

Preliminary Results from an Implementation Trial of Obesity Prevention Practices in Head Start

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Hello!

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Disclosures

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- Financial Interests
 - Dr. Taren Swindle and UAMS have a financial interest in the technology (WISE) discussed in this presentation/publication. These financial interests have been reviewed and approved in accordance with the UAMS conflict of interest policies.

The content is solely the responsibility of the authors and does not necessarily represent the official views of the funding agencies.

1. The WISE Intervention

Together, We Inspire Smart Eating



- 8 Fruit and Vegetable Units
 - Simple, low-cost recipes
- Implemented by Early Care and Education Teachers

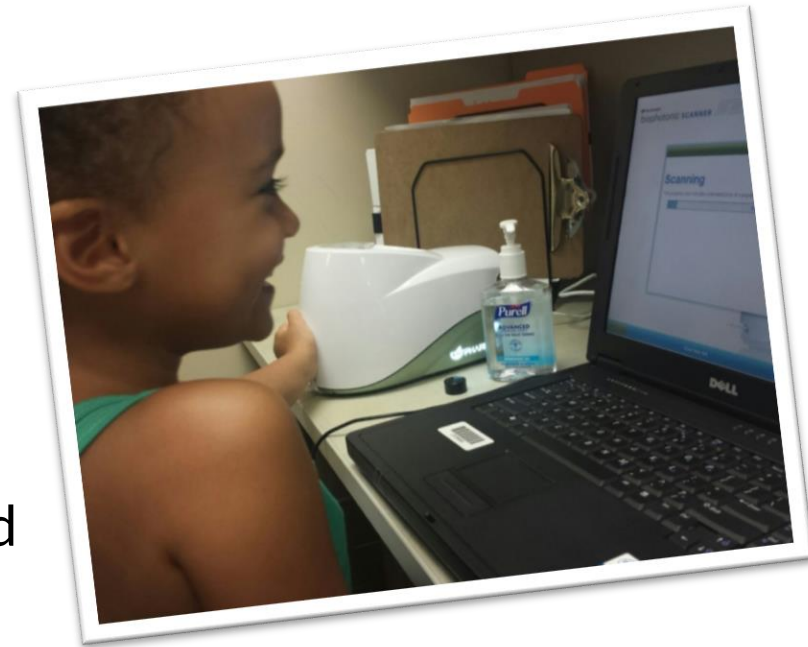
WISE: Evidence-Based Practices (EBPs)

Component	Behaviors
Use of Mascot	<ul style="list-style-type: none">- Uses mascot during activity.- Leads chant with mascot.
Role Modeling	<ul style="list-style-type: none">- Eats food with the children.- Makes positive comments about the target food.
Hands-On Exposure	<ul style="list-style-type: none">- Completes lesson in prescribed group size.- Involves children in lesson.
Positive Feeding Practices	<ul style="list-style-type: none">- Cues hunger and satiety.- Encourages food exploration.- Supports without pressure.



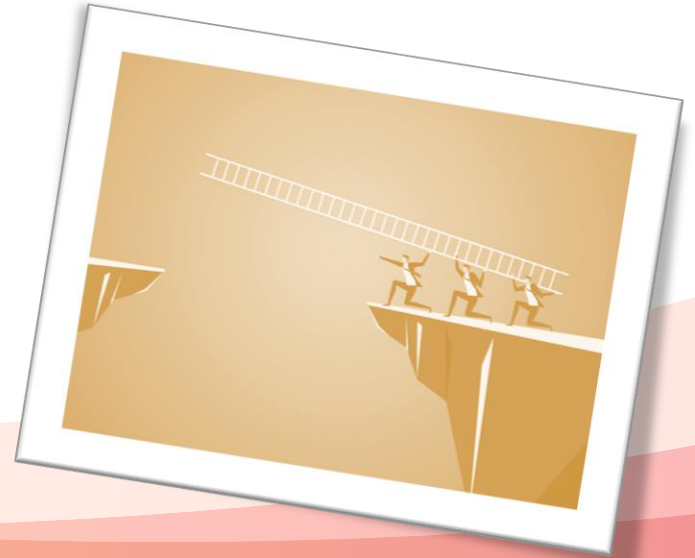
WISE Results

- Improvements in educator knowledge which are sustained
 - Whiteside-Mansell L., Swindle, T., 2017
- Outperforms standard of care for improving child dietary intake (FFQ)
 - Whiteside-Mansell L., Swindle, T., 2018
- Parent-reported increases supported by biomarker improvements
 - Whiteside-Mansell L., Swindle, T., In Press



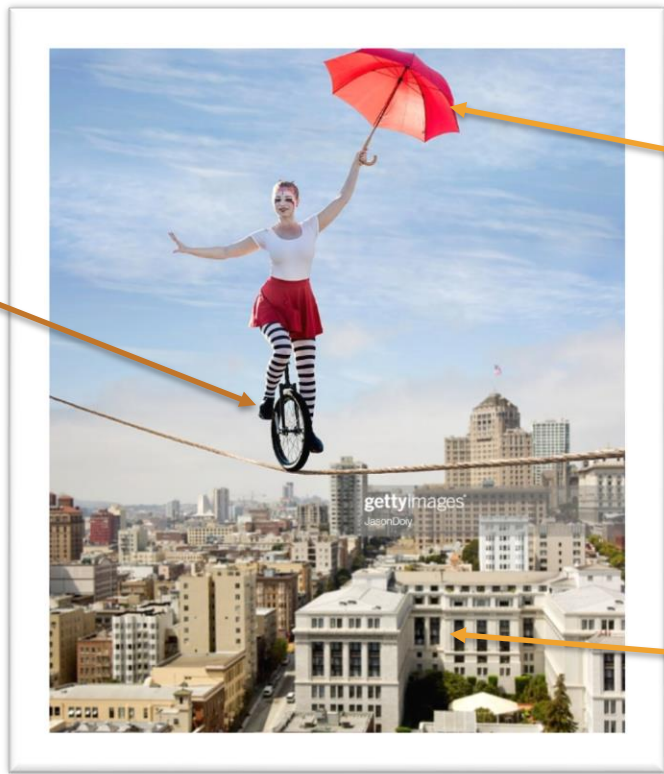
Gaps in Implementation

Educators struggle to use EBPs



Implementation Science – Crash Course!

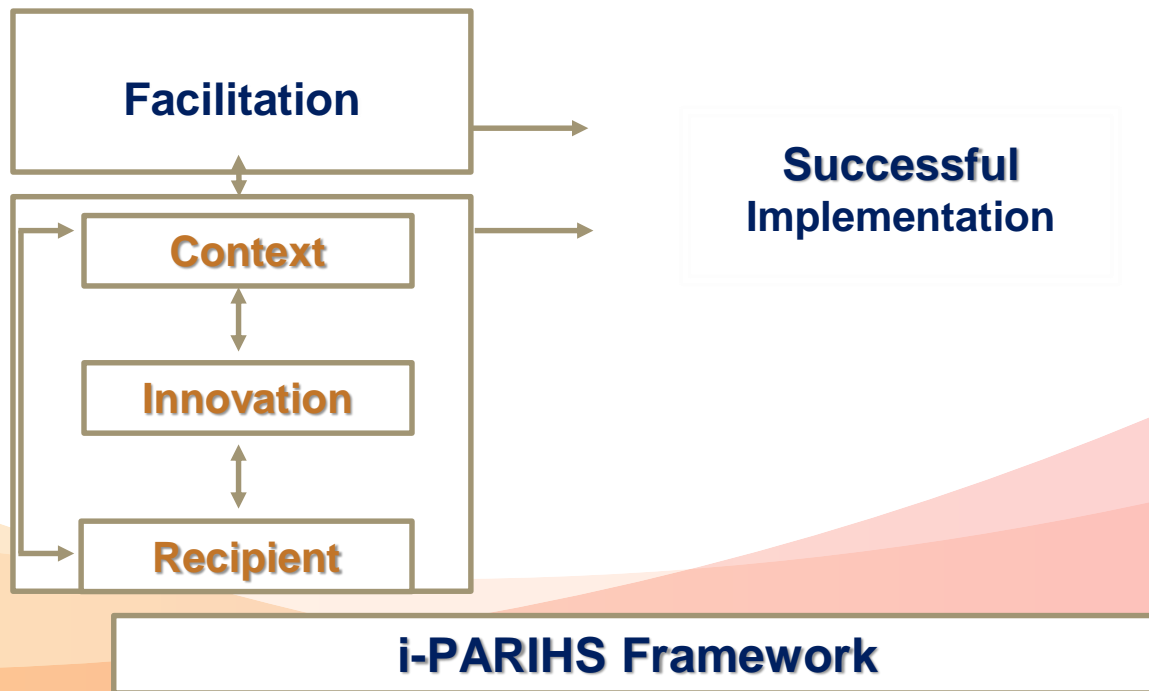
Innovation –
the thing!



An implementation
strategy

Context

Implementation Framework



Prioritized Barriers & Facilitators

Context

- Leadership Support
- Capacity & climate for change

Innovation

- Time
- Perception of fit & advantage

Recipients

- Classroom Skills
- Beliefs

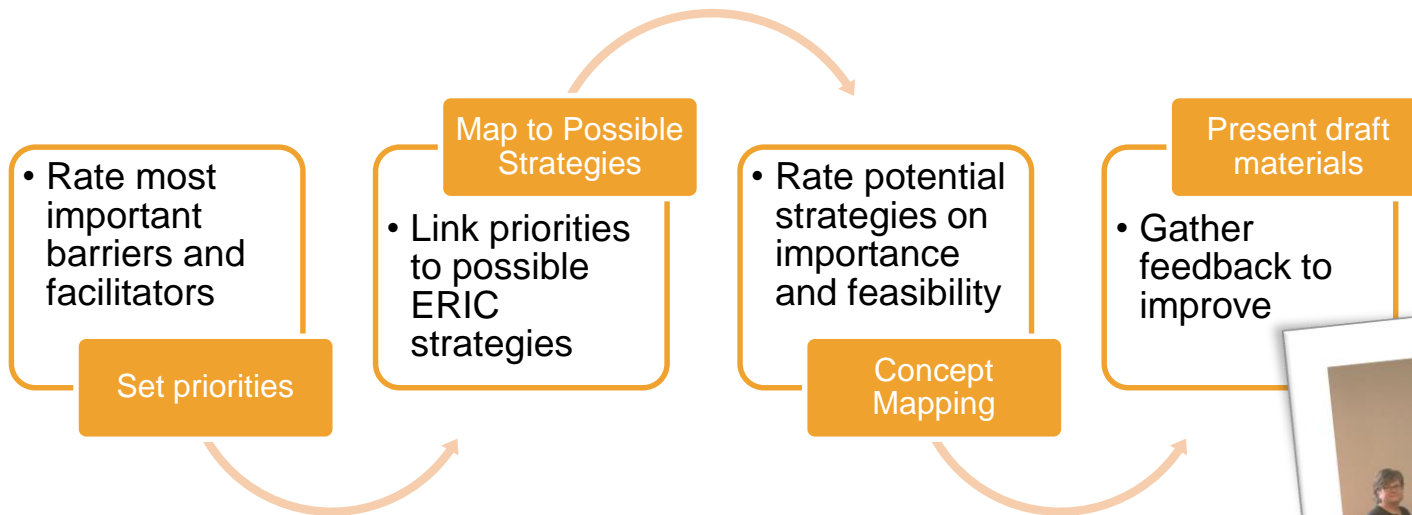
2. The Research Design

Cluster Randomized Hybrid Type III Trial

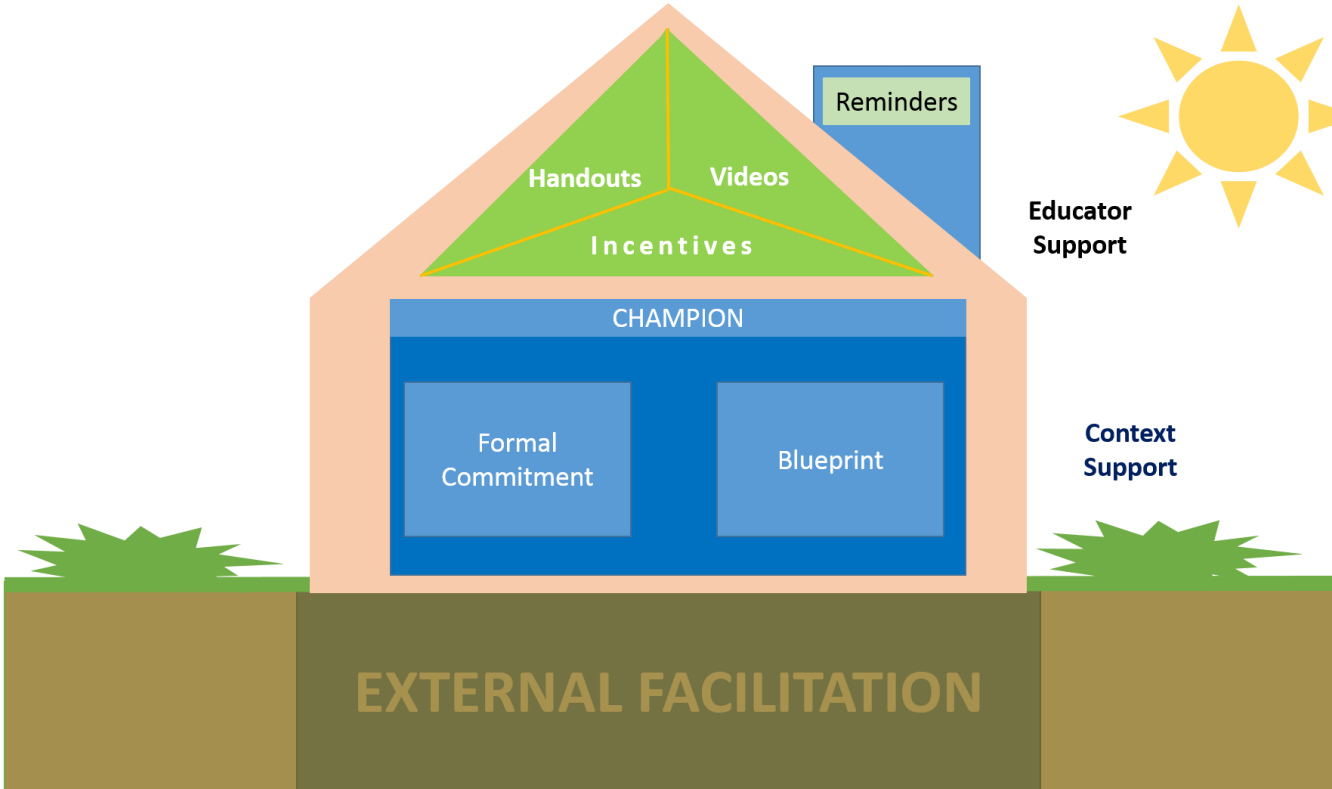
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Will stakeholder-selected strategies outperform a basic implementation approach on implementation and child outcomes?

Strategy Selection



Enhanced Support



The Strategies Specified: Examples

Strategy	Actor	Action	Temporality	Dose	Justification
Identify and prepare champions	Volunteer or designated champion at each enhanced site	Provide 3 hour training in how to advocate, educate, and navigate for WISE	Within 2 months of teacher training	One-time training with facilitator contacts thereafter	Provide local contact to increase capacity for change.
Incentives	Classroom teacher pairs will receive incentives (i.e., classroom supplies) from WISE staff	Provide tailored incentives reflective of use of 4 key practices.	Educators can earn new incentives each quarter	Varies by teacher (0 – 8 incentives may be earned)	Increase likelihood that educators will try WISE practices and create first-hand experience with advantages of practices; leverage social norms.

Develop Enhanced WISE strategy with stakeholders through EBQI to address Barriers/Facilitators (Aim 1)*



	Enhanced	Basic
Sites	4	5
Classrooms	20	18
Teachers	45	39
Children	305	316

FFQ, BMI, RRS



Compare Implementation and Child Outcomes (Aim 2)*

Educator Demographic Characteristics by Treatment Group

	Control	Enhanced	Total % (N)
Female, ¹ % (n)	100 (30)	100 (31)	100 (61)
Latina, % (n)	10 (3)	3.2 (1)	6.6 (61)
35+ years old, % (n)	70 (21)	74.2 (23)	72.1 (61)
1-10 years teaching experience, % (n)	70 (21)	61.3 (19)	65.6 (61)
White, % (n)	25.8 (8)	12.9 (4)	19.4 (62)
Black, % (n)	67.7 (21)	80.6 (25)	74.2 (62)

Child Demographic Characteristics by Treatment Group

	Control	Enhanced	Total % (N)
Female, % (n)	62.6 (119)	54.4 (124)	58.1 (418)
Age, M (SD)	4.08 (0.58)	4.07 (0.58)	-
Latino/a, % (n) ***	39.6 (67)	21.8 (46)	29.7 (380)
White, % (n)	10.7 (13)	14.3 (15)	12.4 (226)
Black, % (n)**	61.4 (108)	75.6 (149)	68.9 (373)
Parent no high school degree, % (n) **	27.4 (49)	13.5 (28)	19.9 (386)
Baseline RSS, M (SD)	25095.89 (9449.77)	24642.20 (9464.97)	-
* $p < .05$, ** $p < .01$, *** $p < .001$			

Construct	Measures	Source
Reach	Number of Lessons delivered	Educator-Report
Effectiveness	<ul style="list-style-type: none"> • Child BMI • Child RRS scan 	<ul style="list-style-type: none"> • Record Review • Measured with Nuskin
Adoption	<ul style="list-style-type: none"> • Organizational Readiness for Implementing Change¹ 	<ul style="list-style-type: none"> • Educator-Report
Implementation	<ul style="list-style-type: none"> • WISE fidelity² • Feasibility, Appropriateness, Acceptability³ • Perceived barriers⁴ • Implementation Leadership⁵ 	<ul style="list-style-type: none"> • Observed • Educator-Report and Formative Interviews • Educator-Report
Maintenance	Fidelity in following school year	To be measured in Fall 2019

1. Shea, C. M., Jacobs, S. R., Esserman, D. A., Bruce, K., & Weiner, B. J. (2014).

2. Swindle, T., Selig, J. P., Rutledge, J. M., Whiteside-Mansell, L., & Curran, G. (2018).

3. Weiner, B. J., Lewis, C. C., Stanick, C., Powell, B. J., Dorsey, C. N., Clary, A. S., ... & Halko, H. (2017).

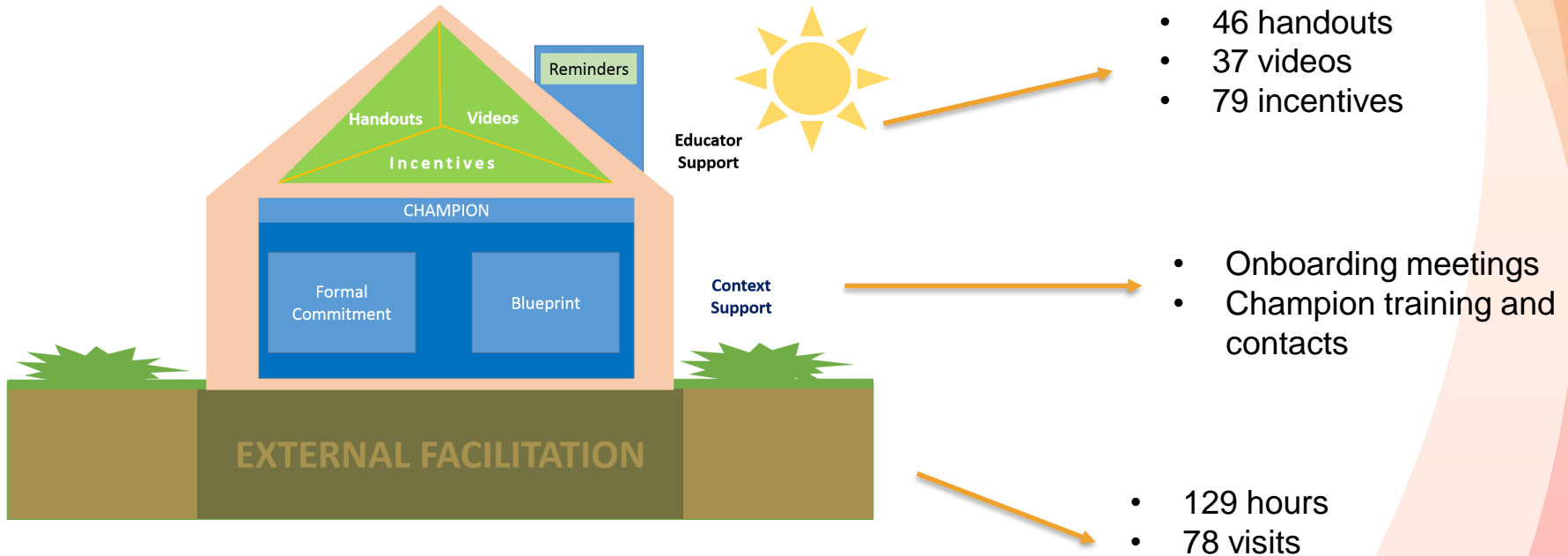
4. Swindle, T., Johnson, S. L., Davenport, K., Whiteside-Mansell, L., Thirunavukarasu, T., Sadasavin, G., & Curran, G. M. (2019).

5. Aarons, G. A., Ehrhart, M. G., & Farahnak, L. R. (2014).

3. Results

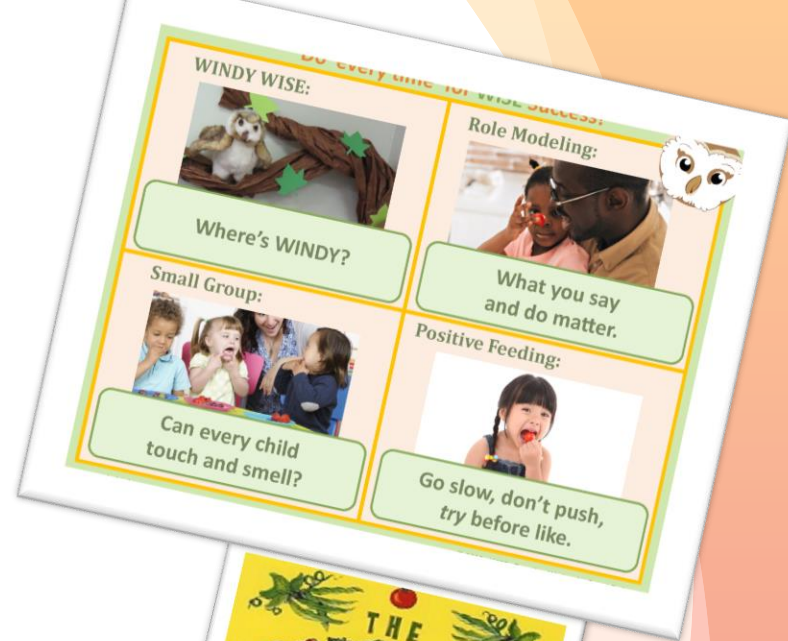
Guided by Re-Aim

Delivery of Support



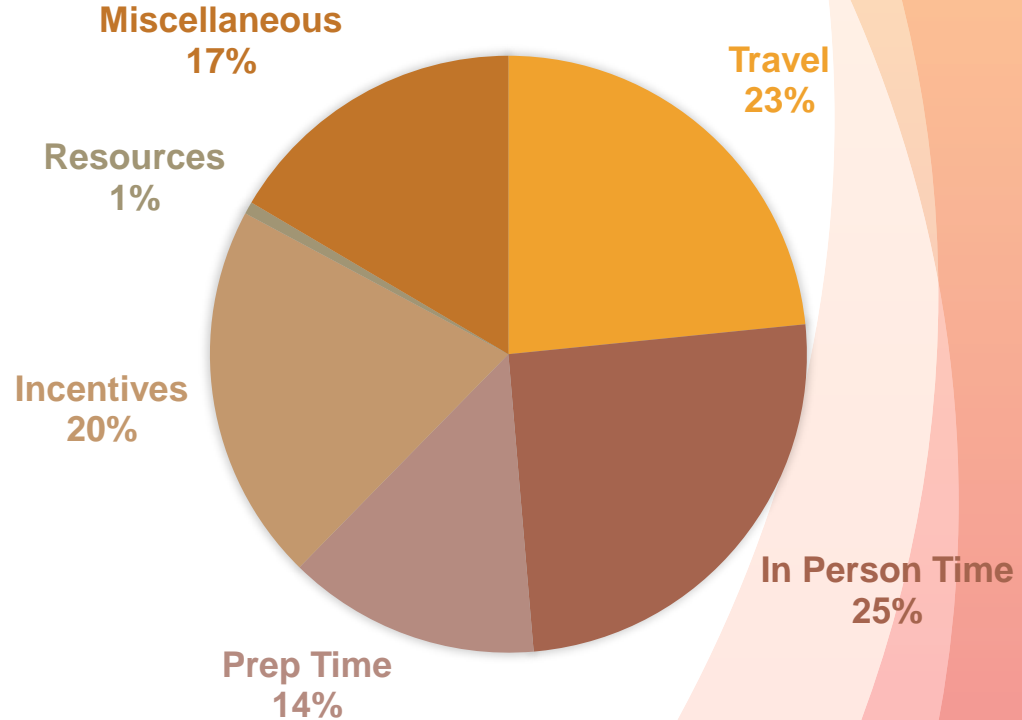
Dose of Support

- 76.5% used educational handouts
 - 3 + times per month
 - SAME for cutting board
- 64.7% had consultation with champion
 - 2+ times per month
 - SAME for WISE facilitation support
- 48.5 % used incentives
 - 2+ times per month
- 33.4 % used educational videos
 - 2+ times per month



Cost

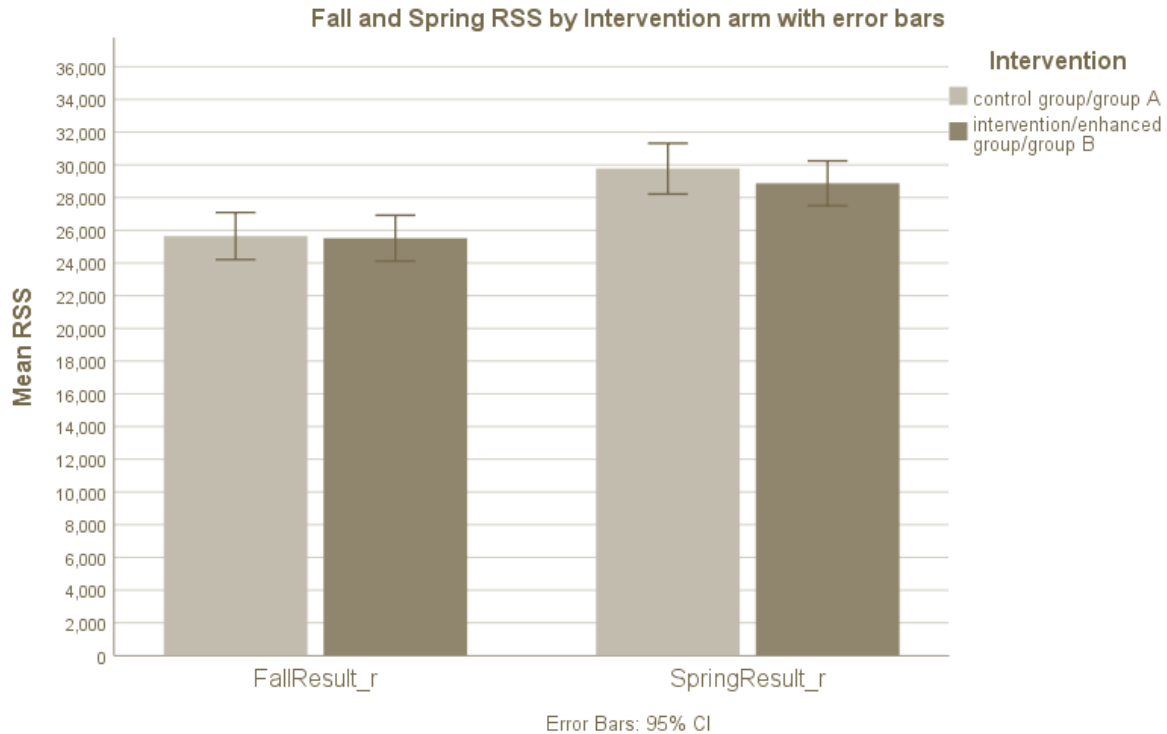
- \$585 to deliver basic support
- \$5,218 to deliver enhanced support
 - 8 hr of facilitation per class
 - \$24 per class
 - Averaged less than 15 min travel per activity



Reach

	Basic	Enhanced
Surveys Returned	82%	86%
Lessons Completed	69%	76%

Effectiveness



Adoption

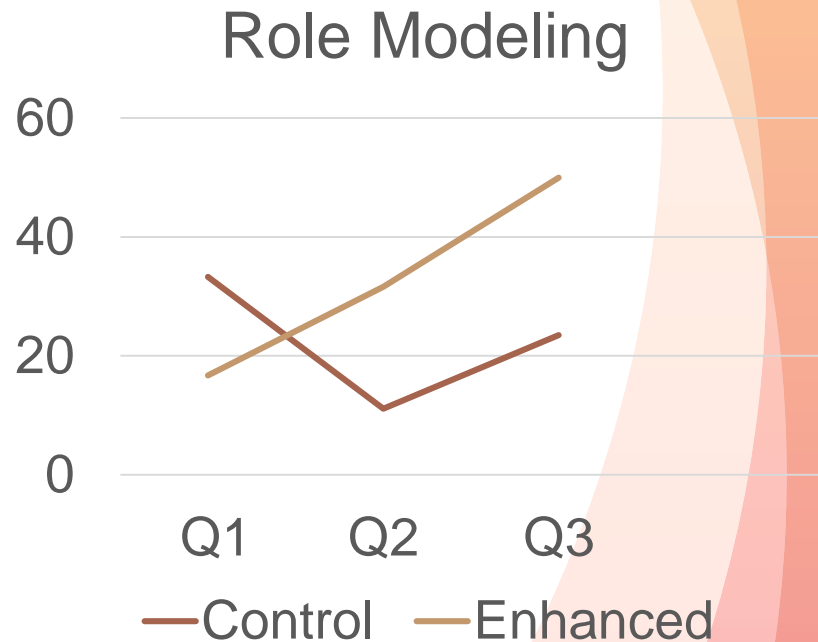
- *Are committed to implementing WISE.*
- *Want to implement WISE.*
- *Feel confident that they can keep the momentum going in implementing WISE.*
- *Are determined to implement WISE.*
- *Are motivated to implement WISE.*

Treatment = 4.4

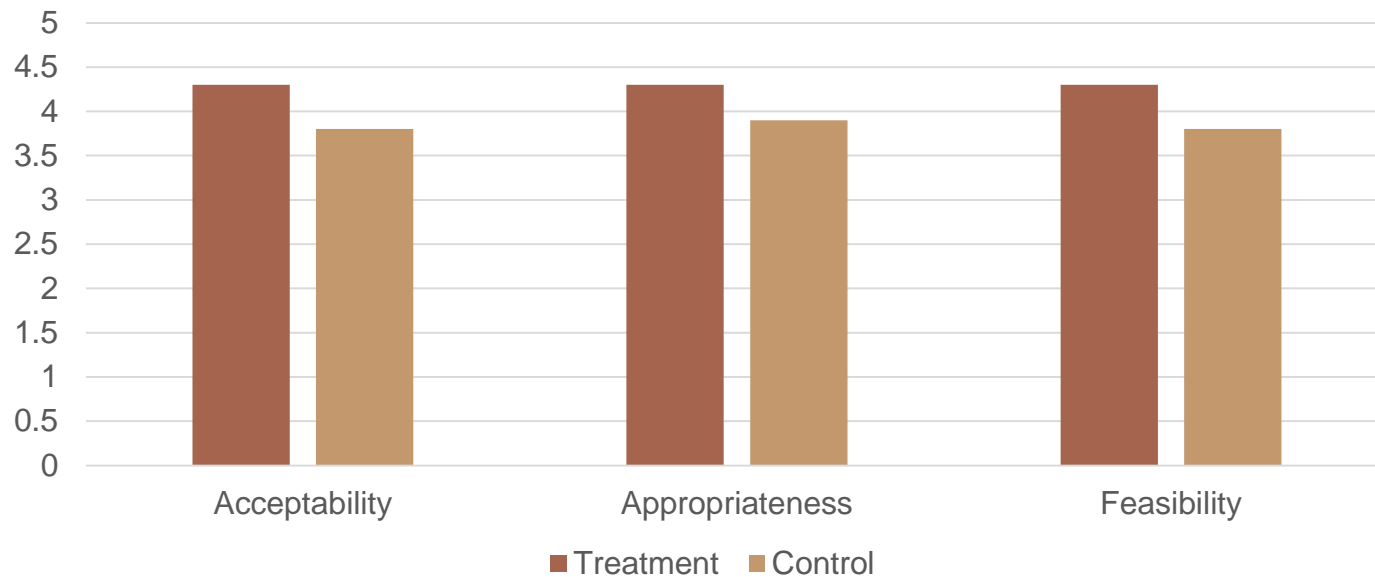
Control = 3.9

Implementation

- Significant treatment effects :
 - Fidelity to Role Modeling
 - Fidelity to Engaging Mascot
- Marginal treatment effects :
 - Fidelity to Hands-On Exposure



Implementation



Implementation

- **Perceived Barriers**

- E.g., *Not Enough training*
- Almost twice as high in control group, sig difference
 - 5.9 versus 3.0

- **Implementation Leadership**

- E.g., *Established clear standards for implementing WISE.*
- Significantly higher in treatment group

Implementation - Qualitative Feedback

“When we had our teacher meeting, I had them watch the videos. And they got some stuff from the videos. I liked the videos y’all sent. I got to learn more stuff and then pass it on to them .”

– WISE Champion

“She came back and gave the other classes a reward. We did all this and you still gave us a bad report? Nah. Something is wrong with this picture.”

- Assistant Teacher

“I was very pleased with how they would come out to the center and talk with me to see if there was anything I needed. They went to the classrooms to check on the teachers to see how things were going... I just couldn’t believe how they just tagged on to usI just don’t think there was anything lacking that we didn’t get here that we needed or I needed.”

– Center director

Maintenance

*Stay
Tuned !*

Formative Evaluation

Soft Resisters

*Passive attitude,
low to moderate fidelity*

17%

Enthusiastic Adopters

Positive attitude, high fidelity

35%

Hard Resisters

Negative attitude, low fidelity

24%

Over-Adapting Adopters

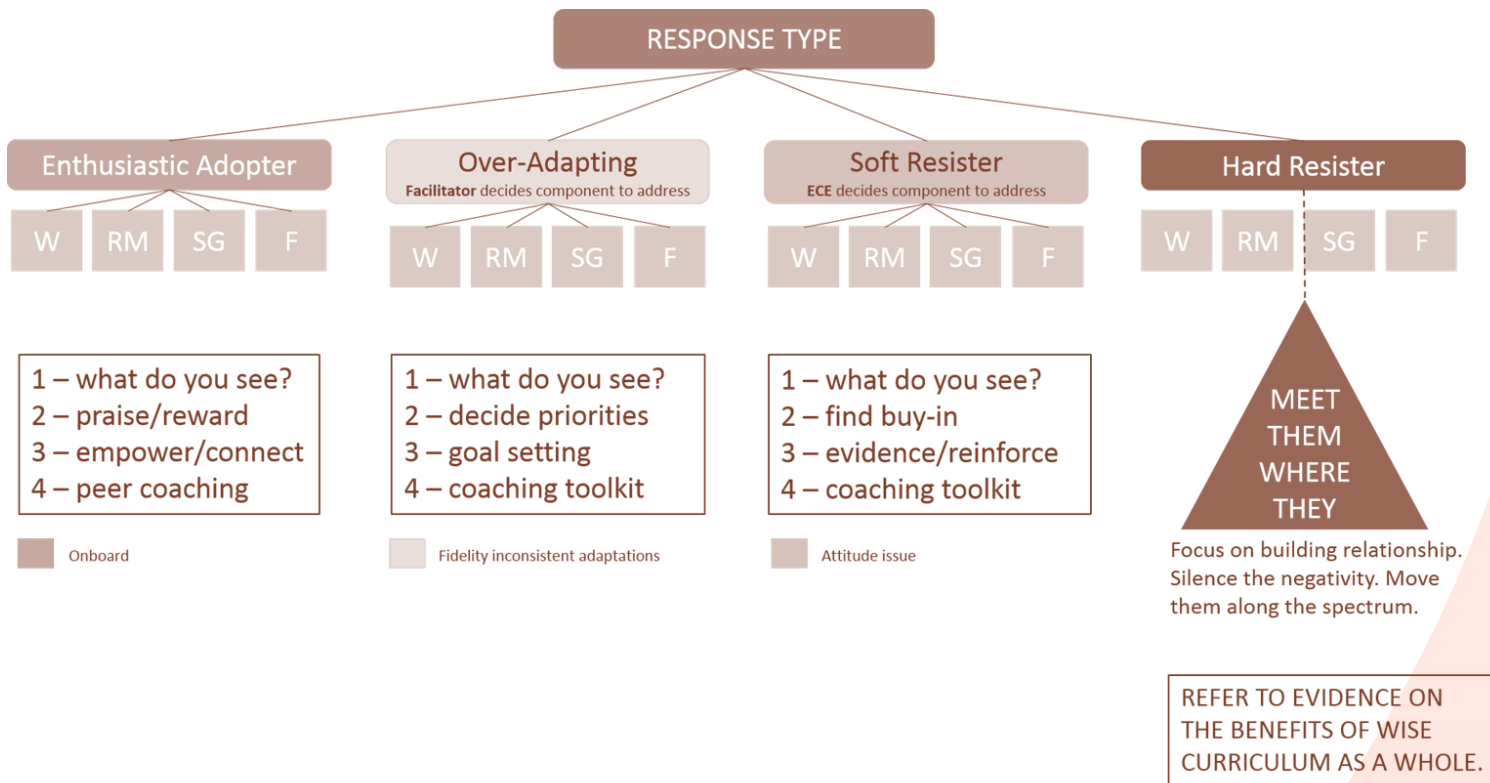
*Positive attitude, fidelity
inconsistent adaptations*

24%

“

“That puppet really works...That’s why I don’t bring her out right at the beginning. I sit here just to see who’s gonna start... One little boy don’t hardly want to taste nothing. But when I get it (the puppet)... they’ll go ahead. Just to make sure we get everybody into it, we’re going to use Windy.”

Targeted Facilitation



Turnover

Centers	% Classrooms Affected	% Total
St. Augustine*	0%	0%
Sherwood	0%	0%
Davis*	34%	42%
Nathaniel Hill*	50%	25%
Metro	50%	50%
Southwest	67%	39%
New Start	100%	50%
Kennedy	100%	63%
King*	100%	72%
TOTAL	61%	43%

* Indicates Treatment Sites

Lessons Learned for Implementation in Childcare

- Elevate champion role - but not too much
- Incentives are good until they are not.
- Options for resource delivery are key.
- Invest in quality materials.
- One size does not fit all.

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Stakeholders, Participants, Student Interns

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Any questions?

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