

Baseline Assessment of Children’s Development and Early Learning Status

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 plan, the 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 assess the base developmental status of beneficiary children of intervention 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 progress of the children in baseline Vs end line.

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, a base line study was carried out at the new admitted child in January & February, 2019, of 3.5-6.5 year old children to know the developmental status of children participating in the intervention when they admitted in the day care centre. The end line assessment to be conducted in November 2019.

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 admitted in UCP centres?
2. What is the estimated 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 who are admitted in January & February in 2019.

3.1. Study Sample:

In February-March of 2019 Phulki conducted a baseline study using the International Development and Early Learning Assessment (IDELA). Twenty day-care centres children took part in the baseline 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 admitted in the month of January and February in 2019. Then child was grouped by age. As per the criteria 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 153 children were sampled (86 male and 67 female) for the baseline assessment.

Table. 1: Study Sample

Age	Boys	Girls	Total
3 years	10	10	20
4 years	34	22	56
5 years	32	27	59
6 years	10	8	18
Total	86	67	153

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 baseline data collection that was used in previous years. Six Field Research Assistants (FRAs) and nine Phulki staff trained on IDELA tool. A four-day long training on the IDELA tool and data collection processes, including an intensive field practicum, was arranged for the participants. MERL Adviser was conducted the training who was received IDELA Masters trainers training from Save the Children USA, which was conducted in 2016. Six FRAs were engaged in data collection in last week of February in 2019. Each FRA collected data from six sampled children each day and it took six days to complete the whole data collection from a

total of 153 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 May 2019. This was followed by data analysis in June and then reporting will be finalized by July 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.

Another limitation of this study is the smaller size of the new admitted child especially in the 3.5 years old category. In regards to the 6 year old category, Bangladesh's recent initiatives in ensuring children over 5 are enrolled in primary school meant that children from the six year old category were few in number, as most of these children are already enrolled at other primary institutions¹. It is noted that ten young children were not complete their assessment due to their unwillingness.

5. Study findings

This section describes the children's performance found from the 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.

5.1 Motor Skills

Table no. 3 illustrates the status of motor skills by group and gender. It is noticeable that there is no sizeable difference between girls' and boys' score in regards to the different motor skill indicators. Highest score was Hopping and lowest score was drawing. It is also clear from chart no. 1 that children's motor skill score increased with age. The average baseline motor skills score was 49%.

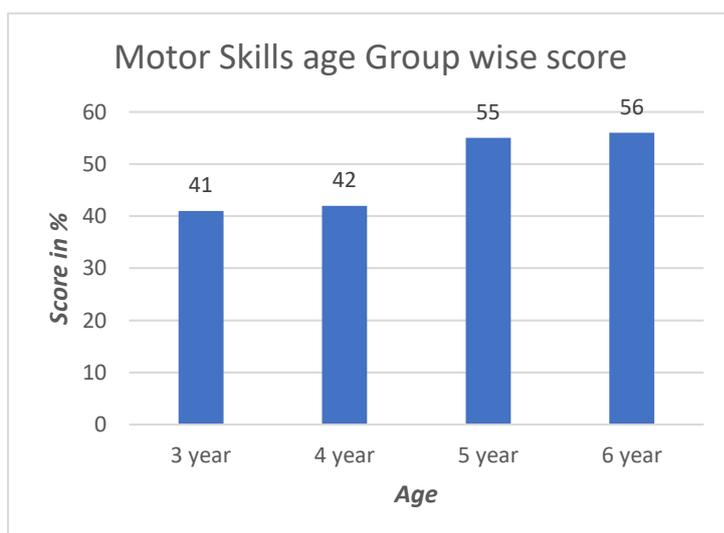
¹ [Quality Education, UNICEF Bangladesh](#)

Table.3: IDELA motor skills, by group and gender.

Indicator	Baseline
Copying a shape	48
Drawing a person	36
Number of steps child folded	49
Number of steps hopped	65
Average Motor Skills	49

To comparison with save the children IDELA report; UCP day-care children age group four achieved 42% skills on Motor Development domain. However, Save the children Bangladesh (four years old children) baseline was 37%. (<https://idela-network.org/wp-content/uploads/2017/06/SJ-two-year-preschool-program-IDELA-Endline-report-final-v2.pdf>)

Chart-1: IDELA motor skills, by age group.



The age group three & four years old score almost same and age five years & six years score almost same but five years old child significantly higher than the four years old children on motor development items. Overall, each study participant performed better in gross motor skills compared to fine motor skills and boys performed better than girls.

5.2. Emergent Literacy and Language skills.

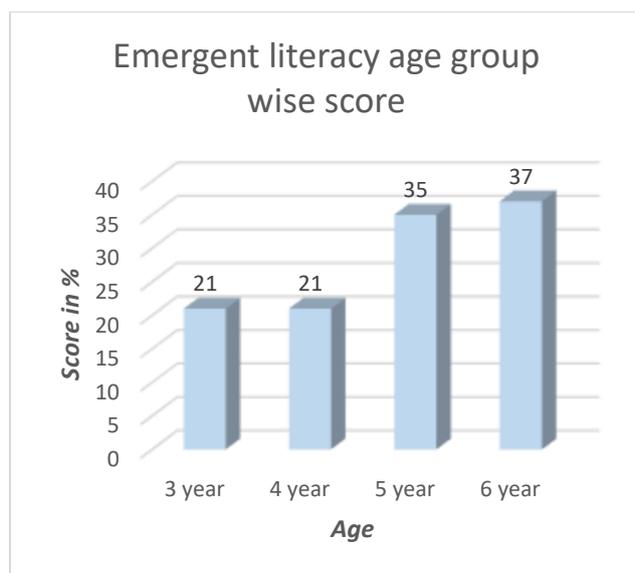
Table 4 illustrates the status of emergent literacy and language skills of children of the new admitted intervention children. It is noteworthy that among the literacy skills, children scored highest in oral comprehension skills, while scoring lowest in first letter sound and letter identification. Average Literacy and Language skills is 29%. To comparison with save the children IDELA report; UCP day-care children age group four achieved 21% skills on literacy and language domain. However, Save the children Bangladesh (four years old children) baseline was 22%. (<https://idela-network.org/wp-content/uploads/2017/06/SJ-two-year-preschool-program-IDELA-Endline-report-final-v2.pdf>)

Table.4: IDELA literacy skills, by indicator and gender

Indicators	Baseline
Average Expressive vocabulary	33
Average Print awareness	34
Letter identification	15
Average FIRST LETTER SOUNDS	11
Writing level (0-4)	26
Average Oral comprehension	52
Emergent literacy	29

When attempting to understand the higher figures in the oral comprehension category, it is important to note the types of questions that were asked during this part of the survey. Specifically, questions at this level were focused on identifying various fruits and other foods. Researchers and project staff believe that one reason children did well here is because it is common for children in Bangladesh to attend markets spaces with family where they would be exposed to the names of various foods, as well as practicing the oral expression of food names while actively purchasing them.

Chart-2: IDELA literacy skills, by age group.



The age group three & four years old score are same and age five years & six years score almost same but five years old child significantly higher (14%) than the four years old children on literacy skills items. Overall, each study participant performed better in Oral comprehension and poor performance was on first letter sound and letter identification. Boys performed better than girls in emergent literacy domain.

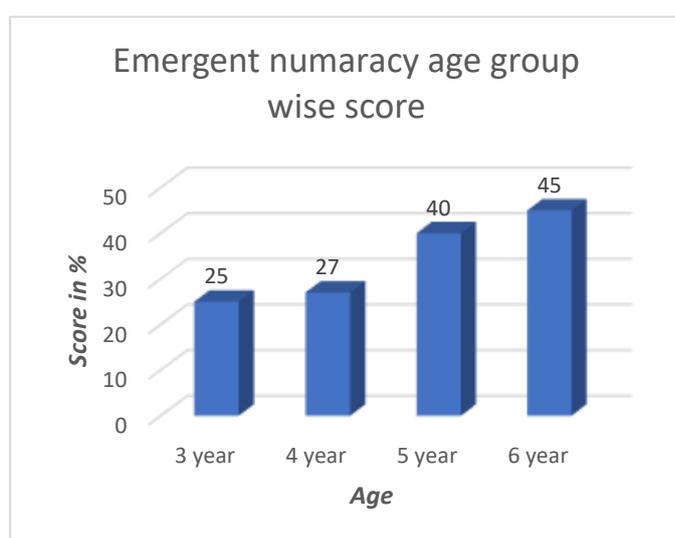
5.3. Emergent numeracy skills:

In regards to emergent numeracy skills, overall, children showed strongest achievement in size comparison, while weak in number identification and shorting and classification. Average score on numeracy is 34%. To comparison with save the children IDELA report; UCP day-care children age group four achieved 27% skills on numeracy domain. However, Save the children Bangladesh (four years old children) baseline was also same 27%. (<https://idela-network.org/wp-content/uploads/2017/06/SJ-two-year-preschool-program-IDELA-Endline-report-final-v2.pdf>)

Table.5: IDELA numeracy skills, by indicators and age group

Indicators	Baseline
Average Comparison by Size and length	84
Average Sorting and classification	18
Average Shape identification	42
Number id	15
Average One-to-one correspondence	24
Average Addition and subtraction	33
Number of puzzle pieces correctly placed (0, 1, 2, 3, 4)	20
Emergent numeracy	34

Chart-3: IDELA numeracy skills, by age group



The age group three & four years old score almost same and age five years & six years score gradually increase but five years old child 13% higher than the four years old children on numeracy skills items. Overall, each study participant performed better in Comparison by Size and length (84%). However poorest score is on Shape identification item. There is no sizeable difference of Boys and girl's performance.

5.4 Socio Emotional skills

On social emotional development, children showed strongest achievement in Child Empathy, while weak in recognise numbers of friends and solving conflict. Average score on socio-emotional is 48%. To comparison with save the children IDELA report; UCP day-care children age group four achieved 42% skills on socio-emotional skills. However, Save the children Bangladesh (four years old children) baseline was also same 36%. (<https://idela-network.org/wp-content/uploads/2017/06/SJ-two-year-preschool-program-IDELA-Endline-report-final-v2.pdf>)

Table.6: IDELA socio-emotional skills, by group and gender

Indicators	Baseline
Self-awareness	54
Number of friends	35
Emotional awareness	48
Child Empathy	65
Solving conflict	36
Total Socio-emotional	48

Chart-4: IDELA socio-emotional skills, by group and age.



The age group three & four years old score almost same like other domain and age five years & six years score also almost same but five years old child 12% higher than the four years old children on Socio-emotional skills items. Overall, each study participant performed better in empathy (65%). However poorest score is on recognise numbers of friend's item. Boys performed better than girls in Socio-emotional domain

5.5. Executive functioning skills

Children's Executive functioning skills were assessed based on two indicators – Short-term memory and inhibitory control. As table no.7 shows, the intervention group achieving 39% and 34% (boys and girls respectively). Children achieved highest score on short term memory and poor on inhibitory control. Average score on executive function is 37%. To comparison with save the children IDELA report; UCP day-care children age group four achieved 33% skills on executive function skills. However, Save the children Bangladesh (four years old children) baseline was 28%. (<https://idela-network.org/wp-content/uploads/2017/06/SJ-two-year-preschool-program-IDELA-Endline-report-final-v2.pdf>)

Table.7: IDELA executive functioning skills, by group and gender

Indicators	Baseline
Average SHORT Term memory	52
Average Inhibitory control	22
Executive function	37

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 development².

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

² [Executive Function and Self Regulation, Centre for the Developing Child, Harvard University](#)

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.

Chart-5: IDELA executive functioning skills, by age group



The age group three & four years old score almost same like other domain and age five years & six years score also almost same but five years old child 8% higher than the four years old children on executive functions skills items. Overall, each study participant performed better in Short-term memory (52%). However poor score is on inhibitory control item. Boys performed better than girls in executive function domain.

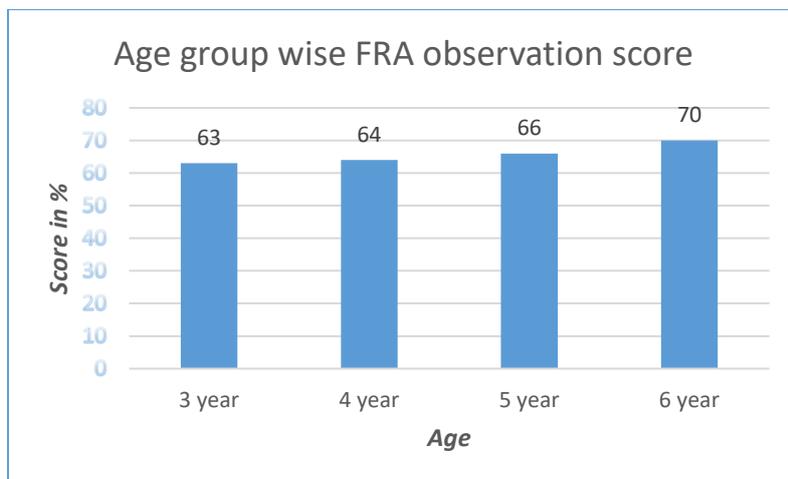
5.6. Approaches to learning skills

To assess children’s learning approaches (i.e., the way they approach complicated problems) FRAs were asked to score children on a number of dimensions immediately after the assessment was completed (Table.8). Children were rated on a scale from 1=almost never to 4=almost always. The analyses of children’s score *on did the child pay attention to the instructions and demonstrations throughout the assessment?* And less score on *Was the child interested and curious about the tasks throughout the assessment?*

Table.8: IDELA Approaches to learning skills, by study group and gender

Indicator	Score
Did the child pay attention to the instructions and demonstrations throughout the assessment?	75
Did child show confidence when completing activities; did not show hesitation.	66
Did the child stay concentrated and on task during the activities and was not easily distracted?	65
Was child careful and diligent on tasks? Was child interested in accuracy?	62
Did child show pleasure in accomplishing specific tasks?	66
Was child motivated to complete tasks? Did not give up quickly and did not want to stop the task?	63
Was the child interested and curious about the tasks throughout the assessment?	63

Chart-6, Approaches to learning skills



The age group wise performance gradually increases, six years old children 4% higher than the age group five. Boys performed better than girls in approach to learning skills.

5.7. Overall IDELA Result

To calculate a total correct response to IDELA questions, each direct child assessment item was added together and divided by the total number of questions. In the IDELA four child development domain has calculated for the IDELA analysis. Executive function and the score on learning approaches was given based solely on FRA's observation, Save The Children directed that score on this specific item not be included in total IDELA score. As shown in Chart no 7, it is clear that, on total IDELA. Furthermore, If we look at different domains separately, we can see that overall, children's skill in motor development and socio emotional development is stronger than in emergent literacy and numeracy. From age wise total score as illustrated in chart no 8, it is again noticeable that children's rate of achievement increased with progressing age. While the average of total score is 31% for youngest age group, it became 48% for the oldest group. To comparison with save the children IDELA report; UCP day-care children age group four achieved 32% skills on overall IDELA score. However, Save the children Bangladesh (four years old children) baseline was 30%. (<https://idela-network.org/wp-content/uploads/2017/06/SJ-two-year-preschool-program-IDELA-Endline-report-final-v2.pdf>) .

The baseline study also tries to understand the real reason of poor scorer Vs high scorer in same age group. We found that those were get learning support at home by their parents or other family members certainly they achieve high score even they do not attach with any education institutions.

Chart no.7: IDELA total scores

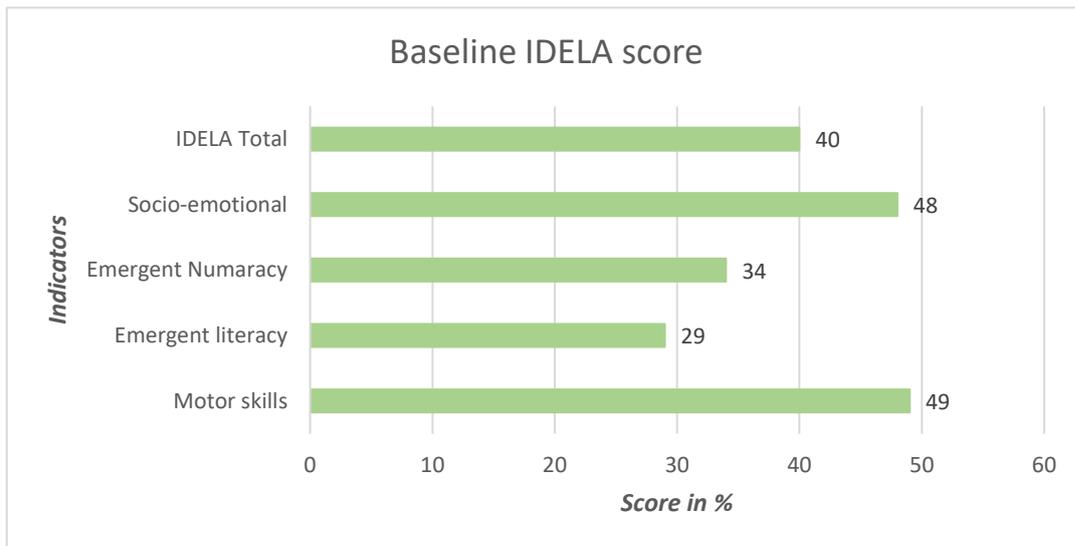
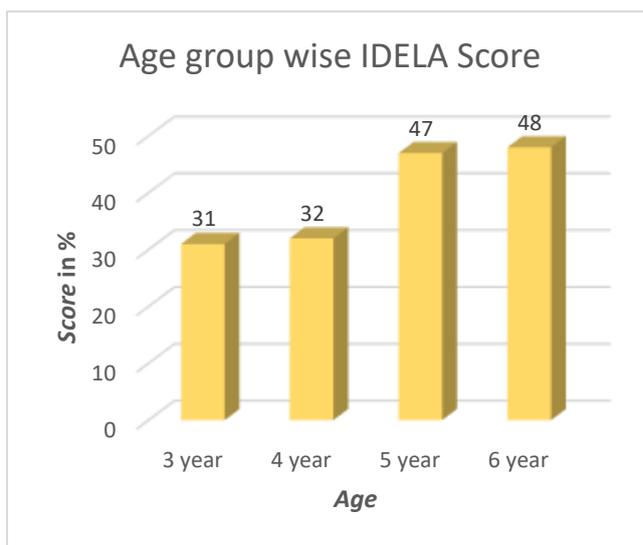


Chart 8: Age wise IDELA



The age group three & four years old score almost same and age five years & six years score also almost same but five years old child 15% higher than the four years old children on the overall IDELA. Boys performed better than girls in overall IDELA assessment.

Conclusion

The data from this study clearly demonstrates the base status of the new admitted children at day care children. The project will take initiative regarding low score area especially for literacy and numeracy domain. The end line will be conducted on November '2019 then progress will be compared.