What is the Theory of Change & M&E Evaluation Set?

Rocket Learning Model
1. Teacher support in classroom setting
2. Parent engagement for home learning
3. ECCE systems change, policy, and structural reform

B. Parents
1. Engagement
2. Awareness & confidence
3. Time spent with children

C. Anganwadi Workers
1. Knowledge
2. Attitude
3. Practice

A. Child
Learning & life outcomes:
1. ECCE for 3-6
2. FLN for 6-8
What is the process that Monitoring & Evaluation follows and key tools used?

**M&E Process**

**External partners:** J-PAL, Vidhi Centre

**Internal Process:** M&E supported and validated by experts from Harvard and Stanford professors like Prof. Dana McCoy, and Prof. Kanwaljit Anand.

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**SCORING GUIDELINES FOR SCHOOL READINESS INSTRUMENT**

<table>
<thead>
<tr>
<th>Activity No.</th>
<th>Concept</th>
<th>Existing Rules</th>
</tr>
</thead>
</table>
| 1 | Pre-number concepts | Maximum score: 2  
Able to answer both correctly: 2  
Able to answer any one correctly: 1  
Unable to answer: 0 |
| 2 | Space Concept | Maximum score: 1  
Able to identify: 1  
Unable to identify: 0 |
| 3 | Sequential thinking skill | Maximum score: 5  
Able to identify the sequence and describe in words: 5  
Unable to identify the sequence: 0 |
| 4 | Classification of birds and animals | Maximum score: 6  
Able to classify all birds and animals: 6  
Able to classify at least 2 birds and 2 animals: 4  
3rd level identification of any 4 birds or animals: 2  
Unable to identify: 0 |
| 5 | Following instructions | Maximum score: 4  
Able to follow complex instruction in sequence: 4  
Able to follow a simple instruction: 2  
Unable to follow either of these instructions: 0 |
| 6 | Number/object matching | Maximum score: 3  
Able to match all 3: 3  
Able to match all but 2: 2  
Unable to match: 0 |
| 7 | Reading readiness, identifies beginning sound | Maximum score: 6  
Able to identify beginning sound of all objects: 3  
Able to identify beginning sound of 2 objects: 2  
Able to indicate pictures with similar beginning sound: 3  
Unable to identify: 0 |
| 8a | Pattern making | Maximum score: 1  
Able to complete part of 1: 1  
Unable to complete: 0 |
| 8b | Pattern making | Maximum score: 4  
Able to complete part of 4: 4  
Unable to complete: 0 |
| 9 | Sentence making | Maximum score: 4  
Able to describe both pictures correctly in complete sentence (Active vocabulary): 2  
Able to describe one picture correctly in complete sentence (Active vocabulary): 2  
Able to describe either both pictures correctly but in incomplete sentence (Active vocabulary): 2  
Able to describe both, once picture is described (Passive vocabulary): 1  
Unable to describe/identify: 0 |
| 10 | Relative comparisons: Number-greater/lesser | Maximum score: 2  
Able to give correct answer: 2  
Unable to answer: 0 |

**Activity No. 8(b)**

Show the pattern to the child and ask him/her to identify shapes or the colors in the given pattern. Explain the pattern to the child and then ask him/her to complete the pattern after handing over the cut outs to the child.
Outcome Evaluations

Across

A. Children  B. Parents  C. Teachers

And their sub-measures mentioned in previous slide
What was evaluated?

❖ Measuring children's learning outcomes (LO): Pre-literacy, Pre-Numeracy and Cognitive development
❖ Randomized sample of ~250 3-6 years of children enrolled in Anganwadis and part of the Rocket Learning WhatsApp groups

Type of Assessment

❖ Midline and endline assessments conducted six months and 12 months after intervention started, respectively.
❖ JPAL-ECE Assessment tool

Key Results

❖ Intervention helped users reached the top one-third of their class - this is based on regression of students LO vs user engagement on model, while accounting for age and mother's education, and is statistically significant
❖ Self-reported daily time spent on learning is co-related with actual engagement on the product
Mumbai and Chandigarh ECCE (2021-22)

What was evaluated?

❖ Measuring Children’s LOs:
  Pre-literacy, Pre-Numeracy and Cognitive development
❖ Randomized sample of ~300 3-6 years of children enrolled in Balwadis and part of the RL whatsapp groups

Type of Assessment

❖ Midline and endline assessments conducted six months and 12 months after intervention started, respectively.
❖ ASER-Modified assessment tool

Key Results

❖ Data showed a strong positive and statistically significant relationship between user (parent) engagement and improvement in child's learning score, after controlling for child's age and mother's education.
❖ Monthly Active Users (MAUs) are achieving substantial Learning Outcomes (LO) gains - scores are higher by 36% points from one month active to 12 months active.
❖ Learning increases per response and per month active.
❖ Overall, female students relatively fared 6% better than the male students in mean score difference.
UK FLN (Nainital & Haridwar) July 22- March 23

What was evaluated?
❖ Measuring Foundational Literacy and Numeracy for Grade 1 and 2 students
❖ Sample of 300 students across locations

Type of Assessment
❖ Tool used in Baseline & Endline – EGRA EGMA
❖ Endline assessments finding difference across treated and non-treated

Key Results
❖ Weekly parent study time is positively correlated to engagement level of kids on RL group and statistically significant (98% CI)
❖ Detailed results in next slide
Margins for ‘# of days active’ show a general increasing trend highlighting the impact of engaging on Rocket Learning groups.

Margins for ‘mother daily engagement’ shows a statistically significant increasing trend highlighting the critical role of parental support in improving ‘learning outcomes’ for children.
What was evaluated?

❖ Measuring change in FLN learning outcomes for Grades 1 & 2

Type of Assessment

❖ Sampling by J-PAL and Harvard researchers
❖ Assessment tool prepared by CSF

Results

❖ Positive gains in Word Reading Skills - Significant results in reading two syllable words. RL students also better on reading words with matras
❖ Positive gains in Number Recognition, Ordering and Comparison till 20 - More children could master ordering and comparisons in RL treatment than control
❖ Significant Positive Impact in Letter Identification & Listening Comprehension - On average RL kids can read 11 letters vs 9.5 letters for a kid in the control
UP Foundational Literacy, Numeracy (2021-22)

What was evaluated?
❖ Measuring change in FLN learning outcomes for Grades 1 & 2; Sample of 500 students

Type of Assessment
❖ Control vs treatment Sampling, with support from J-PAL and Harvard researchers
❖ Assessment tool prepared by CSF

Key Results
❖ Positive gains in Word Reading Skills - Significant results in reading two syllable words. RL students also better on reading words with matras
❖ Positive gains in Number Recognition, Ordering and Comparison till 20 - More children could master ordering and comparisons in RL treatment than control
❖ Significant Positive Impact in Letter Identification & Listening Comprehension - On average RL kids can read 11 letters vs 9.5 letters for a kid in the control
Mumbai pre-schools in 2021-22

What was evaluated?

- Measuring change in parental awareness & attitudes
- Output variables include time spent with children on educational activities, feedback on activities

Type of Assessment

- Control vs Treatment randomized control trial - sample of 500 households
- External study by the Vidhi Center using behavior and time response tool developed by their researchers

Key Results

- The median parent-child, who was part of the program, engaged in learning at home for 4 days a week, compared to 2 days those not part of the program.
- The program also doubled the time the parents spent with children on learning activities on a daily basis. Thrice the number of parents reported increasing their engagement with children in the past 6 months.
What was evaluated?

- Caregiver behavioral barriers and time spent on learning
-Rocket Learning model executed with good fidelity by Central Square Foundation, Centre for Social and Behaviour Change (CSBC) at Ashoka University, the Department of Basic Education in Uttar Pradesh

Type of Assessment

- Study conducted in three aspirational districts in Uttar Pradesh
- Interviews with parents, teachers and academic resource persons (ARPs)
- 862 parents were in the treatment group and 478 were in the control group.

Key Results

- The intervention positively impacted caregivers’ engagement on FLN –
  1. Time spent on learning
  2. “Price” assigned to FLN
  3. Understanding of specific activities caregivers can do with their children
  4. Confidence in their own ability to create impact.
Parent Behaviour (Time Spent)
Vidhi (Mumbai Balwadis & Akanksha Schools)

What was evaluated?
❖ Measuring change in parental awareness & attitudes
❖ Output variables include time spent with children on educational activities, feedback on activities, likelihood of continuing to engage post school reopening

Type of Assessment
❖ Sampling by J-PAL and Harvard researchers
❖ Assessment tool prepared by CSF

Results
❖ The median parent-child, who was part of the program, engaged in learning at home for 4 days a week, compared to 2 days those not part of the program.
❖ The program also doubled the time the parents spent with children on learning activities on a daily basis. Thrice the number of parents reported increasing their engagement with children in the past 6 months.
❖ Parents in RL groups are more likely to continue engaging with children post school re-opening (2x more likely)
**Parent Awareness & Confidence** - BCC Studies

**Behaviour change assessment framework**

- **“Something can be done”**
  - Aspiration Index
  - I aspire my child to learn new skills (short term)
  - I aspire my child to study in a good school (medium term)
  - I aspire my child to have a good life (long term)

- **“Parents can do something”**
  - Attitude Index
  - I understand that intelligence is malleable
  - I understand the importance of early childhood education
  - I understand the impact of parental inputs

- **“I can do something”**
  - Confidence Index
  - I feel confident as a parent
  - I feel confident interacting with my child
  - I feel confident in helping my children learn basic skills

- **“I want to do something”**
  - Intention Index
  - I want to know more about my child’s learning
  - I want to contribute to my child’s learning

- **“I will do X, Y, Z”**
  - Behaviour Index
  - The quantity of interactions with my child has increased
  - The quality of interactions with my child has improved
  - The relationship with my child has strengthened

- **“I am doing X, Y, Z”**
## Parent Awareness & Confidence - BCC Studies

<table>
<thead>
<tr>
<th>Index/Mindset</th>
<th>“Don’t understand the importance of ECE”</th>
<th>“Less educated parents not confident”</th>
<th>“Teaching is the teacher’s responsibility”</th>
<th>“I don’t have enough time”</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attitude Index</strong></td>
<td><img src="%E2%9C%93" alt="Yes" /></td>
<td><img src="%E2%9C%93" alt="Yes" /></td>
<td><img src="%E2%9C%93" alt="Yes" /></td>
<td></td>
</tr>
<tr>
<td><strong>Confidence Index</strong></td>
<td><img src="%E2%9C%93" alt="Yes" /></td>
<td></td>
<td><img src="%E2%9C%93" alt="Yes" /></td>
<td></td>
</tr>
<tr>
<td><strong>Intention Index</strong></td>
<td><img src="%E2%9C%93" alt="Yes" /></td>
<td></td>
<td><img src="%E2%9C%93" alt="Yes" /></td>
<td></td>
</tr>
<tr>
<td><strong>Behaviour Index</strong></td>
<td><img src="%E2%9C%93" alt="Yes" /></td>
<td><img src="%E2%9C%93" alt="Yes" /></td>
<td><img src="%E2%9C%93" alt="Yes" /></td>
<td><img src="%E2%9C%93" alt="Yes" /></td>
</tr>
</tbody>
</table>
## Parent Awareness & Confidence - BCC Studies

Multiple channels tried for campaign impact assessment with positive trends on campaign-specific messaging

<table>
<thead>
<tr>
<th>Campaign</th>
<th>Archetypes</th>
<th>Responses</th>
<th>Channel</th>
<th>Summary</th>
<th>Campaign edit required</th>
<th>Sunday responders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Padhai ka partner</td>
<td>Pre-survey, Post-survey</td>
<td>460 matched responses</td>
<td>Group messages</td>
<td>12% increase in households reporting that children can study with multiple family members</td>
<td>No</td>
<td>15,700</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>3% increase in households reporting that ‘someone else helps’ if mother is not available for homework assistance</td>
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<tr>
<td>Koshish karne walo</td>
<td>Inactive users, Active users, Sunday responders</td>
<td>8000-9000</td>
<td>Template messages</td>
<td>6% more parents asked their child to try again if they couldn’t make the paper boat amongst Sunday responders vs other archetypes</td>
<td>No</td>
<td>19,500</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>5% more parents will encourage their child to keep trying if they are unable to learn something new vs active users and 7% more vs inactive users</td>
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</tr>
<tr>
<td>Socho zara Socho</td>
<td>Pre-survey, Post-survey</td>
<td>1700 matched responses</td>
<td>Group messages</td>
<td>5% increase in parents saying they will find answers with their kid if they don’t know the answer to a question</td>
<td>No</td>
<td>22000</td>
</tr>
<tr>
<td></td>
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<td>22% increase in parents saying they will keenly listen if the child comes to them with a make believe story</td>
<td></td>
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</tr>
<tr>
<td>Ek naari, sab pe bhaari</td>
<td>Pre-survey, Post-survey</td>
<td>539 matched responses</td>
<td>Group messages</td>
<td>33% increase in parents mentioning they know about Women’s day</td>
<td>No</td>
<td>18,500</td>
</tr>
<tr>
<td></td>
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<td>80% parents correctly recalling the name of the Sunday campaign</td>
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<td>25% increase in parents saying a woman should prioritise child’s studies over work</td>
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<td>20% increase in parents mentioning they will share the responsibility of household chores</td>
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</tbody>
</table>
Anganwadis (AWWs) in Maharashtra

What was evaluated?
- Study to evaluate AWW Knowledge, Attitudes, Practices (KAP index) through Teacher product

Geography/ Sample
- Location: Buldana, Maharashtra
- Duration of the survey: March 2023
- Number of AWWs surveyed: 234 AWWs

Type of assessment:
- Survey Questionnaire (qualitative and quantitative), created with external researcher support

Results
- 72% of AWWs were able to recall at least one RL message sent over last three weeks
- 27% of AWWs reported they did activities with children for 6 days during last week. Most others did activities for at least 4+ days.
- Half of the AWWs reported that they engage in educational activities for almost an hour or more
What was evaluated?

❖ Study to evaluate AWW Knowledge, Attitudes, Practices

Geography/ Sample

❖ Location: Prayagraj, UP
❖ Duration of the survey: May 2023
❖ Number of AWWs surveyed: 240 AWWs

Type of assessment:

❖ Survey Questionnaire (qualitative and quantitative), created with external researcher support

Results

❖ 67% of AWWs were able to recall at least one RL message sent over last three weeks
❖ 44% of the AWWs reported they did activities with children for 6 days during last week
❖ Those high on the digital literacy index were more active in doing and sending back activities
Parent Engagement - CSF + CSBC

What was evaluated?

❖ Identify the behavioral barriers impacting FLN outcomes. revealed that parents face motivational and capacity barriers that inhibit their engagement.
❖ Executed by Central Square Foundation, Centre for Social and Behaviour Change (CSBC) at Ashoka University, NITI Aayog, the Department of Basic Education in Uttar Pradesh, Piramal Foundation, and Rocket Learning.

Type of Assessment

❖ Exploratory study conducted in three aspirational districts in Uttar Pradesh.
❖ Interviews with parents, teachers and academic resource persons (ARPs).
❖ 862 parents were in the treatment group and 478 were in the control group.

Results

❖ RL’s interventions positively impacted parents’ engagement on FLN – for example, parents in the workbook treatment group were willing to pay Rs 192.61 for 30 minutes of time spent on learning FLN activities vs parents in the control group who were willing to pay Rs 180.69.
Parent Engagement - A/B Tests - Real-time nudging

What was evaluated?

❖ Real-time appreciation message sent on a group using CN in response to parent activity at least 1 non-chat response within the interval. Sent at 3 intervals: 8:30 am, 2:00 pm, 8:00 pm

Geography Sample

❖ UP, UK, RJ, MP, HR

Type of Assessment

❖ Tracking of messages received and format

Results

❖ 17.15 percentage point (pp) 😊 increase in the number of non-chat messages within the groups compared to the control (statistically significant with a p-value of 0.002, super high confidence)

❖ 10 percentage point (pp) 😊 increase in the number of Daily Active Users (DAUs) when compared to the control group (p-value 0.02, high confidence)

❖ Moderator Messages Impact: Although we observed a 5 percentage point (pp) increase in moderator messages, the p-value associated with this result is 0.5, indicating that the difference is not statistically significant.
Parent Engagement - A/B Tests Large-scale personalization/ Social Tagging - Aug-Sept 2023

What was evaluated?

❖ Every day, 2 AWW phone numbers were randomly selected and tagged on the Teacher Product Whatsapp group with the following Call to Action (CTA) - to send rich media of them doing the in-centre activity on the group along with the text "#Lucky AWC".
❖ One arm of the experiment included a deadline to complete the CTA and the other did not
❖ Those tagged AWW phone numbers who sent back rich media after being tagged were given a special certificate the next day on the group

1. **Treatment group 1**: Not time-bound social tagging: AWW group receives a CTA to send pictures or videos at any time during the day.
2. **Treatment group 2**: Time bound social tagging: A soft deadline will be set for the AWWs to respond by 3pm the next day
3. **Control group**: Continued to receive current CTA with no other interventions
Parent Engagement - A/B Tests Large-scale personalization/ Social Tagging - Aug-Sept 2023 (Cont.)

Results

- Overall, 72% of tagged AWWs in T1 and 52% of tagged AWWs in T2 responded with the rich media CTA during the course of the experiment.
- 39% of tagged AWWs in T1 and 42% of tagged AWWs in T2 responded with the rich media CTA within 1.5 days of being tagged (deadline marginally worked).
- T1 led to an increase in the average number of non-chat active days per user, i.e 1.39 extra days of activity per month per user (statistically significant).
- WAU on rich media increased by 11% in T1 in comparison to the control group (statistically significant). Highest increase in MP.
- DAU on rich media increased by 15% in T1 in comparison to the control group (statistically significant).
- The experiment worked best for T1 groups with medium level of activity, with a 23% increase in WAU (compared to 9% in high activity groups).
Parent Engagement - A/B Tests Large-scale personalization/ Social Tagging - Aug-Sept 2023 (Cont.)

**T1: Tagging Without Deadline**
- No of tagging instances: **6470**
  - No. of tagged AWWs who responded with rich media: **3720**
  - Tagged instances + Rich Media: **2570**
  - Tagged instances + Rich Media + Lucky Hashtag: **906**

**T2: Tagging With Deadline**
- No of tagging instances: **6446**
  - No. of tagged AWWs who responded with rich media: **3720**
  - Tagged AWWs + Rich Media: **2739**
  - Tagged AWWs + Rich Media + Lucky Hashtag: **883**

* Data updated as of first 22 days of experiment. All %s as % of tagging instances.
Teacher Model - UP Study

What was evaluated?

❖ Baseline study to evaluate AWW Knowledge, Attitudes, Practices

Geography/ Sample

❖ Location: Prayagraj, Uttar Pradesh
❖ Duration of the survey: 18th – 26th May, 2023
❖ Number of AWWs surveyed: 240 AWWs

Type of assessment:

❖ Interview - Questionnaire created by Content-M&E team
Key Results

- Digital Literacy: The research revealed that while a significant number of AWWs had access to smartphones provided by the government, there was a lack of self-ownership. Moreover, around 40% of AWWs reported having three or more years of experience in using smartphones. Digital literacy skills varied among AWWs, with younger AWWs and those with higher education demonstrating better digital literacy.

- Teaching and Learning Materials (TLM): Most AWWs used the TLM provided by the state government, and higher-educated AWWs tended to prepare TLM themselves. Furthermore, a high percentage of AWWs reported making TLM the previous month, with younger AWWs being more involved in this task.

- Activities with Children: Physical activities, arts and crafts, and pre-literacy activities were the most common activities conducted by AWWs at the Anganwadi Centers (AWCs) with children. Approximately 44% of AWWs reported engaging in activities with children for six days during the previous week. Most AWWs spent less than 45 minutes per day on these activities. Additionally, the research indicated that a significant proportion of AWWs conducted Rocket Learning (RL) activities with children, and those high on the digital literacy index were more active in sending back the conducted activities on the RL group.
Key Results

- Responsibilities and Encouraging Child Learning: AWWs reported teaching hygiene, good behavior, and child & newborn-specific nutrition as their top responsibilities. However, only 1/5th of AWWs reported ECE teaching as one of their responsibilities. Various ways of encouraging child learning were highlighted, including play-based learning, storytelling, and reading books. Younger AWWs showed a higher inclination toward using multiple ways to encourage learning compared to older AWWs.

- Knowledge and Attitudes: Most AWWs recognized cognitive development as an important domain, followed by physical development. However, there is a need for improvement in the knowledge and confidence levels of AWWs when it comes to teaching pre-numeracy skills. The research also identified areas of agreement and disagreement among AWWs regarding teaching practices and child well-being.
Teacher Model - MH Study

What was evaluated?
- Baseline study to evaluate AWW Knowledge, Attitudes, Practices

Geography/ Sample
- Location: Buldana, Maharashtra
- Duration of the survey: March 2023
- Number of AWWs surveyed: 234

Type of assessment:
- Questionnaire created by Content-M&E team

Results
- 27% of the AWWs reported they did activities with children for 6 days during last week (this is self-reported)
- Interestingly, when asked about last week, almost 1/5th of AWWs reported incorrect days
- Half of the AWWs reported that they engage in educational activities for almost an hour or more
- 72% of AWWs were able to recall at least one RL message sent over last three weeks
THANK YOU!