SmartStart Child Outcomes Evaluation 2023

Evidence shows that children's access to the right development and learning opportunities before they start school, has the potential to transform outcomes across the life course. In this context, SmartStart was set up in 2015, to achieve population-level change in access to quality early learning in South Africa. From the outset, SmartStart sought to build a delivery system that could achieve scale, harnessing the potential of affordable home and community-based early learning programmes (ELPs) in order to reach children in every type of community.

After a period of rapid expansion, a central question has been whether SmartStart can maintain the programme quality at scale that will continue to shift outcomes for young children, and, if so, what are the mechanisms by which impact is being achieved.

To answer this question, a team of external researchers conducted an outcomes evaluation. The findings relating to child outcomes are set out in Briefing 1, and the overall findings relating to the mechanisms of change are described in Briefing 2. This briefing looks in more detail at the findings relating to associations between SmartStart's programme quality assurance (PQA) tool and child outcomes.

Which features of early learning programmes boost child outcomes?

The answer to this question has implications for the design of early learning programmes which can effectively leverage available resources in low-income communities, as well as for theories of quality across contexts.

Much of what we know about drivers of programme quality is derived from research in the global north. This means it was conducted in contexts with potentially critical differences, and among children with vastly different backgrounds. With about two-thirds of South Africa's children living in extremely poor homes, it is plausible that different mechanisms will move the dial for these children.

Study design

The researchers used the *Early Learning Outcomes Measure (ELOM)*, to track the progress of a representative sample of 551 children in 325 SmartStart early learning programmes (ELPs) over an eight-month period. Practitioners were interviewed to derive insight into systemic quality factors, and a home learning environment questionnaire was administered to parents and caregivers.

Key findings on programme features linked to child outcomes

- Analysis of the data generated in this evaluation indicates that there is a notable likelihood of increased ELOM gains in ELPs that adopt specific practices – and that these practices can be supported in a wide range of formal and informal settings.
- Ten dimensions of SmartStart programme's design, as measured by the individual items of the PQA, were significantly associated with ELOM gains, and four of these were in the PQA sub-domain '*Consistent use of the SmartStart Routine'*.

What is SmartStart's Daily Routine?

The SmartStart Routine is a structured daily programme designed to support children's development through a series of activities that include:

- **Greeting & Message Board**
- **Small Group Time** (activities that support specific skills)
- **Free Play**
- **Large group time**
- **Story sharing**

The Routine is built on five pillars, which evidence suggests are linked to positive child outcomes:

1. **Nurture** – *A stable, loving environment where children feel safe and valued*
2. **Talk** – *Positive, plentiful adult-child interactions that develop language*
3. **Play** – *Opportunities for open-ended, child-directed play, guided by practitioners*
4. **Storytelling** – *Interactive storytelling sessions*
5. **Parent Partnership** – *Engaging parents as active partners*

The daily routine is supported by the **SmartStart Curriculum** which has **weekly theme plans** that align with the National Curriculum Framework for 0-4; by a special **playkit**; and by a **small and large group activities manual**.

SmartStart emphasises pedagogy that is play-based and child-centred, and which focuses on active learning, scaffolding, and social-emotional development.

All SmartStart practitioners must attend training that supports them to develop these practices, and to monitor and support each child's unique progress.

Background

When SmartStart was set up a central task was to design a daily programme that could be implemented in diverse contexts, including resource-constrained environments. A literature review was undertaken which surveyed the evidence on the mediators and moderators of child outcomes in ELPs. Based on the emerging themes, a series of workshops and consultations was held with South African organisations with long experience of implementing ECD programmes.

From this process, the SmartStart Routine was developed (see left column). The Routine is focused on three specific outcomes which are understood to be linked to children's later success and wellbeing.

- Children form **strong and healthy attachments** with adults and other children.
- Children are **good thinkers and communicators**, able to use **language** confidently to listen, reason and speak.
- Children have **core general skills** – such as self-control, memory and perseverance – that are essential tools for living and learning.

The SmartStart Routine is supported by a range of tools, guides and materials, including a curriculum with weekly theme plans. Themes and activities are carefully mapped on to the developmental areas that are tracked at child-level through SmartStart's Child Observation Tool. In turn, both the Routine and the Child Observation Tool fully align with the six Early Learning and Development Areas in South Africa's *National Curriculum for Children Aged Birth to Four*.

Training for practitioners foregrounds the importance of certain pedagogic approaches and practices, such as warm and nurturing interactions and the power of play and talk. In other words, *how* practitioners implement the Routine is emphasised as much as *what* they implement.

Fidelity to the SmartStart Routine is monitored through the Programme Quality Assurance (PQA) tool, which is administered by Coaches to check that certain standards are in place at set-up and then maintained. The PQA has 34 items covering a range of quality indicators, which directly link to the SmarStart Routine and the accompanying practices. (See Briefing 2 for more details on the PQA.)

Scope and methodology

The researchers considered whether quality, as measured by SmartStart's PQA tool, is associated with higher ELOM scores, and which of the components of the PQA are associated with the largest gains.

To explore this question, a multivariate Ordinary Least Squares (OLS) regression was used to analyse fully disaggregated PQA data with for 337 ELPs. This enabled the researchers to explore whether scores on any of the 34 individual PQA items are associated with ELOM gains, even after accounting for child-level factors.

Findings

Overall

The total PQA score for an ELP, as well as the aggregated sub-domain totals, did not show a significant association with gains in ELOM scores (see overleaf). However, 10 of the 34 individual PQA items of the PQA, were significantly associated with gains in one or more ELOM domains. The positive correlation held true even after controlling for individual child-level and ELP-level characteristics. Of these 10 items, four were in the PQA sub-domain '*Consistent use of the SmartStart Routine'*.

ELOM Total score

Three practices were associated with significant gains in ELOM Total score:

- During the session, 8 or more of the 10 activities in the Daily Routine were observed (4.57)
- There was enough time set aside for children to recall and reflect on their activities (3.22)
- Adults allowed children to play and learn at a level and pace which was appropriate to them (4.22)

*(Figures in brackets show the average point gain for **ELOM Total score** associated with the practice.)*

The first finding is particularly noteworthy as children at ELPs that consistently engaged in at least 8 of the 10 activities in the Daily Routine, had an average gain of 4.57 more points for ELOM Total compared to other children, indicating a substantial positive impact of fidelity to the Daily Routine.

ELOM domain: Early Numeracy and Mathematics

The analysis of SmartStart children's ELOM scores, revealed that the Early Numeracy and Mathematics (ENM) ELOM domain saw the largest gain in the proportion of children *On track*, with an increase of 25 percentage points. This meant that it went from the second worst performing domain at baseline to the best performing domain at endline.

These substantial gains were significantly associated with five PQA items:

- There was substantial time set aside for free play (at least 45-55 minutes) (1.4)
- The large group activity lasted for more than 10 minutes (1.56)
- Adults allowed children to play and learn at a level and pace which was appropriate to them (1.5)
- Adults frequently used appropriate methods to build children's language (1.13)
- If sharing a storybook adults did so in ways that helped children become familiar with books (1.23)

*(Figures in brackets show the average point gain for the **ELOM ENM domain** associated with the practice. The cumulative point gain for ELOM Total score was higher.)*

ELOM domain: Early Language and Literacy

Children's gains in the Early Language and Literacy (ELL) ELOM domain, were significantly associated with four PQA items. Notably, three of these four items were related to child-centred practices that could be understood as fostering a child's overall socio-emotional wellbeing, rather than to specific language or literacy activities:

- Adults acknowledged children's efforts and ideas and offered encouragement and praise (1.26)
- Adults actively involved children in solving conflicts, by acknowledging their feelings, listening carefully, and trying their solutions (1.9)
- Adults allowed children to play and learn at a level and pace which was appropriate to them (1.61)

*(Figures in brackets show the average point gain for the **ELOM ELL domain** associated with the practice. The cumulative point gain for ELOM Total score was higher.)*

Discussion

Features of programme quality

These findings show that there is a notable likelihood of increased ELOM gains in ELPs that adopt certain practices, specifically, adherence to the SmartStart Routine and associated pedagogic approaches that are emphasised in SmartStart training and materials.

Given that the SmartStart Routine and the supporting tools and approaches were developed from an investigation of the evidence on effective ELPs, this finding is not wholly surprising. However, it provides important confirmation that specific features of SmartStart's programme design are significantly improving outcomes for children in even the most under-resourced communities.

Furthermore, the common theme running through the positively correlated programme features, is that they generally did not depend on expensive equipment, advanced training or a certain type of facility. They were simple practices and opportunities, which with basic training and support, can be delivered in a wide range of informal and other home and community-based settings.

The findings relating to nurturing, child-centred practices influencing ELL outcomes more than conventional early literacy activities, are notable and might be worthy of further investigation.

Programme Quality Assurance (PQA) tool

The lack of association between the PQA total score or PQA aggregated sub-domain scores and ELOM outcomes, is similar to other studies which have found that direct correlations between quality assurance tools designed to monitor good practice and target support, and actual child outcomes, are rare. This could be the result of a number of factors. Firstly, some PQA items might not have significantly large impacts as stand-alone items, because they are one contributory component of a wider goal or practice, and are therefore only likely to mediate improved outcomes in combination with other items. For example, labelling, displays and exhibited storybooks all separately help to create a print-rich environment, and might show an effect size if expressed in this way.

Secondly, it is possible that the way in which the PQA items are currently grouped and aggregated is not entirely coherent. For example, rather than grouping the items according to thematic/functional areas, it might make sense to group them according to anticipated domain of impact.

Thirdly, some PQA items are more amenable than others to consistent observation and scoring. Those that are less amenable will have a degree of randomness in how they are scored, and when aggregated with other items this could 'wash out' the overall effect size. This does not mean that the practice itself is not meaningful. Fourthly, overlap between individual PQA items as well as the inclusion of 'composite' items with two or more elements, might also militate against consistent scoring.

These factors could be explored in more detail through a validation exercise for the PQA tool, which examines *inter alia* inter-rater reliability and construct validity.

Conclusion

This study provides important insights on the types of approaches and practices that can shift outcomes for children in a wide range of early learning settings. It also shows that even in low-resource contexts, basically trained paraprofessionals can move the dial for young children when using a carefully designed daily programme supported by contextually appropriate tools and materials.

This has implications for conceptions of quality in early learning provisioning, and for strategies to unlock access for currently excluded children. Far from being considered an inferior form of provision, home and community-based ELPs should be elevated as an immediate, pragmatic and affordable solution in closing the access and quality gaps in low-income communities. This understanding should also inform more inclusive and enabling approaches to regulation and funding.