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Implementation Science *IS* For All:
A CSD Practice-Research Exchange

Implementation Science and Systems Change to Improve Educational Outcomes

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INSTITUTE TEAM

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Patricia M. Roberts, AIM Co-Founder



Nancy Blair, AIM Co-Founder



AIM Institute received a Reimagine

Applying Implementation Science in the Real World

Collaboration with AIM Institute



Nicole, Megan, and Tiffany presenting at the International Dyslexia Association Oct '24



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The Myth of the Quick Fix

Dr. Tiffany Hogan

MGH Institute of Health Professions

Nicole Ormandy & Megan Gierka

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ACKNOWLEDGEMENTS

National Institute of Health, National Institute on Deafness and Other Communication Disorders

Co-Principal Investigator, National Institutes of Health R01 (R01 DC018823): *Translating research into school-based practice via small-group, language-focused comprehension intervention*, Co-PI Shayne Piasta, Co-Is: Mindy Bridges & Kandace Fleming.

Co-Principal Investigator, National Institutes of Health R01 (R01 DC016895): *Orthography and phonology in word learning as a predictor of dyslexia in children with language impairment*, 2018-2023. Co-PI Julie Wolter, Co-Is: Jessie Ricketts & Yaacov Petscher.

Co-Investigator, National Institutes of Health R01 (R01 DC010784): *Working memory and word learning in children with typical development and language impairment*, 2011-2016, PI: Shelley Gray; Co-Is: Mary Alt, Nelson Cowan, & Sam Green

Graduate Student, National Institutes of Health P50 (P50 DC2746): *Collaboration on specific language impairment*, 2001-2004, PI: J. Bruce Tomblin

Institute of Education Sciences, Reading for Understanding Initiative

Co-Investigator, Institute of Education Sciences Reading for Understanding Research Initiative (R305F100002): *The Language Bases of Reading Comprehension*, 2010-2016, PI: Laura Justice; Co-Is: Shelley Gray, Hugh Catts, & Kate Cain

Gratitude for my TEAM: Lab members, Collaborators, & Schools partners





Parents and Children


Thank you for being here today!



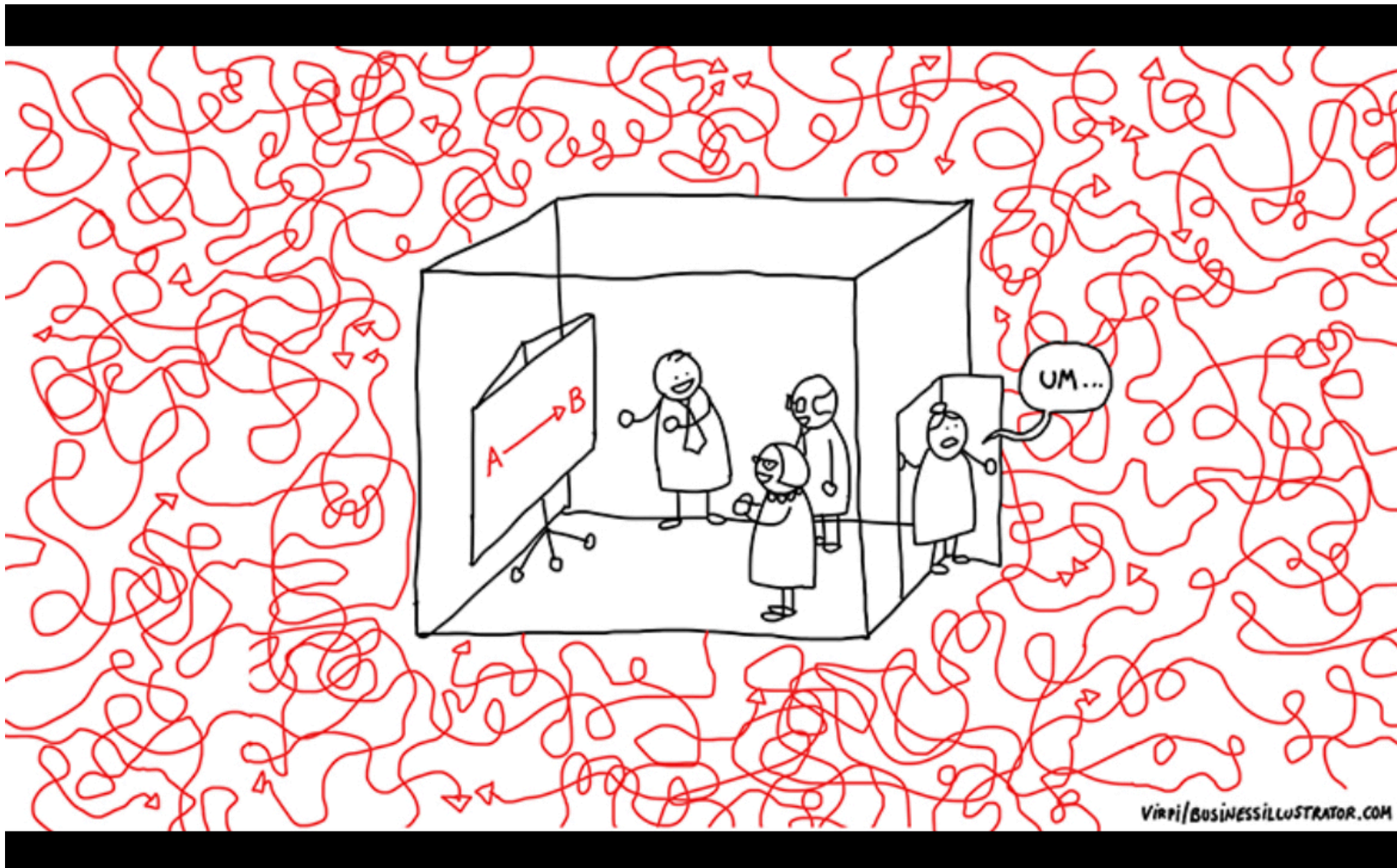
A ship is safe in harbor, but
that's not what ships are for.

William G.T. Shedd





How can
implementation science
improve child literacy
outcomes?



VIRPI/BUSINESSILLUSTRATOR.COM



Why haven't I heard of
implementation science?

It takes approximately 15
years for less than 15% of
efficacy research to make
it into practice.
(Morris et al., 2011)

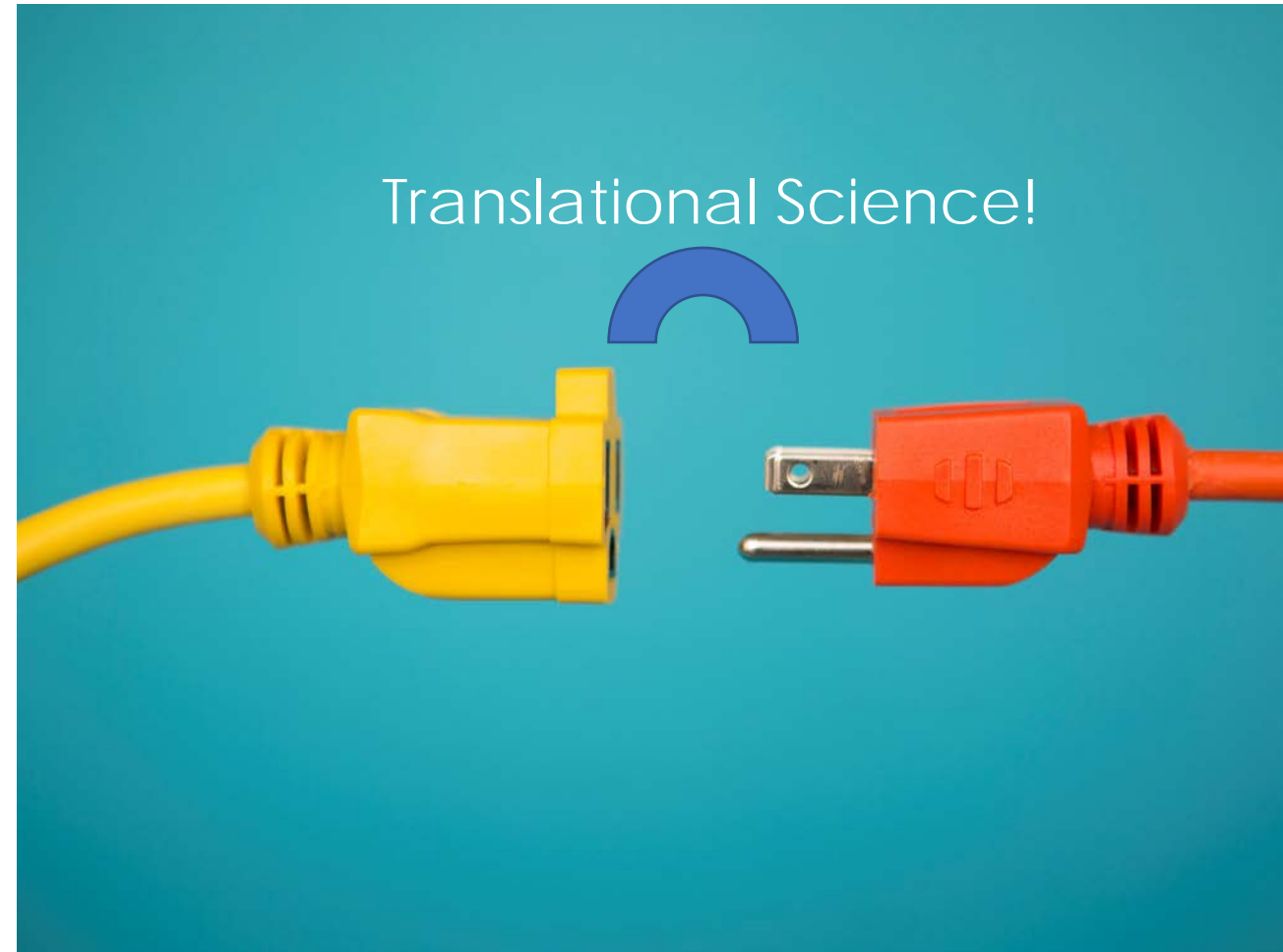


Research to practice gap

Also....practice to
research gap!

**Match to context
predicts practice impact**

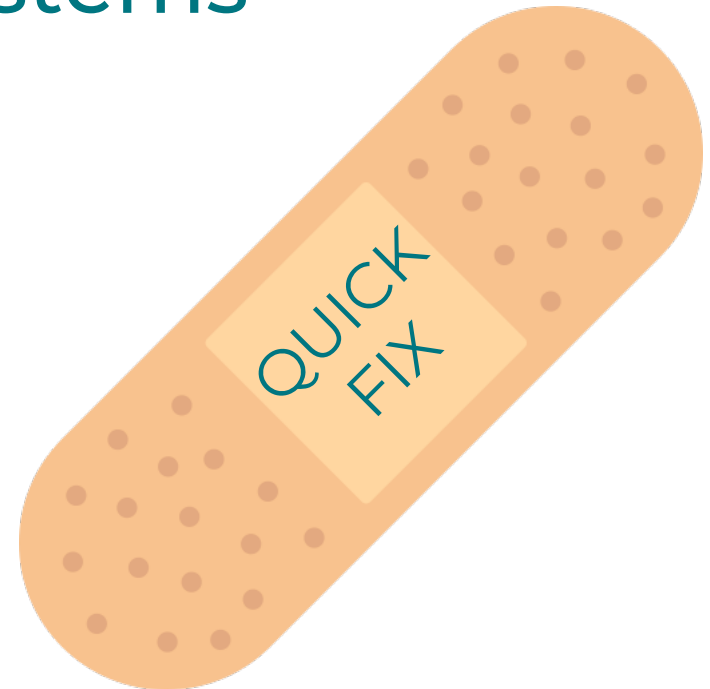
(Bauer & Kirchner, 2019)



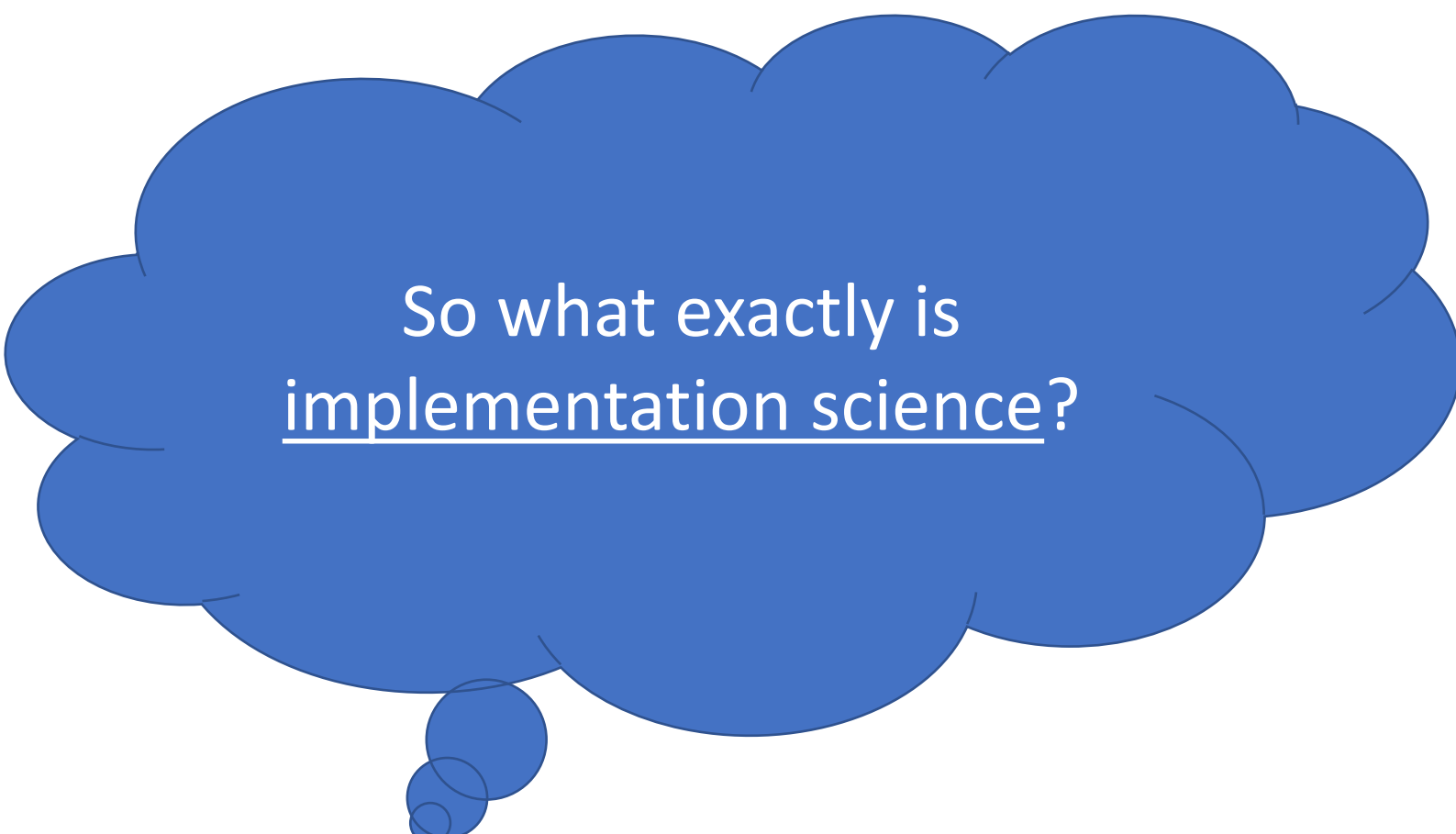


“Evidence-based practices alone are
not enough
to create positive change in systems”

—Aaron Lyon, 2017







So what exactly is
implementation science?

National Institutes of Health (2009)

- Two aspects of **translational science**:
 - Implementation
 - Dissemination

Dissemination Science

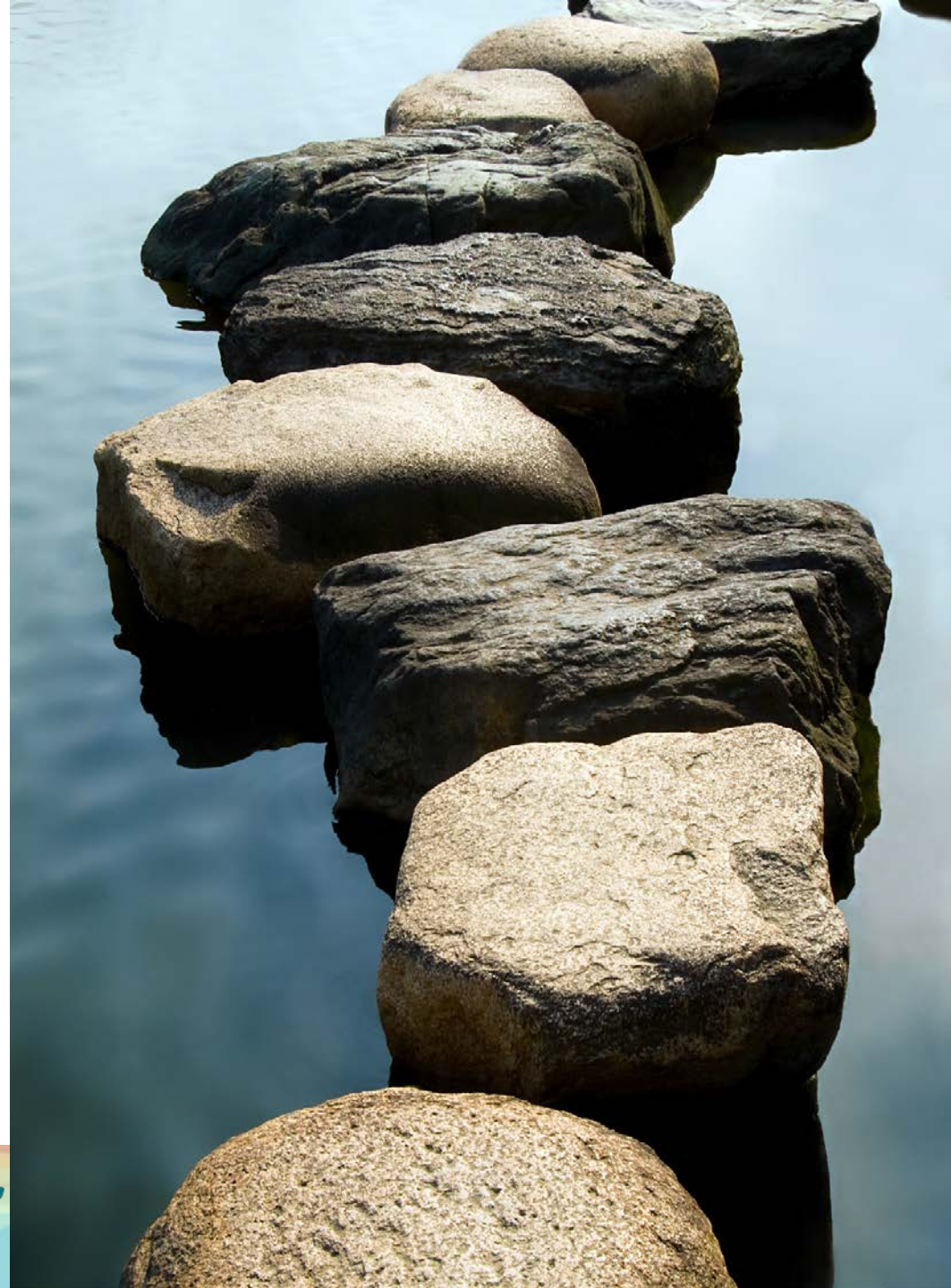
National Institutes of Health (NIH) defines dissemination as the *active and targeted distribution of information and intervention materials to a specific public health or clinical practice audience*

Blogs, podcasts, webinars, newsletters, publications, **THIS CONFERENCE**



Implementation Science

- Implementation science is the scientific study of methods and strategies that facilitate the uptake of evidence-based practice and research into regular use by practitioners and policymakers.
- Closing the gap between what we know and what we do



Implementation scientists...

Focus on the child

Ensure practice is evidence based

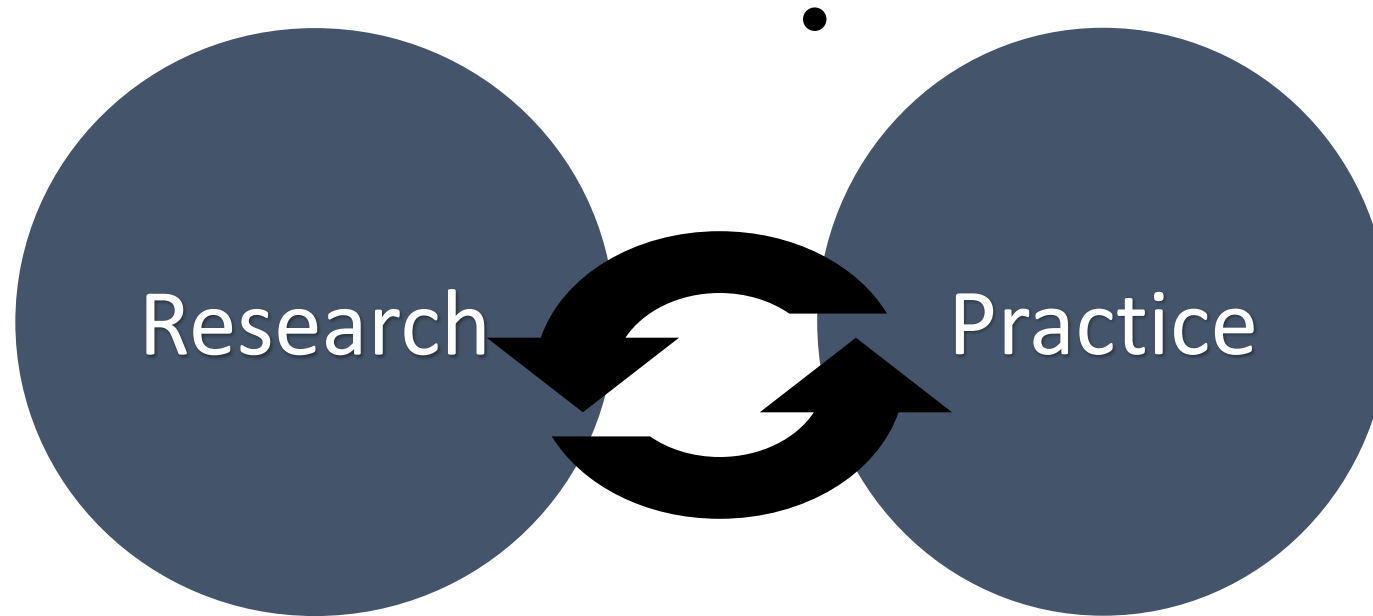
Lead for positive

Build partnerships

Work for system change

You!

Educators are the **ultimate** Implementation Scientists





Change making is a marathon.
Facts (SoR) are the shoes...how do we finish the race?

When defining implementation science, some very non-scientific language can be helpful...*

The intervention/practice/innovation
is **THE THING**



Effectiveness research looks at
whether **THE THING** works



Implementation research looks at
how best to help people/places
DO THE THING



Implementation strategies are the
stuff we do to try to help
people/places **DO THE THING**

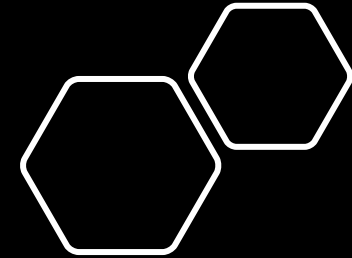


Main implementation outcomes are
HOW MUCH and **HOW WELL** they
DO THE THING

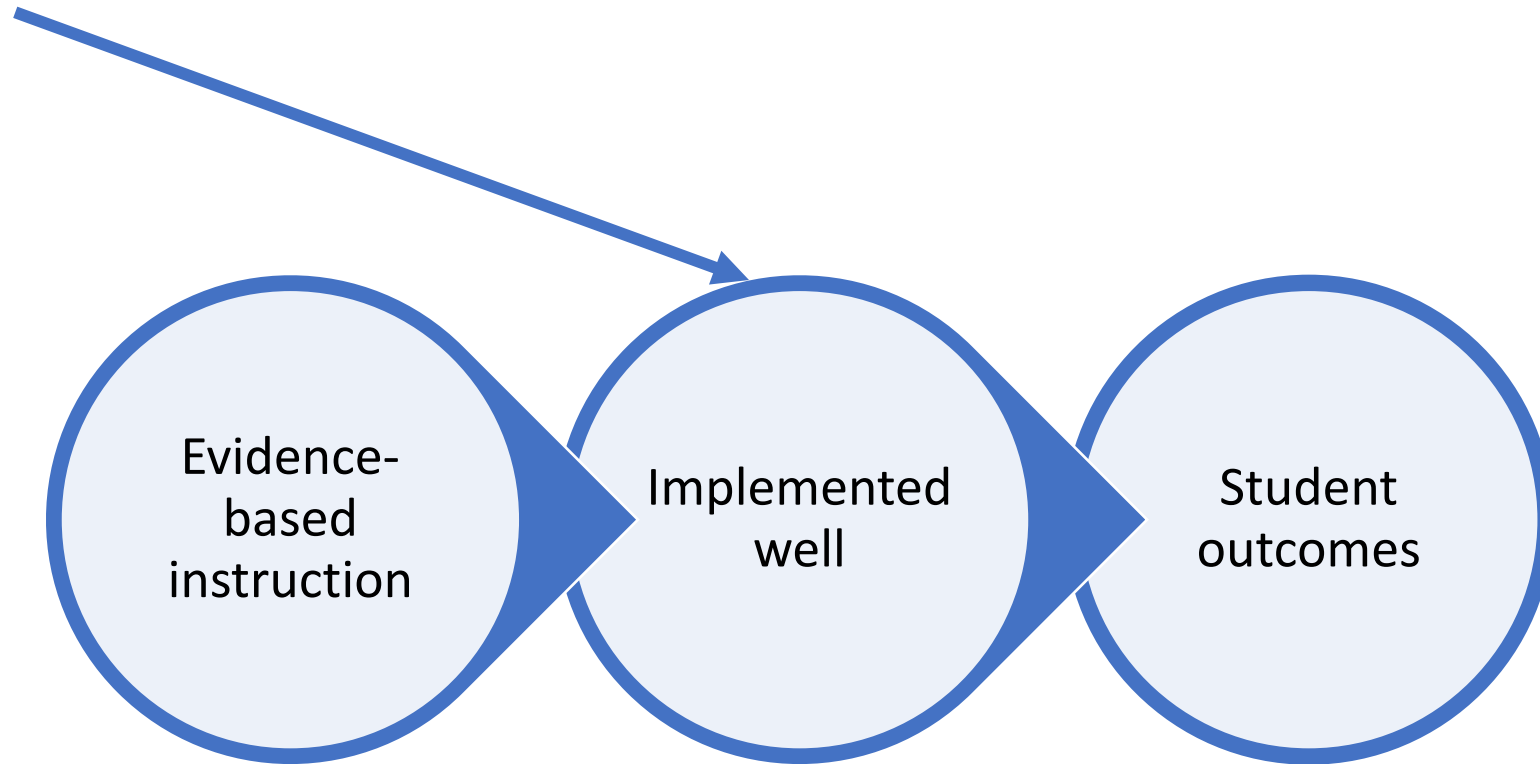


*Implementation science made too
simple: A teaching tool (Curran, 2020)

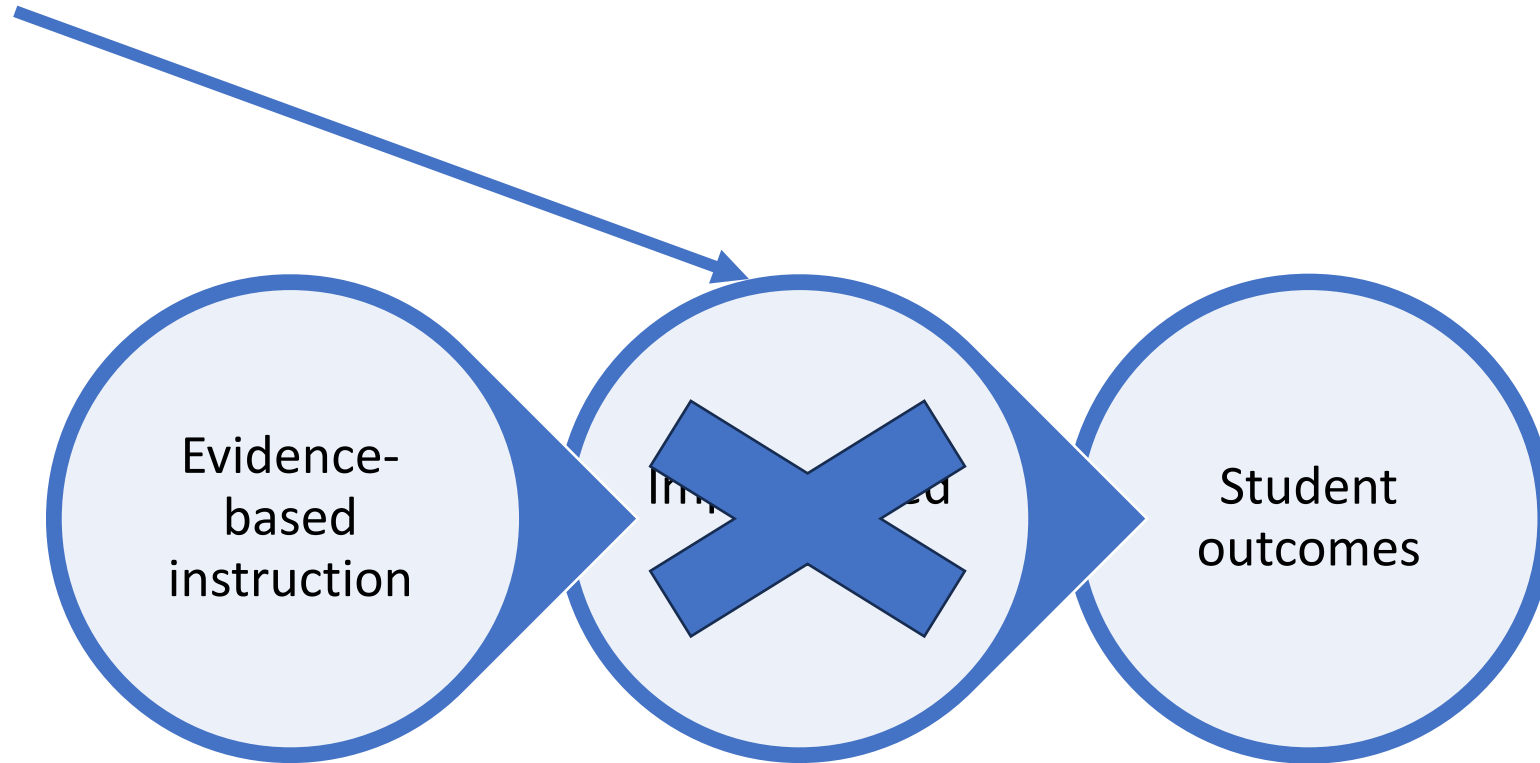
@rkomesidou



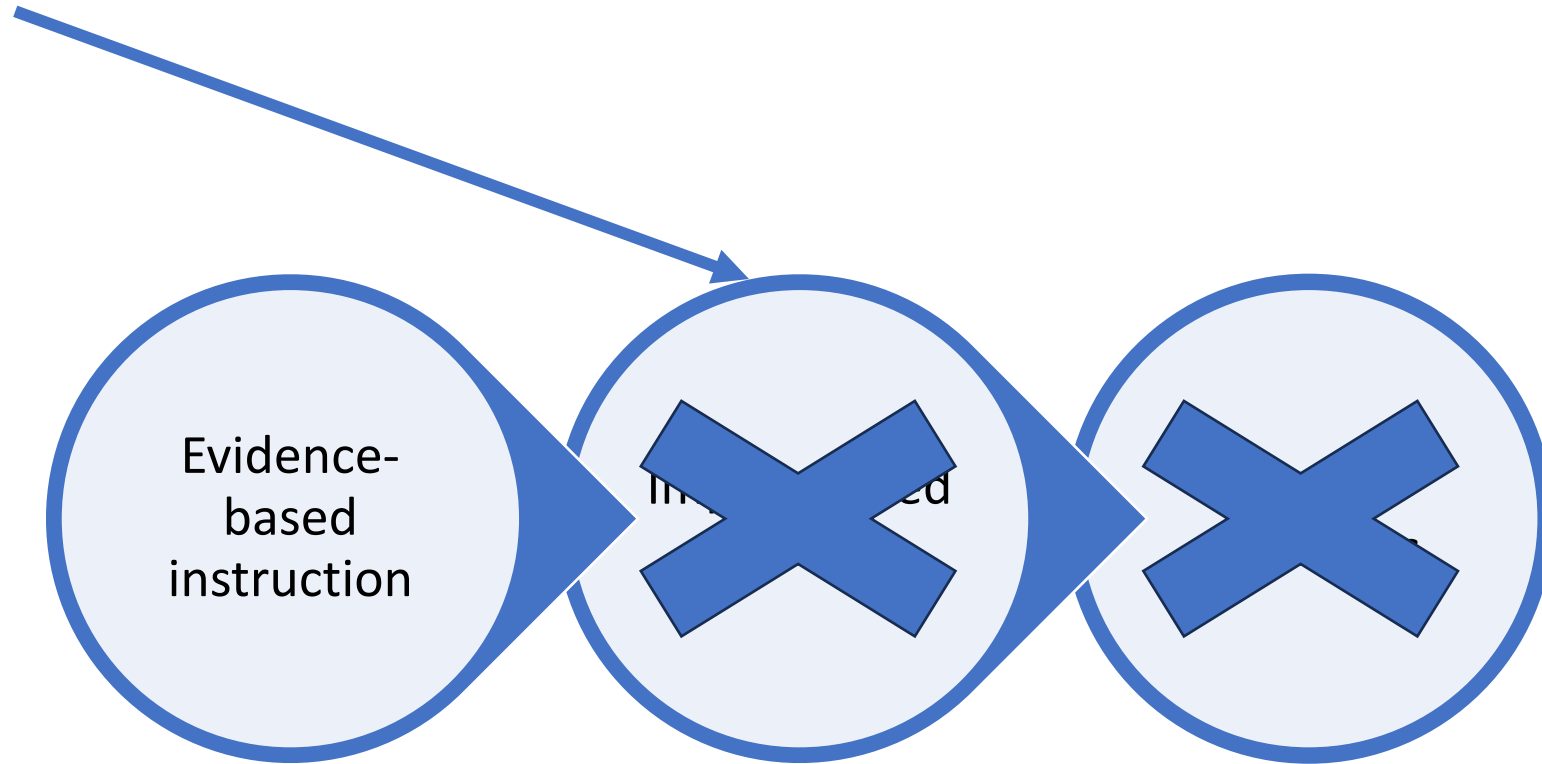
The goal of implementation science



The goal of implementation science



The goal of implementation science



What's really stopping you from making systemic change?

Evidence-
based
instruction



Student
outcomes



Figure 1. Komesidou & Hogan (2022) Generic Implementation Framework for School-based Research and Practice (GIF-School).

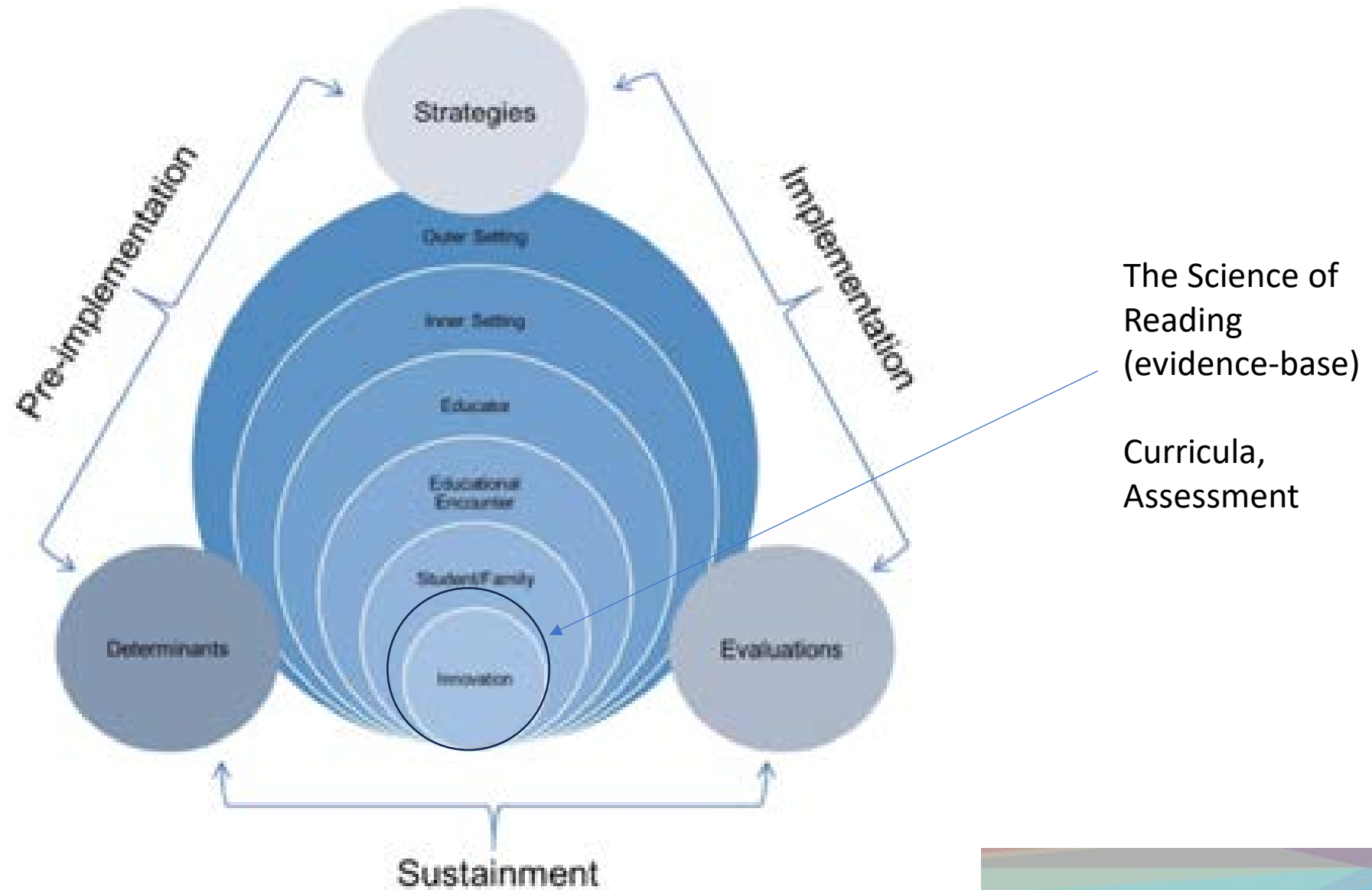


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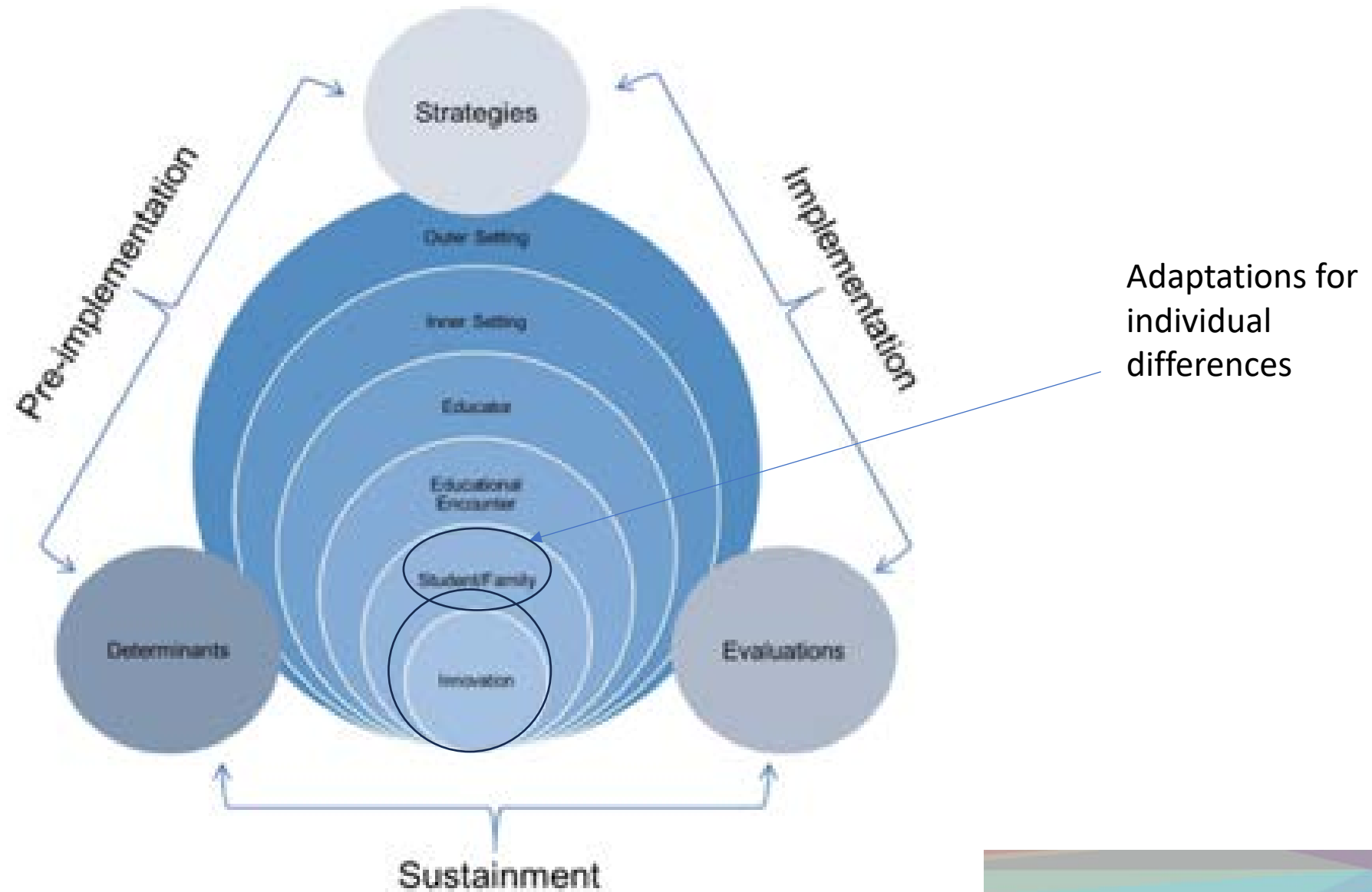


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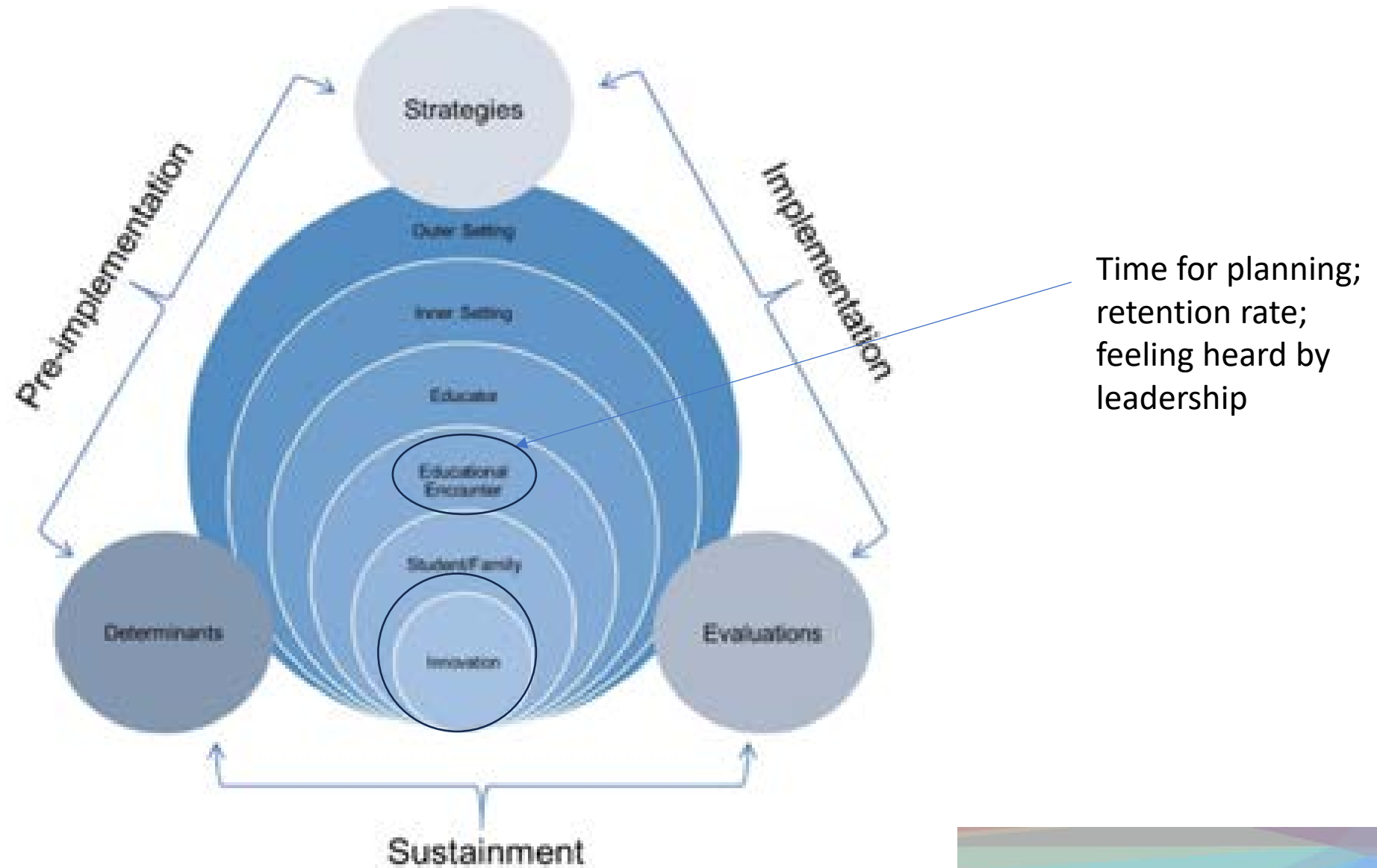


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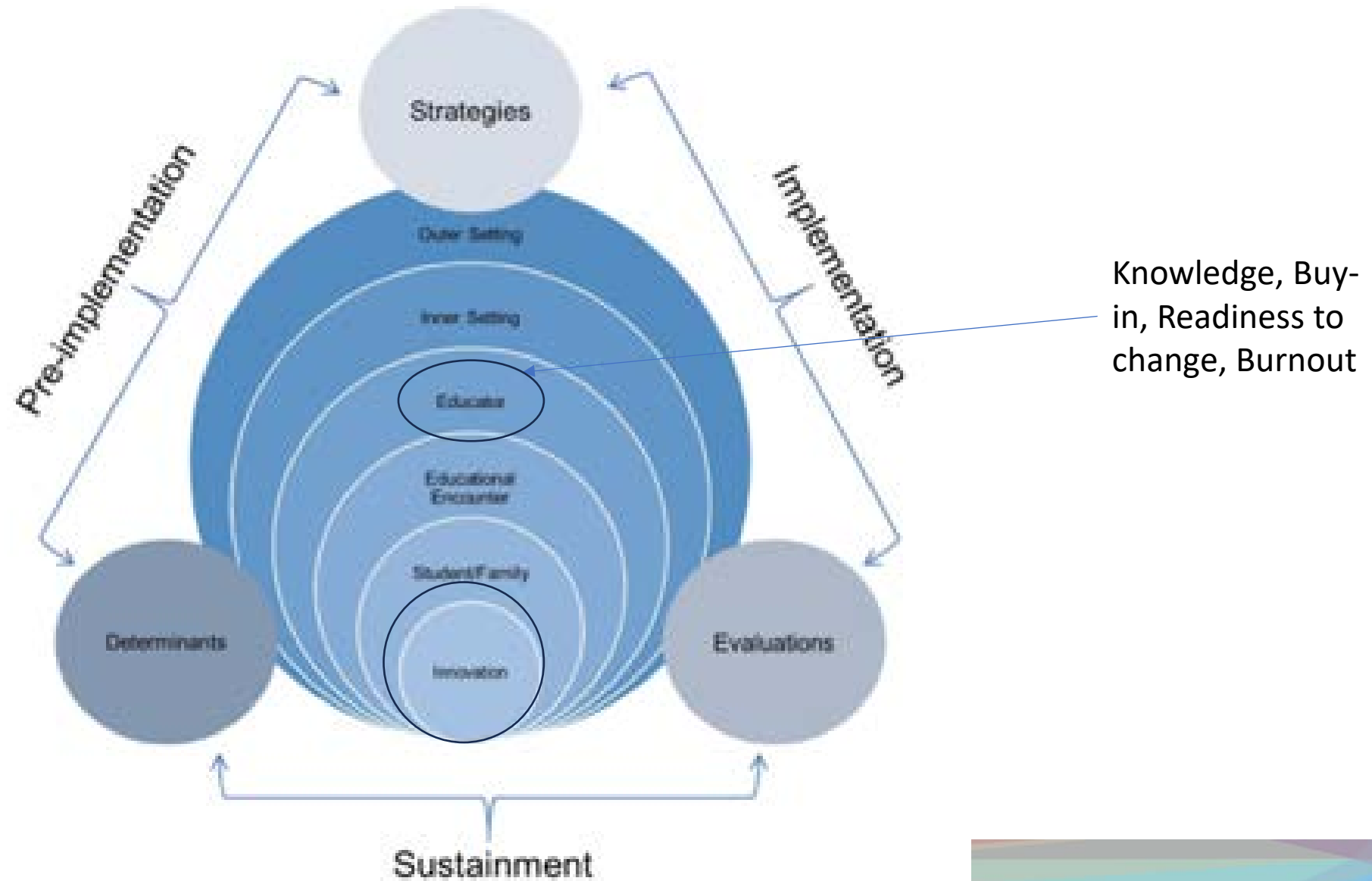


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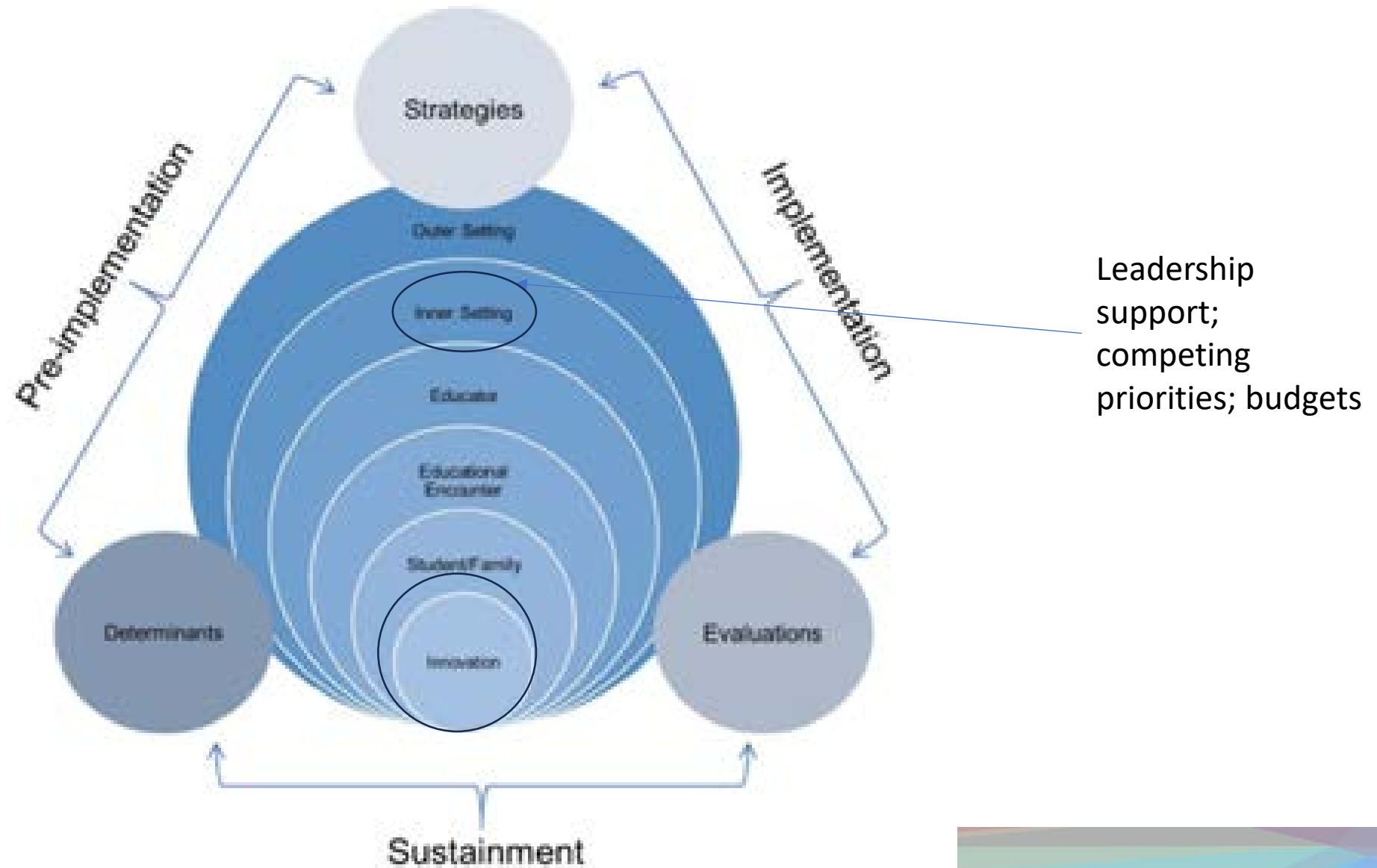


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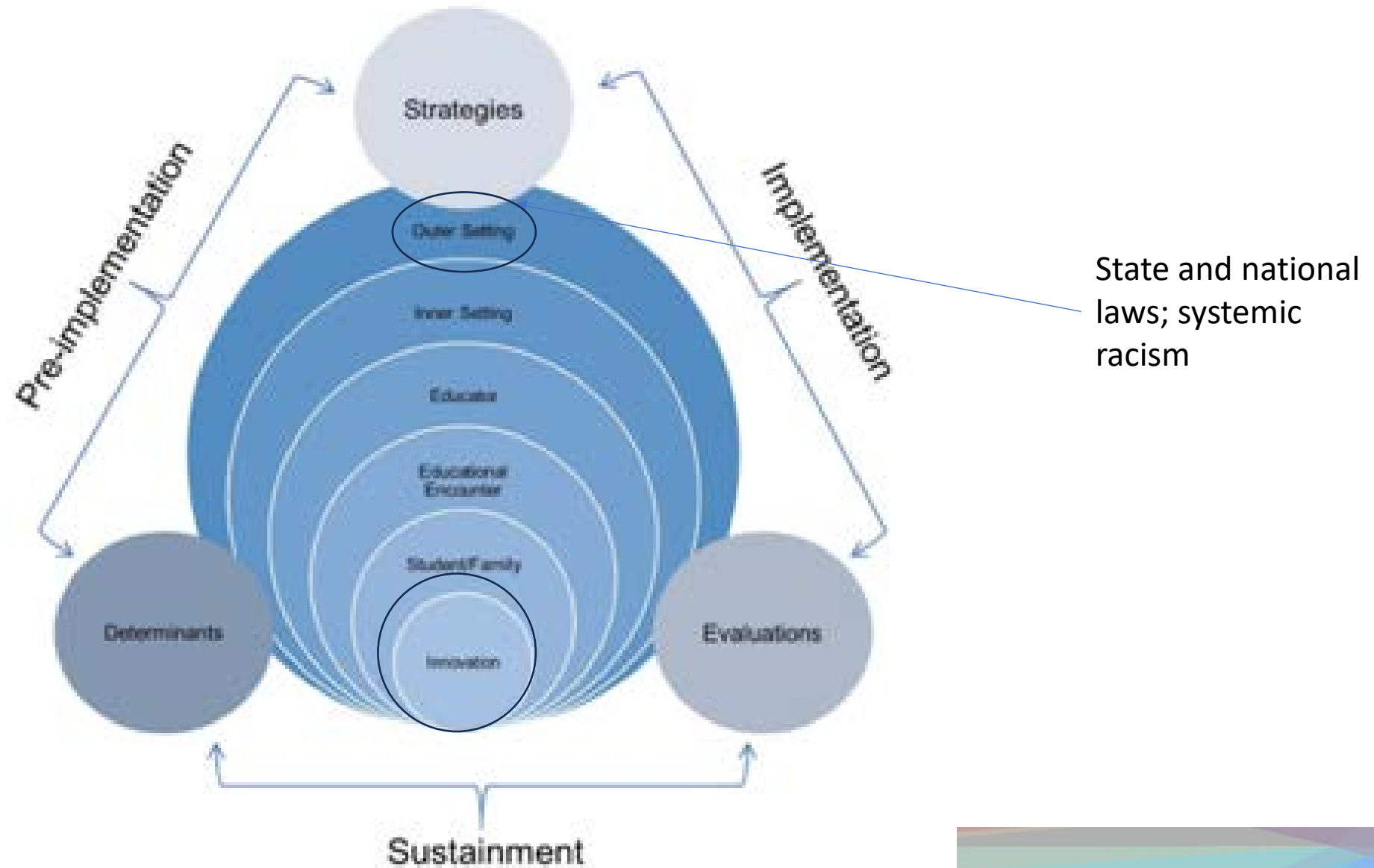


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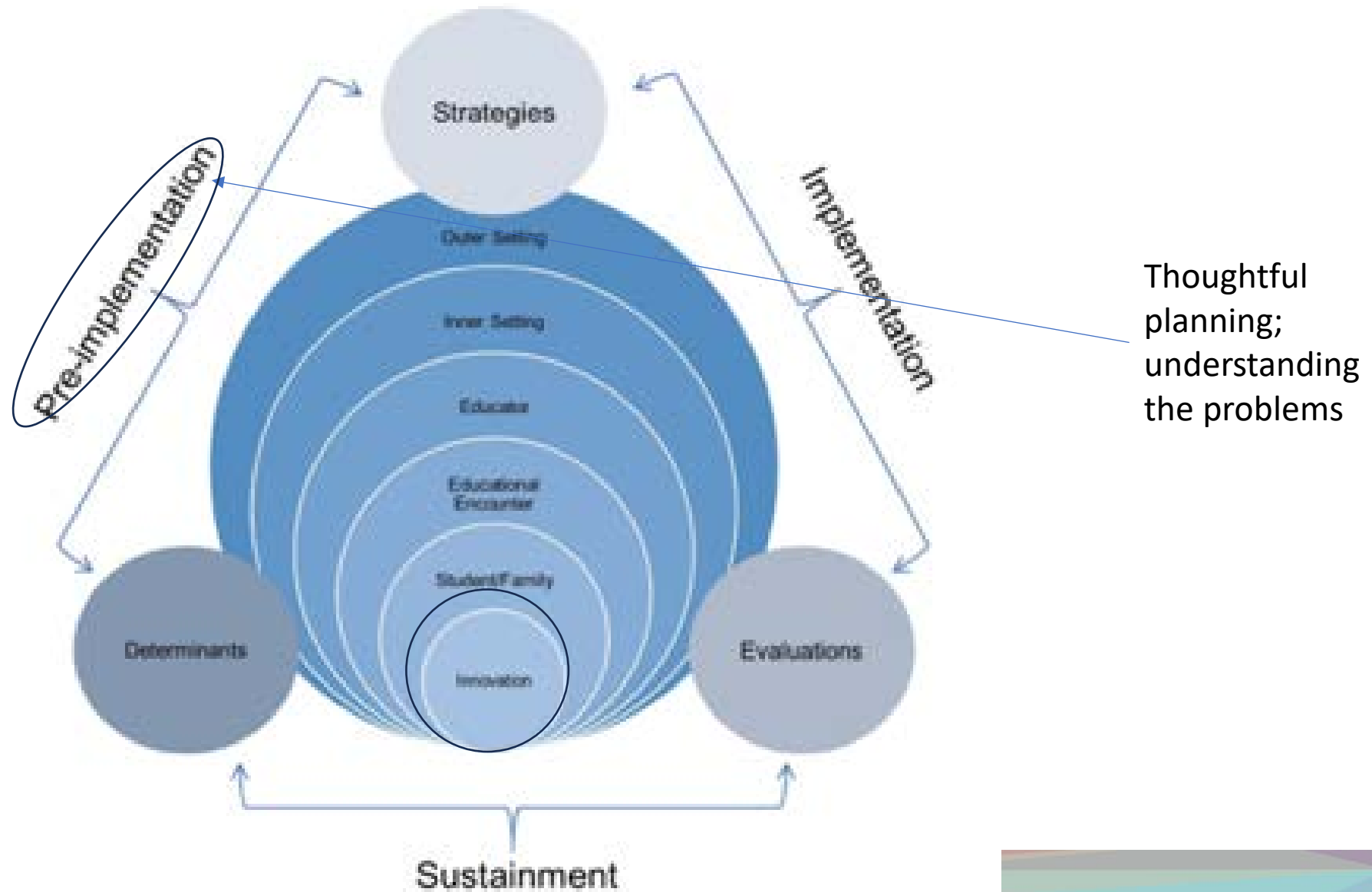


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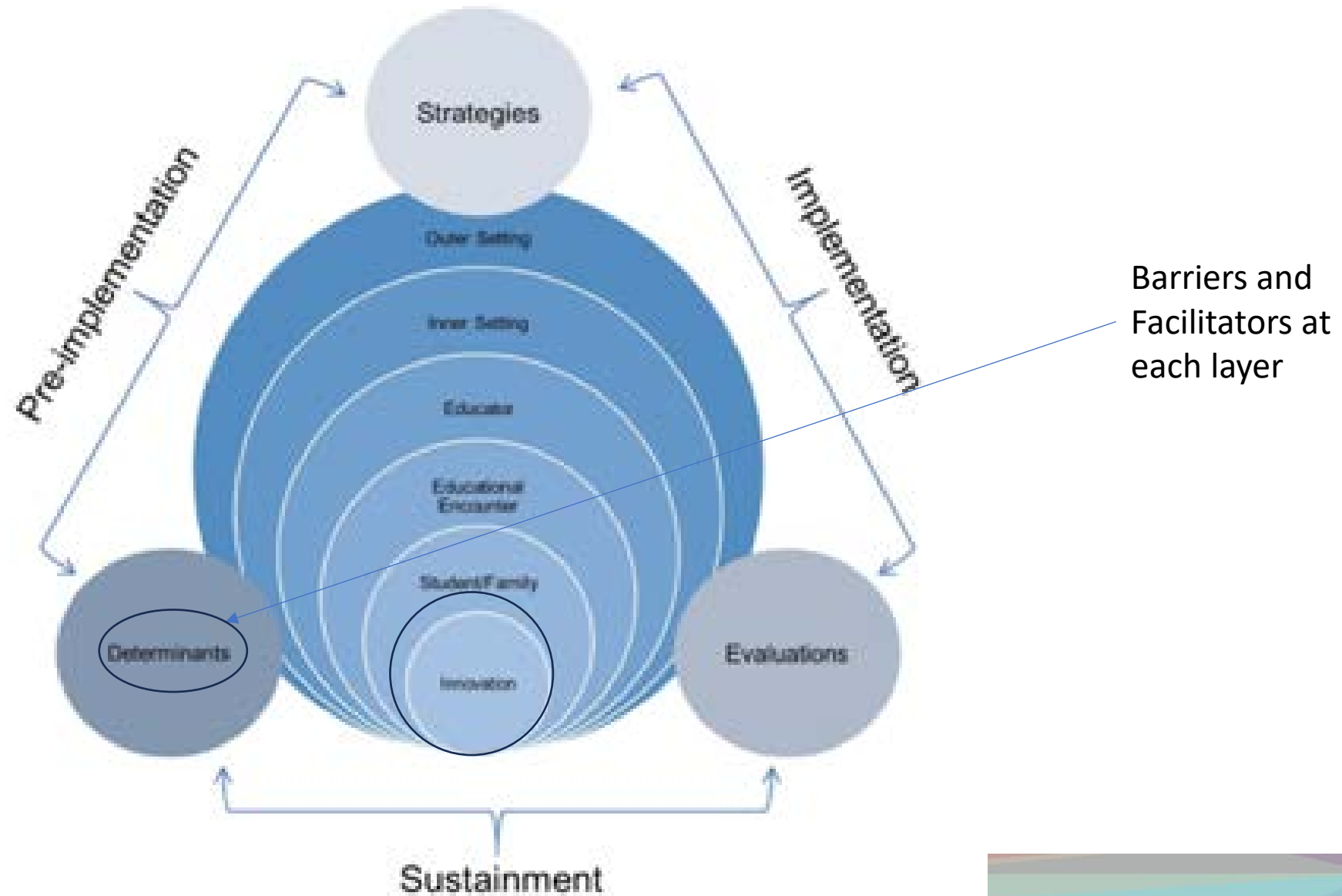


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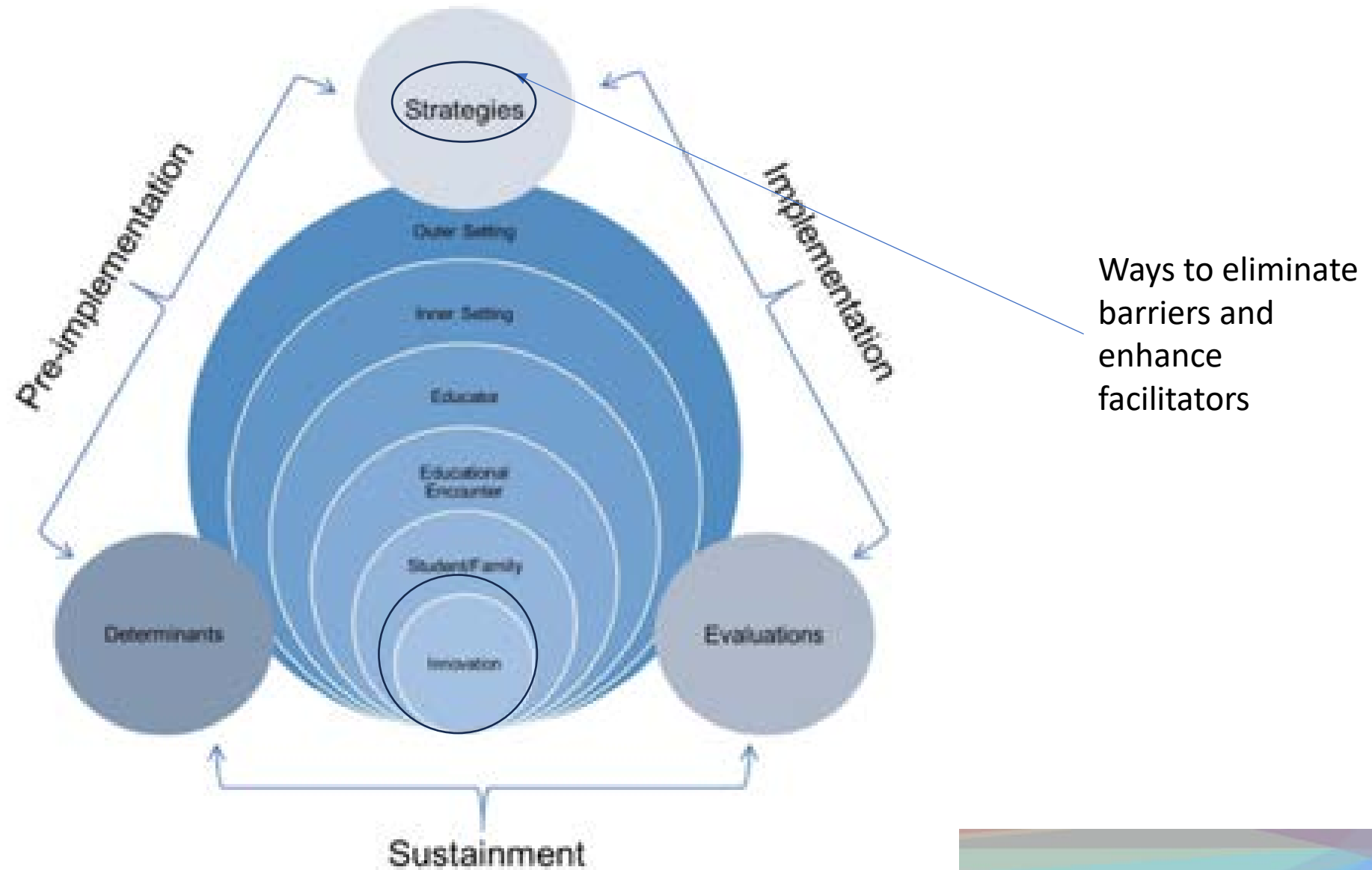


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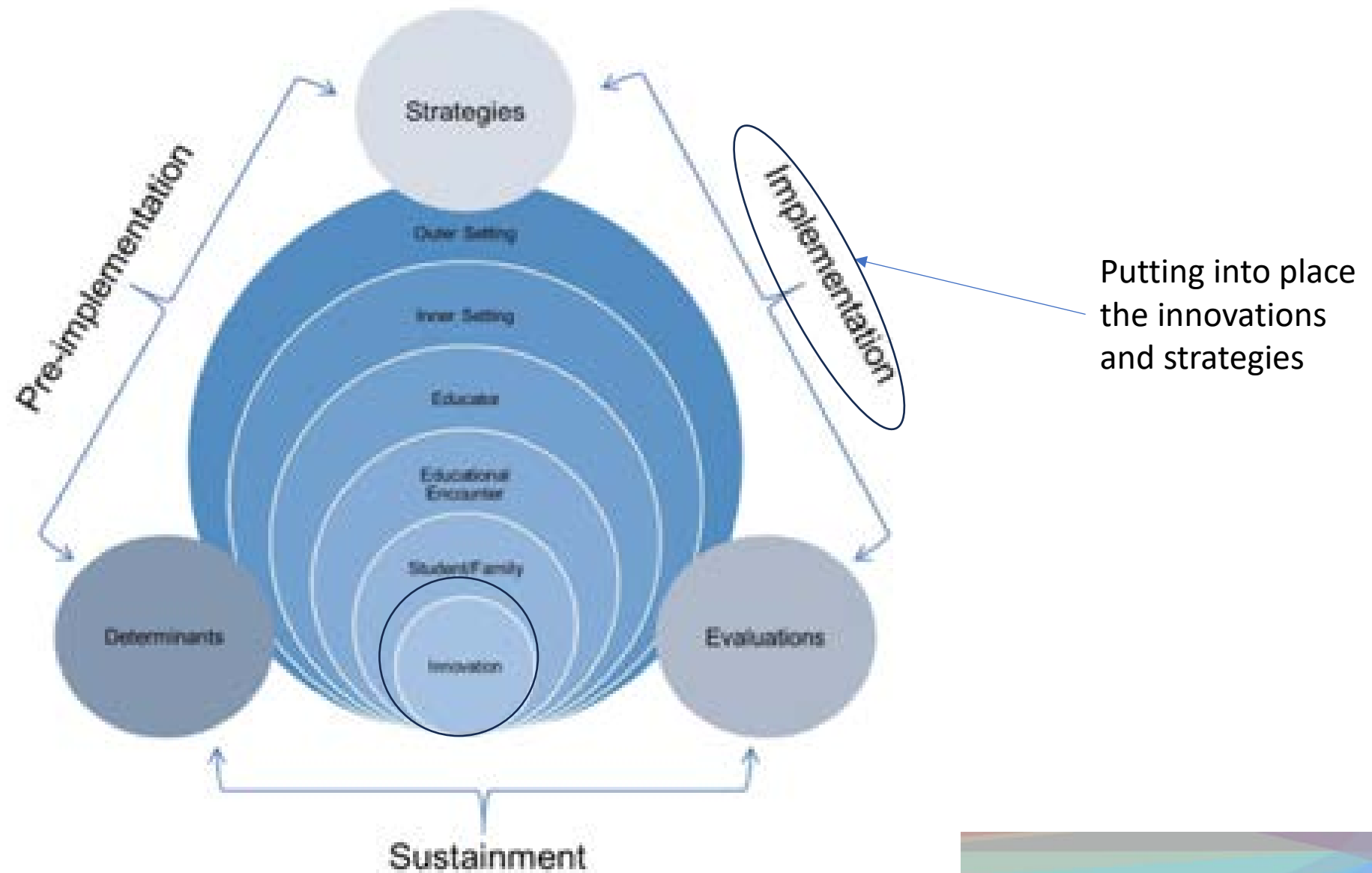
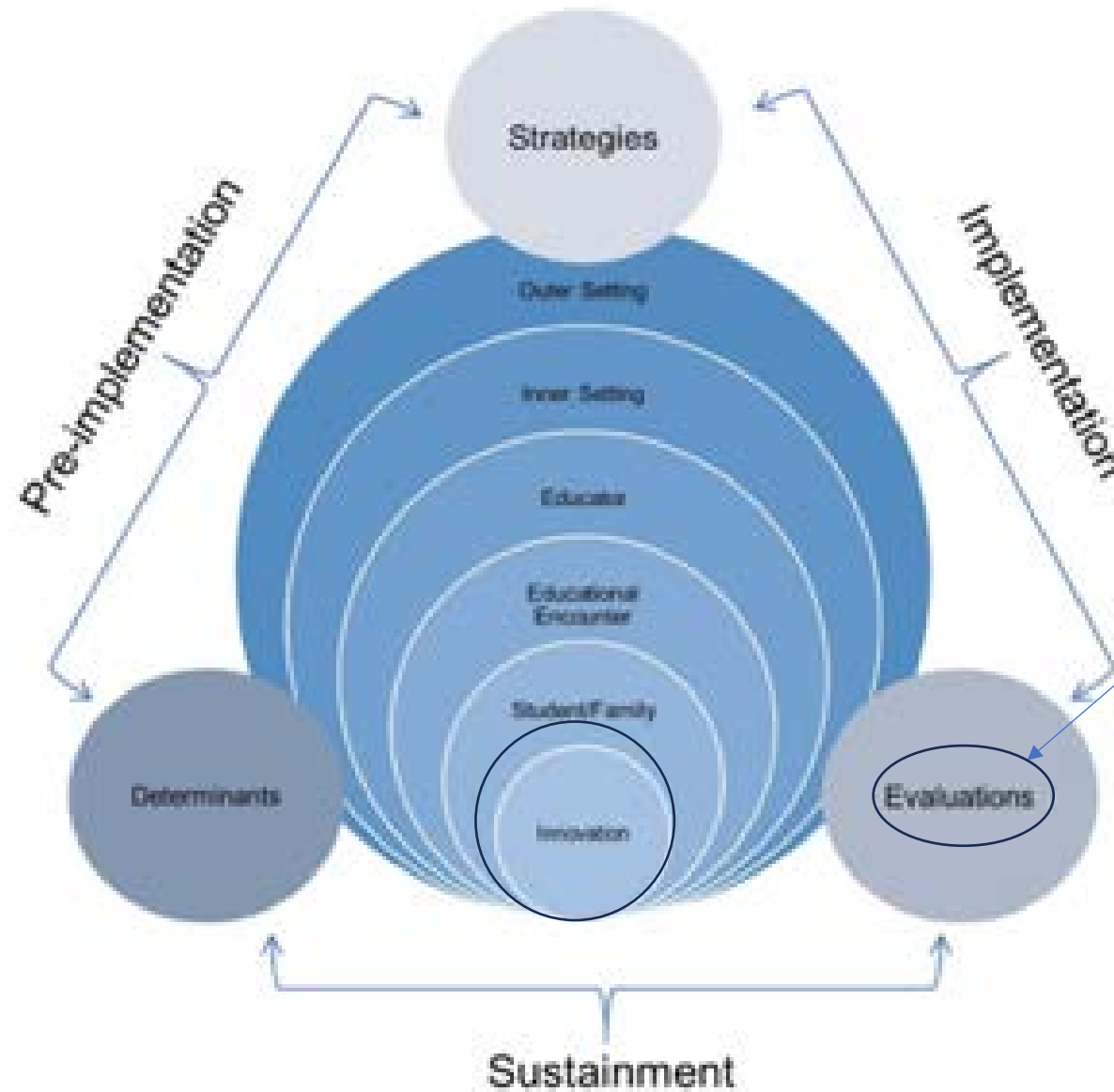


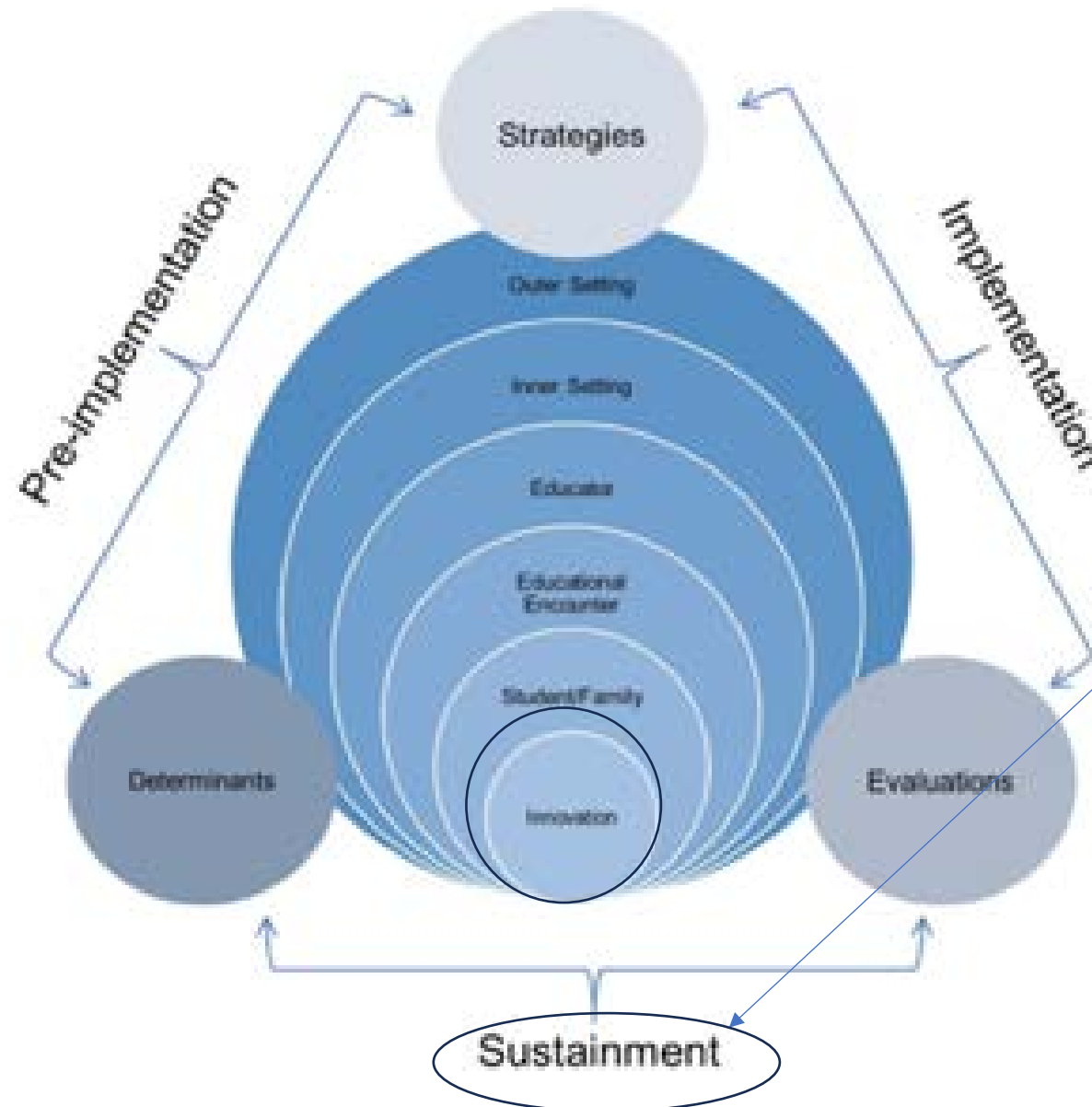
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Did it work?

“work” is that the innovation was implemented as intended

Figure 1. Komesidou & Hogan (2022) Generic Implementation Framework for School-based Research and Practice (GIF-School).



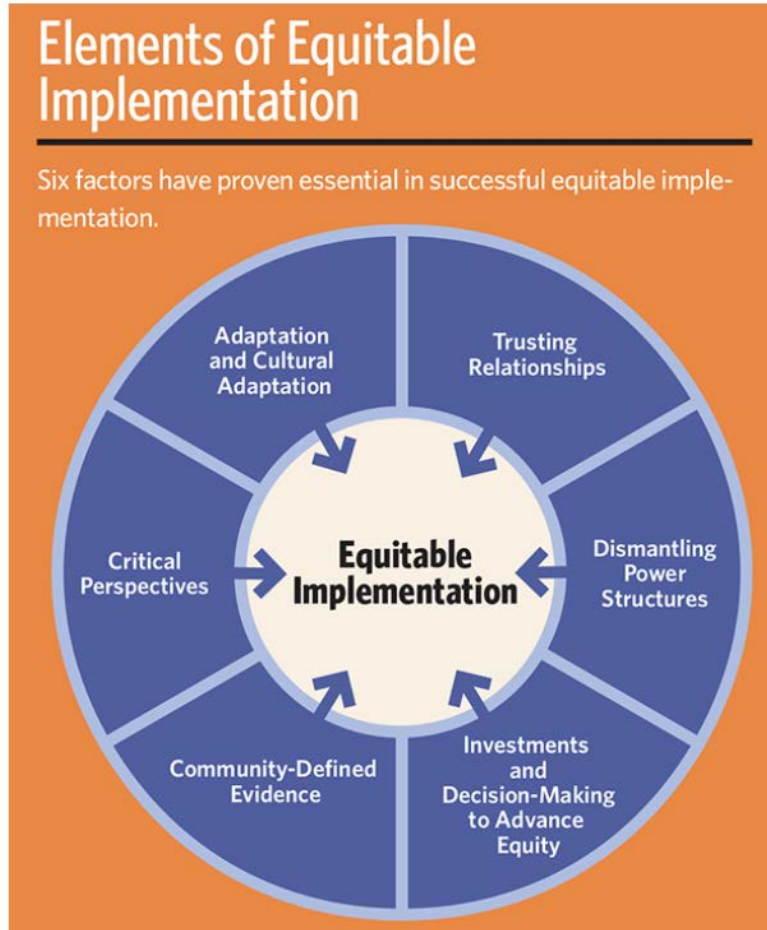
Did you create a system that will last?

It is cost effective?

System change is the key!

Create a system that will continue even
when people leave.

Equity is at the heart of IS



Leaders listen and respect ALL perspectives

Trusting relationships

Reduce power structures

Co-create strategies to remove barriers

[Equity Is Fundamental to Implementation Science \(ssir.org\)](https://ssir.org/)



De-implementation

Implementation Science- Closing the gap between what we know and what we do

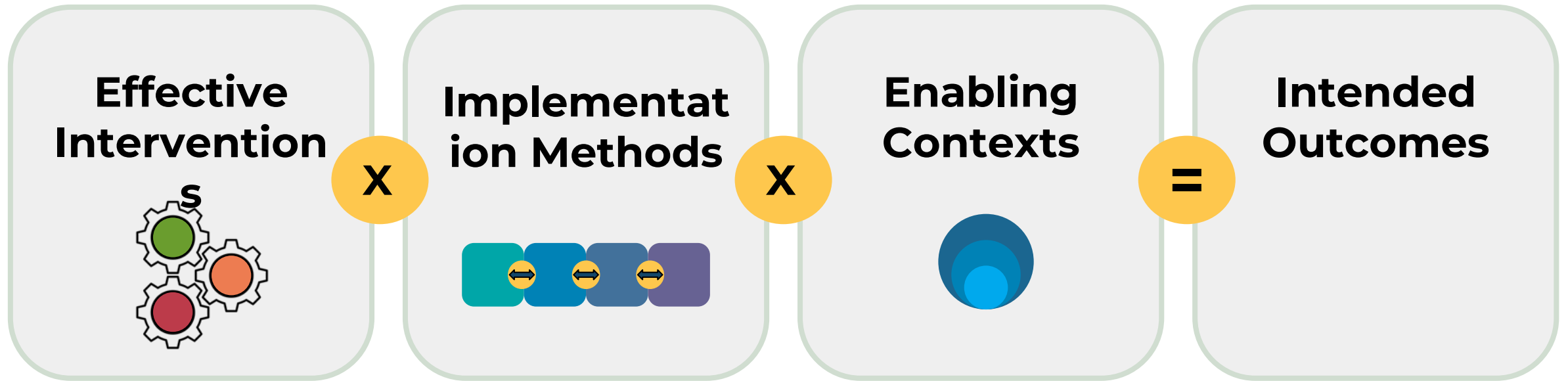
Organizational Leadership

- leaders help set strategic goals for the organization while motivating individuals within the group to successfully carry out those goals.

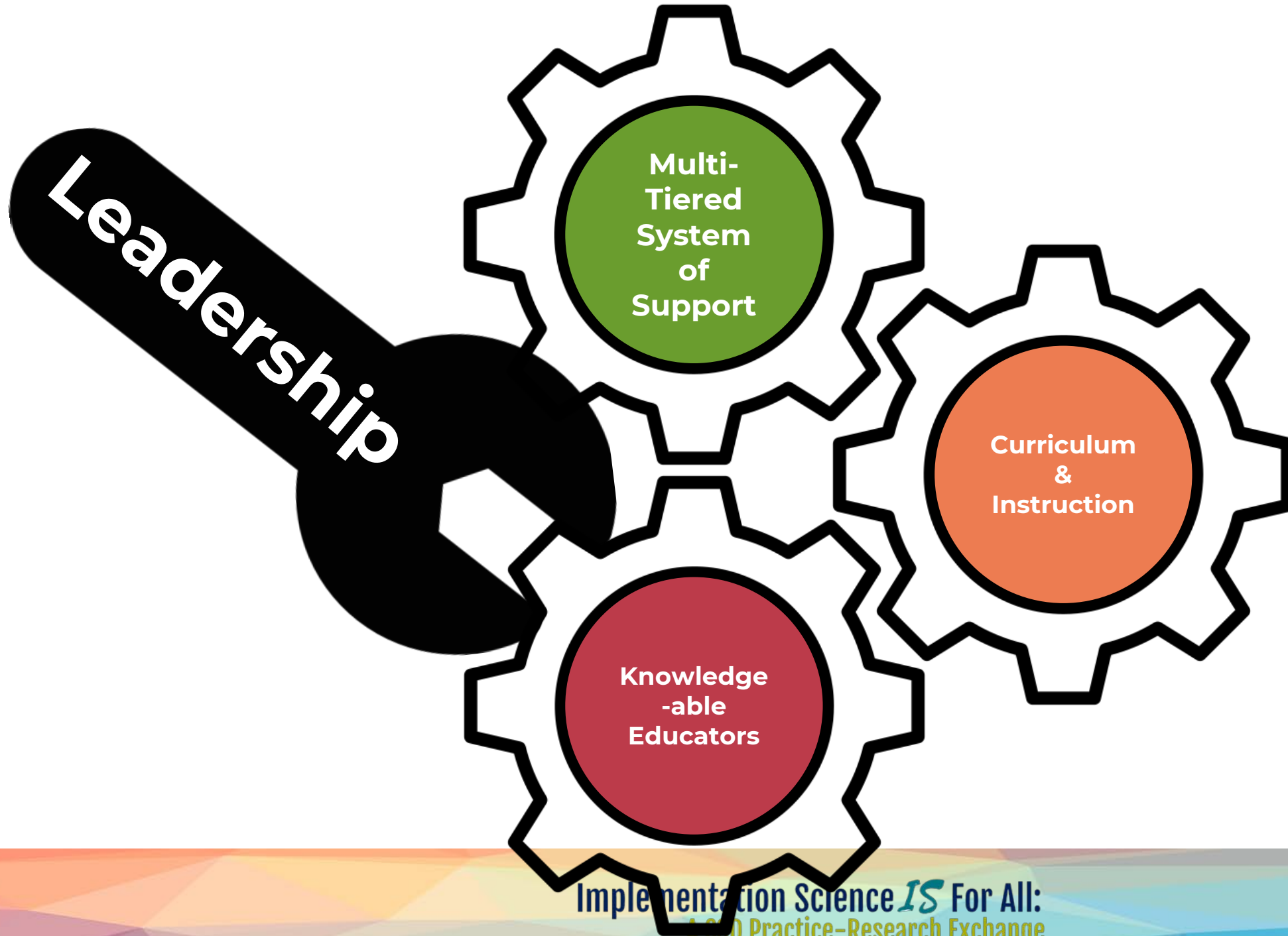
Program Evaluation

- a systematic process for collecting, analyzing, and using data to assess the effectiveness and efficiency of a program.

© AIM Implementation Blueprint



Adapted from Fixsen et al. (2010)



Implementation Methods

Exploration

What do we need to understand before we start a new initiative?

Adapted from EPIS Framework (2022)

Implementation Methods

Exploration

What do we need to understand before we start a new initiative?



Preparation

What do we need to do before we start a new initiative?

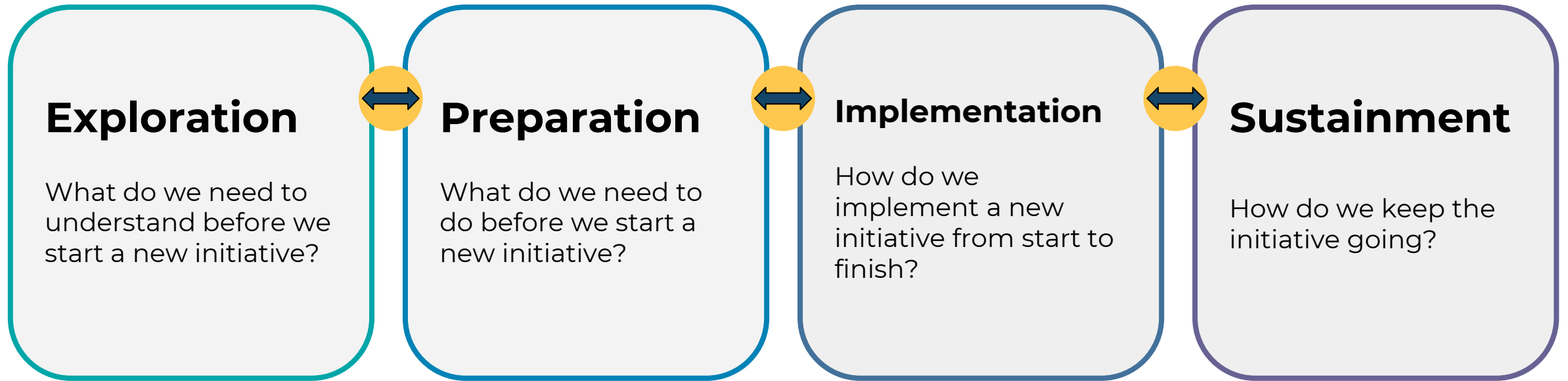
Adapted from EPIS Framework (2022)

Implementation Methods



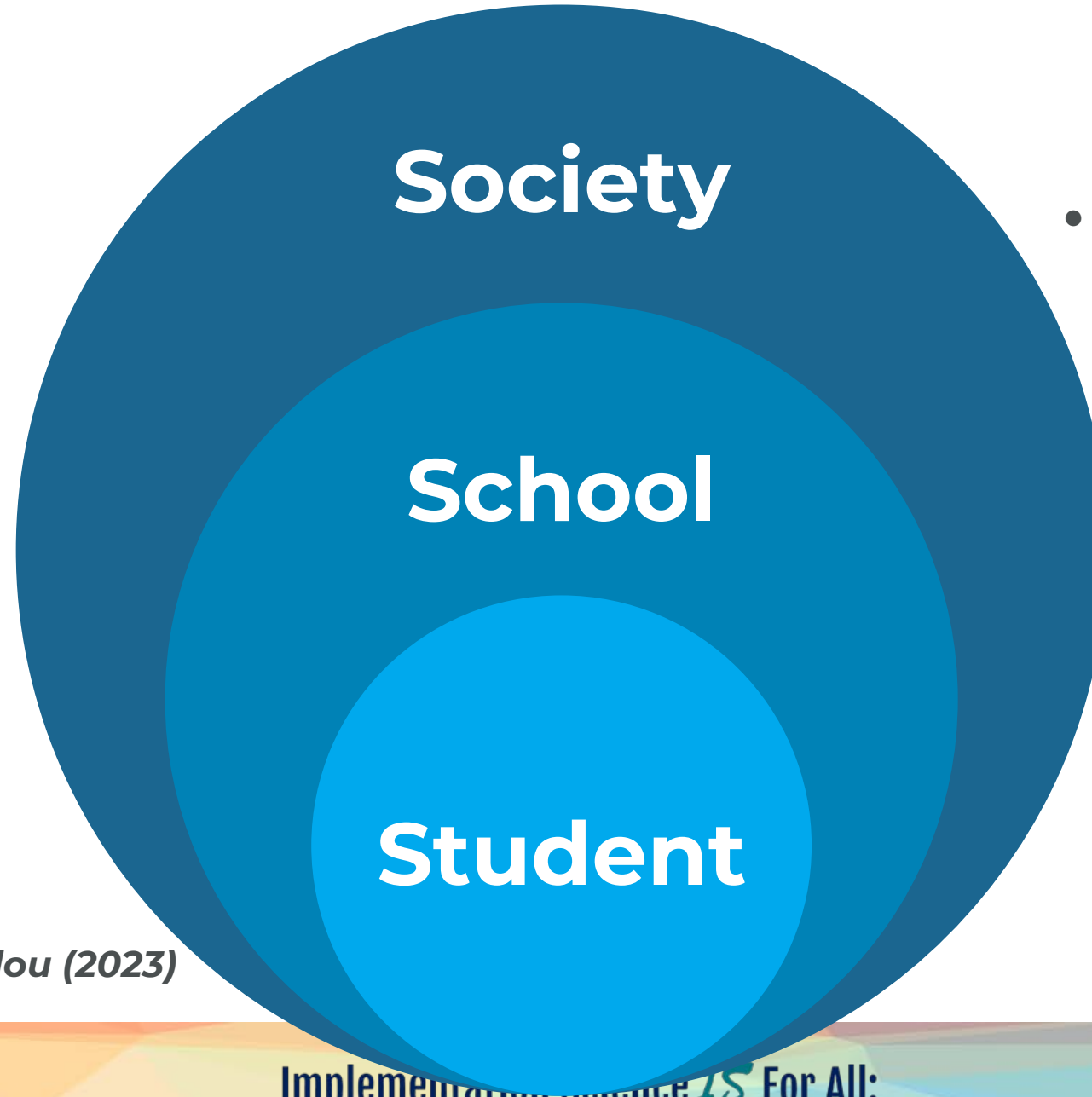
Adapted from EPIS Framework (2022)

Implementation Methods



Adapted from EPIS Framework (2022)

Enabling Contexts



- policy, community

- stakeholders

- population

Adapted Hogan & Komesidou (2023)

Research-practice partnerships

Key Elements:

Regular meetings and check-ins

Collaborative problem-solving

Shared dissemination activities

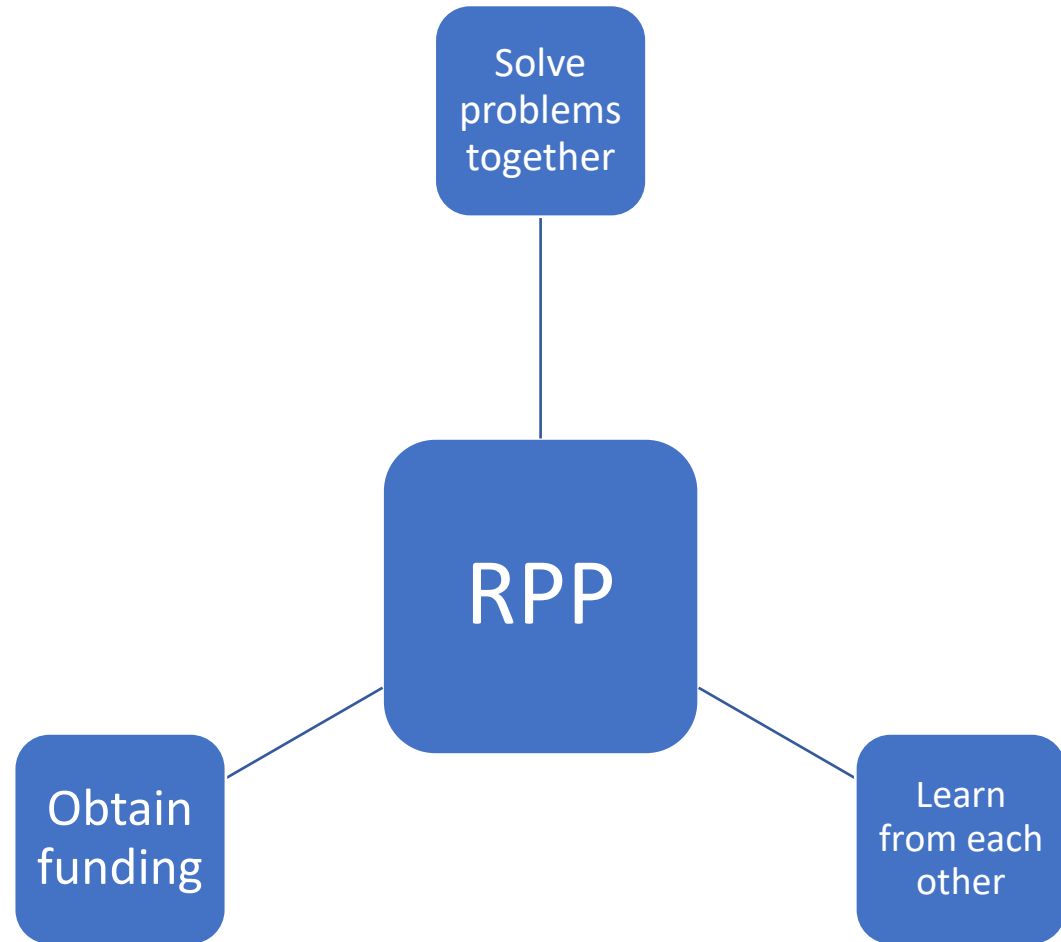
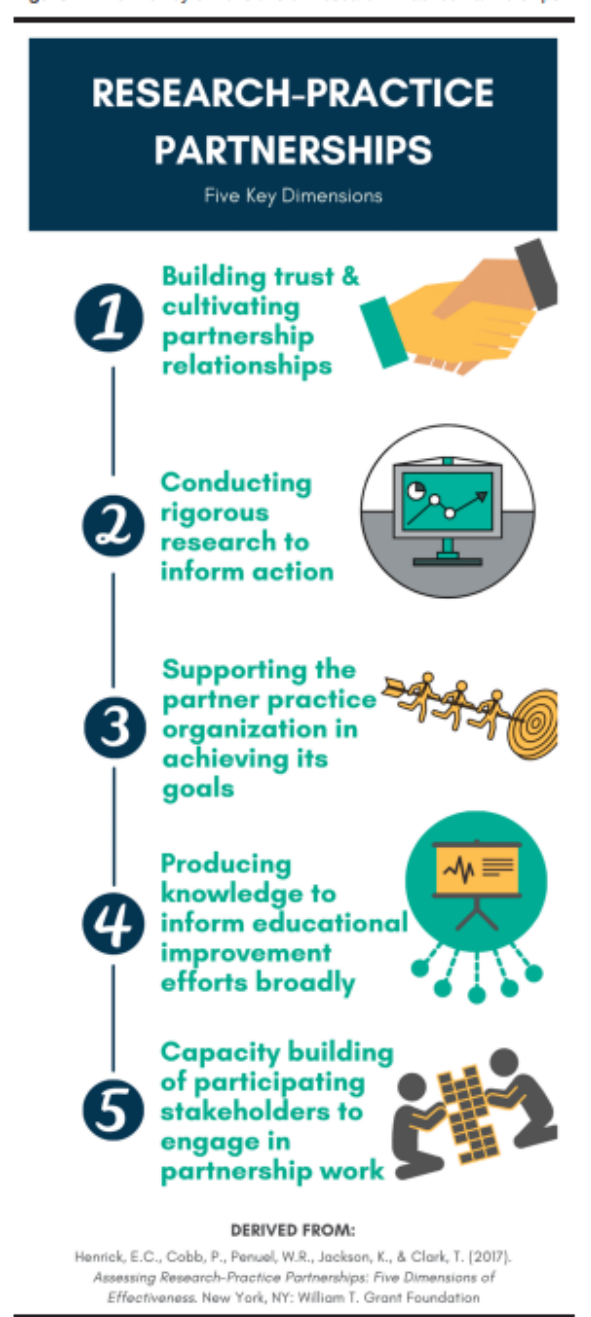


Figure 1. The five key dimensions of Research–Practice Partnerships.



Clinical Focus

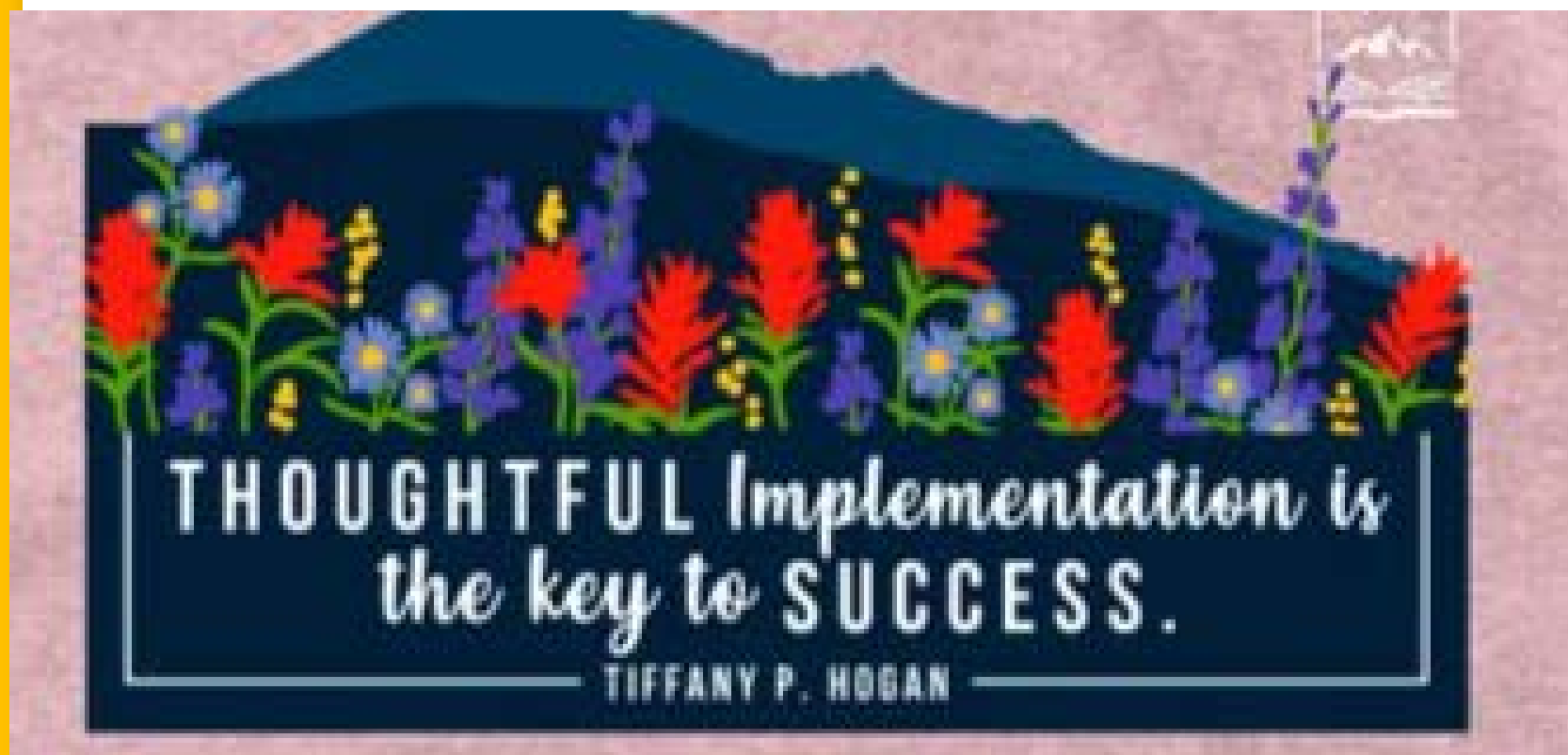
Building Sustainable Models of Research–Practice Partnerships Within Educational Systems

Crystle N. Alonzo,^a Rouzana Komesidou,^b Julie A. Wolter,^c Maura Curran,^b Jessie Ricketts,^d and Tiffany P. Hogan^b



Take home points







Go *sloooooooooooooooooooooow* to go fast.

Your goal as leaders: create conditions that support educators' use of evidence

Implementation science is a tool for you... that honors your specific context.



Resources

The Generic Implementation Framework for School-based Research and Practice Tool...

Komesidou & Hogan_The GIF-School Toolkit.xlsx

Table 1. Organization of the GIF-School toolkit.

Tab	Label	Content
1	Process of Implementation	Implementation stages and definitions.
2	Domains and Determinants	Domains and determinants from CFIR and HEIF, definitions, proposed measures, and useful readings/resources.
2a	Adapted CFIR Interview Guide	Interview questions for domains and determinants in CFIR (Damschroder et al., 2009).
2b	Adapted HEIF Interview Guide	Interview questions for domains and determinants in the Health Equity Implementation Framework (Woodward et al., 2021).
3	Implementation Strategies	Implementation strategies from the SISTER project (Cook et al., 2019), categories, and definitions.
4	Evaluation of Process	Measures of progression between implementation stages from Stages of Implementation Completion (Chamberlain et al., 2011).
5	Evaluation of Determinants	Valence and strength ratings from CFIR (Damschroder et al., 2009).
6	Evaluation of Strategies	Guidelines to characterize implementation strategies (Proctor et al., 2013).
7	Evaluation of Outcomes	Outcomes from the Conceptual Framework for Implementation Outcomes (Proctor et al., 2009, 2011) and Institute of Medicine Standards of Care, definitions, proposed measures, and useful readings/resources.
8	Planning Template	A simple template to guide implementation planning by implementation stage, with an emphasis on general activities, methods, participants, and outcomes/deliverables.
9	References for Core Concepts of Implementation	References with active links.

Note. GIF-School = Generic Implementation Framework for School-based research and practice; CFIR = Consolidated Framework for Implementation Research; HEIF = Health Equity Implementation Framework; SISTER = School Implementation Strategies, Translating Expert Recommendations for Implementing Change (ERIC) Resources.

Student/Family: C...	C. Beliefs and pref...	Health Equity Impl...		(1) Semi-structure...	Merrick, R., & Rou...	Watts Pappas, N., ...
Student/Family: C...	D. Expectations ab...	Health Equity Impl...		(1) Semi-structure...	Gillett-Swan, J., & ...	Klein, S., & Hagler...
Student/Family: C...	E. Health literacy a...	Health Equity Impl...	Health literacy is d...	Adapted health lite...	Chew, L. D., Griffin...	Stagliano, V., & W...
Student/Family: C...	F. Mistrust	Health Equity Impl...		(1) Adapt a medic...	Moseley, K. L., Fre...	Williamson, L. D., ...

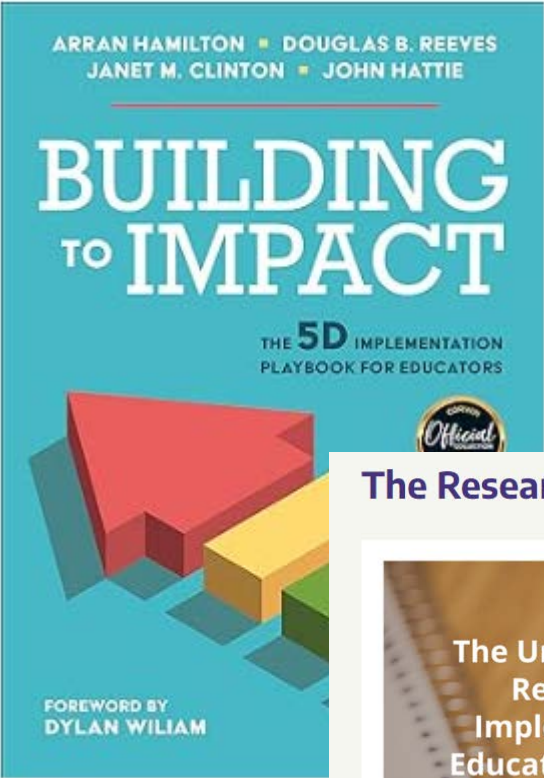
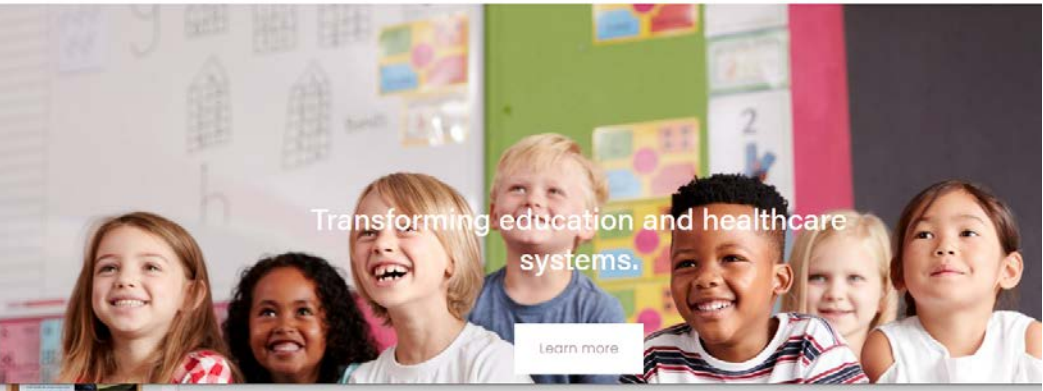
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Great resources



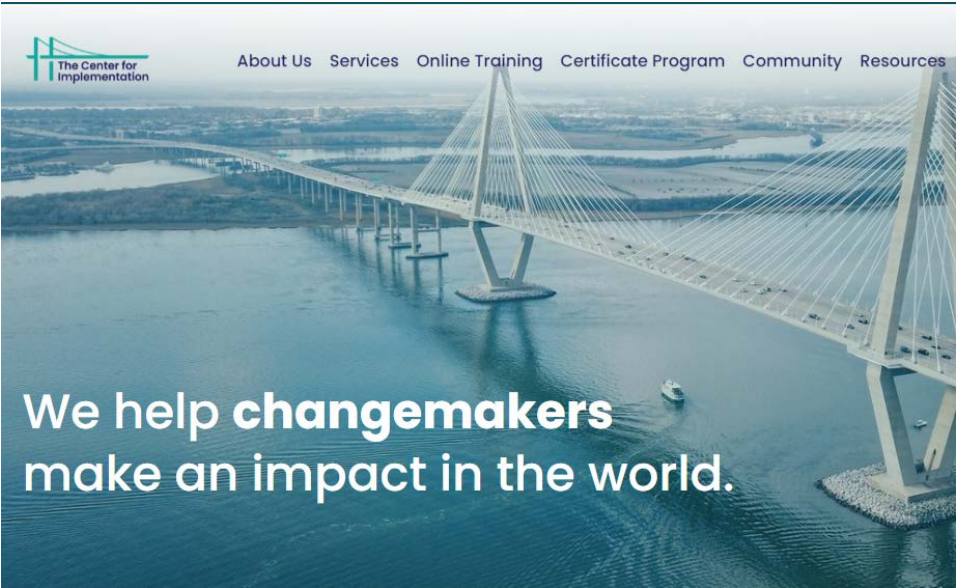
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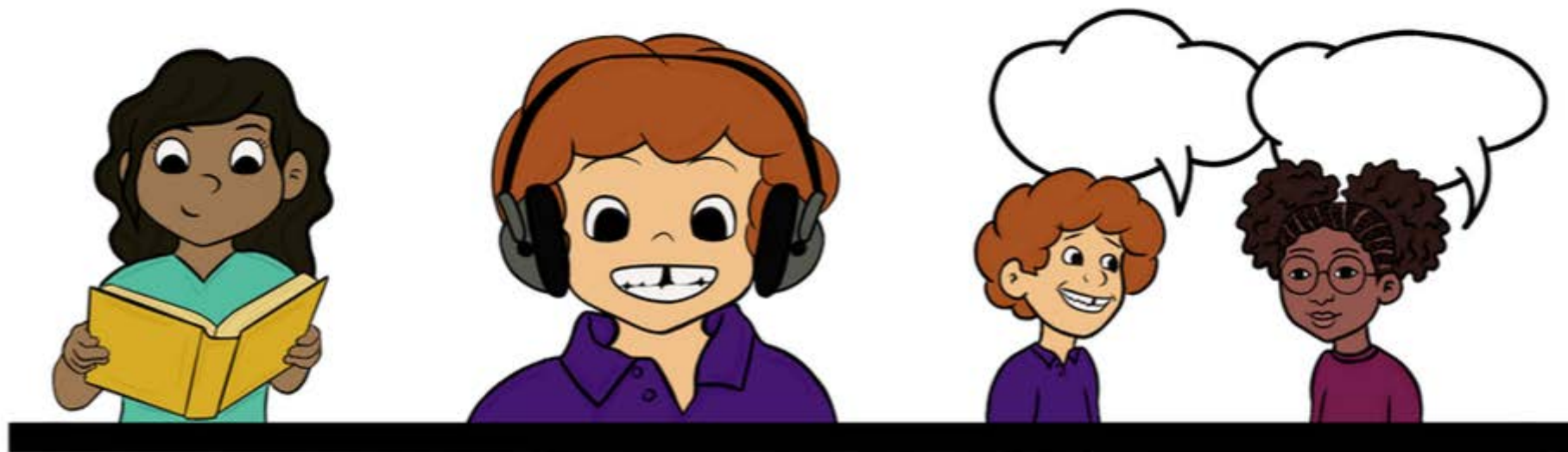
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13 episodes

That Implementation Science Podcast

Mike Pullmann

Science

★★★★★ 5.0 • 4 Ratings

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OCT 14, 2023

Season Finale: Bryan Weiner, history of implementation science,...



On this episode we talk with everyone's favorite mentor, Bryan Weiner, about the history of implementation science, implementation science measurement, the Jingle Jangle Fallacy, and we quiz him on how to be a good mentor. Resources discussed during this episode include: Weiner, B. J.,...

PLAY 1 hr 10 min

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Reading Recess

Reading Recess Podcast

Research meets fun –
See you at recess!



@RecessChats



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Implementation Science and Systems Change for Literacy Improvement

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Director, Florida Center for
Reading Research



**Adrea
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Associate Professor,
Michigan State University



THANK YOU & Good luck!

*CHANGE THE world
one child at a time...*

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Podcast: seehearspeakpodcast.com

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