

# A Comparison of an In-Person Versus Virtual Positive Behavior Support Training Model for Families

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# Nevada PBIS Technical Assistance Center

Individual Support

Systems Support

PBS Family

HHL

Nevada MTSS

Facility-wide PBIS

SOC-ICT

Pyramid Model

ADSD T2/3

**PBS for  
Individuals**



**PBIS for  
Systems**



# PBS-NV Families Project

- Target Population:
  - Parents and caregivers of children with disabilities
- Location:
  - State services delivery is divided into 3 regions with local coordinators and trainers
  - Virtual and hybrid options started in 2020

## Aim:

- Provide training and consultation to parents and caregivers of children with disabilities and challenging behavior
- Reduce challenging behavior; increase quality of life

## Funding:

- Nevada DHHS Fund for Healthy Nevada since 1999



# PBS-NV Family Workshops

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## Tier I = *Universal strategies*

- PBS 101

## Tier II = *Targeted interventions*

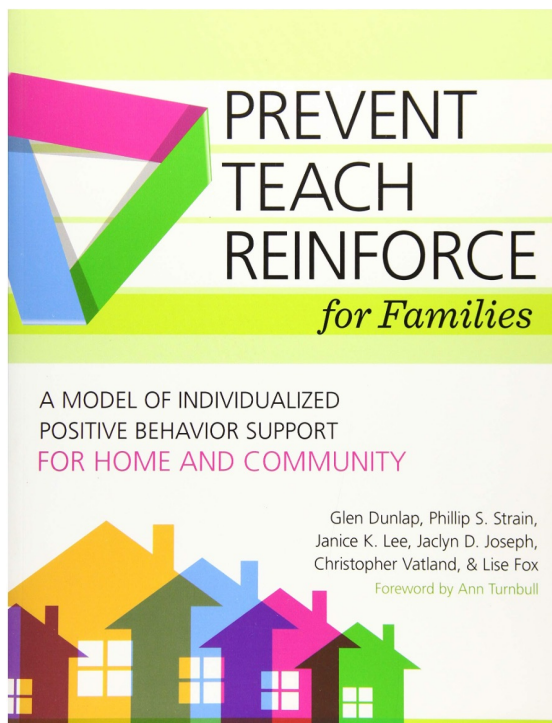
- Potty Pros
- Picky Eaters
- Routines and Transitions

## Tier III = *Individualized, function-based, comprehensive supports*

- Addressing Challenging Behavior (ACB)



# Prevent-Teach-Reinforce



**Prevent** focuses on identifying interventions around neutralizing routines for identified setting events, specific antecedent manipulations, and other more general prevention strategies.

**Teach** supports the selection of strategies specific to learning the functionally equivalent alternative behaviors and replacement skills.

**Reinforce** section allows for the identification of function-based consequence strategies for problem behavior and the appropriate replacement skills. Skills are explained and selected during training sessions and one-to-one consultations are provided to assist with skill implementation in the home or community settings.



# Virtual Parent Training Literature

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- Online training using a telehealth model has been demonstrated in the literature to:
  - Increase knowledge, skills, and efficacy of positive behavior support interventions (Hieneman, et al. 2020)
  - Increase parent treatment fidelity in behavior support plans (Douglas, 2020)
  - Improve parental knowledge and reduce child problem behavior (Shanok, et al., 2021)



## What Happens When Training Goes Virtual? Adapting Training and Technical Assistance for the School Mental Health Workforce in Response to COVID-19

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- Studied the shift in youth suicide prevention training from in-person to online modalities following COVID-19 related restrictions.
- Measures included changes in participation rate, perceived quality of training events, and self-report of knowledge gain and behavior change.
- Results demonstrated that participation increased in online training offerings, participants' ratings of quality and impact did not decline, and training resulted in knowledge gain and self-reported behavior change.





# Scientist Practitioner Model

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- Evaluation of results in clinical practice
- Methods are tied to grant goals/objectives of funding sources and data reporting requirements
- Reliance on self-report and perception data is not ideal for rigorous research however results can still be analyzed and summarized



# Purpose of the Study

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Pandemic of 2020 resulted in a shelter-in-place order



Immediate shift from a direct service delivery model to a telehealth model



The purpose of the current study was to compare the effectiveness of a parent training model of positive behavior support delivered in live and virtual training modalities



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# METHODS



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# Variables

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- Dependent:
  - Participant knowledge gain
  - Participant QOL
  - Child QOL
  - Child behavior change
- Independent:
  - ACB training modality



# ACB Curriculum

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## Session 1 – Assessment

- Behavior basics
- ABC data collection
- Function of behavior
- Competing pathway
- Hypothesis statement
- Values and goal setting

## Session 2 – Prevent

- Neutralizing setting events
- Antecedents
- Modifying the environment
- 5:1 positive praise statements
- Creating routines

## Session 3 – Teach

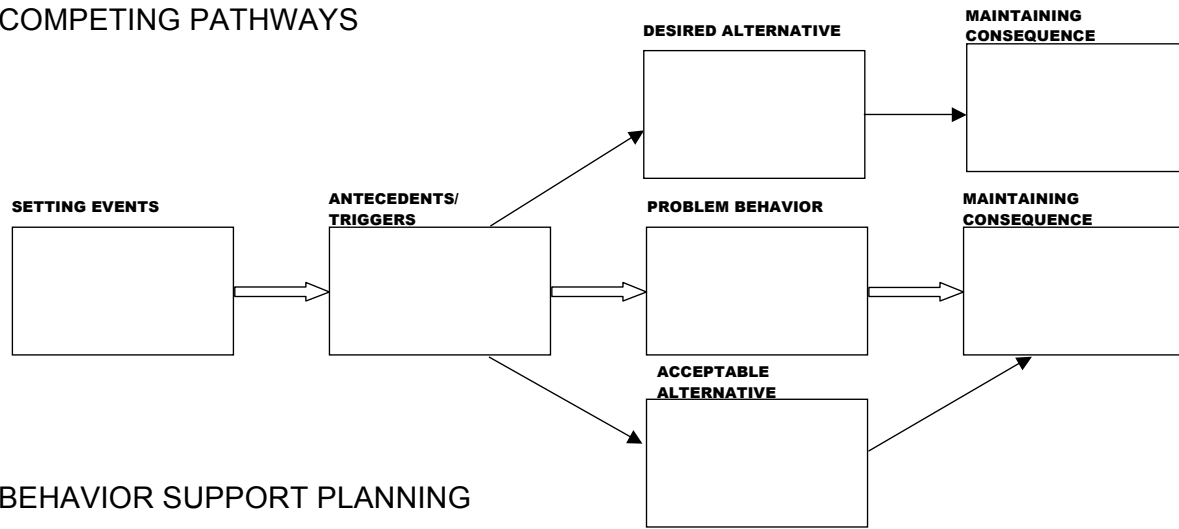
- Setting expectations
- Task analysis
- Prompting
- Modeling

## Session 4 – Reinforce

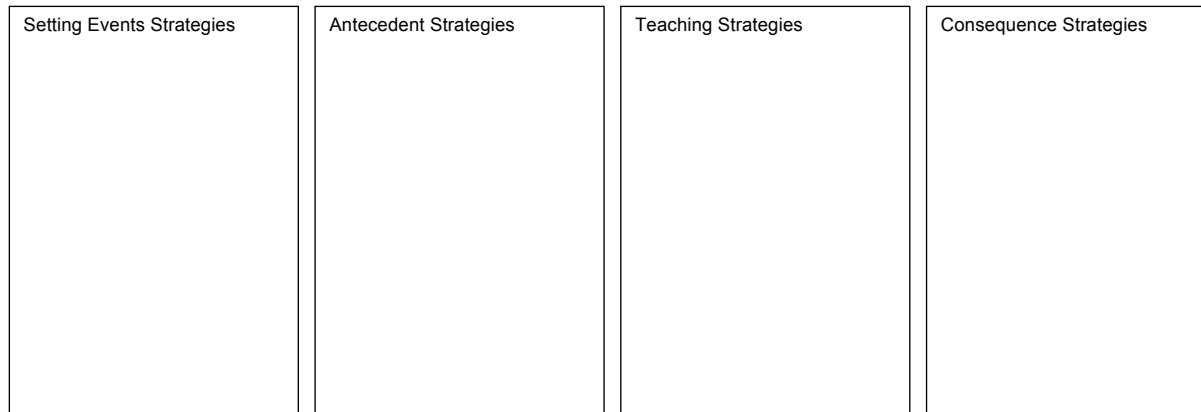
- Positive reinforcement
- Negative reinforcement
- Differential reinforcement
- Token systems
- Responding to challenging behaviors



## COMPETING PATHWAYS



## BEHAVIOR SUPPORT PLANNING



# Training Methods

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## Training

*(2hr each for 4 sessions)*

PowerPoint presentation

Video examples

Live demonstrations

Q & A

## Consultation

*(1hr following each session)*

Review of skills

Observation

Modeling & feedback (BST)

Q & A



# ACB Consultation Fidelity

## Addressing Challenging Behaviors Procedural Fidelity Checklist - 4 course sequence


Date/ Time:

	Session 1	Session 2	Session 3	Session 4	Comments:
ABC Data Collected	2	2	2	2	
	1	1	1	1	
	0	0	0	0	
BRS Data Collected	2	2	2	2	
	1	1	1	1	
	0	0	0	0	
Prevent Strategies implemented	2	2	2	2	
	1	1	1	1	
	0	0	0	0	
Teach Strategies implemented	2	2	2	2	
	1	1	1	1	
	0	0	0	0	
Reinforce Strategies implemented	2	2	2	2	
	1	1	1	1	
	0	0	0	0	
Noticeable Behavior Change?	2	2	2	2	
	1	1	1	1	
	0	0	0	0	





# Participant Data Collection

 **Knowledge Gain Assessment- Parent/Team Training**

Name: \_\_\_\_\_ Training : \_\_\_\_\_ Date: \_\_\_\_\_

**Due to the information presented in this class, I have a better understanding of:**


	Yes	No	Unsure
1. How environment affects behavior.			
2. How to prevent behavior problems.			
3. How to teach appropriate replacement behavior.			
4. How to appropriately and effectively use reinforcement.			
5. How behavior impacts quality of life.			

Comments:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

 **Behavior/QOL- Parent/Team Training**

Name: \_\_\_\_\_ Training : \_\_\_\_\_ Date: \_\_\_\_\_

**As a result of having participated in this class:**

	Yes	No	Unsure
1. Problem behavior has decreased.			
2. Appropriate behavior has increased.			
3. My quality of life has improved.			
4. My child's quality of life has improved.			

**Comments**

Noticeable Behavior Change:

\_\_\_\_\_

\_\_\_\_\_

Quality of Life Improvement:

\_\_\_\_\_

\_\_\_\_\_

Future Plans:


\_\_\_\_\_

\_\_\_\_\_

Other comments or reactions (please use the back of the form for extra space):

\_\_\_\_\_

\_\_\_\_\_

 **PBS-NV PRESENTATION RATING**

Training Name: \_\_\_\_\_

Location: \_\_\_\_\_ Date: \_\_\_\_\_ Your position, title, role ,etc.: \_\_\_\_\_

The intent of this form is to give you an opportunity to comment on various aspects of this presentation:

Presentation Evaluation:	Highly Satisfied	Satisfied	Somewhat Satisfied	Not at all Satisfied
1. Overall, how satisfied were you with the information presented?	4	3	2	1
2. Overall, how satisfied were you with the presenter(s)?	4	3	2	1
3. Overall, how satisfied are you with your understanding of the material presented?	4	3	2	1
4. Overall, are you satisfied with your ability to implement the information presented?	4	3	2	1

**COMMENTS/FEEDBACK**

Comments:

Comments about the training or my self-evaluation:

\_\_\_\_\_

\_\_\_\_\_

Most features of this training session were:

\_\_\_\_\_

\_\_\_\_\_

Recommendations for improvement:

\_\_\_\_\_

\_\_\_\_\_

Other comments or reactions (please use the back of the form for extra space):

\_\_\_\_\_

\_\_\_\_\_



# Trainers

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- Trainers for the PBS-NV Family Project are all masters level BCBA's and licensed in Nevada
- Trainers have backgrounds in ABA, education, and are familiar with behavior reduction and acquisition protocols
- Skill development for trainers:
  - Observe several sessions
  - Paired with a senior trainer (train sections with feedback)
  - Perform independently
  - All trainers are evaluated at the end of every session by participants



# Consultants

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- Trainers also function as consultants
- Skill development for consultants:
  - BCBA credential and relevant experience working with families
  - Consults are paired with a senior trainer/consultant and engage in observation prior to independent consultation
  - Consultants are provided with a rubric of topics for each meeting and fidelity data are collected

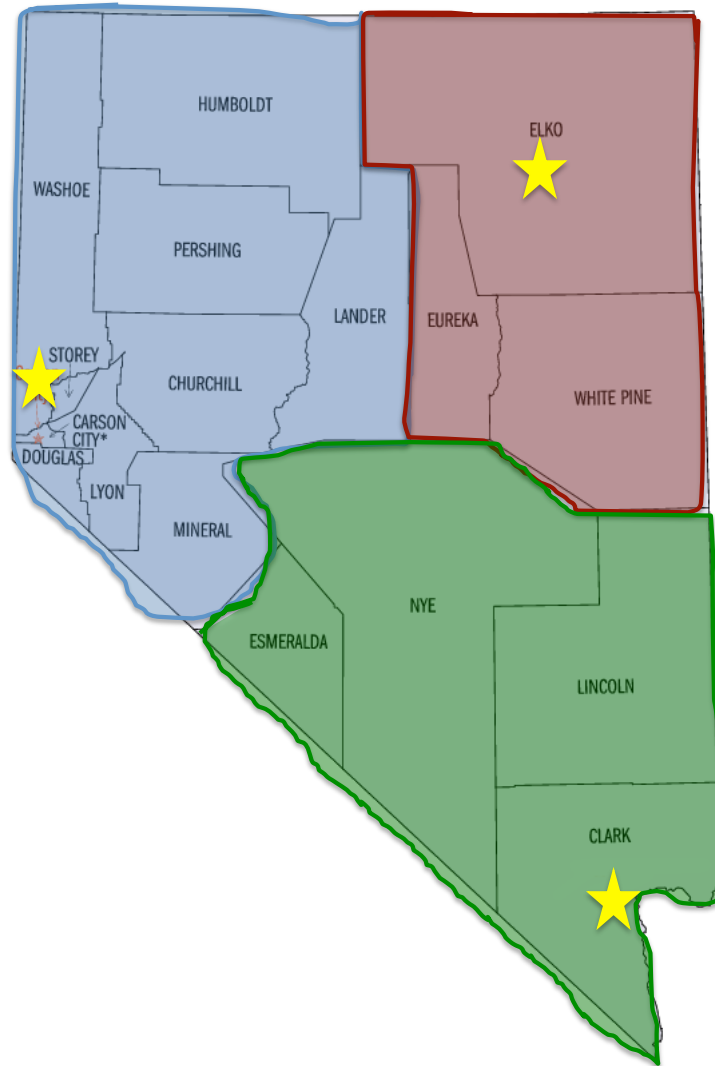


# Coordinators

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- Masters level project facilitators
- Support scheduling and needs of participants
- Ensure procedural fidelity
- Collect data





# Workshop Formats

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## In-person

- One coordinator and 1-2 trainers (BCBAs) per session
- 1:1 consultation with a BCBA following each session (In-person or via phone/teleconference)
- Location: school or other community center
- Up to 5 families per workshop

## Virtual (offered after March 2020)

- One coordinator and 1-2 trainers (BCBAs) per session
- 1:1 consultation with a BCBA following each session (phone/teleconference)
- Location: Online via Zoom
- Up to 5 families per workshop
- Participants were offered an iPad with internet connection if online access was a barrier



# Consistent Data Leveraged

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Knowledge Gain

Quality of Life

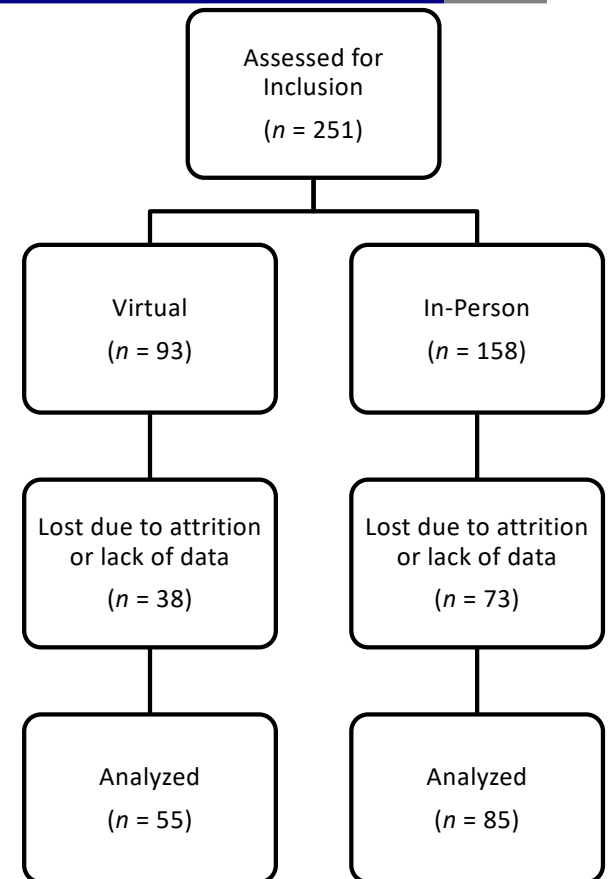
Behavior Change





# Inclusion Criteria

- Participant data from January 2018 – May 2022 were reviewed for inclusion.
- This timeframe was selected to allow for inclusion of two years of in-person and a comparable two years of virtual training data resulting from the pandemic shift.
- Data from workshops were used to populate a master spreadsheet of information about participant information with outcome data.



# Data Entry & IOA

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- One researcher conducted interobserver agreement data (IOA) across all data sources to ensure accuracy in data transfer.
- IOA was calculated by tallying the total number agreements and dividing by the total number of opportunities for agreement across three outcome measures: behavior change, quality of life, and knowledge gain.

Three researchers evenly divided the files from the workshops, either paper and pencil for in-person or the electronic files from the virtual sessions and analyzed the data for inclusion.

Data were entered into a master excel spreadsheet that included demographic information, participant outcome information, and knowledge gain information.



# Data Analysis

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- Post-hoc, quasi-experimental analysis
  - To assess the differences in outcome measures between the in-person and virtual learning participants, a **chi-square test for independence** was performed to assess the relationship between each outcome and the delivery modality of the training.
  - The outcome measures were looked at individually by question and grouped together for analysis by outcome type.



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# RESULTS



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# Participant Demographics (FY18-FY22)

Demographic	Total Participants		Participants Included		Percentage Differential
	<i>n</i>	%	<i>n</i>	%	
Total	251	100	140	100	0
<b>Attendance Modality</b>					
In-Person	158	62.9	85	60.7	-2.2
Virtual	93	37.1	55	39.3	2.2
<b>Location</b>					
Urban	147	58.6	92	65.7	7.1
Rural	98	39.0	47	33.6	-5.4
Unknown	6	2.4	1	0.7	-1.7
<b>Primary Language Spoken</b>					
English	236	94.0	128	91.4	-2.6
Spanish	15	6.0	12	8.6	2.6
<b>Race</b>					
White	187	74.5	101	72.1	-2.4
Asian	7	2.8	5	3.6	0.8
Black	4	1.6	3	2.1	0.5
Multiracial	8	3.2	6	4.3	1.1
Unknown	45	17.9	25	17.9	0.0
<b>Ethnicity</b>					
Hispanic	68	27.1	36	25.7	-1.4
Non-Hispanic	162	64.5	97	69.3	4.8
Unknown	21	8.4	7	5.0	-3.4
<b>Disability Status</b>					
Disability	127	50.6	75	53.6	3.0
No Disability	89	35.5	48	34.3	-1.2
Unknown	35	13.9	17	12.1	-1.8



# PBS-NV Outcome Data (FY18-FY22)

Outcome	$\chi^2$	$p$	Significance at $p < .05$
Problem Behavior Decrease	0.3802	.537492	Not significant
Appropriate Behavior Increase	1.476	.224398	Not significant
Child QOL Increase	2.1797	.139842	Not significant
Caregiver QOL Increase	0.1999	.654780	Not significant
Environment	0.4108	.521547	Not significant
Prevent	0.3631	.546797	Not significant
Teach	0.3507	.553694	Not significant
Reinforce	0.4108	.521547	Not significant
QOL Impact	0.4244	.514774	Not significant



# PBS-NV Outcome Data (FY18-FY22)

Outcome	Virtual	In-Person
	%	%
Problem Behavior Decrease	97.8	95.6
Appropriate Behavior Increase	97.8	95.6
Child QOL Increase	100.0	91.2
Caregiver QOL Increase	93.5	91.2
Environment	96.8	98.6
Prevent	100.0	100.0
Teach	100.0	98.6
Reinforce	100.0	98.6
QOL Impact	100.0	98.7



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# DISCUSSION



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# Major Considerations

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- While a shift to virtual learning resulting from the needs of the pandemic was not intentional, this study demonstrates that the virtual training modality for this workshop over the last four years produced similar or increased benefits for participants.
- These findings further the evidence that behavior interventions can be taught and supported virtually (i.e, Hieneman, Raulston, Pennefather, & Caraway, 2020) with good outcomes for families and that practices and principles applied within the school-wide PBIS framework can be leveraged for family-based at home learning.



# Barriers Addressed through Virtual Training

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## New Barriers

Technologically savvy

Access to computers

Stable internet

## Addressed Barriers

Travel limitations

Reaching rural communities

Childcare concerns



# Limitations

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- No validated measurement tools were used to assess pre or post behavior, quality of life, or knowledge.
- There are several other limitations to this study which directly result from a scientist practitioner model of research:
  - Given that these workshops were all conducted as community-based service activities, there were some variables that changed over time that were unable to be controlled for in the clinical setting.
  - Across the four years of this study, minor curriculum modifications were made to keep the presentation culturally and contextually relevant, and those modifications were unaccounted for in the data analysis.
  - Data were collected using yes/no responses and reliance on dichotomous outcomes may not have been a sensitive enough measure to capture significant differences.
  - The trainings did not happen concurrently, therefore there may have been other variables (i.e., the convenience of virtual attendance during the pandemic) that impacted these outcomes.



# Future Research

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Replicate and address the limitations of this study:

- Include validated assessments
- Exert more control over the influential variables.



A similar study might be conducted on live training sessions as compared to an asynchronous or self-paced type workshop.



# Thank You

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