SMARTSTART OUTCOME EVALUATION

The ELOM Team in Partnership
with Alacrity Development

smart start

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Our Franchisors

Cotlands

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3L DEVELOPMENT

Child Outcome Evaluation: Summary

SmartStart is a national early learning social franchise which seeks to provide a systems solution to the challenge of delivering quality and affordable early learning opportunities at scale. Implementing partners ('Franchisors') license and support a network of early learning practitioners to deliver the same daily programme targeted at 3 and 4 year-olds.

The outcome evaluation was commissioned to examine the effect of SmartStart on the developmental outcomes of participating children. The independent evaluation team also sought to understand how programme, child and practitioner variables might contribute to child outcomes.

Key Findings

Children in all SmartStart programmes improved their performance on the ELOM, over and above the expected age progress. There was a consistent increase in the percentage of children *Achieving the ELOM Standard* across all ELOM domains, and a similarly consistent decrease in the percentage of children who were *At Risk* in all domains.

For the entire sample, the proportion of children who were *Achieving the Standard* for ELOM Total score, increased from 32% of children at baseline to 62% of children at endline.

Children from two Franchisors realised the greatest degree of improvement in ELOM scores. Older children performed better than younger children, as well as those with better growth status and with higher levels of social maturity and emotional functioning. Boys did not perform as well as girls.
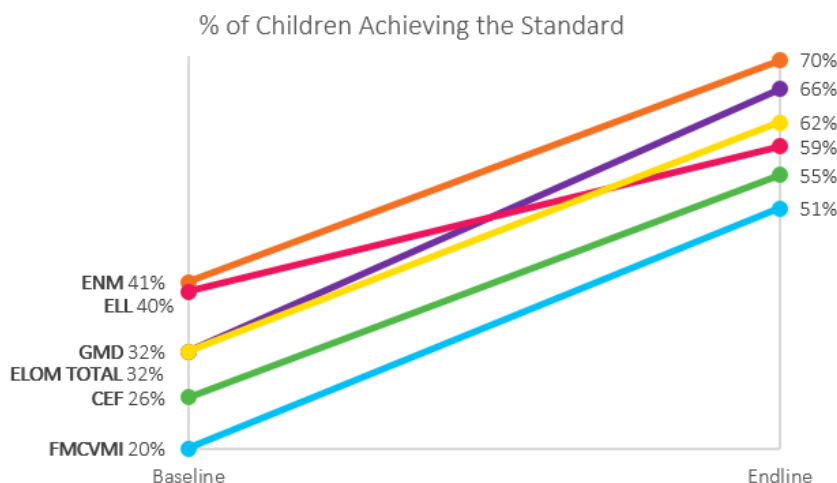
Evaluation Method

Four playgroup and two day mother Franchisors were compared using a quasi-experimental pre-test post-test field study design. The final child sample comprised 199 children aged between 48 and 61 months at baseline. Children were assessed on the ELOM at baseline and endline. Descriptive statistics and multi-level modelling were used to analyse the ELOM data.

Franchisees were interviewed during fieldwork to capture programme variables likely to affect early learning outcomes, and to provide insights into how SmartStart can continue to improve its programme offering.

% of Children Achieving the Standard

	Baseline	Endline
ENM	41%	70%
ELL	40%	66%
GMD	32%	62%
ELOM TOTAL	32%	59%
CEF	26%	55%
FMCVMI	20%	51%

Evaluation Method

Evaluation Questions

1. To what extent do SmartStart programmes delivered by different Franchisors improve the developmental outcomes of children who have participated for at least a year?

2. What is the contribution of the following factors to programme outcomes: (a) the number of sessions reported to have been offered by each Franchisor (as a proxy for attendance); (b) child factors; (c) parent factors; (d) practitioner training; (e) support and supervision of practitioner; and (f) structural features of franchisee groups?

Sample

In consultation with SmartStart, four playgroup Franchisors and two day mother Franchisors across four provinces, including rural and urban contexts, were selected. From these, a sample of franchisees accredited 'green' by SmartStart was drawn based on proximity to assessors. Assessors randomly chose children at each site during fieldwork according to their age.

Table 1. Intended versus Actual Child Sample Sizes at Endline.

Programme (*n* Franchisees)	Child Sample Target	Child Baseline Realised	Child Endline Realised	Child Attrition (Baseline – Endline) %
Playgroups (37 Franchisees)	255	198	124	37%
Day Mothers (32 Franchisees)	120	97	75	23%
TOTALS	375	295	199	33%

Ethical Approval

Ethical approval was obtained from the University of Cape Town (Faculty of Humanities). Reference number: PSY 2018-001.

Attrition

The overall attrition rate was high: 23% of children in day mother groups and 37% of those in play groups were lost by endline. 23% of the baseline sample had dropped out of the sample for various reasons (e.g. relocation, not being able to pay fees, franchisees becoming inactive). 4% of the sample were sick or absent on the day of assessment.

Attrition analyses were conducted to determine whether there was any selective attrition of weaker or stronger children. We found no relationship between these two variables.

Data Collection

Children were assessed using the Early Learning Outcomes Measure (ELOM) at baseline (February – March 2018) and endline (October 2018) by trained ELOM assessors. They were assessed in a quiet section of the playgroup/day mother they typically attend, during regular programme time. Children's height was measured to assess growth, and teachers were interviewed on children's social and emotional functioning using the ELOM Teacher Assessment. During fieldwork, franchisees were also interviewed by assessors to obtain practitioner-level data.

A Child Assessment Set-up at a Playgroup.

A Child Assessment at a Day Mother Group.

Data Analysis

The outcome analysis took two approaches to measure programme effects: a descriptive approach that assessed how much children progressed from baseline to endline towards Achieving the ELOM standards; and a multilevel modelling analysis that assessed the effect of the SmartStart programme on children's early learning outcomes.

Evaluation Findings

About the Sample

A total of 199 children were included in the final evaluation sample. Of these, 124 children were in playgroups, and 75 were in day mother groups. Overall, the sample was almost evenly split in terms of gender, with 52% being male, and 48% being female. At baseline, the children were, on average, 54 months old; at endline, they were, on average, 61 months old.

The majority of children had been enrolled in the SmartStart programme for more than one year (77%) and receive the Child Support Grant (96%).

Self-care, social relations and emotional functioning were assessed using the ELOM Teacher Assessment. The sample's average scores were as follows:

Self-Care	3.9
Social Relations	18.7
Emotional Functioning	9.9

All programmes were either achieving, or were very close to achieving, the expected scores for *Self-Care* and *Social Relations*, and were exceeding the expected score for *Emotional Functioning*.

Children's Performance on the ELOM

In this section, we present the descriptive ELOM findings, comprising of the average ELOM domain scores for the SmartStart sample who are between the ages of 50 to 59 months old ($n = 170$), and 60 to 69 months old ($n = 164$). Children outside of these age bands were excluded so that these findings would correspond to the ELOM performance bands. This means that the samples and means will differ between these tables and the figures that follow in the next section (multilevel model findings).

According to ELOM Teacher Assessment Guidelines for children aged 50 to 69 months, the expected score for *Self-Care* (independent toilet use) is 4, for *Social Relations* is 18 or greater and for *Emotional Functioning* is greater than 6.

It is also essential to note that these tables are descriptive only and cannot be adjusted for the influence of the variables that are included in the multilevel models. Their purpose is to provide a simple overview of change.

On average, the sample scored 41.4 points on ELOM Total at baseline, and 61.3 points at endline, moving from *Falling Behind* to *Achieving the Standard* (a point gain of 19.9).

Figure 1 displays the average ELOM domain scores and how they shifted from baseline (the circles on the left) to endline (the circles on the right).

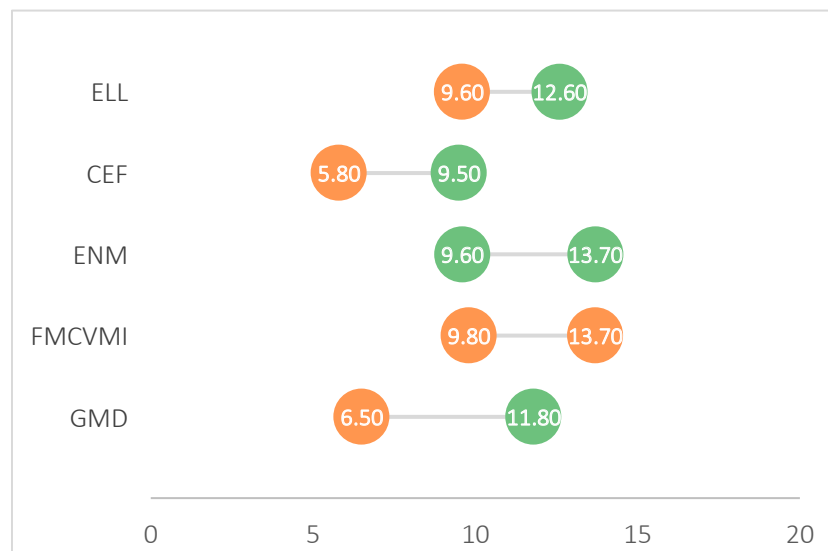*Figure 1.* Average ELOM Domain Scores for all Children within ELOM Age Ranges.

Figure 1 indicates widespread improvement, with the sample *Achieving the Standard* in all domains at endline, except for FMCVMI where they remain in the *Falling Behind* category (despite improving by almost 4 points).

Figure 2 and Figure 3 display the percentage of children who were *At Risk* and *Achieving the Standard* on each ELOM domain at baseline and endline, respectively.

There is a clear and uniform decrease in the number of children *At Risk* across all domains, most notably in ELOM Total, GMD and FMCVMI. A similarly uniform increase in the percentage of children who are now *Achieving the Standard* is clear, with notable increases in ELOM Total, GMD and FMCVMI.

Figure 2. Percentage of Children **At Risk** on ELOM Domains at Baseline vs Endline.
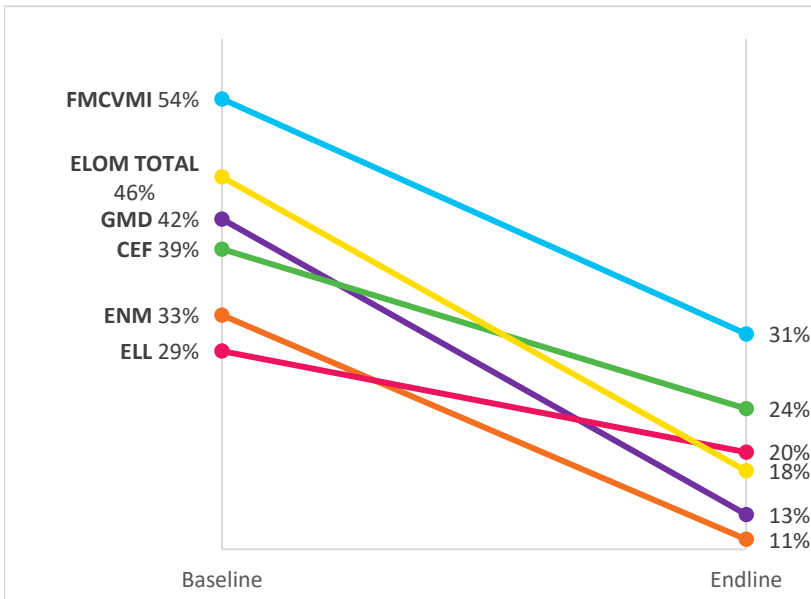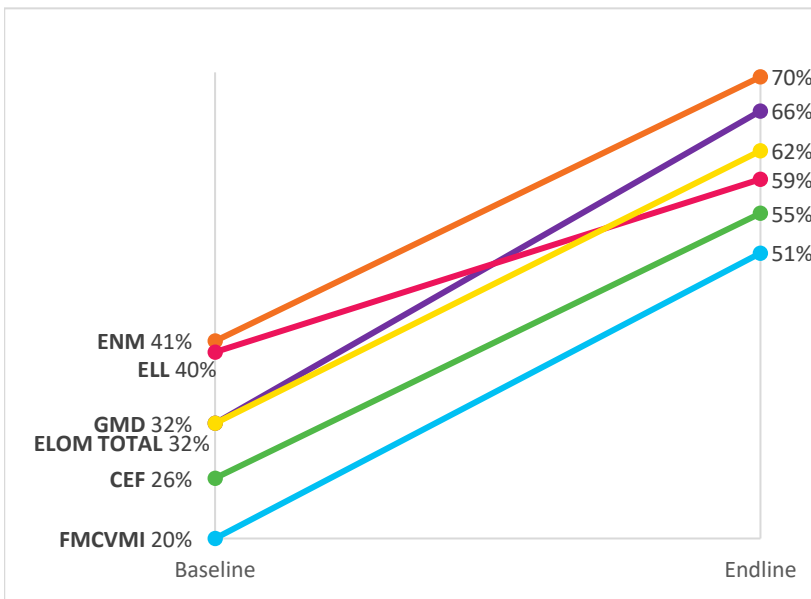

Figure 3. Percentage of Children **Achieving the Standard** on ELOM Domains at Baseline vs Endline.


The ELOM Standards and Performance Bands

The expected ELOM performance standards are benchmarked at the standard score achieved by the top 40% of children (the 60th Percentile on the distribution). Thus, those who are *At Risk* are in the bottom 32%, and are well below the standard and need significant assistance to come up to the standard. Children who are *Falling Behind* are in the middle (between the 32nd and 59th percentile), performing better than those who are *At Risk* but not as well as those in the top 40%; with support they should be able to achieve the standard.

Children's overall ELOM scores do improve with age. This is to be expected as they learn and develop. However, their position within the ELOM performance bands does not change as a function of their increasing age alone, but rather, as a function of enhanced learning opportunities (such as participation in SmartStart).

Lastly, Figure 4 displays the percentage difference between the number of children in each performance band at endline versus baseline. With the exception of ELL, each domain is associated with an increase of around 30% more children now *Achieving the Standard.*

Figure 4. Percentage Difference between the Number of Children in Each Performance Band at Baseline and Endline (per ELOM Domain).
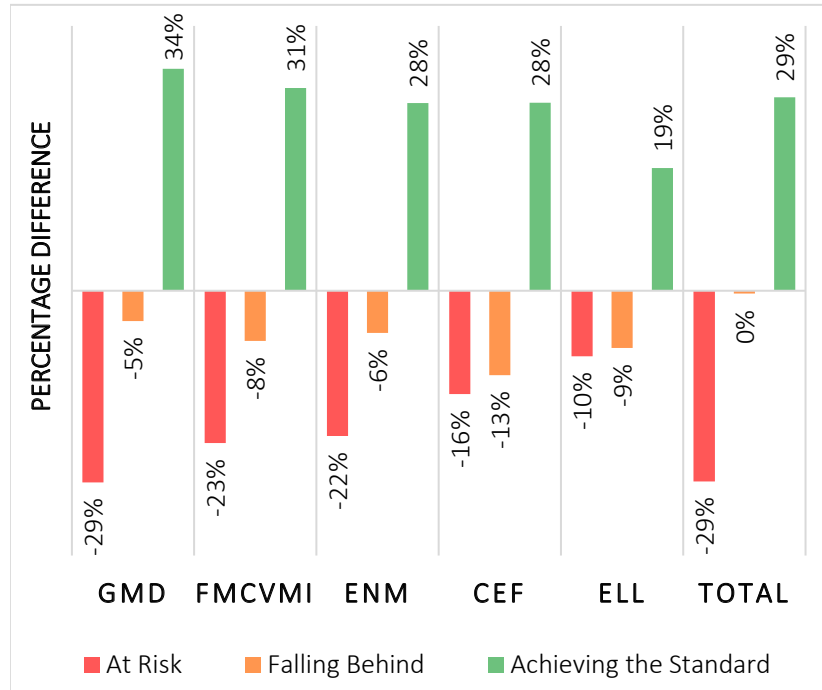
Multi-Level Model Findings

Multi-level modelling analyses revealed a number of key factors that contribute to the effect of the SmartStart programme on children's early learning outcomes. These factors are:

- **Franchisors**: two Franchisors were found to enable the greatest change in participating children.

- **Resources:** children whose franchisees reported having a greater range of resources showed greater improvement in their Gross Motor Development scores.

- **Child age:** improvement in ELOM scores in all domains was associated with children's age. As expected, older children performed better than younger children.

- **Growth status:** the extent to which children benefitted from SmartStart was predicted by their height-for-age measured at endline. Better growth status was predictive of better performance in the ELOM Total score, Gross Motor Development, and Cognition and Executive Functioning.

- **Gender:** boys were less likely than girls to benefit from participation in SmartStart programmes.

- **Social maturity:** higher levels of social relations skills measured at endline were associated with an improvement in Emergent Numeracy and Mathematics Scores.

- **Emotional functioning:** higher levels of emotional functioning measured at endline was associated with an improvement in ELOM Total scores, Cognition and Executive Functioning, Emergent Language and Literacy, and Emergent Numeracy and Mathematics.

A number of variables were not shown to contribute to the programme effect for this evaluation sample. These were: programme exposure, years of enrolment, child/practitioner ratio, programme quality ratings, fees/stipends, and quintile. This may be due to a restricted range of data, poor data quality, or the presence of another variable in the model that better accounts for developmental changes.

What is Multi-level Modelling?

This procedure is commonly used in studies of interventions to improve children's performance in school-based interventions (e.g. reading and mathematics). It takes account of the influence of important differences between children (e.g. age and health status), site (franchisee skills and group size) and programme (e.g. number of sessions per week).

This permits us to account for the influence of factors likely to influence change in ELOM scores, that are not attributable to the programme itself. Therefore, MLM permits us to isolate the effects of the programme on children's early learning outcomes.

Key Take-aways

Examination of the descriptive findings shows that children in all programmes exhibited improvement in their ELOM scores from baseline to endline. On average, the entire evaluation sample improved on ELOM Total by 19.9 points.

Moreover, there was a 29% increase in the number of children *Achieving the Standard* between baseline and endline on ELOM Total, and a 29% decrease in children *At Risk*.

Two Franchisors realised the greatest degree of improvement in ELOM Total and domain scores between baseline and endline. For these Franchisors, children were *Achieving the Standard* in all domains by endline.

Multiple variables were found to contribute to the sample's change in ELOM scores. These were: the two highest performing Franchisors, franchisee resources, age, growth status, gender, social maturity, and emotional functioning.

If you would like to receive a copy of the full technical report for the SmartStart Outcome Evaluation, please email:
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For further information about SmartStart please visit:
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