

Disclosure

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Speaker Disclosures

– *Financial:*

- Director, PELE Center, University of Colorado, Denver – teaching and speaking
- ASHFoundation – honorarium and travel/expense reimbursement

– *Non-financial:* None

LEAP – USA

(Using Science-based Approaches)



Lessons Learned About High Fidelity LEAP Replication

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No Conflicts to Report



Key Intervention Components

- Teaching typically-developing peers to facilitate the social and language skills of children with autism
- Functional goals and objectives determined largely by family requests
- Embedding ongoing learning opportunities into typical preschool routines



Key Intervention Components, cont

- Transdisciplinary model of service delivery
- Ongoing, daily data collection used to drive intervention
- Using a broad array of evidence-based practices (PECS, PRT, Errorless Learning, Incidental Teaching, Peer-Mediated Intervention)
- Structured parent skill training curriculum



Quality Program Indicators

Measures classroom implementation across 8 areas on a 5-point scale from *Full Implementation* to *Limited Implementation*

1. Classroom Organization and Planning
2. Teaching Strategies
3. Teaching Communication Skills
4. Promoting Social Interactions
5. Providing Positive Behavioral Guidance
6. IEPs & Measuring Progress (Data Collection)
7. Interactions with Children
8. Interactions with Families



QPI - Promoting Social Interactions

- 1. Capitalizes on presence of typical peers**
 - Uses peers as models, encourages peer buddies, etc.
- 2. Uses environmental arrangement to encourage social interactions**
 - Considers peer placements, plans for embedded social opportunities
- 3. Prompts and reinforces interactions effectively**
 - Facilitates and encourages interactions, provides feedback and reinforcement
- 4. Provides instruction to aid in development of social skills**
 - Provides instruction in social skills, social goals on IEP
- 5. Structures activities to promote social skills (sharing, requesting, turn-taking, etc.)**
- 6. Utilizes materials that are high in interest, novel and high in social value.**

Fidelity of Implementation Data

Intervention Classes

Comparison Classes

	Start	End of Yr 1	End of Yr 2	Start	End of Yr 1	End of Yr 2
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Mean QPI Scores

2.06	3.12	4.49	1.91	2.22	2.52
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QPI Range

1.0 - 2.8	1.8 - 3.9	3.1 - 5.0	1.0 - 3.3	1.5 - 3.3	1.1 - 4.7
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Mean Implementation

27%	53%	87%	23%	31%	38%
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Implementation Range

0% - 46%	19% - 72%	52% - 100%	0% - 56%	13% - 58%	2% - 92%
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Child Outcomes After 2 Years of Study Participation

	<u>Full Replication</u>			<u>Manuals Only</u>			<u>ES</u>
	<u>Mean</u>	<u>SD</u>	<u>Δ</u>	<u>Mean</u>	<u>SD</u>	<u>Δ</u>	
CARS	32.9	3.9	-6.1	34.6	4.2	-2.8*	.59
PLS-4 (Total Language Score) ^b	51.3	8.1	18.5	43.8	7.7	9.4**	.92
Mullen ELC ^a	68.5	7.5	8.9	61.4	9.0	-1.8**	.89
Visual Reception ^b	52.7	11.5	20.4	46.3	11.6	11.7**	.80
Fine Motor ^b	43.3	5.2	11.4	39.8	4.9	5.0*	.81
Receptive Language ^b	49.3	7.9	18.5	40.7	7.7	7.3**	.89
Expressive Language ^b	38.7	6.4	9.8	35.9	4.4	5.6*	.60
SSRS Positive ^c	42.1	12.6	28.6	32.7	11.9	12**	1.22
SSRS Negative ^c	56.5	4.2	-7.0	49.1	4.1	-4.3*	.62

ES = Effect size difference between Δ for full replication and Δ for manuals only group

* p < .05, ** p < .01 comparing Δ for full replication and Δ for manuals only group

Δ = Mean differences between initial assessment and Year 2 data.

^a = Standard score

^b = Age (months developmental) equivalent

^c = Percentile rank score

Correlation Between QPI Scores At End Of Year 2 And Each Outcome Index Gain Score For Treatment And Comparison Classes

<u>Outcome Measure</u>	Full Replication r =	Manuals Only r =
CARS	.71	.73
PLS-4 (Total Language Score)	.86	.75
Mullen ELC	.72	.68
Visual Reception	.69	.75
Fine Motor	.80	.77
Receptive Language	.69	.69
Expressive Language	.75	.70
SSRS Positive	.82	.72
SSRS Negative	.67	.72

Social Validity Ratings By Lead Teachers In Intervention Classes

Social Validity Dimension	Mean Rating on 5pt. Scale	Range of Ratings
Applied	4.88	4 – 5
Effective	4.42	3 – 5
Flexible	4.46	2 – 5
Generalizable	4.25	3 – 5
Inexpensive	4.25	2 – 5
Practical	4.00	1 – 5
Simple	4.04	2 – 5
Socially Acceptable	4.83	3 – 5
Sustainable	4.54	3 – 5
Technology	4.71	4 – 5
Promoting Community Inclusion	4.63	2 – 5
Promoting Social Relations	4.50	3 – 5
Promoting General Progress	4.50	3 – 5
Reducing problem Behavior	4.38	2 – 5



Other Correlations

- Teacher experience and prior training are not related to outcomes.
- Child characteristics at start are not related to outcomes.
- Fidelity is sole, powerful predictor.



Sustainability of Fidelity is Related to:

- Commitment to the model as opposed to the next, newest shiny toy.
- Data systems to monitor fidelity and supervisory feedback based accordingly.
- Stability of staff.
- LEAP as the "headline" for the organization



Sustainability of Fidelity is NOT Related to:

- More resources
- Fewer traumatic events
- Size of organizational change (number of replications)



Important Intervention Questions Potential Implementers Tend to Ask...

1. When will I see an effect?
2. Is the effect(s) going to be better than business as usual?
3. What is the cost vis-à-vis dollars, time, degree of change required, supervision, data collection?
4. How will I know that I'm at fidelity?
5. What do I need to do to stay there?
6. So I start big or small?
7. Can I talk to others who are further along on the path?
8. Our (fill in the blank) are more needy than yours, how can this work with them?
9. Sounds like more work, how do I get providers to buy in?