Evidence-based Practices External Training

Tier 1 - Strong Evidence

Tier 2 - Moderate Evidence

Tier 3 - Promising Evidence
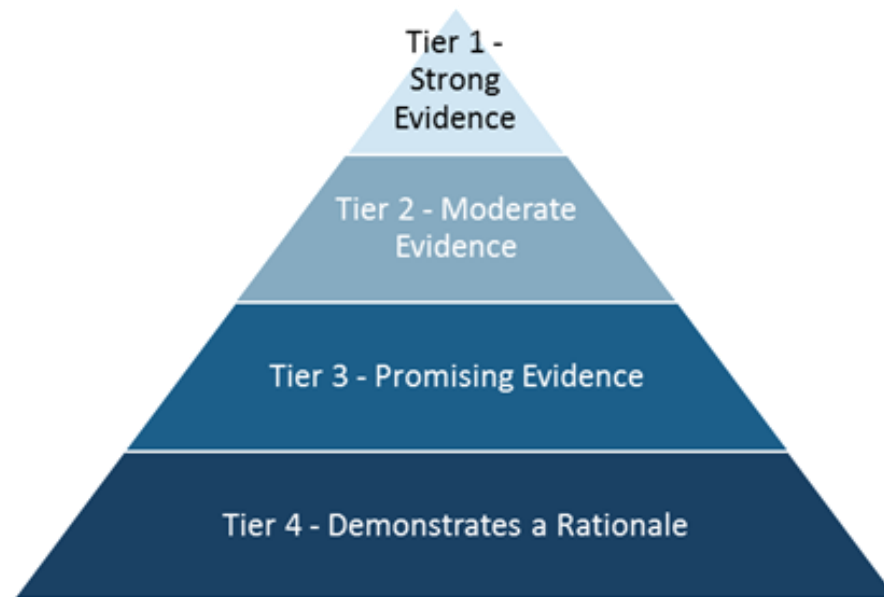
Tier 4 - Demonstrates a Rationale

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Agenda

- Goals and Norms (5 min)

- Build Knowledge (35 min)
  - ESSA definitions
  - Sources of evidence

- Build Skill (35 min)
  - Model: Positive Behavioral Interventions and Supports
  - Practice 1: Causal Effects of Culturally Relevant Pedagogy
  - Optional - Practice 2: Blended Learning and Literacy

- Context, discussion and questions (15 min)

Purpose of today

- Intended audience: LEA, School, and Community members who engage in the selection and implementation of interventions supported by 1003 funds at CSI and ATSI/TSI schools.

- Why are we spending 90 minutes talking about and practicing using evidence to support school improvement activities, strategies, and interventions?

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Three aims of today's time together

1. <u>Building the knowledge:</u> What is the ESSA definition of evidence, and what are sources of evidence?

2. <u>Building the skill:</u> How do we identify the strength of evidence supporting practices, initiatives, or interventions?

3. <u>Consider your context</u>: How will we support the use of evidence in our school improvement efforts?

Three aims of today's time together

If we are successful at these three aims you will be able to...

1. Building the knowledge: Understanding the definition of "evidence-based strategies" per ESSA and why using evidence is crucial to improving schools in RI

2. Building the skill: Use research to classify activities, strategies, and interventions according to their ESSA Evidence Tier

3. Consider the context: Plan for how your LEA will support evidence use by schools, CABs, and in the work of school improvement planning

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Norms for today's session

- We're all learners starting at different points of familiarity; we'll try our best to meet in the "stretch zone"

- Don't be afraid to ask questions; you're probably not the only one to benefit from them

- Go with the flow; we may have to move more quickly (or slowly) through some activities than you would like, but know we are available for ongoing support after today's session
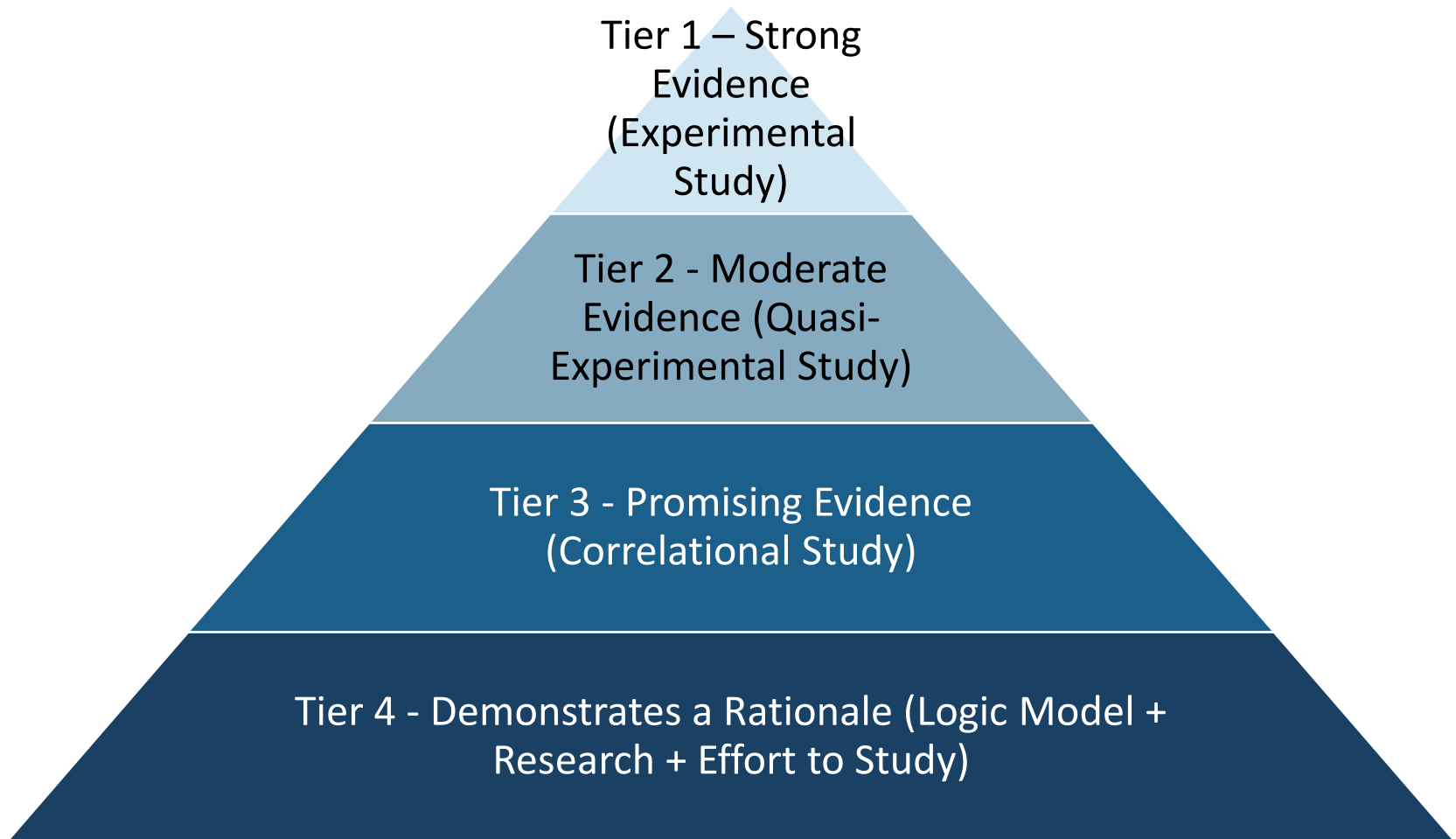
Building the Knowledge

How does ESSA define an evidence based strategy?

- Activities, strategies, and interventions that have proven to be effective in producing a desired outcome.

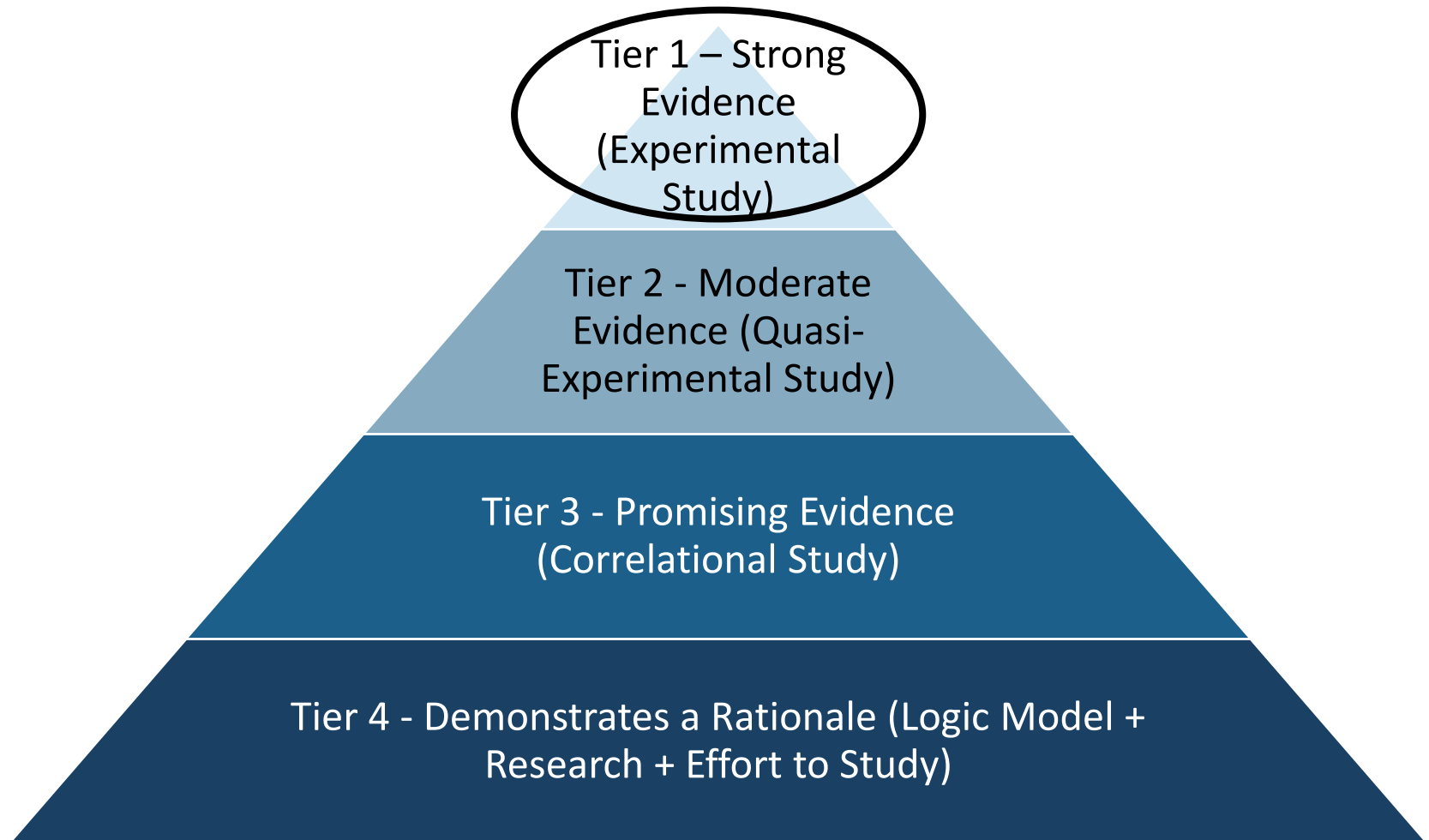- There is evidence (research or theory) to show these interventions work!

Tiers of Evidence

Tier 1 – Strong Evidence (Experimental Study)

Tier 2 - Moderate Evidence (Quasi-Experimental Study)

Tier 3 - Promising Evidence (Correlational Study)

Tier 4 - Demonstrates a Rationale (Logic Model + Research + Effort to Study)

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Tier 1 – Strong Evidence (Experimental Study)

|	
Randomized control experiment	• Treatment group (got intervention) and control group (no intervention), assigned **randomly**
Large and multi-site sample	• At least 350 students or other units • More than one site (school, district, or state)
Statistically significant, positive outcome	• Outcome was favorable and not the result of chance
Relevant to your context	• Similar student population and similar setting

Experimental Studies

Sample

Randomly

Treatment

Control

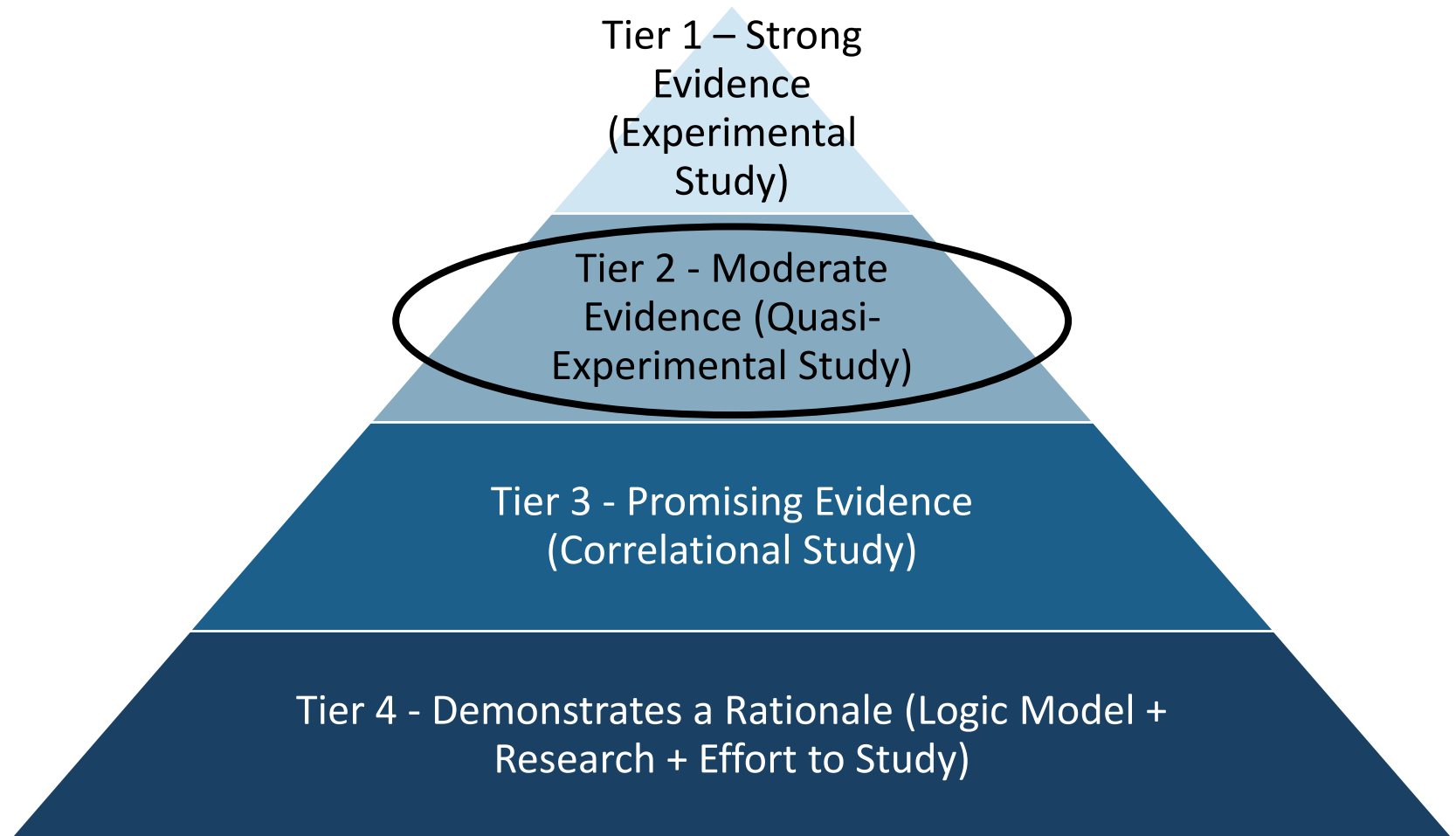Treatment

Difference in outcomes between groups?
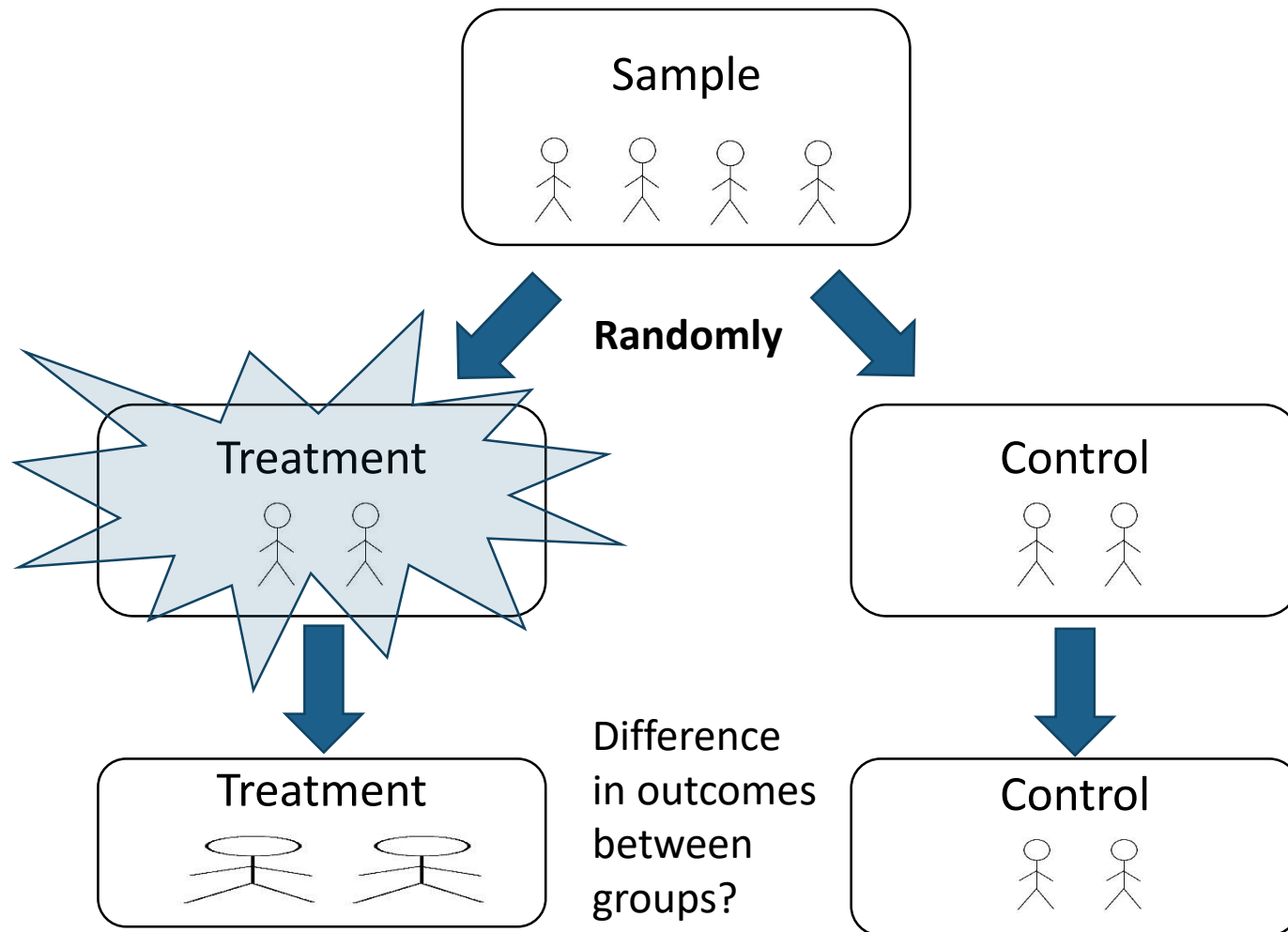
Control

Example of Strong Evidence – Management Training for Principals[1]

- Randomized control trial - Principals **randomly assigned** to treatment or control
  - Treatment group got training on lesson planning, data driven instruction, and teacher observation / coaching
  - Control group got no training
- 58 schools/principals (elementary, middle, and high) serving several thousand students, urban district
- Multiple statistically significant, positive impacts on student achievement (ex. .1 SD on math scores in Y1)

[1] Fryer Jr, R. G. (2017). Management and Student Achievement: Evidence from a Randomized Field Experiment (No. w23437). National Bureau of Economic Research.

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Tier 2 – Moderate Evidence (Quasi-Experimental Study)

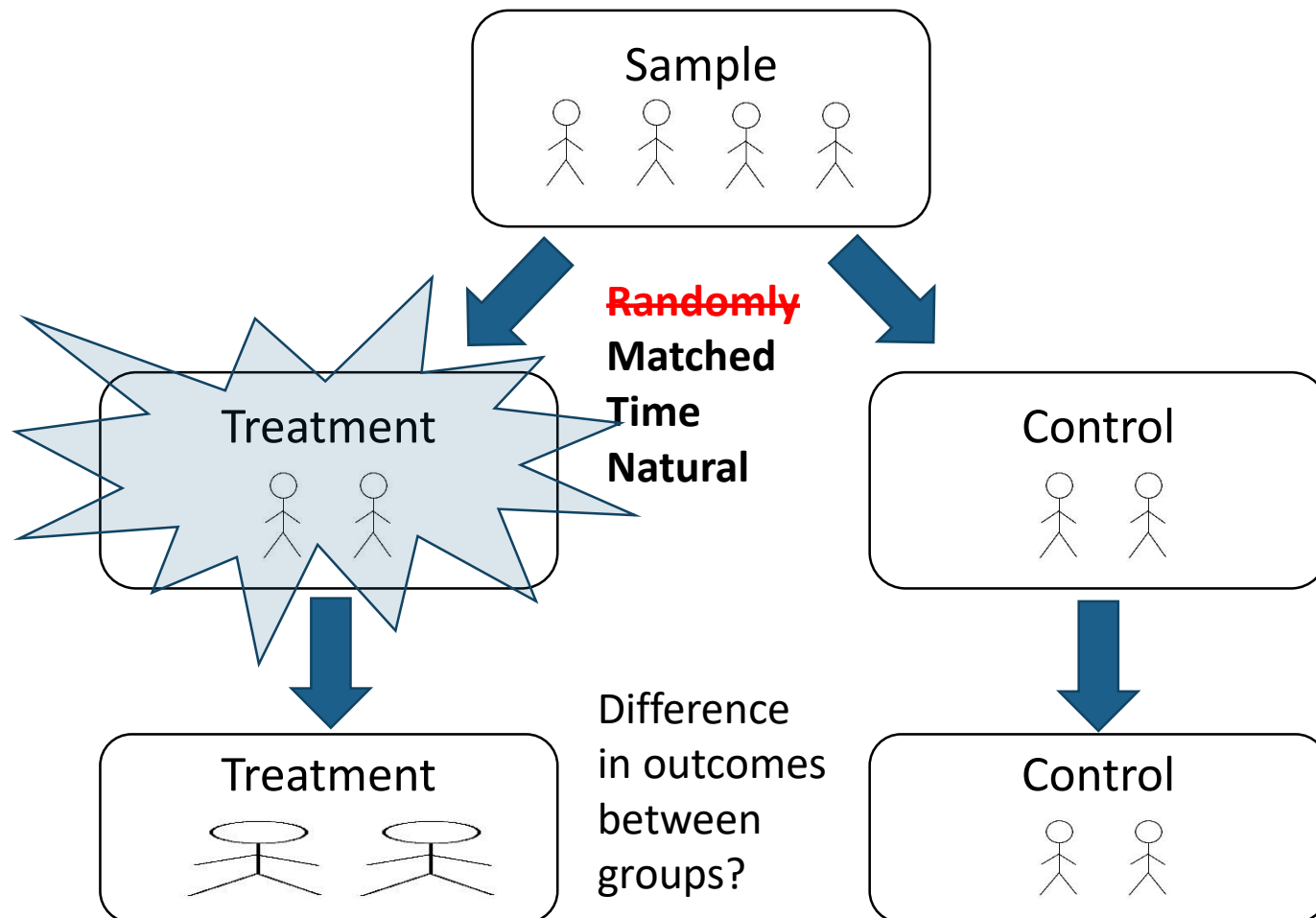|	
Quasi-Experimental Design Study	• Treatment group (got intervention) and similar control group (no intervention), **NOT assigned randomly**, groups often matched or are same group but before and after treatment
Large and multi-site sample	• At least 350 students or other units • More than one site (school, district, or state)
Statistically significant, positive outcome	• Outcome was favorable and not the result of chance
Relevant to your context	• Similar student population and similar setting

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Quasi-Experimental Studies

Sample

~~Randomly~~ **Matched Time Natural**

Treatment

Control

Treatment

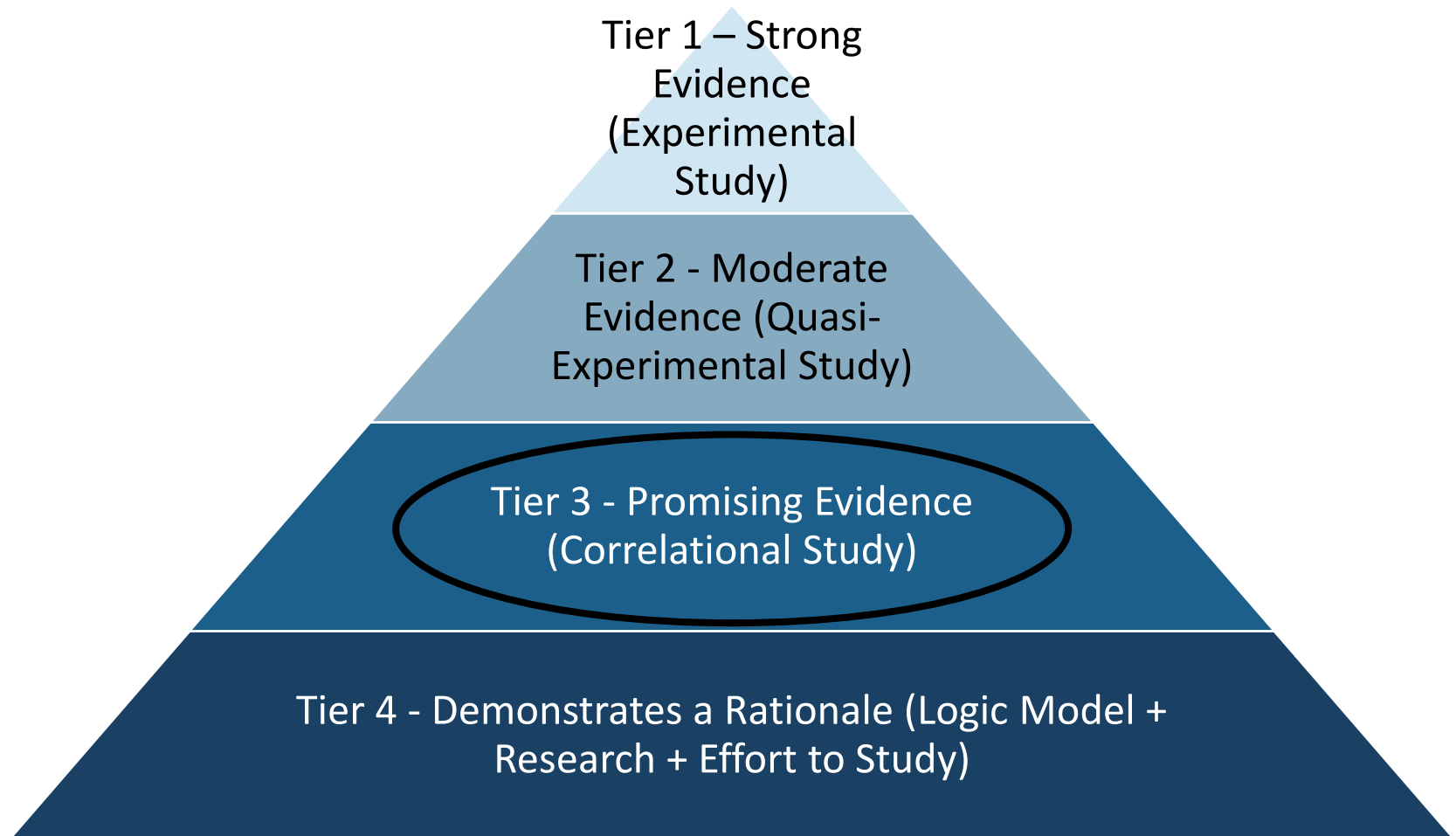Difference in outcomes between groups?

Control

Example of Moderate Evidence – National Board Certification[2]

- Quasi-experimental design – statistical analysis used to match control classrooms to NBST teacher classrooms
  - Treatment group taught by NBST teacher
  - Control group statistically similar, but no NBST certification
- 1,312,657 students in grades 3-8 across Washington State
- Statistically significant, positive outcome for math achievement (equivalent +2 percentile points)

[2] Cowan, J., & Goldhaber, D. (2016). National Board certification and teacher effectiveness: evidence from Washington state. Journal of Research on Educational Effectiveness, 9(3), 233-258.

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Tier 3 – Promising Evidence (Correlational Study)

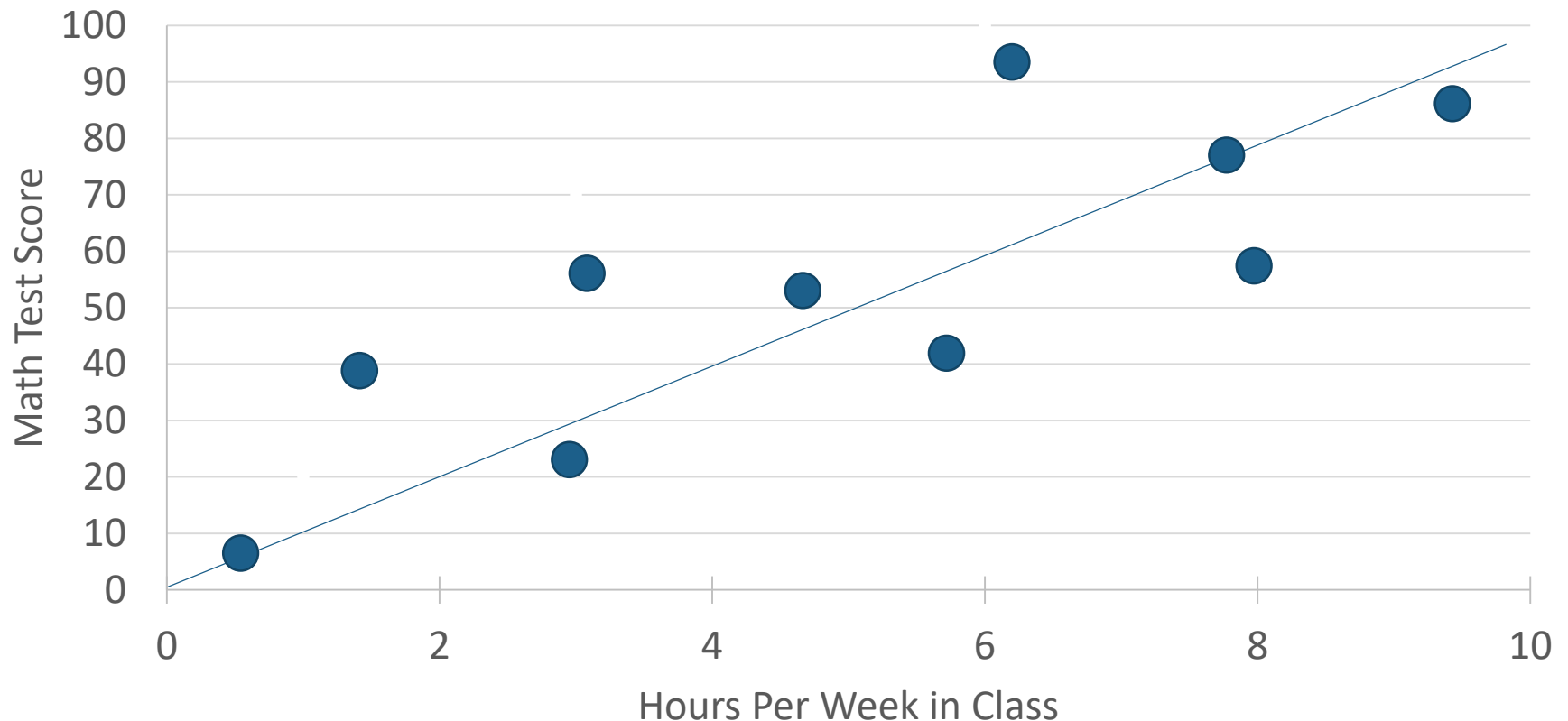| Correlational Study	• Relationship between treatment and outcome • Statistical control for selection bias
Statistically significant, positive outcome	• Outcome was favorable and not the result of chance

Note: Correlational studies cannot establish causation.

Correlational Studies

Relationship of Class Time to Math Achievement

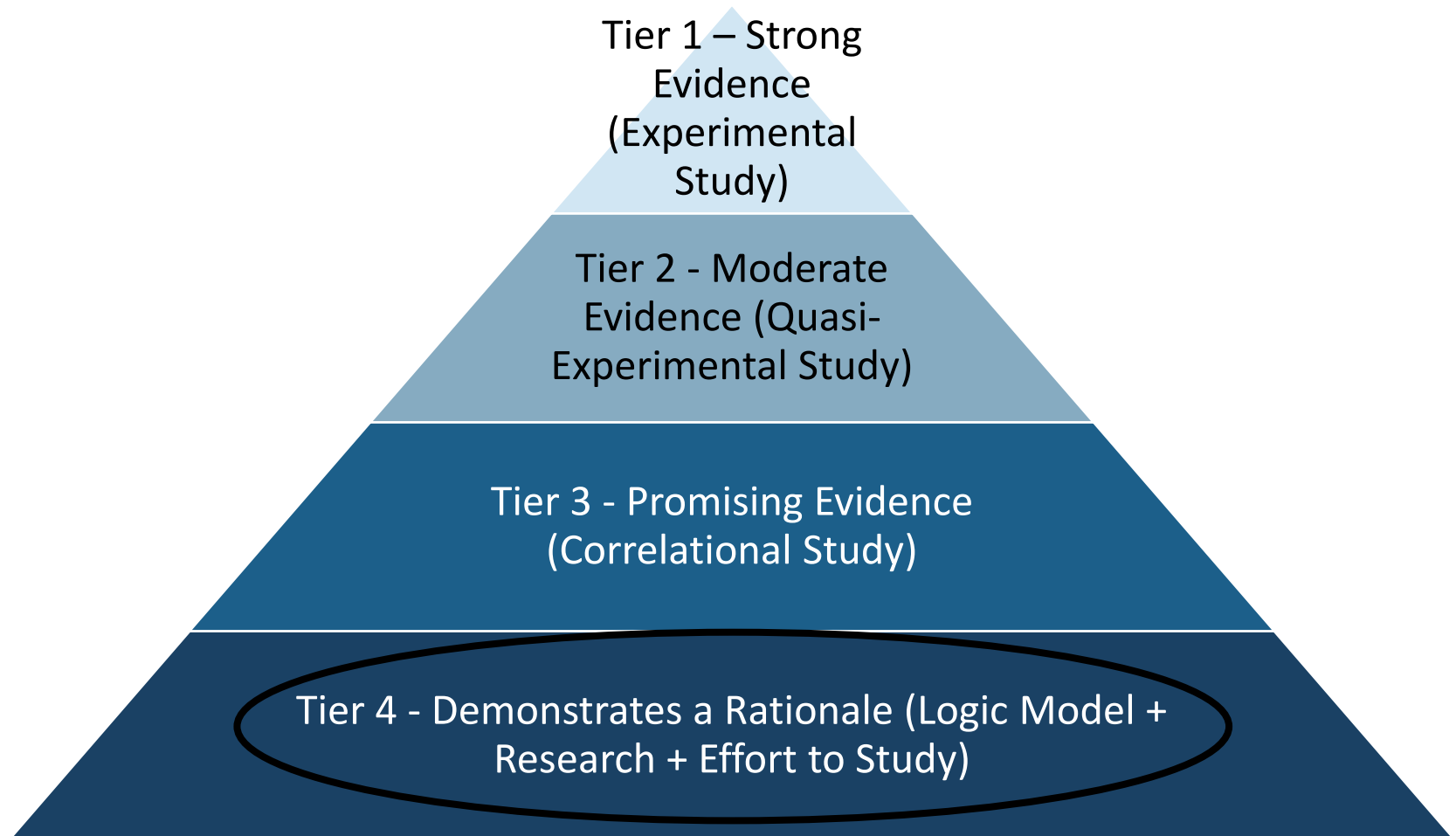(Y-axis: Math Test Score, 0 to 100; X-axis: Hours Per Week in Class, 0 to 10)

Example of Promising Evidence – Mississippi Literacy PD[3]

- Correlational study – examined the relationship between literacy PL and coaching to educator knowledge and instructional practices
  - No assignment to treatment or control
  - Trying to see if getting PL / coaching is associated with + knowledge or student outcomes
- 165 educators across Mississippi, thousands of students
- Statistically significant, positive relationship between PL / coaching and teacher knowledge / instructional practices

[3] Folsom, J. S., Smith, K. G., Burk, K., & Oakley, N. (2017). Educator Outcomes Associated with Implementation of Mississippi's K-3 Early Literacy Professional Development Initiative. REL 2017-270. Regional Educational Laboratory Southeast.

Tiers of Evidence

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Tier 4 – Demonstrates a Rationale
(Logic Model + Research + Effort to Study)

Logic Model
- Identifies key components of proposed intervention
- Describes relationship between components and relevant outcomes

Research Based
- Relevant research or intervention suggests improving relevant outcomes is **likely.**

Effort to Study
- Includes an effort to study the intervention (or points to one happening elsewhere).
- Consider including fidelity of implementation.

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Example of a Rationale – Funding ELA Coaches

Logic Model

- Explain the coaching activities that ELA coaches will undertake (observation, feedback, practice session, modeling, etc.)
- Name the outcomes you expect from this intervention (assessments used, student outcomes, educator outcomes)
- Link activities to outcomes (Ex. feedback - changes in teacher practice - student outcomes)

Research Base

- Garet, M. S., Wayne, A. J., Brown, S., Rickles, J., Song, M., & Manzeske, D. (2017). The Impact of Providing Performance Feedback to Teachers and Principals. NCEE 2018-4001. *National Center for Education Evaluation and Regional Assistance*.
- Study shows impact of feedback on teachers is positive, easy leap to impact of a coaching program specific to ELA

Effort to Study

- Describe how you will evaluate the impact of the ELA coaching. How will you determine changes in outcomes are the result of the intervention (Ex. comparing ELA growth for classrooms that get coaches to ones that do not)
- Point to another evaluation happening somewhere else.

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Places to find evidence

- Several databases exist that evaluate research of educational strategies according to the strength of their evidence-base. Not all of these are fully aligned to ESSA's definitions, but many are easily translatable:
  - What Works Clearing House (endorses Tiers I & II)
  - Results First Clearing House
  - Best Evidence Encyclopedia
  - RAND report on school leadership (ESSA aligned)
  - Other state resource hubs (use with caution)
  - Under Development: RI Education Resource Hub
  - For interventions/research not included above, Google Scholar is an excellent starting point

Places to find evidence

- Warning: These places are often incorrectly identified as sources of evidence, when in fact, they are one or more steps away from the actual evidence:
  - Meta-analyses – Clues to look for:
    - "A review" "Findings to date" "Summary of"
  - White papers or policy briefs:
    - "Theoretical" "Framework" "Model" "Guide"
  - News articles, books, pop. science
  - Wikipedia
- These are not evidence, but they almost always contain links to original research that can serve as evidence. Follow the citations!

Build the Skill

What if I am presented with research, or asked to find research on a specific intervention and classify its evidence tier?

1. Check one of the databases above.
2. If it isn't there, search for the original academic research, beginning with scholar.google.com
3. Apply the definitions of the four ESSA Tiers

We'll learn how to do this and practice it together now

Model: PBIS in Elementary Schools

- Keep your "Evidence Based Practices Quick Guide" handy

- Question: What socio-emotional practices are evidence based and improve academic outcomes for elementary school students?

- Starting Point: [Evidence-Based Interventions: A Guide for States](#), a Policy Brief from the Learning Policy Institute

Practice!

- Work with your table / partners to determine the evidence tier of each of the following hypothetical studies.

- Be prepared to share:
  - How you know which evidence tier it falls within
  - What concerns you might have about using it to provide evidence for your selected intervention

Study A: Prof. Learning on Culturally Responsive Teaching

- You are considering use of 1003 funds in order to pay for a third party vendor that provides workshops and embedded coaching on the use of culturally responsive teaching practices.

- They have submitted the following the following study as Tier II evidence for their use of funds:
  - Dee, T. S., & Penner, E. K. (2017). The causal effects of cultural relevance: Evidence from an ethnic studies curriculum. American Educational Research Journal, 54(1), 127-166.

Study B: Blended Learning in Urban, Early Elementary Grades

An elementary school in Providence Public Schools wants to pursue a blended learning model for literacy instruction in grades K-3. The school is an urban K-5 elementary with the large proportions of low income (low SES) students, Hispanic students, and English learners.
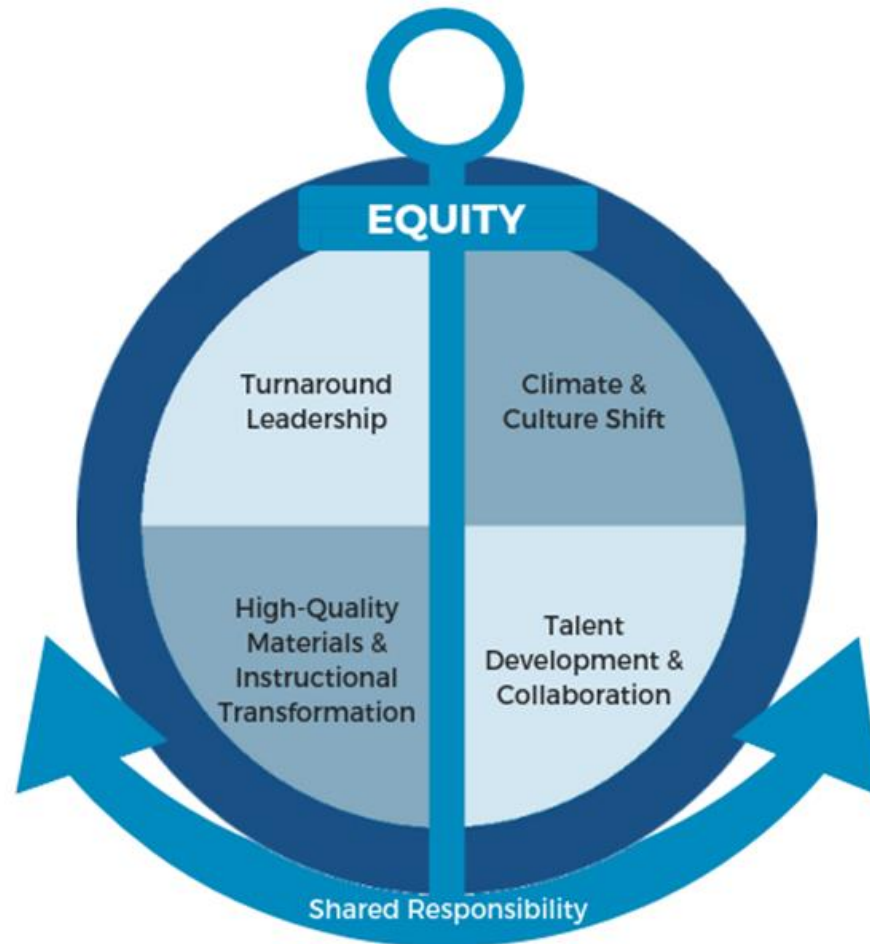
The school has approached you with a proposal to follow the model described in the accompanying study which they present as Tier I evidence of effectiveness.

"*Exploration of a Blended Learning Approach to Reading Instruction for Low SES Students in Early Elementary Grades*" Schechter, Macaruso, Kazakoff 2015

Is this an appropriate source of evidence to support their approach? Is their determination of the evidence tier accurate?

Consider the Context

RI Framework for School Improvement

Consider the Context

Comprehensive School Improvement Planning

	Establish Community Advisory Boards	Conduct Needs Assessment and Root Cause Analysis	Select Interventions & Create school Improvement Plan	Apply for School Improvement Funding
RIDE	• Provided guidance • Provide technical assistance • Transition funding	• Provide models • Provide technical assistance • Transition funding	• Provide models • Provide technical assistance • Transition funding	• Provide technical assistance • Provide rubrics for application evaluation • Make final funding decisions
LEA	• Select CAB structures, operating procedures • Select CAB members	• Select Needs Assessment • Gather data and present to collaborative team	• Develop potential interventions with collaborative team • Review evidence basis for desired interventions	• Codify and finalize school improvement support and competitive school improvement grant application across any eligible school(s)
Collaborative Team (*School & Community Advisory Board*)	• Collaborate to orient CAB members to school and school to CAB • Work with LEA to schedule meetings for each subsequent phase of improvement planning process	• Work as a collaborative team to understand needs assessment data, prioritize indicators and hypothesize root causes	• Propose and evaluate potential interventions • Select interventions for school improvement funding application • Approve final school improvement plans	• Endorse funding application

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Consider the Context

- Questions to consider:
  - *Who will you train on determining levels of evidence under ESSA?*
  - *How will you support school-based teams and CABs in using evidence?*
  - *How might launch grant funds be used to support evaluation of evidence?*
  - *How will you evaluate vendors for the evidence-base of their products?*
  - *How will you support activities, strategies and interventions that do not yet have a Tier I, II, or III evidence-base?*

Reflection/Feedback

- Outstanding questions concerning evidence and school improvement?

- What are your next steps?

- How useful was today's training? How could it have been improved?

Contact the Office of School Improvement

- Reach out to RIDE's school improvement team at schoolimprovement@ride.ri.gov

- Our website is constantly being updated with resources at www.ride.ri.gov/improvement

Name and Role	Email Address
Pascale Pierre Thompson, Associate Director School Improvement	Pascale.Thompson@ride.ri.gov
Andrew Milligan, Transformation Specialist	Andrew.Milligan@ride.ri.gov
Krystafer Redden, Transformation Specialist	Krystafer.Redden@ride.ri.gov
Chiara Deltito Sharrott, Education Specialist	Chiara.Deltito@ride.ri.gov
Chanthy Lopes, Community Outreach Assistant	Chanthy.Lopes@ride.ri.gov

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