

Behavioral Design for Finding Thabo: Promoting Caregiver Engagement in Play-Based Learning

Project Summary and Impact Evaluation Results

July 2024



Introductions to our project team



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We apply insights from **behavioral science** to **design solutions** to some of the world's most **persistent social problems.**



We use **technology** to **empower teachers and caregivers** to create **high quality cognitive stimulation** environments for young children.

Today's agenda

1. Background and objectives
2. Deep dive into behaviorally-designed interventions
3. Overview of the impact evaluation design
4. Key results and lessons learned
5. Discussion

Background and objectives



Early learning & play with caregivers is critical, yet children in South Africa are falling behind

- **Most children (54%) who attend early learning** centers in South Africa are still **falling behind the standards** in motor development, social- emotional and executive functioning, and foundational numeracy/literacy.
- **Play-based activities and engagement with caregivers** are critical for brain development, social and emotional skills, and foundational learning.
- But studies consistently show **low rates of caregiver engagement** with children. For example, in 2018 StatsSA recorded that **40% of children are never** read to nor draw with their caregivers.

Finding Thabo is an innovative intervention that builds connections for early learning

- The game's **localized pictures** and accompanying **chatbot** support teachers and caregivers to engage in early learning.
- It's currently implemented in ECD centers, with a **goal to reach caregivers** at home.
- Despite it's promise, **behavioral barriers** remain that can **prevent caregivers** from playing even when they are motivated.



Our objective:

Support caregivers of children 4-5 years old to **play with Finding Thabo**, with the goal of improving development outcomes for children.



Deep dive into behavioral interventions



Interventions were developed through a collaborative behavioral design process

We built on previous* **behavioral diagnosis** that uncovered barriers to caregiver engagement in play (n=15).

Diagnosis refinement & co-design workshops helped to refine the insights and generate intervention ideas.

We generated **prototypes** and conducted **user testing** with caregivers and teachers (n=36).

**Previous diagnosis was conducted in partnership with the Western Cape Government.*

See output here: <https://www.ideas42.org/project/understanding-barriers-to-south-african-caregivers-engagement-in-play-for-early-learning/>.

We iterated on the prototypes during user testing alongside teachers and caregivers



We aligned on three intervention components

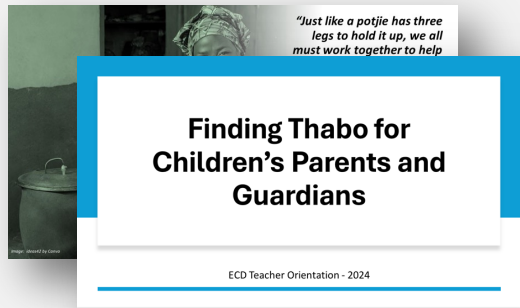
Revamped Finding Thabo picture



Animated explainer video



Updated teacher orientation



Interventions directly address the barriers identified to change behavior

Caregivers have misperceptions about how children learn

Caregivers have limited literacy and access to data & described WhatsApp as distracting

Caregivers are underconfident in their ability to teach children

Caregivers tunnel on keeping children clean and safe

High-level theory of change

BEHAVIORAL BARRIERS

Caregivers have misperceptions about how children learn

Caregivers are underconfident in their ability to teach children

DESIGN IMPLICATIONS

Share information on how children learn to combat common misperceptions

Give clear guidelines to make it easy and build caregivers' confidence

Ensure teachers are bought-in to support caregivers

INTERVENTIONS

Animated Explainer Video

Revamped Picture

Updated Teacher Orientation

High-level theory of change, continued

BEHAVIORAL BARRIERS

Caregivers have limited literacy and access to data & described WhatsApp as distracting

Caregivers tunnel on keeping children clean and safe

DESIGN IMPLICATIONS

Provide information in multiple accessible formats

Make it easy to understand how to play without additional context

Focus attention on important foundational learning concepts

Keep the game top-of-mind and enable children to prompt play

INTERVENTIONS

Animated Explainer Video

Revamped Picture

Comparison of the old and new picture cards



OLD



NEW



Access the video on this link: <https://ideas42.box.com/s/emmfxxk1t64p97mg2s7iwy31jj80mff0>

Overview of the impact evaluation



We implemented the interventions in two regions of the Western Cape to test for impact

- Intervention launch: March 2024
- Endline data collection: May 2024

Location	# centers	# pictures distributed
Helderberg	18	357
Winelands	14	136
Total	32	493



We took multiple approaches to evaluation

1

Cluster RCT

to measure if and how the interventions impacted caregiver knowledge, attitudes & behaviour (n=340).

2

In-Depth Interviews

with treatment caregivers to provide deeper insight into caregiver experiences (n=18).

3

Pre-Post Survey

with teachers to measure changes in knowledge and attitudes after receiving the orientation (n=36).

Understand the impact of behavioural science-based interventions

We adjusted our evaluation methodology to meet the context and user testing insights

Methodology proposed

1. To rely mainly on digital data collected from the WhatsApp chatbot.
2. To measure changes in child development outcomes.

Rationale for shift

1. Caregivers were not regularly engaging with WhatsApp. They found it distracting and inaccessible.
2. Experts advised against this due to our timeline. They believe behavioral measures are good proxies. Future or longer-term funding could be used to measure child-level outcomes.

We measured various outcomes to understand impact and perceptions of the interventions



**Behavioral
Outcomes**



**Behavioral
Mechanisms**



**Experiences &
Implementation**

Results and lessons learned



Behavioral Outcomes

Key Takeaway

Caregivers who received the behaviorally-designed version of Finding Thabo played the game significantly more often.

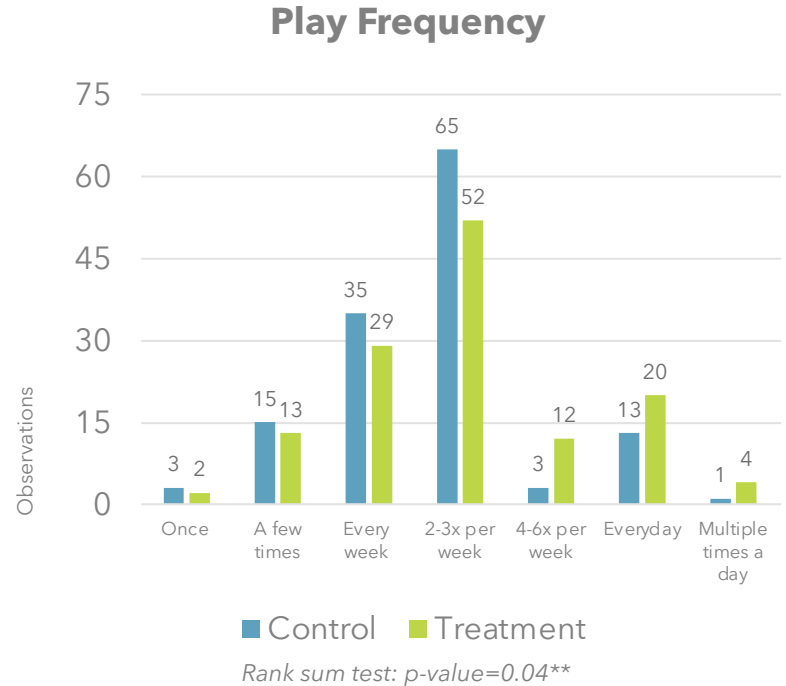
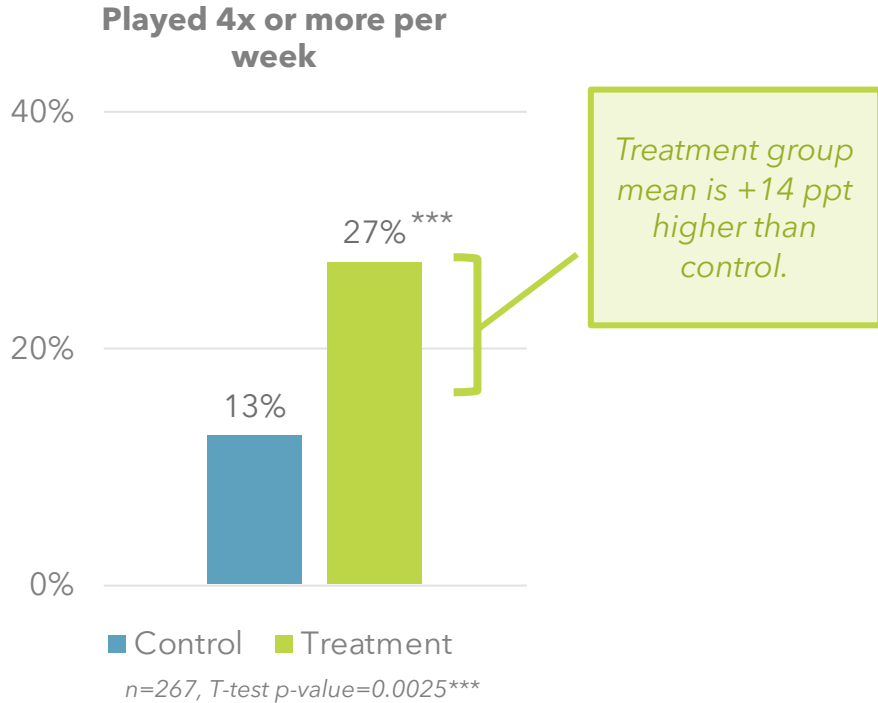
The behaviorally-designed version significantly increased frequency of play

OLS Regression Results

	Frequency of play (1-7)	Play $\geq 4x$ per week
<i>Treatment coefficient</i>	0.317* (0.152) 0.053	0.134** (0.047) 0.011
<i>Observations</i>	267	267
<i>R-squared</i>	0.0234	0.0565
<i>Clustered SE</i>	Yes	Yes
<i>Controls</i>	Yes	Yes

Caregivers who received the behavioral interventions were **13.4ppt more likely** to play Finding Thabo. $\geq 4x$ per week.

The behaviorally-designed version significantly increased frequency of play, contd.



Results primarily reflect the impact of the re-designed Finding Thabo picture card

- The revamped **picture card** was the main **driver** of the positive results, as only **17%** of treatment caregivers received the video.
- This demonstrates how **small behaviorally-informed changes** can have **large impacts**.



Nonetheless, the video holds promise to further enhance effectiveness

"At first I didn't understand how to play the game, but the video made it easy for me to understand"

"That you don't always have to be so serious when you're teaching your child, that they can learn through playing."

Quotes from treatment caregivers in the survey open response (1) and the qualitative interviews (2)



Behavioral Mechanisms

Key Result

The interventions helped caregivers feel more confident engaging in learning-oriented activities and improved their understanding that children learn outside the ECD center.

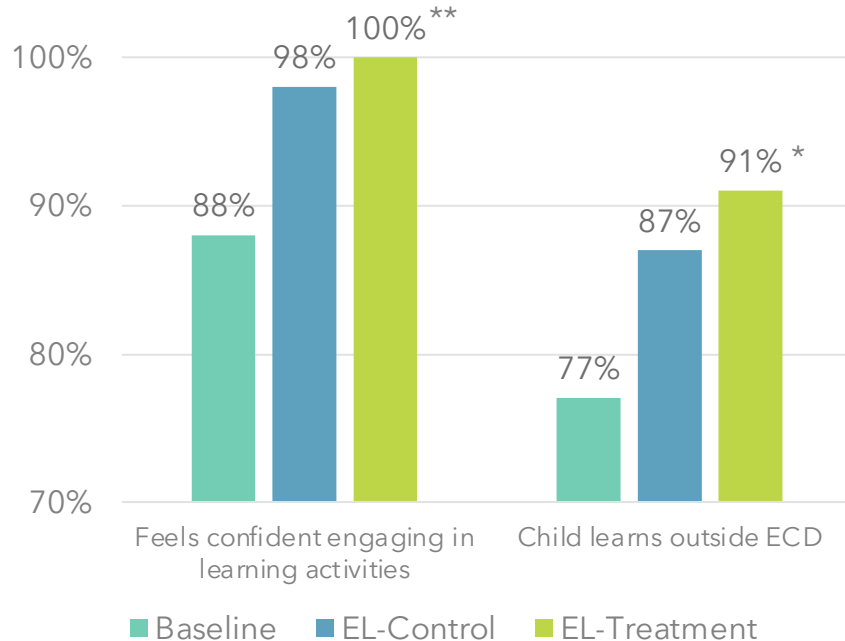
The behaviorally-designed version had two significant positive impacts on perceptions

OLS Regression Results

	Feel confident engaging in learning activities	Believes child learns outside the ECD center
<i>Treatment coefficient</i>	0.024*** (0.007) 0.005	0.069** (0.028) 0.027
<i>Observations</i>	340	340
<i>R-squared</i>	0.032	0.046
<i>Clustered SE</i>	Yes	Yes
<i>Controls</i>	Yes	Yes

The behaviorally-designed version had two significant positive impacts on perceptions, contd.

Behavioral Mechanisms



"At first, I had my doubts about my child learning anything from Grade RR before this game. However, after being introduced to Finding Thabo, I can see the progress."

Quote from open response in the survey, treatment caregiver.
T-Test p-values: confidence p=0.04, learns p=0.06

We noticed a few additional promising trends amongst treatment caregivers

- More treatment caregivers mentioned that **positive benefit** of Finding Thabo was **"building a bond"** with my child.
- Qualitatively, a few treatment caregivers also mention how they **can translate learnings to the real-world** context.

"Its a very great concept and also gives us an opportunity to interact with the child."

"Start using it in everyday life...for example when I'm doing washing, we find pegs and stuff in the washing and the child counts how many"

Quotes from open response in the survey (1) and qualitative interviews (2)



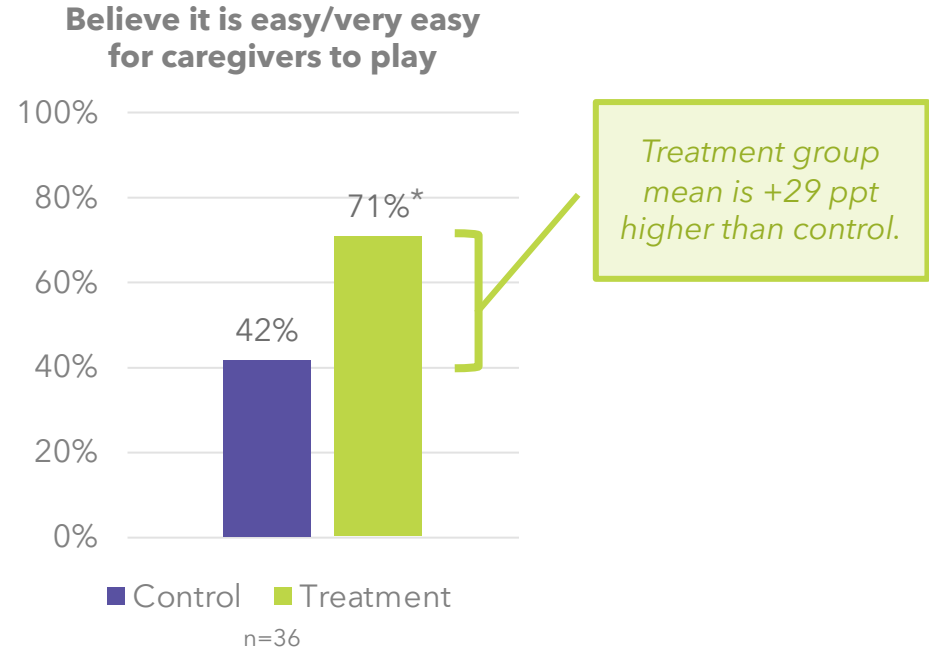
Experiences & Implementation

Key Result

The updated teacher orientation fostered engagement and helped teachers believe that caregivers could easily play with Finding Thabo.

The behaviorally-designed training assured teachers that parents could play

- Teachers in the treatment group were **significantly more likely** to believe Finding Thabo would be easy for caregivers to play.
- This aligns with caregiver data where **88%** of caregivers reported it was **easy to play**.



T-Test p-value=0.06*, OLS regression result: b=0.322***, Caregiver n=269

Treatment teachers shared details about their excitement in the open-response question

"This will make part of our work lighter and parents will have the chance to be involved in their child's education."

"What you see is what you learn and understand. I think the children with parents will enjoy because it doesn't take even a lot of time."

Quotes are from the teacher survey open response





Summary of Key Takeaways

1

The behavioral intervention increased frequency of play.

2

The impact of the intervention was driven by the picture card.

3

The intervention increased confidence & understanding that learning happens outside ECDs.

4

Teachers who received the orientation thought the game would be easier for caregivers.

Discussion and next steps



Recommendations for future directions

- The **results are promising** and show that the behaviorally-designed picture card could have large positive impacts when **implemented at scale**.
- In future, more can be done to help **teachers distribute the video**. This may lead to **enhanced effectiveness**.



We're looking ahead to possible future collaboration opportunities

1. Run a longer-term evaluation to assess impact on children's outcomes
2. Make behaviorally-informed improvements to the WhatsApp chatbot
3. Increase usage of the WhatsApp chatbot
4. Consider other channels for scaling the caregiver intervention
5. Apply a behavioral-design approach to improve the teachers' program



QUESTIONS



ideas **42**

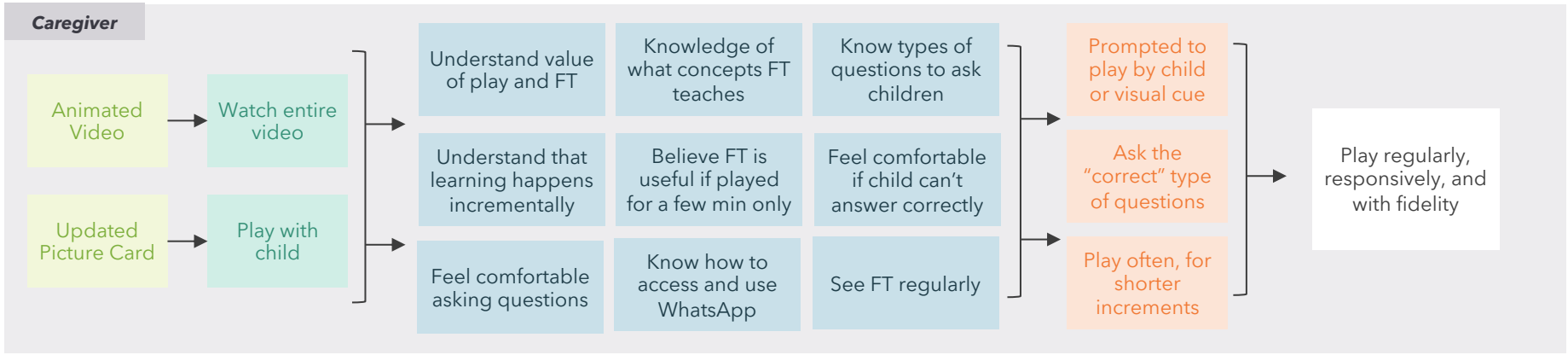
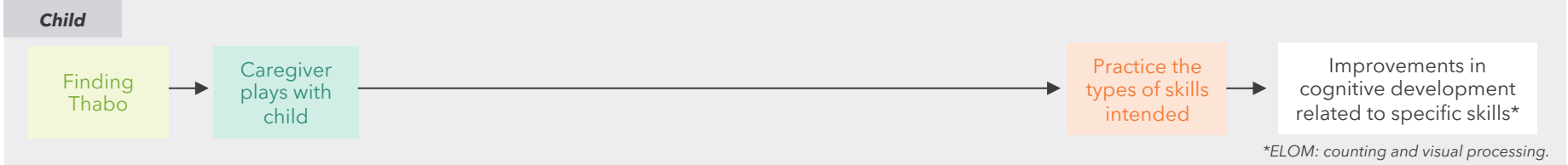
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Thank you!

APPENDICIES





Caregiver demographics

Notes: There were no statistically significant differences across T/C groups, when clustering SEs.

*Total n=301

	Control	Treatment
Female	91%	87%
Age: +25 years	92%	90%
Education: \geq Grade 12	54%	61%
Employed	71%	69%
# children in household	2.13	2.09
ECD Monthly Fee	R547	R467
Helderberg	77%	31%
Afrikaans	39%	74%
ECD is registered*	77%	39%
Observations	164	176

OLS regression: teachers' beliefs that it will be easy for caregivers to play

OLS Regression Results

	How easy will it be for caregivers to play Finding Thabo (1-5)
<i>Treatment coefficient</i>	0.322** (0.168) 0.064
<i>Observations</i>	35
<i>R-squared</i>	0.100
<i>Controls</i>	No