

# PRE-PRIMARY EDUCATION: LUXURY OR NECESSITY?

## EVIDENCE FROM MOZAMBIQUE AND LAOS

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APRIL 2021

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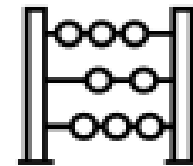
MAKING  
RESEARCH  
RELEVANT

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# Motivation

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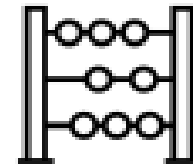
- Governments and stakeholders around the world increasingly recognize the importance of **pre-primary education**.
- However, many countries are still struggling to provide quality basic education, and it is not feasible for them to roll out a full year of pre-primary education.
- Countries need solutions to support school readiness that can leverage existing resources and are affordable.
- One model that holds promise as an interim solution is **accelerated school readiness** programming.



# Our Recent Work on School Readiness

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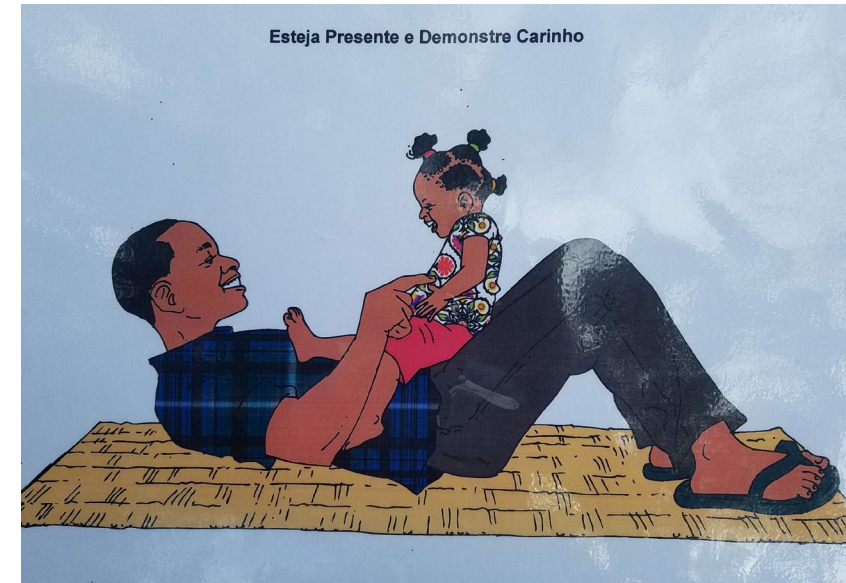
- In the last few years, AIR has been testing accelerated school readiness programming in different contexts:
  - Cote d'Ivoire
  - Laos
  - Mozambique... and will soon be doing so in Cambodia and Tanzania.



# The Accelerated School Readiness (ASR) Program in Mozambique

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1. **120-hour** summer program for **children** ages 5-6
2. **12 weeks** of parent-to-parent education sessions to improve the skills of **caregivers**
3. **Strengthening school councils** to support school readiness opportunities and promote a smooth transition for children into primary school
4. Provided by Save the Children to children in Zambézia province (Districts of Morrumbala and Derre)









# The ASR Program – Child Component

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- **2 classes** per community formed with a maximum of **30 students per class** (15:1 student-teacher ratio)
- Sessions facilitated by **trained volunteers** and **co-facilitated by parents**
  - Volunteer facilitators must have completed at least **10th grade** and **pass a literacy and numeracy assessment**
- Curriculum is **highly structured** with preset day-to-day, minute-by-minute activities
- Promotes **adaptation to Portuguese** combine with instruction in native language

Fase diária	2ª feira	3ª feira	4ª feira	5ª feira	6ª feira
 <b>Canções e Danças</b>	<ul style="list-style-type: none"> <li>Canções e Danças</li> <li>Aprender nova canção</li> </ul>	<ul style="list-style-type: none"> <li>Canções e Danças</li> <li>Treinar canção</li> </ul>	<ul style="list-style-type: none"> <li>Canções e Danças</li> <li>Treinar canção</li> </ul>	<ul style="list-style-type: none"> <li>Treinar nova canção,</li> <li>Aprender nova dança</li> </ul>	<ul style="list-style-type: none"> <li>Cantar as canções,</li> <li>Treinar a nova dança</li> </ul>
 <b>História e conversa</b>	<ul style="list-style-type: none"> <li>Passeio pela a escola,</li> <li>Aprender a usar a casa de banho</li> </ul>	<ul style="list-style-type: none"> <li>Descrever o cartaz da História 1,</li> <li>Adivinhar o tema,</li> <li>Ouvir a história,</li> <li>Perguntas</li> </ul>	<ul style="list-style-type: none"> <li>Contar História 1,</li> <li>Estimular as crianças a recontar partes da história</li> </ul>	<ul style="list-style-type: none"> <li>Contar a História 1, de forma errada e deixar as crianças corrigir</li> </ul>	<ul style="list-style-type: none"> <li>História 1, Falar sobre os desenhos usando palavras-chave em português</li> </ul>
 <b>Actividades livres</b>	<ul style="list-style-type: none"> <li>Ver os materiais e seus lugares,</li> <li>Simular regras: <i>Usar bem os materiais,</i></li> <li>Actividades livres ao seu gosto</li> </ul>	<ul style="list-style-type: none"> <li>Crianças mostram os limites do terreno da escola e uso da casa de banho,</li> <li>Actividades livres</li> </ul>	<ul style="list-style-type: none"> <li>Actividades livres ao seu interesse e gosto</li> </ul>	<ul style="list-style-type: none"> <li>Actividades livres ao seu interesse e gosto</li> </ul>	<ul style="list-style-type: none"> <li>Actividades livres ao seu interesse e gosto</li> </ul>
 <b>Oficina de expressão plástica</b>	<ul style="list-style-type: none"> <li>Ver os materiais e seus lugares,</li> <li>Aprender as regras do uso da oficina,</li> <li>Experimentar os materiais</li> </ul>	<ul style="list-style-type: none"> <li>Actividades de expressão plástica ao seu interesse e gosto</li> </ul>	<ul style="list-style-type: none"> <li>Actividades de expressão plástica ao seu interesse e gosto,</li> <li>O animador faz uma colagem</li> </ul>	<ul style="list-style-type: none"> <li>Actividades de expressão plástica ao seu interesse e gosto</li> </ul>	<ul style="list-style-type: none"> <li>Actividades de expressão plástica ao seu interesse e gosto,</li> <li>O animador faz e usa carimbos</li> </ul>
 <b>Jogo didáctico (Numeracia, Literacia)</b>  <b>Caderninho</b>	<ul style="list-style-type: none"> <li><i>Jogo de Escrita na areia</i> - Desenhar a si próprio,</li> <li>Recolher materiais da Natureza e embelezar o desenho</li> </ul>	<ul style="list-style-type: none"> <li><i>Jogo de espelho</i> - imitar os movimentos do colega</li> </ul>	<ul style="list-style-type: none"> <li>Esfolhar caderninho, conhecer seu lugar fixo e regras do uso.</li> <li><i>Jogo de escrita na areia</i> - escrever linhas e segui-las,</li> </ul>	<ul style="list-style-type: none"> <li>Jogo de fazer linhas com o corpo</li> <li>Caderninho Página: Seguir linhas I</li> </ul>	<ul style="list-style-type: none"> <li><i>Jogo de rimas</i> - saltar quando vem a palavra que rima, Encontrar mais palavras que rimem</li> <li>Caderninho Página: Palavras que rimam I</li> </ul>
 <b>Círculo</b>	<ul style="list-style-type: none"> <li>Falar sobre o dia, o que fez, gostou e não gostou</li> </ul>	<ul style="list-style-type: none"> <li>Falar sobre o dia, o que fez, gostou e não gostou</li> </ul>	<ul style="list-style-type: none"> <li>Falar sobre o dia, o que fez, gostou e não gostou</li> </ul>	<ul style="list-style-type: none"> <li>Falar sobre o dia, o que fez, gostou e não gostou</li> </ul>	<ul style="list-style-type: none"> <li>Falar sobre o dia, o que fez, gostou e não gostou</li> </ul>

DIA 1 DA SEMANA 1		
Fase diária	Descrição da Actividade	Materiais
 <b>Canções e Danças</b>	<ul style="list-style-type: none"> <li>• Pergunte às crianças quais são canções e danças que eles gostam, e implemente-as.</li> <li>• Ensine-lhes a nova canção, uma estrofe depois da outra.</li> </ul>	
 <b>História e conversa</b>	<ul style="list-style-type: none"> <li>• Faça com as crianças um passeio no espaço completo da escola. Nomeie as zonas e salas da escola.</li> <li>• Mostre às crianças como se usa as casas de banho.</li> <li>• Convide às crianças para demonstrar o uso da casa de banho.</li> </ul>	
 <b>Actividades livres</b>	<ul style="list-style-type: none"> <li>• Mostre às crianças os materiais de actividades livres e onde estão guardadas.</li> <li>• Explique e demonstre a regra: “Usar bem os materiais”. Simule o uso certo e o uso errado e reflecta com as crianças (como ficam os materiais se tratamos mal?).</li> <li>• Convide-as a fazer actividades ao seu interesse e gosto.</li> </ul>	Materiais para actividades livres
 <b>Oficina de expressão plástica</b>	<ul style="list-style-type: none"> <li>• Mostre às crianças os materiais de expressão plástica e seus lugares fixos.</li> <li>• Explique e demonstre as regras: “Arrumar o que se usou” e “Usar camisa ou avental da oficina”</li> <li>• Convide-lhes a experimentar com os materiais e fazer obras ao seu gosto.</li> </ul>	Materiais de expressão plástica
 <b>Jogo didáctico (Semana de Pré-Escrita)</b>	<ul style="list-style-type: none"> <li>• Sente-se com as crianças na areia. Peça-lhes para limpar e alisar a areia à sua frente, como se fosse um quadro.</li> <li>• Mostre às crianças como fazer um desenho de si próprio na areia.</li> <li>• Peça-lhes para fazerem o desenho de si próprio na areia. Eles podem fazer várias versões do desenho.</li> <li>• Convide-as a passear no pátio e recolher sementes, folhas, pedrinhas e raminhos. Com estes materiais podem embelezar seus desenhos.</li> <li>• Peça-lhes para passearem e observarem as obras dos colegas.</li> </ul>	Crianças recolhem materiais da natureza (sementes, folhas, pedrinhas, raminhos, carpim,...)
 <b>Círculo</b>	<ul style="list-style-type: none"> <li>• Junte as crianças no Círculo. Convide-as a demonstrarem as regras que aprenderam durante o dia.</li> <li>• Pergunte-lhes o que fizeram.</li> <li>• Pergunte-lhes o que gostaram e o que não gostaram.</li> </ul>	



# Research Questions and Methods

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## 1. To what extent does the program improve children's **school readiness**?

One-on-one assessment of children's learning using the IDELA at baseline, and again upon entry to Grade 1.

IDELA measures emergent numeracy, social-emotional learning, emergent literacy, executive function, motor skills, and approaches to learning.

## 2. To what extent does the program improve children's **on-time enrolment** in Grade 1?

School records, cross-checked with parents.



# Research Questions and Methods

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3. To what extent does the program improve children's **learning outcomes** at the end of Grade 1?

One-on-one assessment of children's learning using the IDELA.

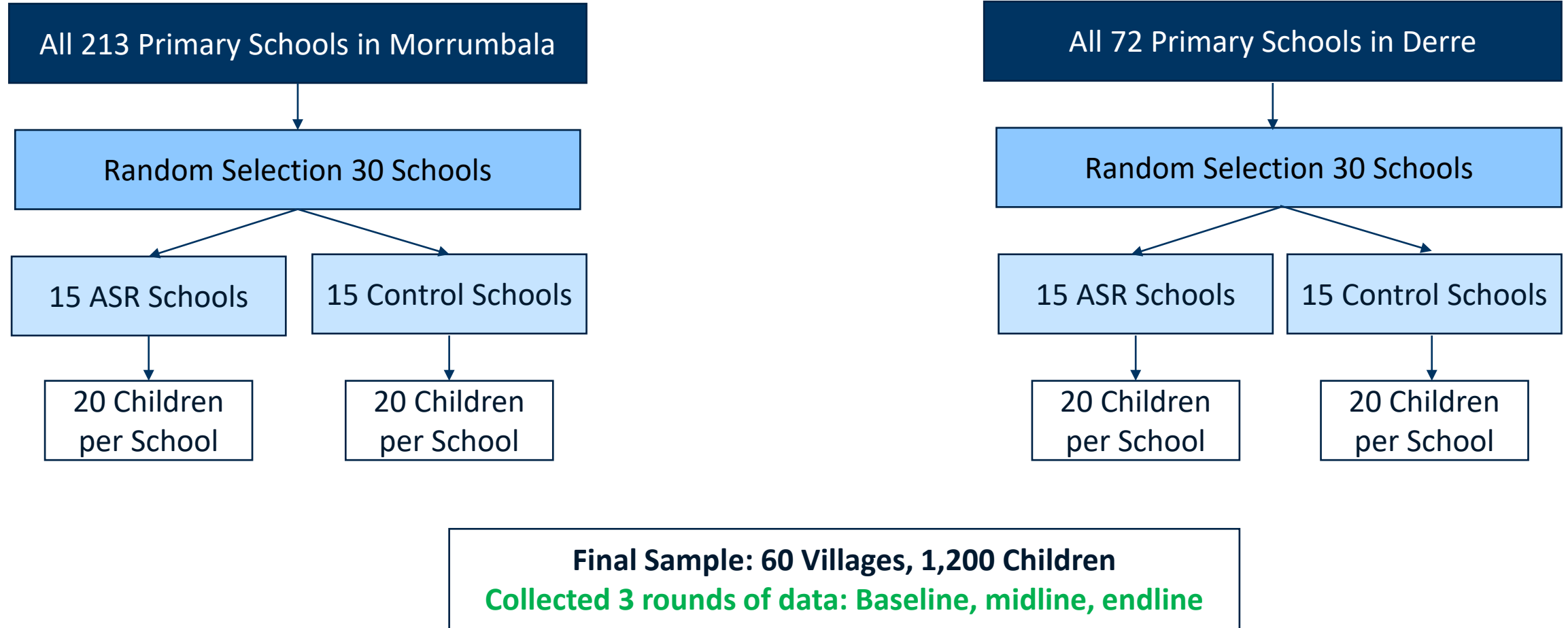
4. Which aspects of community context and **implementation** facilitate or inhibit the success of the program?

Focus groups and key informant interviews with implementers and families, program implementation checklists.

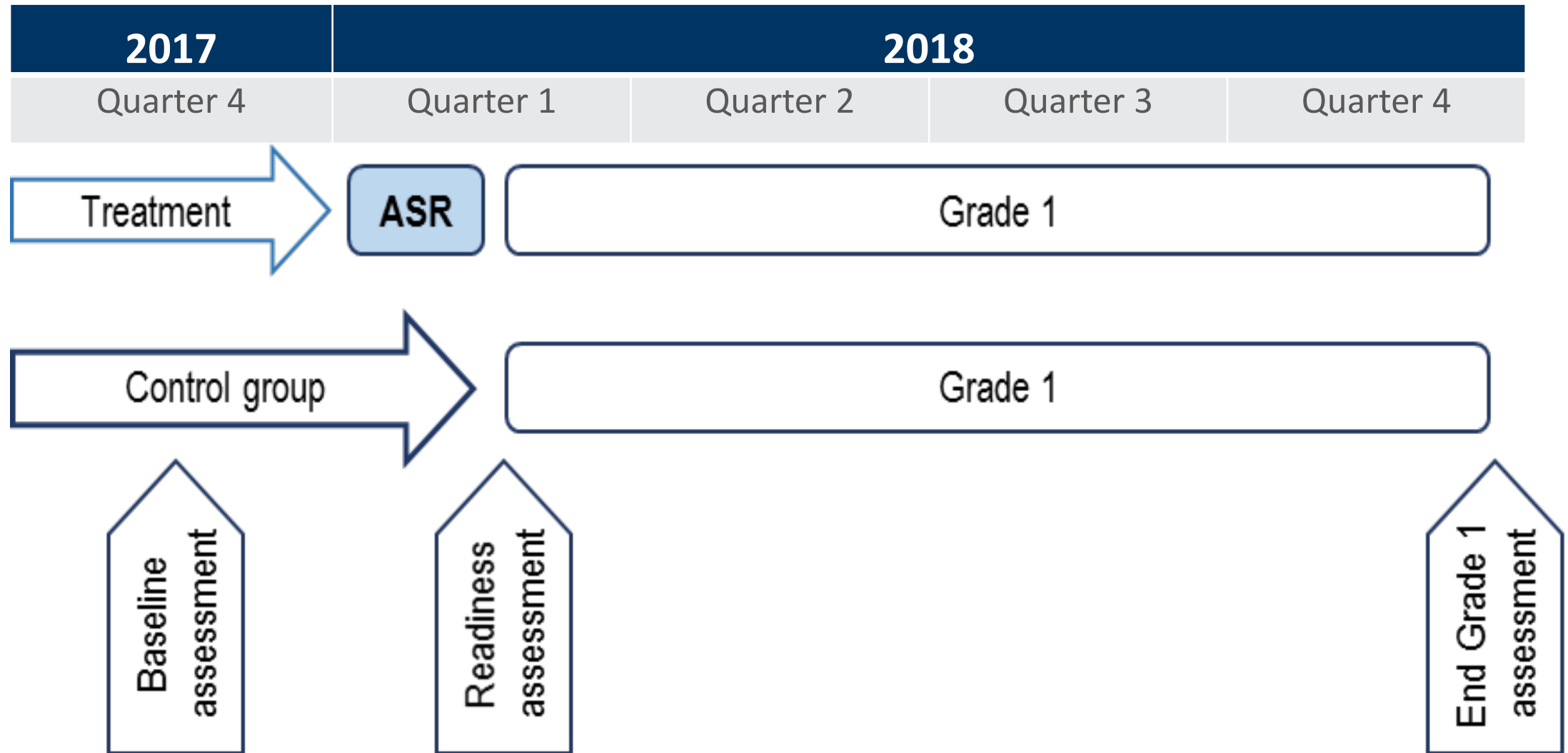
5. What is the **cost** of the program?

Comprehensive cost analysis with Cost Resource Model.

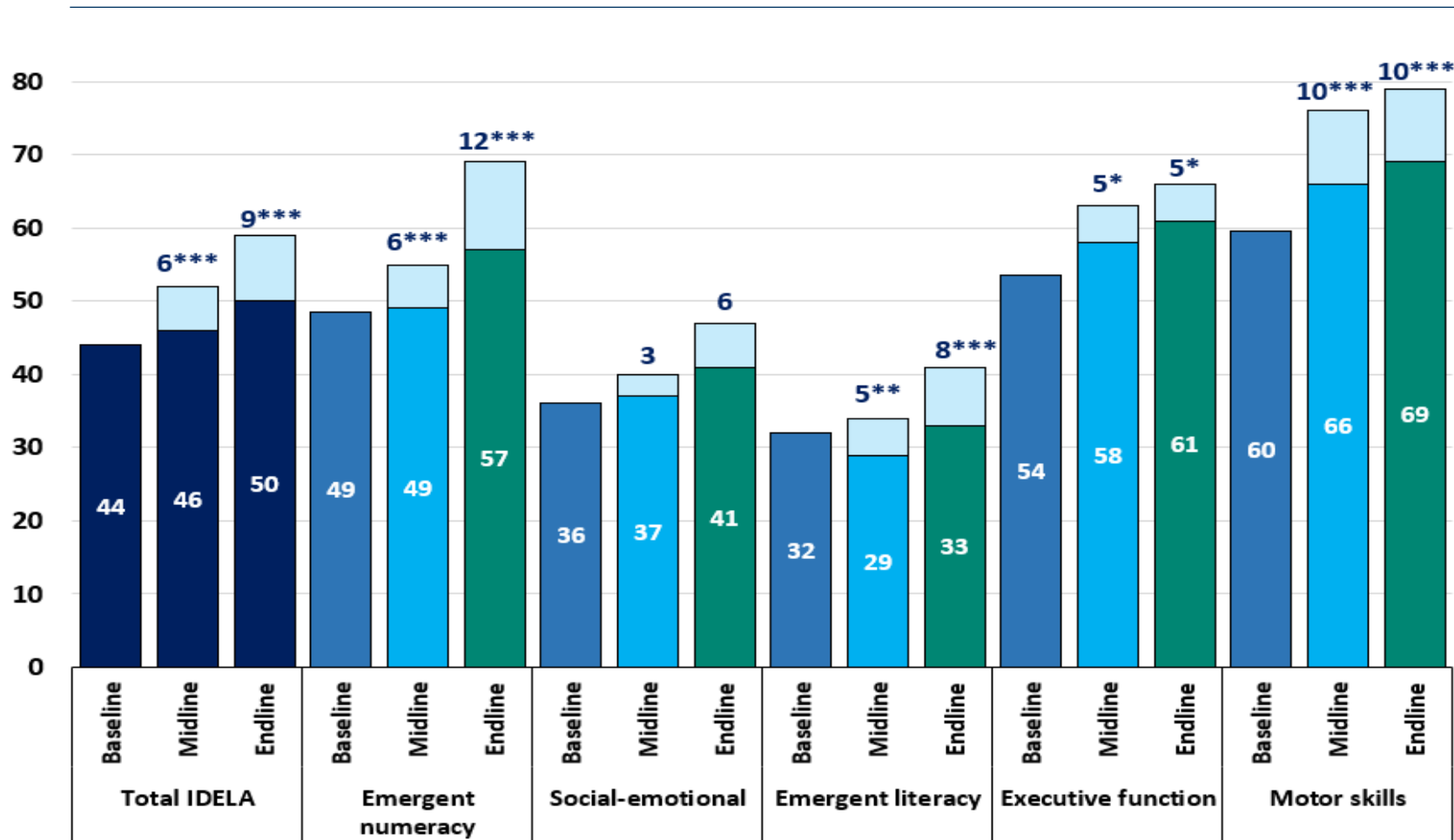
# Methodology: Longitudinal Cluster RCT



# Timeline of Activities



# School Readiness Results [RQs 1 and 3]



Highly significant impact on the **overall IDELA score** and in most domains for children who attended the program **(+0.93 SD)**

### **Emergent Numeracy (0.55 SD)**

- Driven by positive effects on comparison by size and length, sorting and classification, shape identification, one-to-one correspondence, addition and subtraction, and puzzle completion.

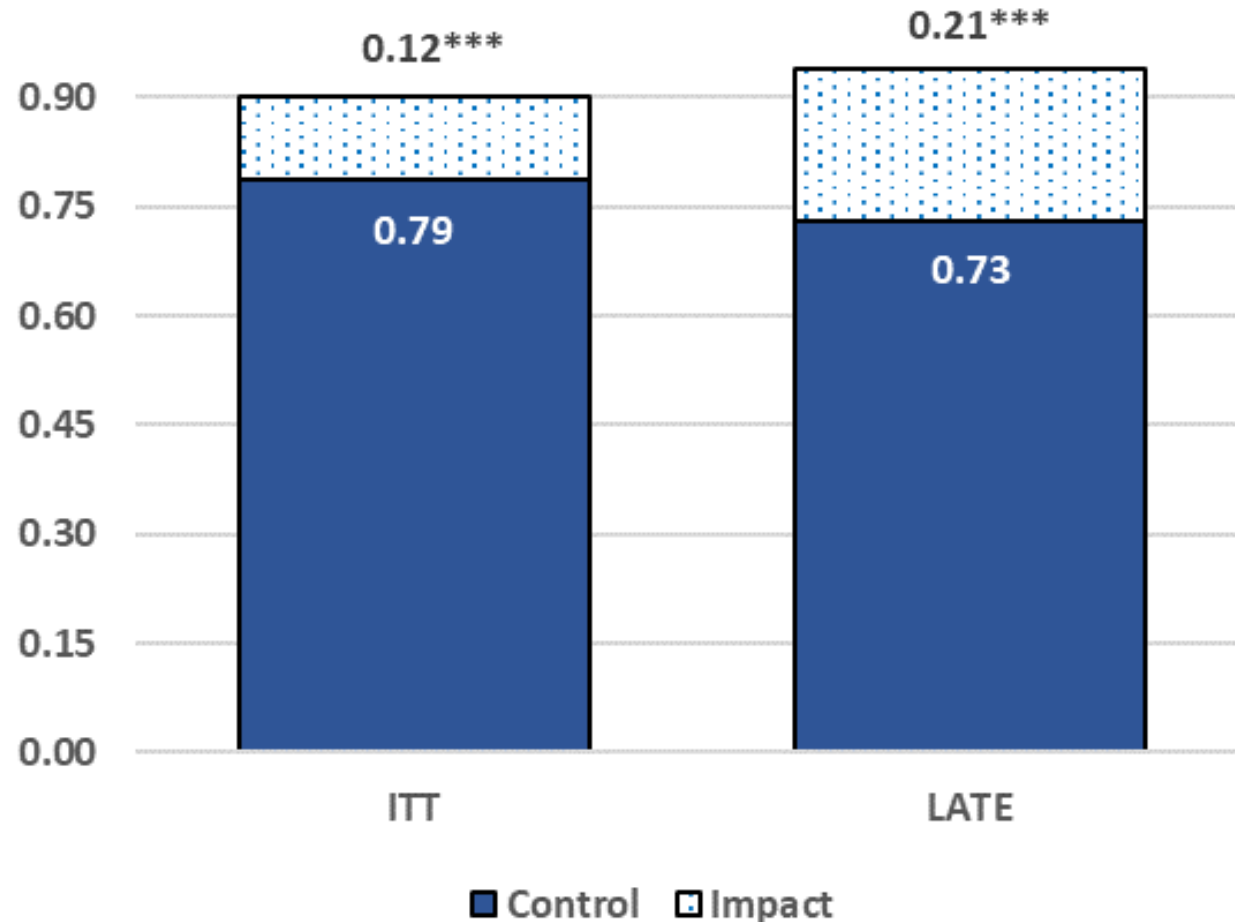
### **Emergent Literacy (+0.39 SD)**

- Driven by positive effects on emergent writing, print awareness, letter identification, and first letter sound

### **Motor Skills (+0.44 SD)**

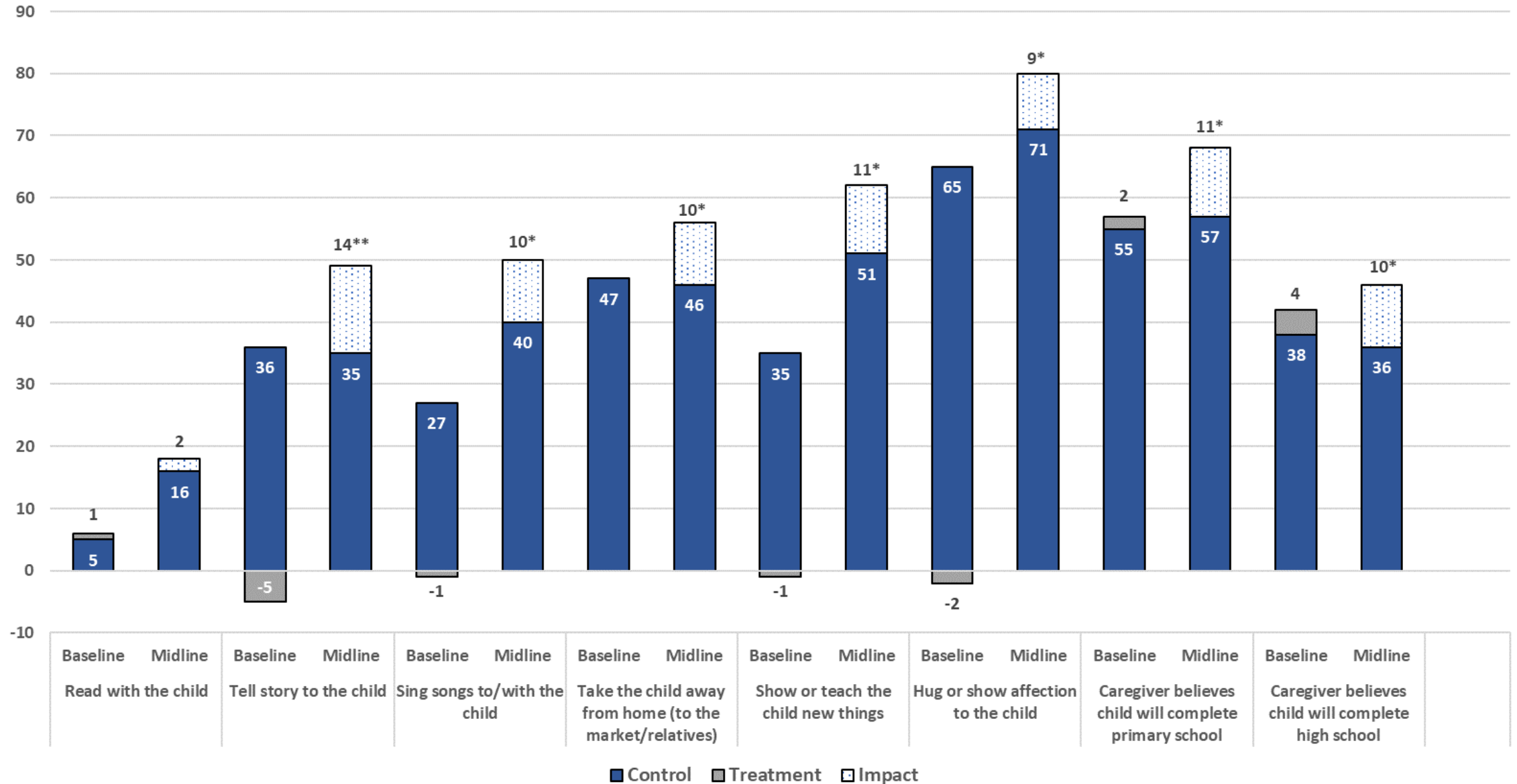
- Driven by highly significant effects on all aspects of motor skills

# Impacts on grade 1 attendance [RQ 2]



- On average, ASR led to a 12% increase in **primary school enrolment**.
  - 90% of treatment children enrolled at the end of Grade 1, compared with 79% of the control children
- ASR led to a **21%** increase in primary school enrolment among those *who attended ASR*.

# Caregivers also changing some practices and aspirations...



# Cost Effectiveness Analysis (RQ5)

“What does it cost to achieve our educational outcome of school readiness and retention to the end of Grade 1?”

- To answer this question, we conducted a cost-effectiveness analysis.
- Cost-effectiveness is measured as cost per outcome.
- A smaller ratio means the intervention takes fewer resources to achieve a certain outcome and thus more cost effective.
- We report on the cost effectiveness in terms of increasing the IDELA score by 0.1 SD.
- **As shown, the average cost of increasing the total IDELA score by 0.1 SD is \$6.5 USD.**
- The average cost of increasing the total IDELA score by 0.1 SD is lower than cost effectiveness ratios found in similar preschool programs in Kenya and Malawi (Donfouet et al, 2018; Ozler et al, 2018).

<u>Total IDELA</u> : \$6.5 per 0.1 SD	
<u>Emergent Numeracy</u> \$6.1 per 0.1 SD	<u>Emergent Literacy</u> \$8.6 per 0.1 SD
<u>Executive Function</u> \$16.2 per 0.1 SD	<u>Motor Skills</u> \$7.7 per 0.1 SD



# LAOS – LEARN: Summer Primary Program

## Summer Pre-Primary Program Evaluation Findings

### Analysis

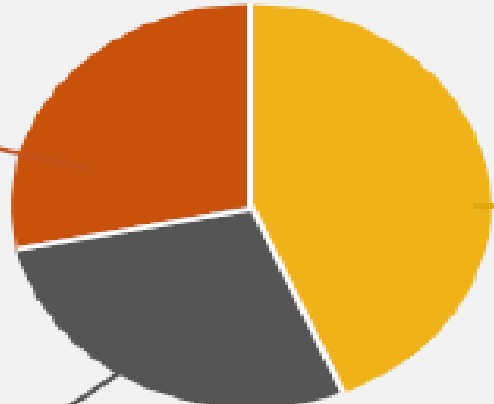
We compared the results of children participating in the program to children who participated in the typical pre-primary program and children who had no preprimary instruction.

#### Children in Typical Pre-Primary







We compared participating SPP children to children who participated in the typical 9-month government pre-primary program

#### Comparison Children

We compared SPP program children to children who did not have pre-primary available.



The Summer Pre-Primary (SPP) program model included:

-  →  →   
10-week course      Delivered by teachers      On the essentials for Grade 1 success
-   
2      Outreach effort to parents and parent education sessions
-         
3      Nutritious snacks      Handwashing activities



# LAOS – LEARN: Summer Primary Program

## Findings



### Attendance

**61.5%** of children selected for the program participated in the program.

57.8% of boys  65.3% of girls



### Increased On-Time Grade 1 Enrollment

**94%** of program children enrolled for Grade 1 on time compared to **76%** of typical pre-primary children. The SPP children had better on-time enrollment than either typical pre-primary children or comparison children. The effect was larger for boys.

### Children had increased School Readiness going into Grade 1



The program had significant effects:

Compared to...

typical pre-primary children on:

and comparison children on:



Literacy



Numeracy

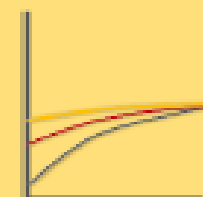


Receptive vocabulary



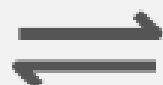
Print Concepts

at the start of Grade 1, but by



end of Grade 1, children in the typical pre-primary school and comparison

group caught up to our target children. This fade out effect is a common challenge to school readiness interventions.



### No program effects on Grade 1 completion or on-time transition to Grade 2

Some small positive effects on girls' on-time transition to Grade 2, but only in comparison to typical pre-primary children.

No meaningful effects across sexes or stunting rates

No effect on teachers use of child friendly pedagogies

# Conclusions

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- Pre-primary education is a necessity, but some development countries do not have the financial or logistic ability to implement full year programs
- Accelerated school readiness programs are a promising model that allow countries to address short-term constraints on capacity to serve children
- However, these low-cost models for pre-primary education exhibit different levels of effectiveness in similar contexts
  - More research is needed to keep exploring what makes some models more effective in some contexts than in others.
  - When introducing ASR programming into a new context, it is important to test its effectiveness in that context (it may be more or less effective than elsewhere)

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THANK YOU

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