

# The Evidence Base

UNM Evaluation Lab  
2024 Summer Institute  
10 June 2024



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# Learning Objectives

- Identify a continuum of evidence, including “***evidence-based***” and “***evidence-informed***”
- Appreciate the ***value*** and ***limitations*** of Randomized Controlled Trials
- Reflect on the evidence you have for your program

Why do you think your program activities will lead to the outcomes you want?

What evidence do you have to support your logic model?

# Dictionary

Search for a word



## ev·i·dence

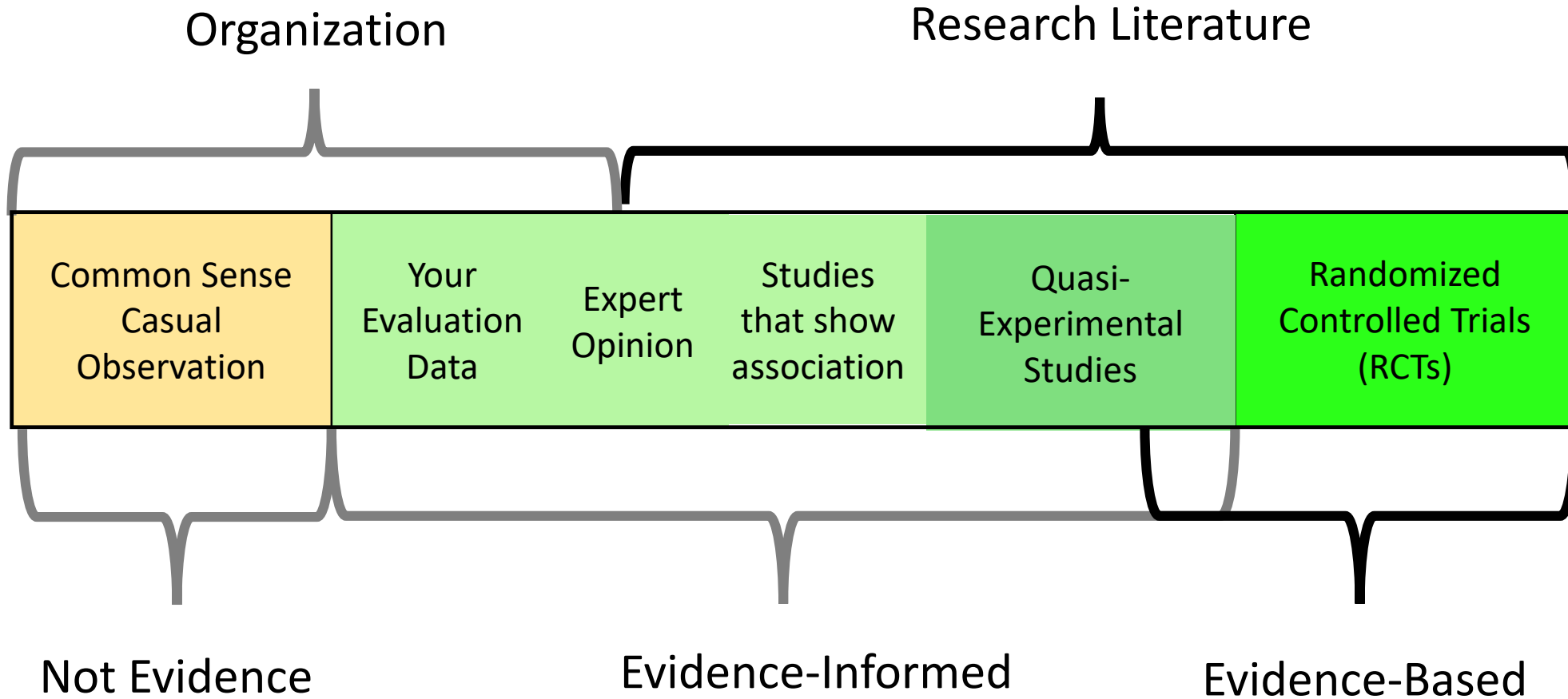
*/ˈevədəns/*

*noun*

noun: **evidence**

1. the available body of facts or information indicating whether a belief or proposition is true or valid.  
"the study finds little evidence of overt discrimination"  
*synonyms:* [proof](#), [confirmation](#), [verification](#), substantiation, [corroboration](#), [affirmation](#), [authentication](#),  
[attestation](#), [documentation](#); [More](#)

# Continuum of Evidence





# Common sense is not evidence

- Your common sense can be wrong
- Examples?

# Casual observation

- Casual observation can be wrong, because people tend to remember what stands out, which can be the exception

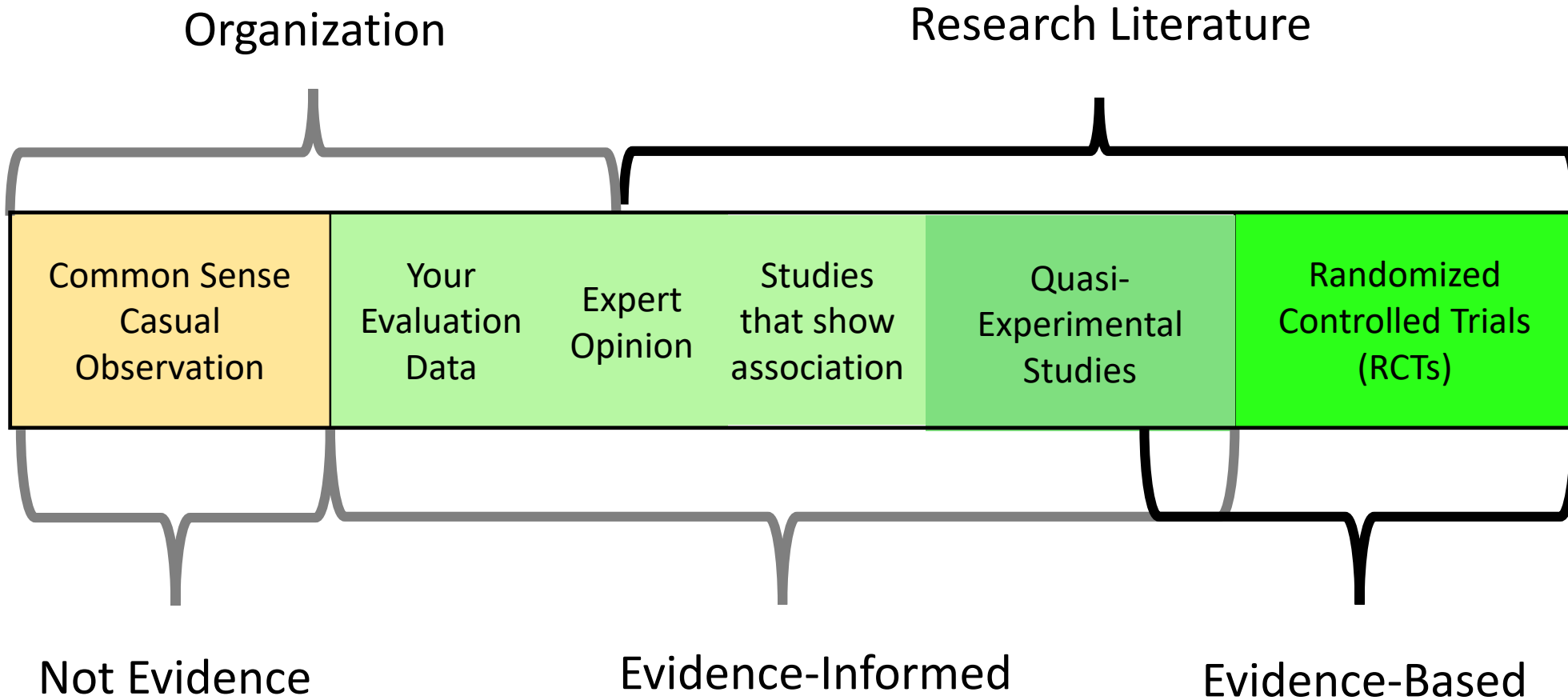
# Evidence based on academic research

. . . is the most convincing kind of evidence

- Systematic
- Produced by scientific method
- Peer reviewed



# Continuum of Evidence



# Causal, generalized evidence comes from RCTs

- RCT = Randomized Control Trial
- Study subjects are randomly assigned to participate in a program
  - A flip of a coin (or randomized number generator) determines whether subject gets treatment or not
  - The program effect will be the difference in outcome between the Program (or Treatment) group and the Control group
- True experiment
- Shows causal relationship: program caused changes

# Why *not* having random assignment is problematic

What other than the boys-only environment might have led to positive outcomes?

## Boys Class Boosted Scores - APS Cuts Fifth-Grade Experiment, Citing Tight Budget

*Albuquerque Journal (NM) - October 9, 2010*

Author/Byline: Copyright © 2010 Albuquerque Journal By Hailey Heinz Journal Staff Writer

Section: Front Page

Page: A1

The boys who were enrolled in Reid Nunn's all-boys classroom last year have some pretty clear ideas about why their test scores improved.

"There were no girls to ruin the fun," said Aaron Wright, 11.

The boys were part of a teaching experiment at McCollum Elementary School, in which Nunn taught a boys-only fifth-grade class and used boy-centric teaching methods: lots of competition, books about adventure, breaks for physical training and male guest speakers every week.

The good news is that the boys' scores on the New Mexico Standards-Based Assessment jumped dramatically after they had been in the class.

The bad news: Albuquerque Public Schools is discontinuing it because budget constraints have led to larger class sizes at McCollum.

Nunn's class last year had only 16 students, while this year he is teaching a coed class of 26. Parents had to opt into Nunn's boys class, and the district couldn't risk the cost of a smaller classroom if a full roster of students didn't sign up, APS spokesman Rigo Chavez said.

The academic improvements are undeniable:

80 percent of the boys were proficient readers at the end of the year, compared with 66 percent at the start.

Math proficiency jumped from 26 percent to 60 percent.

In both math and reading, 6 percent of students were in the "beginners" category at the start of the year, while none was in that category at the end. The number of "advanced" students doubled in both subjects, from 6 percent to 12 percent.



# Was it the boy-only environment? Or something else?

- Parents signed kids up
- Teacher sounds amazing
- Small class size
- Compared to what? How did kids in other classrooms do?

Programs that produce positive outcomes in RCTs meet the technical definition for “evidence-based”

# Realistic expectations of what a program can do

They *do* help some people do better. Good programs will move 10% - 34% of people above the average of where they would have been without the program.\*

\*Corresponds to effect sizes between .3 and 1.

A couple of sources that can help...

# What Works Clearinghouse

The screenshot shows the homepage of the What Works Clearinghouse. At the top, the logo reads "IES WWC What Works Clearinghouse" with a "MENU" button and a search bar containing "Search" and a "Go" button. Below the header is a green banner with the text "Select topics to Find What Works based on the evidence".

The main content area features a grid of topic icons and labels:

- Literacy (book icon)
- Mathematics (grid icon)
- Science (flask icon)
- Behavior (person icon)
- Children and Youth with Disabilities (hand icon)
- English Learners (globe icon)
- Teacher Excellence (microphone icon)
- Charter Schools (building icon)
- Early Childhood (Pre-K) (ABC blocks icon)
- K-12 Kindergarten to 12th Grade (K-12 text)
- Path to Graduation (graduation cap icon)
- Postsecondary (classroom icon)

Below the grid are two sections:

- WELCOME TO THE WHAT WORKS CLEARINGHOUSE**  
The What Works Clearinghouse (WWC) reviews the existing research on different *programs, products, practices, and policies* in education. *Our goal* is to provide educators with the information they need to make evidence-based decisions. We focus on the results from *high-quality research* to answer the question "What works in education?" Find more information **about the WWC.**
- HIGHLIGHTS**  
A carousel slide titled "New Certification Exam" with a document icon and text: "WWC Standards and Procedures, Version 4.1". To the right of the slide, the text reads: "Visit the WWC training page to complete the updated group design certification exam" and "Visit the WWC training page to complete the updated group design certification exam." Below this text are four dots, with the first one filled.

<https://ies.ed.gov/ncee/wwc/>



# Washington State Institute for Public Policy

## Program inventories for:

- children's mental health
- child welfare
- juvenile justice
- adult criminal justice
- adult behavioral health
- K–12 learning assistance

<http://www.wsipp.wa.gov>

➔ Publications ➔ Filter by Topic – Choose “Inventories”

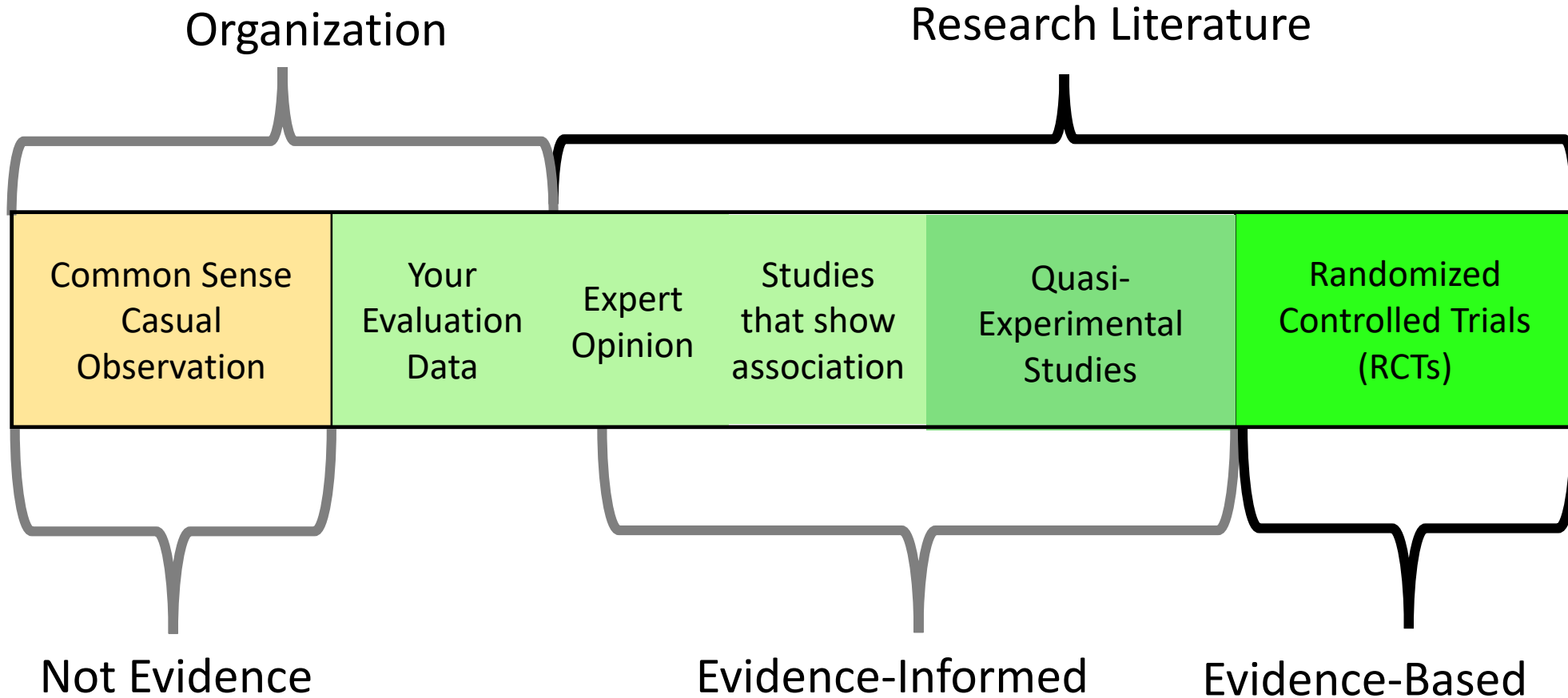
Some programs that claim to be evidence-based

aren't

# RCT's are not perfect

- Many programs and approaches have no RCT
- Results may vary with different populations
  - Don't guarantee external validity
- Fidelity
  - Maybe it's too expensive to do all of the elements
- “Black box”
  - We don't know what parts of a complex program made it work
  - What if it was the relationship between the facilitator and the participants, and not the program per se?

# Continuum of Evidence



# Observational: Show association

ACES study: adults who experienced more adverse childhood events have worse emotional and physical health.

See Felitti et al. 1998.

Felitti VJ, Anda RF, Nordenberg D., Williamson DF, Spitz AM, Edwards V., Koss MP, and Marks JS. 1998. "Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults. The Adverse Childhood Experiences (ACE) Study." *American Journal of Preventive Medicine* 14 (4): 245-58.

# Expert Opinion / State of the Art

- An expert in the field provides an overview of current understanding of the issue
- Example: Harvard Center for the Developing Child report makes the case that childhood trauma affects executive function in adults . . . suggesting that programs need to help these adults manage complex tasks.

See Center on the Developing Child at Harvard University. 2016. *Applying the Science of Child Development in Child Welfare Systems*. <https://developingchild.harvard.edu/resources/child-welfare-systems/>



# What evidence supports your logic model?

- Are there any RCT's?
- Are there experts you rely on?
- Are there key studies that people talk about?
  - Good idea to read them if you haven't already
  - Good to know level of evidence
  - Good to know if effects are modest
- Is your evidence based on experience?
  - Are you responding to clients' expressed needs?
  - Have you tried different approaches and found one that is good? If so, think about how you know it is good.

# Where to find evidence

- Website for any model or curriculum you use  
[Two-Gen Model: https://ascend.aspeninstitute.org](https://ascend.aspeninstitute.org)
- Your go-to websites for your focus area
- scholar.google.com (email Audrey and Emma with your request)  
[aleanos@unm.edu](mailto:aleanos@unm.edu) & [etomingashatch@unm.edu](mailto:etomingashatch@unm.edu)



# Your questions and ideas

# YEP #2 - Theory of change (example)



## **YOUR THEORY OF CHANGE**

To get started with your Theory of Change, articulate why you think your program will work, supported by the evidence base.

### EXAMPLE I

#### **A. State your theory of change.**

I think my program will work because . . .

. . . parents who experienced childhood trauma can learn to recognize their triggers and become more intentional and nurturing, and less reactive as caregivers to their children. Our program promotes this restorative process is building trust by building trust, teaching parents about trauma and child development, modeling supportive parenting and attending to material needs. We developed our approach by listening to parents about what they need to succeed.

# YEP #2 - Theory of change (example)

## **B. Our theory of change is based on the following evidence:**

Center on the Developing Child at Harvard University. 2016. *Applying the Science of Child Development in Child Welfare Systems*. <<http://www.developingchild.harvard.edu>>.

The report recommends:

- Addressing immediate stressors by helping families with immediate needs, such as housing and food.
- Acknowledging childhood and ongoing trauma that explain “what happened” to parents.
- Building relationships with clients to build trust, create hope, and model supportive parenting.
- Helping parents learn by doing, by encouraging and facilitating positive parent-child interactions.
- Helping parents recognize their triggers and learn to pause and consider before they react.

## EXAMPLE II

### A. State your theory of change.

I think my program will work because . . .

. . . children who witnessed domestic violence can learn to identify their emotions, recognize their strengths, and choose effective ways to meet their needs through the Nurtured Heart Approach.

### B. Our theory of change is based on the following evidence

**Clinical practice** - Although there is no RCT for the Nurtured Heart Approach, it is clinically informed by the work staff are doing on a daily basis. Enlace clinicians have found dramatic improvements in children's behavior after using the Nurtured Heart Approach. Clinicians report that children in the groups where Nurtured Heart has been used have higher self-worth and inner wealth in comparison to when they come into Enlace services. For example, the children can identify positive words to describe themselves, and they can identify their emotions and communicate them more clearly.

# Your turn

## **A. State your theory of change.**

I think my program will work because . . .

## **B. Our theory of change is based on the following evidence/experience**