

Title: Building Strong Foundations: Large-Scale Early Childhood Human Capital Formation in Nepal

Date of Submission: April 21, 2023

Keywords: Early childhood development, human capital formation, staffing, public service delivery, Nepal

JEL Codes: C93, J13, J24, I21, I25, H11

1 Introduction

Early Childhood is a crucial phase in the development of a child. Approximately 200 million children under the age of five years in developing nations have development deficits (Engle et al. 2007). Doepke et al. (2019) argues that these development deficits may pass on to the next generation, creating a vicious poverty trap. These early deficits may take the form of stunting or malnutrition, as well as the form of lags in cognitive and non-cognitive behaviors. Since early interaction with parents and teachers are important determinants of cognitive and socio-emotional aspects of children (Shonkoff et al. 2000), it is important that we study the knowledge and skill levels of parent and teachers in the developing economies to improve the nature of interaction between children and their surroundings.

This study is motivated by the idea that yawning gaps remain in the information levels of Early Childhood Development (henceforth, ECD) teachers, and parents, in the developing countries, on the importance of early childhood, especially in the marginalized communities. We intervene at two levels. First, we train the teacher in the ECD classroom on the best practices of early childhood in the treatment arm. Second, we provide an information nudge on these best practices to the primary caregivers of our sample students in the treatment group. By *primary caregiver*, we mean the parent or guardian who spends the most time with the child in our sample. As part of our intervention, we successfully conduct twenty sessions for caregivers of kids in our sample

over a period of six months. These sessions are led by the trained professionals (either teachers or facilitators) covering a range of topics in early childhood development including stimulation, hygiene, nutrition, disability, etc., and were designed by Seto Gurans, a pioneer non-governmental organization working in early childhood development in Nepal. We also vary the treatment by supplementing the trained teacher with contract licensing of trained helpers, in-classroom and out-classroom.

Our study is based in fifteen municipalities in Jhapa district of Nepal. We carried out randomization at the school level, and mapped teachers from these schools to their respective ECD sections' kids. These kids form the sample points for our study. We have a total of 201 schools in this study with 150 belonging to the treatment, and 51 to the control.

2 Study Design

We randomize the study sample of 201 schools into the following four arms:

Training Only (T1): The 50 schools in this arm receive treatment in the form of a trained teacher. This teacher conducts 20 parental-educational sessions with the caregivers of kids from their respective school over a period of six months. The teacher educates the caregivers on various facets and best practices of early childhood. These sessions cover a range of topics on health, hygiene, disability, stimulation, and understanding the needs and importance of early childhood.

Training plus Outside Classroom Helper (T2): The 50 schools in the arm receive a trained teacher plus an additional outside classroom helper (henceforth, facilitator). This arm differs from T1 in the sense that the facilitator, rather than the trained teacher, conducts the parental-educational sessions as part of the intervention. We hired the facilitator on a contractual basis, and trained them on conducting the parents-education sessions on early childhood. These sessions are similar to those conducted in the treatment arm T1.

Training plus Inside Classroom Helper (T3): The 50 schools in this arm receive a trained teacher plus an additional inside classroom helper (henceforth, helper). The teacher is responsible for conducting the 20 parental-educational sessions with caregivers of kids from our sample. The helper helps the teacher efficiently carry out the day-to-day activities in the classroom. Like the facilitator, the helper is hired on contract for a period of seven months. The helpers assist our ECD teachers in managing and carrying out the class activities. These sessions are similar to those conducted in the treatment arm T1.

Control(T4): The 51 schools in this arm received nothing from the perspective of teacher-training or parental-educational sessions.

3 Measurement of key variables (Hypotheses Testing)

The hypotheses we will estimate are the following:

- a. H_0/H_a : No impact (positive impact) of treatment i.e. assigning a *Teachers Professional Development*-trained teacher to the ECD classroom, on the cognitive and socio-emotional behavior of children in these classrooms. These behaviors are measured by the aggregate score of the Ages and Stages Questionnaire.

- b. H_0/H_a : No impact (positive impact) of conducting *early childhood development* parent-education sessions on the caregivers' stress index, participation in early stimulation and learning activities with their child, and their understanding of disability. We shall also test the null of no effect on caregivers' attitude to child discipline, caregivers' intensity of early-stimulation exercise with their child, caregivers' understanding of disability (attitude to disability and their confidence in helping with disability). We have defined these outcomes in the appendix.

- c. H_0/H_a : No impact (positive impact) of adding additional manpower i.e. facilitator or helper to the ECD classroom, on the child outcomes (as measured by ASQ), caregivers' stress index, their attitude to child discipline, participation (and intensity) in early stimulation activities with their child, and their understanding of disability (attitude to disability and their confidence in helping with disability). We have defined these outcomes in the appendix.

Next to these outcomes, we will also test the null of no effect on the quality of our ECD centers measured by (i) observation of teacher-student interaction at the endline, and (ii) checklist of required facilities and infrastructure in these ECD classrooms. Both these measures are explained in the Appendix. We will also try to understand if there are fewer children scoring in the risk-range of the ASQ in the treatment compared to the control.

We now state the primary and secondary outcomes of our study in Section 3.1 below.

3.1 Outcomes: Primary and Secondary

Our primary outcomes for the study are:

- (i) Ages and Stages Questionnaire scores of the children in our sample
- (ii) Caregivers (Parents) stress index
- (iii) Caregivers participation in the early stimulation and learning exercise with their children

Our secondary outcomes for the study are:

- (i) Quality of our ECD centers measured by (a) observation of teacher-student interaction at the endline, and (b) checklist of required facilities and infrastructure in these ECD classrooms.
- (ii) Caregivers attitude to child discipline
- (iii) Caregivers understanding of disability
- (iv) Caregivers' intensity of stimulation activities with their children

Based on the ASQ scores (primary outcome of our study), we shall also compare the fraction of kids scoring in the risk-range of the ASQ in the treatment and the control.

A detailed description of the measurement of these variables is provided in Section 5: Appendix.

4. Estimation strategy

4.1 Treatment effect equation to be estimated

We estimate the intent-to-treat (ITT) impact of the treatment effects using the following estimation equation:

$$Y_i = \beta_1 T_{i1} + \beta_2 T_{i2} + \beta_3 T_{i3} + \delta X_i + \alpha_{municipality} + \varepsilon_{is}$$

Where Y_i denotes the outcome for individual i . T_{i1} is a dummy variable equal to 1 if the individual was part of the treatment group T1 and 0 otherwise, T_{i2} is a dummy variable equal to 1 if the individual was part of the treatment group T2 and 0 otherwise, T_{i3} is a dummy variable equal to 1 if the individual was part of the treatment group T3 and 0 otherwise; X_i is the set of baseline covariates; α_s are municipality fixed effects and ε_{is} is an individual error term clustered by school. We weight observations by their inverse probability of selection into endline tracking and to correct for attrition.

We will also report TOT estimates of the program impacts for key outcomes using assignment to treatment as an instrument for being treated.

4.2 Heterogeneous treatment effects

We plan to do heterogeneity analysis of treatment effects in the child outcomes and caregivers' outcomes with respect to the following variables:

- (i) Gender of the child in our sample
- (ii) Gender of the child's primary caregiver

(iii) Relationship of the primary caregiver to the target-child

(iv) Whether the target-child is a first-born

(v) Age of the target child

4.3 Outcomes with limited variation

Questions for which 95 percent of observations have the same value within the treatment group will be omitted from the analysis and will not be included in any indicators or hypothesis tests. If omission decisions result in the exclusion of all constituent variables for an indicator, the indicator will not be calculated.

4.4 Survey attrition

Attrition is a big concern when conducting phone surveys. We will estimate whether attrition is related to treatment status by regressing treatment status on an indicator for attrition. If treatment is not found to significantly affect attrition at the 10% level, then the estimations will proceed without adjusting for attrition. If treatment is found to significantly affect attrition at the 10% level, we will bound the treatment effect using Lee bounds (Lee, 2009).

5 Appendix:

This section contains details of the primary and secondary outcomes we measure in our study. Table 1 and Table 2 list the primary outcomes of the study. Table 3, Table 4, and Table 5 list the secondary outcomes of the study.

Table 1: Child Primary Outcomes: Ages and Stages Questionnaire Score

Main Outcome	Subsection of ASQ	Question	Coding
<p>Our first primary outcome of the study is the aggregate ASQ score which is the sum of scores in all five subsections of the ASQ: Communication, Gross Motor, Fine Motor, Problem-solving, and Personal-social</p>			
<p>Ages and Stages Questionnaire - 36 month</p>	<p>Communication</p>	<p>ASQ36_C1. When you ask your child to point to her nose, eyes, hair, feet, ears, and so forth, does she correctly point to at least seven body parts?</p> <p>ASQ36_C2. Does your child make sentences that are three or four words long?</p> <p>ASQ36_C3. Without giving your child help by pointing or using gestures, ask him to "put the book on the table" and put the shoe under the chair". Does your child carry out both of these directions correctly?</p> <p>ASQ36_C4. When looking at a picture book, does your child tell you what is happening or what action is taking place in the picture (for example, "barking", "running", "eating" or "crying"?)</p> <p>ASQ36_C5. Show your child how a zipper on a coat moves up and down, and say, "See, this goes up and down". Put the zipper to the middle and ask our child to move the zipper down. Return the zipper to the middle and ask your child to move the zipper up. Do this several times, placing the zipper in the middle before asking you child to move it up or down. Does your child consistently move the zipper up when you say "up" and down when you say "down"?</p>	<p>Each response in this subsection will be scored in accordance with the standard methodology used for scoring ASQ in the literature.</p> <p>Aggregate score in this section will be the sum of individual scores for all these questions.</p>

		ASQ36_C6. When you ask, "What is your name?" does your child say both her first and last names?	
Gross Motor		<p>ASQ36_GM1. Without holding onto anything for support, does your child kick a ball by swinging his leg forward?</p> <p>ASQ36_GM2. Does your child jump with both feet leaving the floor at the same time?</p> <p>ASQ36_GM3. Does your child walk up stairs, using only one foot on each stair?</p> <p>ASQ36_GM4. Does your child stand on one foot for about 1 second without holding onto anything?</p> <p>ASQ36_GM5. While standing, does your child throw a ball overhand by raising his arm to shoulder height and throwing the ball forward?</p> <p>ASQ36_GM6. Does your child jump forward at least 6 inches with both feet leaving the ground at the same time?</p>	<p>Each response in this subsection will be scored in accordance with the standard methodology used for scoring ASQ in the literature.</p> <p>Aggregate score in this section will be the sum of individual scores for all these questions.</p>
Fine Motor		<p>ASQ36_FM1. After your child watches you draw a line from the top of the paper to the bottom with a pencil, crayon, or pen, ask her to make a line like yours. Do not let your child trace your line. Does your child copy you by drawing a single line in a vertical direction?</p> <p>ASQ36_FM2. Can your child string small items such as beads, macaroni, or pasta "wagon wheels" onto a string or shoelace?</p> <p>ASQ36_FM3. After your child watches you draw a single circle, ask him to make a circle like yours. Do not let him trace your circle. Does your child copy you by drawing a circle?</p> <p>ASQ36_FM4. After your child watches you draw a line from one side of the paper to the other side, ask her to make a line like yours. Do not let your child trace your line. Does</p>	<p>Each response in this subsection will be scored in accordance with the standard methodology used for scoring ASQ in the literature.</p> <p>Aggregate score in this section will be the sum of individual scores for all these questions</p>

		<p>your child copy you by drawing a single line in a horizontal direction?</p> <p>ASQ36_FM5. Does your child try to cut paper with child-safe scissors? He does not need to cut the paper but must get the blades to open and close while holding the paper with the other hand.</p> <p>ASQ36_FM6. When drawing, does your child hold a pencil, crayon, or pen between her fingers and thumb like an adult does?</p>	
	<p>Problem-Solving</p>	<p>ASQ36_PS1. While your child watches, line up four objects like blocks or cars in a row. Does your child copy or imitate you and line up four objects in a row?</p> <p>ASQ36_PS2. If your child wants something he cannot reach, does he find a chair or box to stand on to reach it (for example, to get a toy on a counter or to "help" you in the kitchen?</p> <p>ASQ36_PS3. When you point to the figure and ask your child, "What is this?" does our child say a word that means a person or something similar?</p> <p>ASQ36_PS3.1. Please write your child's response here:</p> <p>ASQ36_PS4. When you say, "Say 'seven three'", does your child repeat just the two numbers in the same order? Do not repeat the numbers. If necessary, try another pair of numbers and say, "Say 'eight two'".</p> <p>ASQ36_PS5. Show your child how to make a bridge with blocks, boxes, or cans, like the example. Does our child copy you by making one like it?</p> <p>ASQ36_PS6. When you say, "Say 'five eight three'", does our child repeat just the three numbers in the same order? Do not repeat the numbers. If necessary, try another series of numbers and say. "Say 'six nine two'".</p>	<p>Each response in this subsection will be scored in accordance with the standard methodology used for scoring ASQ in the literature.</p> <p>Aggregate score in this section will be the sum of individual scores for all these questions</p>

	Personal-Social	<p>ASQ36_S1. Does your child use a spoon to feed herself with little spilling?</p> <p>ASQ36_S2. Does your child push a little wagon, stroller, or toy on wheels, steering it around objects and backing out of corners if he cannot turn?</p> <p>ASQ36_S3. When your child is looking in a mirror and you ask, "Who is in the mirror?" does she say either "me" or her own name?</p> <p>ASQ36_S4. Does your child put on a coat, jacket, or shirt by himself?</p> <p>ASQ36_S5. Using these exact words, ask your child, "Are you a girl or a boy?" Does our child answer correctly?</p> <p>ASQ36_S6. Does your child take turns by waiting while another child or adult takes a turn?</p>	<p>Each response in this subsection will be scored in accordance with the standard methodology used for scoring ASQ in the literature.</p> <p>Aggregate score in this section will be the sum of individual scores for all these questions</p>
Ages and Stages Questionnaire - 48 month	Communication	<p>ASQ48_C1. Does your child name at least three items from a common category?</p> <p>Section ASQ48_C2</p> <p>ASQ48_C2. Does your child answer the following questions? (Mark "sometimes" if your child answers only one question.)</p> <p>ASQ48_C2.1. "What do you do when you are hungry?" Please write your child's response here: 1 1</p> <p>ASQ48_C2.2. "What do you do when you are tired?" Please write your child's response here: 1 1</p> <p>ASQ48_C2. Does your child answer the above questions?</p> <p>Section ASQ48_C2</p> <p>PLEASE SELECT AT LEAST ONE ANSWER AT [ASQ48_C2_1] and [ASQ48_C2_2].</p> <p>PLEASE SELECT ONLY ONE ANSWER AT [ASQ48_C2_1].</p> <p>PLEASE SELECT ONLY ONE ANSWER AT [ASQ48_C2_2].</p>	<p>Each response in this subsection will be scored in accordance with the standard methodology used for scoring ASQ in the literature.</p> <p>Aggregate score in this section will be the sum of individual scores for all these questions</p>

		<p>ASQ48_C3. Does your child tell you at least two things about common objects?</p> <p>ASQ48_C4. Does your child use endings of words, such as “-s,” “-ed,” and “-ing”?</p> <p>ASQ48_C5. Without your giving help by pointing or repeating, does your child follow three directions that are unrelated to one another? Give all three directions before your child starts.</p> <p>ASQ48_C6. Does your child use all of the words in a sentence (for example, “a,” “the,” “am,” “is,” and “are”) to make complete sentences, such as “I am going to the park,” or “Is there a toy to play with?” or “Are you coming, too?”</p>	
	Gross Motor	<p>ASQ48_GM1. Does your child catch a large ball with both hands?</p> <p>ASQ48_GM2. Does your child climb the rungs of a ladder of a playground slide and slide down without help?</p> <p>ASQ48_GM3. While standing, does your child throw a ball overhand in the direction of a person standing at least 6 feet away? To throw overhand, your child must raise his arm to shoulder height and throw the ball forward.</p> <p>ASQ48_GM4. Does your child hop up and down on either the right or left foot at least one time without losing her balance or falling?</p> <p>ASQ48_GM5. Does your child jump forward a distance of 20 inches from a standing position, starting with his feet together?</p> <p>ASQ48_GM6. Without holding onto anything, does your child stand on one foot for at least 5 seconds without losing her balance and putting her foot down?</p>	<p>Each response in this subsection will be scored in accordance with the standard methodology used for scoring ASQ in the literature.</p> <p>Aggregate score in this section will be the sum of individual scores for all these questions</p>

	<p>Fine Motor</p>	<p>ASQ48_FM1. Does your child put together a five- to seven-piece interlocking puzzle?</p> <p>ASQ48_FM2. Using child-safe scissors, does your child cut a paper in half on a more or less straight line, making the blades go up and down?</p> <p>ASQ48_FM3. Using the shapes below to look at, does your child copy at least three shapes onto a large piece of paper using a pencil, crayon, or pen, without tracing?</p> <p>ASQ48_FM4. Does your child unbutton one or more buttons?</p> <p>ASQ48_FM5. Does your child draw pictures of people that have at least three of the following features: head, eyes, nose, mouth, neck, hair, trunk, arms, hands, legs, or feet?</p> <p>ASQ48_FM6. Does your child color mostly within the lines in a coloring book or within the lines of a 2-inch circle that you draw?</p>	<p>Each response in this subsection will be scored in accordance with the standard methodology used for scoring ASQ in the literature.</p> <p>Aggregate score in this section will be the sum of individual scores for all these questions</p>
	<p>Problem-Solving</p>	<p>ASQ48_PS1. When you say, “Say ‘five eight three,’” does your child repeat just the three numbers in the same order? Do not repeat the numbers. If necessary, try another series of numbers and say, “Say ‘six nine two.’”</p> <p>ASQ48_PS2. When asked, “Which circle is the smallest?” does your child point to the smallest circle?</p> <p>ASQ48_PS3. Without your giving help by pointing, does your child follow three different directions using the words “under,” “between,” and “middle”?</p> <p>ASQ48_PS4. When shown objects and asked, “What color is this?” does your child name five different colors, like red, blue, yellow, orange, black, white, or pink?</p> <p>ASQ48_PS5. Does your child dress up and “play-act,” pretending to be someone or something else?</p>	<p>Each response in this subsection will be scored in accordance with the standard methodology used for scoring ASQ in the literature.</p> <p>Aggregate score in this section will be the sum of individual scores for all these questions</p>

		ASQ48_PS6. If you place five objects in front of your child, can he count them by saying, “one, two, three, four, five,” in order?	
	Personal-Social	<p>ASQ48_S1. Does your child serve herself, taking food from one container to another using utensils?</p> <p>ASQ48_S2. Does your child tell you at least four of the following?</p> <p>ASQ48_S3. Does your child wash his hands using soap and water and dry off with a towel without help?</p> <p>ASQ48_S4. Does your child tell you the names of two or more playmates, not including brothers and sisters?</p> <p>ASQ48_S5. Does your child brush her teeth by putting toothpaste on the toothbrush and brushing all of her teeth without help?</p> <p>ASQ48_S6. Does your child dress or undress himself without help (except for snaps, buttons, and zippers)?</p>	<p>Each response in this subsection will be scored in accordance with the standard methodology used for scoring ASQ in the literature.</p> <p>Aggregate score in this section will be the sum of individual scores for all these questions</p>

Ages and Stages Questionnaire - 60 month	Communication	<p>ASQ60_C1. Without your giving help by pointing or repeating directions, does your child follow three directions that are unrelated to one another? Give all three directions before your child starts.</p> <p>ASQ60_C2. Does your child use four- and five-word sentences? For example, does your child say, “I want the car”?</p> <p>ASQ60_C2.1. Please write an example:</p> <p>ASQ60_C3. When talking about something that already happened, does your child use words that end in “-ed,” such as “walked,” “jumped,” or “played”? Ask your child questions, such as “How did you get to the store?” (“We walked.”) “What did you do at your friend’s house?” (“We played.”)</p> <p>ASQ60_C3.1. Please write an example:</p> <p>ASQ60_C4. Does your child use comparison</p>	<p>Each response in this subsection will be scored in accordance with the standard methodology used for scoring ASQ in the literature.</p> <p>Aggregate score in this section will be the sum of individual scores for all these questions</p>
--	---------------	--	--

		<p>words, such as “heavier,” “stronger,” or “shorter”? Ask your child questions, such as “A car is big, but a bus is _____” (bigger); “A cat is heavy, but a man is _____” (heavier); “A TV is small, but a book is _____” (smaller).</p> <p>ASQ60_C4.1. Please write an example:</p> <p>Section ASQ60_C5</p> <p>ASQ60_C5. Does your child answer the following questions? (Mark “sometimes” if your child answers only one question.)</p> <p>ASQ60_C5.1. “What do you do when you are hungry?” Please write your child's response here:</p> <p>1</p> <p>1</p> <p>ASQ60_C5.2. “What do you do when you are tired?” Please write your child's response here:</p> <p>1</p> <p>1</p> <p>ASQ60_C5. Does your child answer the above questions?</p> <p>ASQ60_C6. Does your child repeat the sentences shown below back to you, without any mistakes?
 Jane hides her shoes for Maria to find.
Al read the blue book under his bed.</p>	
	Gross Motor	<p>ASQ60_GM1. While standing, does your child throw a ball overhand in the direction of a person standing at least 6 feet away? To throw overhand, your child must raise his arm to shoulder height and throw the ball forward.</p> <p>ASQ60_GM2. Does your child catch a large ball with both hands?</p> <p>ASQ60_GM3. Without holding onto anything, does your child stand on one foot for at least 5 seconds without losing her balance and putting her foot down?</p> <p>ASQ60_GM4. Does your child walk on his tiptoes for 15 feet (about the length of a</p>	<p>Each response in this subsection will be scored in accordance with the standard methodology used for scoring ASQ in the literature.</p> <p>Aggregate score in this section will be the sum of individual scores for all these questions</p>

	<p>large car)?</p> <p>ASQ60_GM5. Does your child hop forward on one foot for a distance of 4–6 feet without putting down the other foot?</p> <p>ASQ60_GM6. Does your child skip using alternating feet?</p>	
Fine Motor	<p>ASQ60_FM1. Ask your child to trace on the line below with a pencil. Does your child trace on the line without going off the line more than two times?</p> <p>ASQ60_FM2. Ask your child to draw a picture of a person on a blank sheet of paper. You may ask your child, “Draw a picture of a girl or a boy.”</p> <p>ASQ60_FM3. Draw a line across a piece of paper. Using child-safe scissors, does your child cut the paper in half on a more or less straight line, making the blades go up and down?</p> <p>ASQ60_FM4. Using the shapes below to look at, does your child copy the shapes in the space below without tracing?</p> <p>ASQ60_FM5. Using the letters below to look at, does your child copy the letters without tracing? Cover up all of the letters except the letter being copied.</p> <p>ASQ60_FM6. Print your child’s first name. Can your child copy the letters? The letters may be large, backward, or reversed.</p>	<p>Each response in this subsection will be scored in accordance with the standard methodology used for scoring ASQ in the literature.</p> <p>Aggregate score in this section will be the sum of individual scores for all these questions</p>
Problem-Solving	<p>ASQ60_PS1. When asked, “Which circle is the smallest?” does your child point to the smallest circle?</p> <p>ASQ60_PS2. When shown objects and asked, “What color is this?” does your child name five different colors, like red, blue, yellow, orange, black, white, or pink?</p> <p>ASQ60_PS3. Does your child count up to 15 without making mistakes? Does your child finish the following</p>	<p>Each response in this subsection will be scored in accordance with the standard methodology used for scoring ASQ in the literature.</p> <p>Aggregate score in</p>

		<p>sentences using a word that means the opposite of the word that is italicized? For example: “A rock is hard, and a pillow is soft.” Please write your child’s responses below:</p> <p>ASQ60_PS4.1. A cow is <i>big</i>, and a mouse is</p> <p>ASQ60_PS4.2. Ice is <i>cold</i>, and fire is</p> <p>ASQ60_PS4.3. We see stars at <i>night</i>, and we see the sun during the.....</p> <p>ASQ60_PS4.4. When I throw the ball <i>up</i>, it comes.....</p> <p>ASQ60_PS4. Does your child finish the above sentences using a word that means the opposite of the word that is italicized?</p> <p>ASQ60_PS5. Does your child know the names of numbers?</p> <p>ASQ60_PS6. Does your child name at least four letters in her name? Point to the letters and ask, “What letter is this?” (Point to the letters out of order.)</p>	<p>this section will be the sum of individual scores for all these questions</p>
	<p>Personal-Social</p>	<p>ASQ60_S1. Can your child serve himself, taking food from one container to another, using utensils?</p> <p>ASQ60_S2. Does your child wash her hands and face using soap and water and dry off with a towel without help?</p> <p>ASQ60_S3. Does your child tell you at least four of the following? Please mark the items your child knows.</p> <p>ASQ60_S4. Does your child dress and undress himself, including buttoning medium-size buttons and zipping front zippers?</p> <p>ASQ60_S5. Does your child use the toilet by herself? (She goes to the bathroom, sits on the toilet, wipes, and flushes.)</p> <p>ASQ60_S6. Does your child usually take turns and share with other children?</p>	<p>Each response in this subsection will be scored in accordance with the standard methodology used for scoring ASQ in the literature.</p> <p>Aggregate score in this section will be the sum of individual scores for all these questions</p>

Table 2: Caregivers' Primary Outcomes

<p>Parent (Caregiver) Stress Index</p>	<p>E.1 My child rarely does things that make me feel good.</p> <p>E.2 Sometimes I feel my child doesn't like me and doesn't want to be close to me.</p> <p>E.3 My child smiles at me much less than expected.</p> <p>E.4 When I do things for my child, I get the feeling that my efforts are not appreciated very much.</p> <p>E.5 I expected to have closer and warmer feelings for my child than I do, and this bothers me.</p> <p>E.6 Sometimes my child does things that bother me just to be mean.</p> <p>E.7 I feel that I am _____</p>	<p>This index is obtained by adding coded values for E1 to E7.</p> <p>Variables E1-E6 take values as Strongly Agree -1 Agree - 2 Not Sure - 3 Disagree - 4 Strongly Disagree - 5</p> <p>For E7, the coding will look like: A very good parent - 5 A better than average parent - 4 An average parent - 3 A person who has trouble being a parent - 2 Not very good at being a parent - 1</p>
<p>Practice of early stimulation and learning (Index)</p>	<p>PSL1A. Read books or looked at picture books with the child.</p> <p>PSL1B. Told stories to the child.</p> <p>PSL1C. Sang songs to or with the child (including lullabies)?</p> <p>PSL1D. Took the child outside the home?</p> <p>PSL1E. Played with the child.</p> <p>PSL1F. Named, counted, or drew things for or with the child.</p>	<p>Coding for each: 1 if Yes, 0 if No</p> <p>The index will be the additive sum of the responses.</p>

NOTE: The three tables below list the secondary outcomes of the study:

Table 3: Teacher-Student Interaction in the ECD

<p>Quality of the ECD Centre</p>	<p>Teacher-Student Interaction</p>	<p>B1. Reading to a small/large group</p> <p>B2. Teachers or Students singing</p> <p>"B3. Circle time: child is leading a whole class activity . (e.g. some sort of activity where every child might have a turn or get to show the class something and speak) All children sitting together to talk about a topic, or watch a demonstration, etc."</p> <p>B4. Back and forth discussion/conversation in a circle time</p> <p>B5. Back and forth discussion/interaction/conversation with a small group or one child</p> <p>B6. Engaging in pretend play with children/child</p> <p>B7. Telling child or children what to do (not back and forth discussion)</p> <p>B8. Negative discipline –</p> <p>B9. Calmly negotiating conflict between peers</p> <p>B10. Smiling/positive affect</p> <p>B11. Negative affect/yelling</p> <p>B12. Teacher is sitting at her desk or not engaged with children</p> <p>B13. Teacher is talking with another adult</p>	<p>The enumerator selects either Yes or No to each of the points from B1 to B14.</p> <p>There are two indices:</p> <p>(i) Positive index:</p> <p>For B1, B2, B3, B4, B5, B6, B7, B9, and B10, the responses will be coded as: 1 if Yes, 0 if No</p> <p>The positive index will be the additive sum of the responses to B1, B2, B3, B4, B5, B6, B7, B9, and B10 summed across all 20 rounds of observation.</p> <p>(ii) Negative index:</p> <p>For B8, B11, B12, B13, and B14, responded will coded as: 1 if Yes, 0 if No</p> <p>The negative index will be the additive sum of</p>
----------------------------------	------------------------------------	--	--

		B14. Teacher out of the classroom	the responses to B8, B11, B12, B13, and B14 summed across all 20 rounds of observation.
--	--	-----------------------------------	---

Table 4: Classroom Facilities and Infrastructure

Quality of the ECD	Checklist: Classroom Monitoring (Facilities and Infrastructure)	Observation	Coding
		Teacher has prepared yearly, monthly and daily plan	Coded: 1 if Yes, 0 if No, discarded if NA The index will be the additive sum of the responses.
		Teachers follows standard daily time table (as learnt during the training)	
		Stories, poems and songs are regularly used in ECD center	
		ECD center and classroom are regularly cleaned	
		Access to safe drinking water	
		Access to Child friendly washroom and toilets	
		Child-friendly, clean (free from dust); adequate space classroom & Proper seating arrangement in ECD center (Use of carpet, pre fab, cushions, round tables etc.,	
		Six learning areas management and arrangement of learning materials accordingly	

	Language learning areas arrangement & management	
	Science learning areas arrangement & management	
	Play/Act/role-play skills related learning areas arrangement & management	
	Creativity learning areas arrangement & management	
	Math learning areas arrangement & management	
	Construction/Materials development learning areas arrangement & management	
	Use of learning and play materials and conducts activities accordingly	
	Teacher takes daily attendance of all children (attendance registers maintained)	
	Teacher also conducts appropriate and disable-friendly activities for children with disability	
	Use of ECD Kit Box in children's daily activities	
	Regular observation/monitoring/supervision and guidance by HT	
	Teachers have maintained records on students' progress (as per the prescribed formats)	

Table 5: Caregivers' Secondary Outcomes

<p>Attitude to discipling the Child</p>	<p>F2. Do you think it's necessary or/and normal to spank to discipline your child?</p>	<p>F2 will be coded as: 1 if No, 0 if Yes</p>
<p>Intensity of discipline</p>	<p>F4. In the past 14 days, how often have you spanked to discipline your child?</p>	<p>The responses will be coded as: Never - 0 Once - 1 Twice - 2 Many than twice - 3</p>
<p>Intensity of early stimulation and learning (index)</p>	<p>PSL1A_F. How often did you engage in this activity with the child? PSL1B_F. How often did you engage in this activity with the child? PSL1C_F. How often did you engage in this activity with the child? PSL1D_F. How often did you engage in this activity with the child? PSL1E_F. How often did you engage in this activity with the child? PSL1F_F. How often did you engage in this activity with the child?</p>	<p>These responses will be individually coded as: Only several times (1-3 days a week) coded as 1; Often (4-5 days a week) coded as 2; Nearly every day (6 days a week) coded as 3 The index will be the additive sum of the responses.</p>
<p>Attitude to Disability</p>	<p>D.3 Do you believe children with disabilities should be separated from their parents? D.4 Do you think schools should accommodate children with disabilities?</p>	<p>D.3 will be coded as: 0 if Yes, 1 if No D.4 and D.5 are coded as: 1 if Yes, 0 if No D.12 will be coded as: Strongly Agree - 5 Agree - 4</p>

	<p>D.5 Do you think disabilities can be helped?</p> <p>D.12. I believe that children with disabilities deserve access to educational opportunities</p>	<p>Not sure - 3 Disagree - 2 Strongly Disagree - 1</p> <p>The index will be the additive sum of the responses.</p>
<p>Feeling confident to help with disability</p>	<p>D.13 I have the necessary knowledge and skills to support children with disabilities</p> <p>D.14 I feel confident in my ability to support children with disabilities.</p>	<p>Coding for both responses:</p> <p>Strongly Agree - 5 Agree - 4 Not sure - 3 Disagree - 2 Strongly Disagree - 1</p> <p>The index will be the additive sum of the responses.</p>