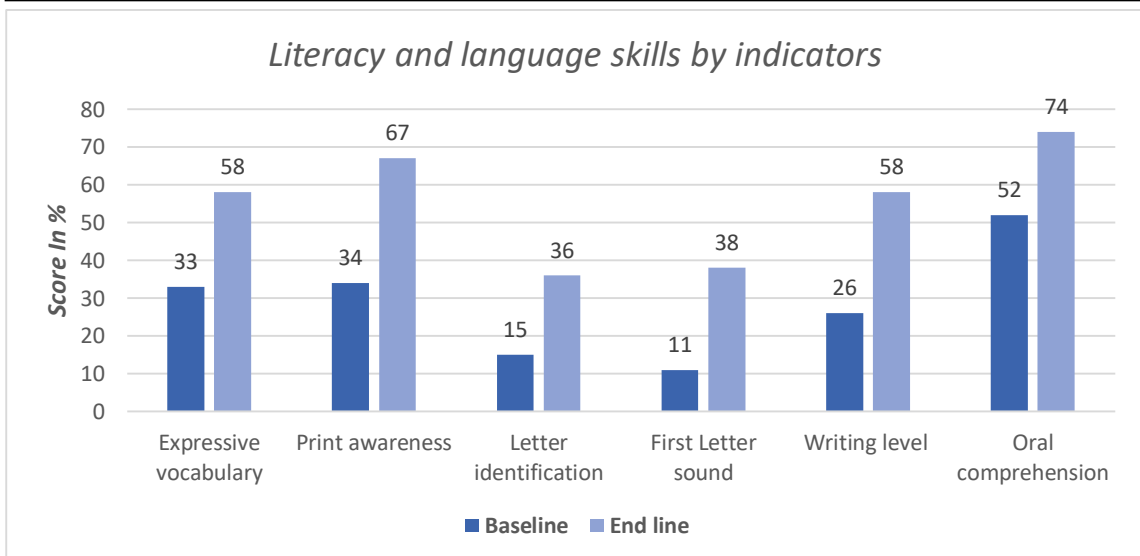


**Emergent Literacy and Language skills.**

*Compared to other domains, the literacy and language domain has most remarkable progress of 27% from baseline scores. However, literacy and language needs most attention also to achieve the mastering milestone as per the IDELA guidelines.*

- UCP introduce new routine and activities for improving literacy and numeracy skills this year, due to this initiatives literacy and numeracy skills of 5 & 6 years old children has significantly improved. Age group wise score shows that children of 5 and 6 years old have significantly improved their literacy skills. Both age groups have shown an increase of 23% and 44% skills comparison to baseline.
- As per the indicators chart, there is a significant improvement in “Print awareness”, where the child open book and where to start reading.
- The statistics shows that efforts are required to more attention on “letter identification” and first letter sound activity as per the IDELA guidelines.

**Emergent Literacy and Language skills by indicators**

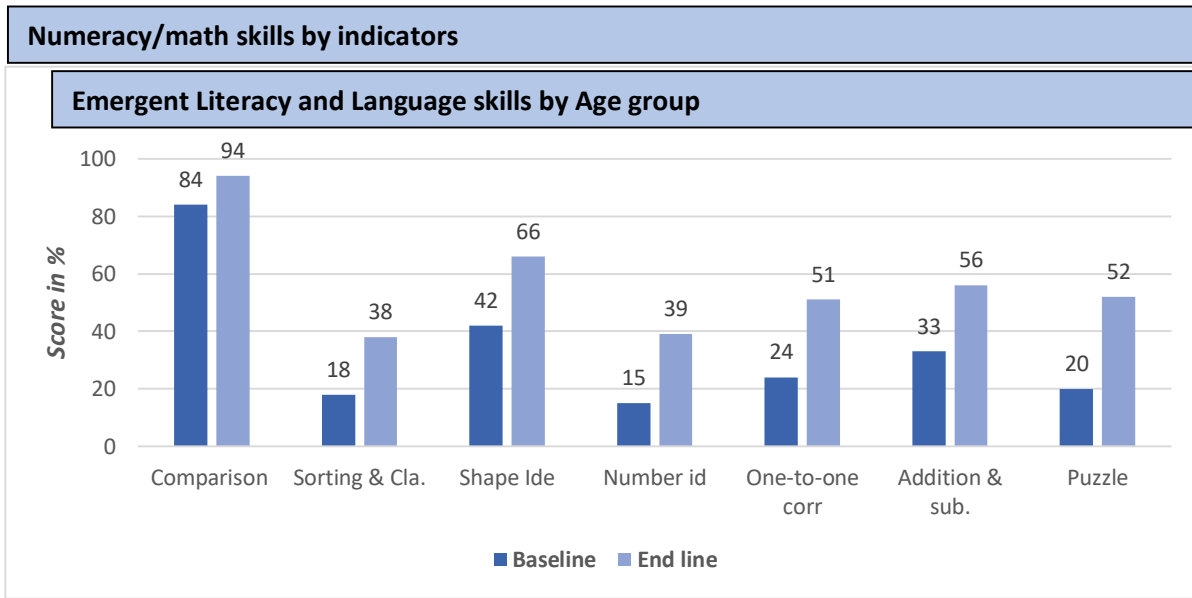




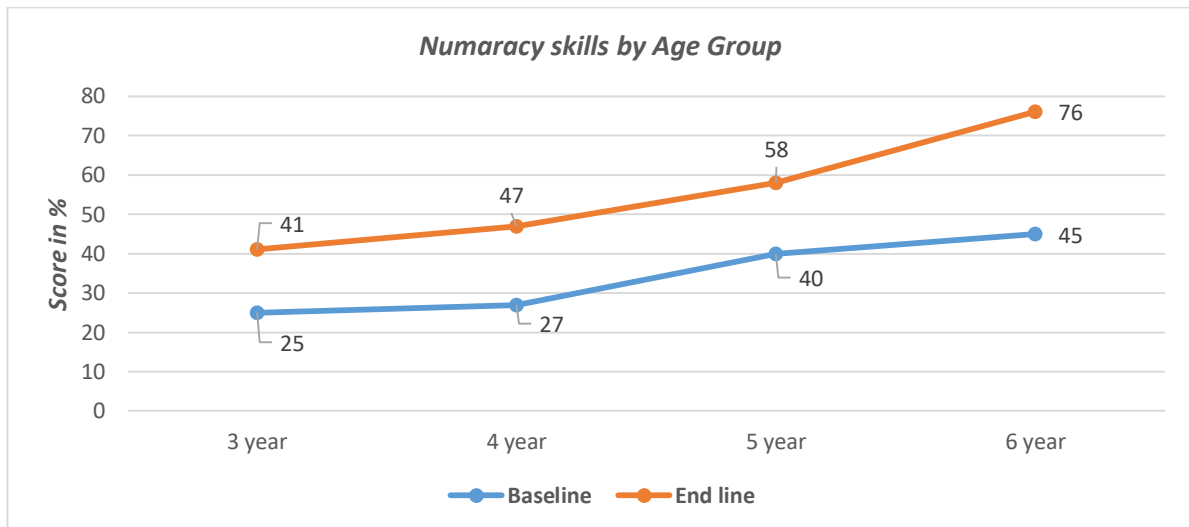
### 5.3. Emergent numeracy skills:

*Overall emergent numeracy skills have been visibly developed among children with intervention as compared to children at baseline. However, focus is required on developing skills within numeracy domain such as Number ID (identifying a particular number), sorting and classification.*

- Children now have a better understanding on addition and subtraction, comparing sizes and identifying shapes, they achieved 94% on that skill.
- Children score 32% higher in end line at “Puzzle game” than the baseline due to more comprehensive play based teaching learning at the centre.
- Age group wise score shows that children age 6 years have significantly improved their numeracy skills. An increase of 31% in the end line scores have been observed compared to baseline.
- The statistics shows that efforts are required to more attention on “Identify numbers and sorting and classification” activity as per the IDELA guidelines.



**Numeracy/math skills by Age Group**

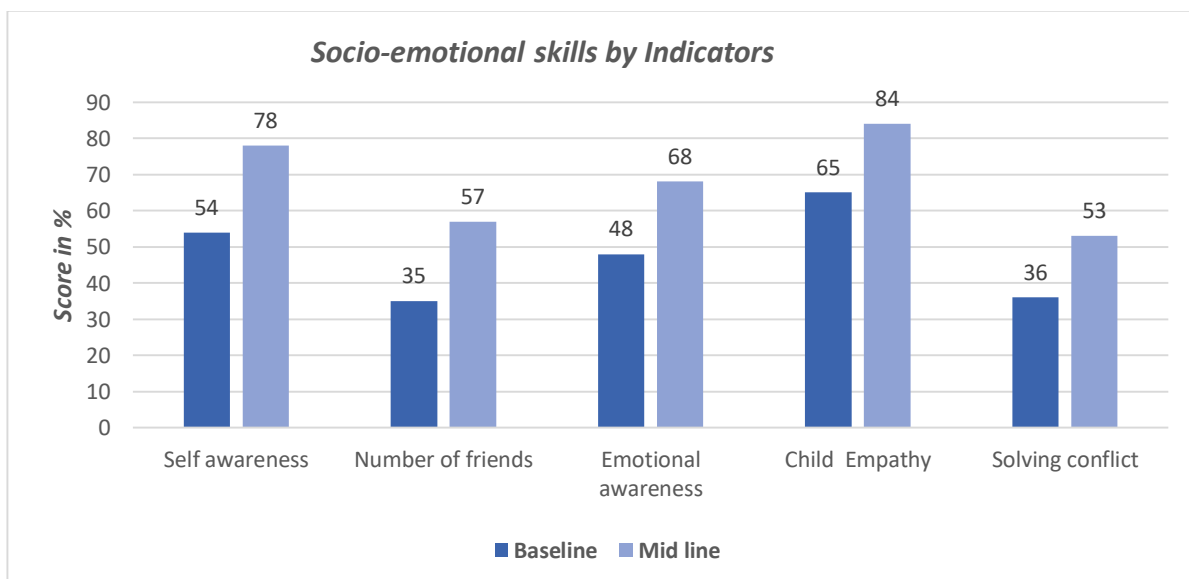


#### 5.4 Socio Emotional skills

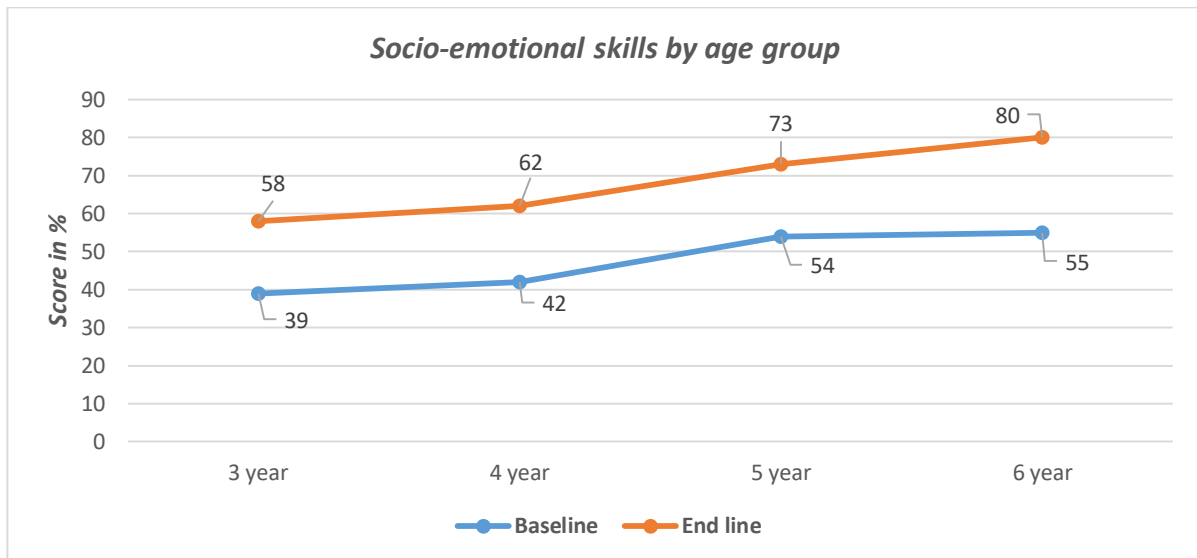
*As mentioned in the key findings section, Social-Emotional Development has a significant growth with an average of 68% in end line score.*

- Age group wise score shows that children of all age group have significantly improved their Social-Emotional skills with an average increase of 19% -24% compared to baseline with intervention child.
- The statistics shows that due to regular stimulation activity on social emotional domain, DCC children achieved significant high score on empathy.
- The score by indicators chart depicts that the children have cultivated the traits of empathizing, solving conflict and being emotionally aware of their feelings.

#### Socio Emotional skills by indicators



#### Socio Emotional skills by age group



## 6. Executive functioning skills

It is important to note that children are not born with Executive Function Skills, but rather are born with the capacity to develop them. If children are not provided with the opportunity to refine these skills, or if they are exposed to specific negative influencers (such as toxic stress, abuse, neglect, or witnessing violence) then their skill development in this domain can be significantly impaired, as those stressors can disrupt healthy brain development<sup>1</sup>.

Through developing routines, modelling appropriate social behaviours, and creating supportive and reliable relationships, Executive Functioning skills are able to flourish. Both creative play and social connection in a supervised capacity allows children to build their understanding of boundaries, inhibition control, and manage impulsivity. If fostered correctly, over time, children will begin to manage their executive functioning without the need for adult supervision. Additionally, tests measuring different forms of executive function skills indicate that these skills begin to develop shortly after birth, with ages 3 to 5 credited as a window of opportunity for the most dramatic growth. Therefore, as executive function skills are not something that children are born with and therefore must be developed, it is this domain that requires appropriate intervention the most.

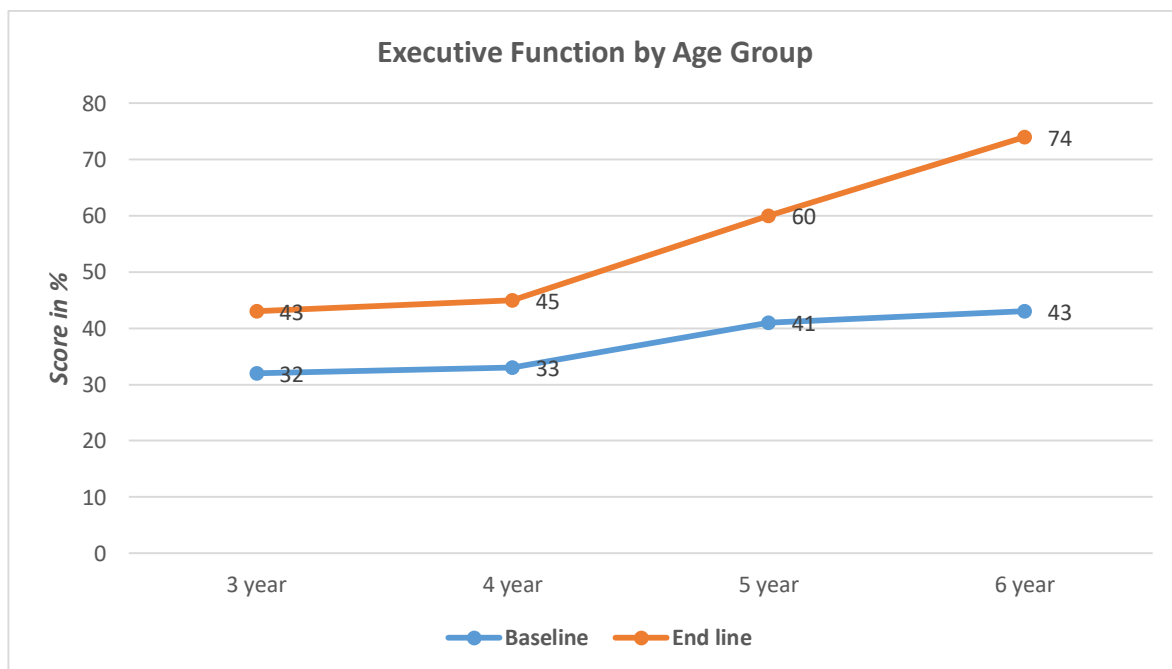
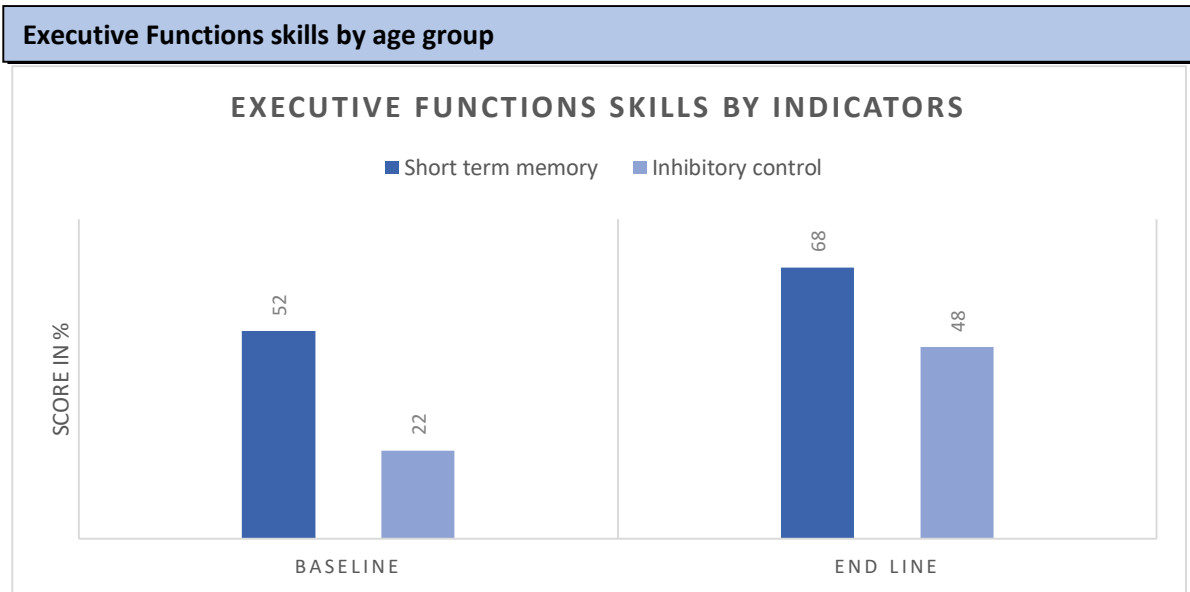
### Findings

**Overall there has been a consistent growth in the executive function scores with both indicators as well as age group. Development of executive functioning skills in early childhood is exponential between 3 to 5 years of age which is depicted by the scores as well.**

- Children's scored 26% higher in end line at Inhibitory control than the baseline with intervention children. It was due to more play based learning, group activity and interactive teaching learning that helped for increasing the score.

<sup>1</sup> [Executive Function and Self Regulation, Centre for the Developing Child, Harvard University](#)

- Age group wise score shows that children of 6 years old significantly improve their executive function skills. There is an increase of 31% compared to baseline with intervention children.



### Conclusion

IDELA data has helped us to begin creating a deeper understanding of children’s learning and development during the preschool years. This information equips us to support children for the overall development. We also find some important findings that can help us design more successful programs.

The teachers have been the pillar to this program. It takes a lot of patience as well as efforts to drive such initiatives and work relentlessly with enthusiasm.