



**2020 Education Innovation and Research (EIR) Project Directors  
and Evaluators Technical Assistance Meeting**

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# Approaches to and Measurement of Moving to Scale

Barbara Goodson | Cristofer Price (Presenters)

*Abt Associates*



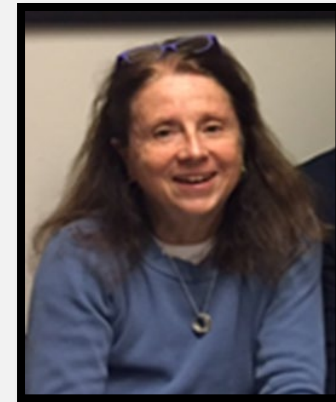
# Barbara Goodson



**Role:** Principal Investigator, TA Leader & TA Liaison



**Background:** Barbara is a Principal Scientist in Abt Associates' Social and Economic Policy division. She has more than three decades of experience in designing and conducting experimental and quasi-experimental impact evaluations. She is the Principal Investigator overseeing the evaluation technical assistance team for the EIR and i3 grant programs, and was previously a First in the World grant program technical assistance liaison.



# Cris Price



**Role:** TA Leader & TA Liaison



**Background:** Cris is a Principal Associate in Abt Associates' Social and Economic Policy division, with more than 30 years of experience in behavioral and educational research. He is an evaluation TA team leader for the EIR and i3 evaluation technical assistance projects. He has been the technical lead on a wide variety of projects representing a multitude of different types of study designs, data elements, units of analysis, and analytical methods.



# Jaime Thomas



**Role:** Evaluator



**Background:** Dr. Jaime Thomas, founder and CEO of Format Consulting, is an economist with over 10 years of experience assessing the effectiveness of early childhood, education, and labor and employment programs. After earning a Ph.D. in Economics from the University of California, San Diego, she spent 10 years at Mathematica and recently started her own economic, strategy, and evaluation consulting company.



# Eric Grebing



**Role:** Evaluator



**Background:** Dr. Eric Grebing is a Project Director at the SERVE Center at UNC Greensboro. His work at SERVE involves data analysis, research, evaluation, and consulting for a variety of educational initiatives, including as the lead evaluator for the EIR mid-phase grant for the Rural Early College Network with the University of Indianapolis. Prior to joining SERVE, Eric taught high school math and science and led research and development at an education non-profit, both in North Carolina. Drawing from these experiences, Eric enjoys helping teams better understand their impact through data utilization and visualization to gain insight for improving educational outcomes.



# Jane Coggshall



**Role:** Evaluator



**Background:** Jane G. Coggshall, Ph.D., is a principal researcher at the American Institutes for Research (AIR). Throughout her career, her research focus has been on the educator career continuum especially teacher professional learning and instructional improvement.



# Jerome D'Agostino



**Role:** Grantee



**Background:** Jerome D'Agostino is a professor of Quantitative Methods and Educational Policy at The Ohio State University. He specializes in assessment and the development of interventions for marginalized youth and families. He was the director of the i3 Reading Recovery Scale-Up project from 2010-2015, co-director of an i3 development project for HEROES, and the director of the HEROES mid-phase project.



# Agenda

- Overview EIR approach to scale-up
- Overview of scale-up studies in EIR
- Guest panelists: The tale of four scale-up studies
- Reflections on EIR scale-up studies



# Expectations for Mid-phase and Expansion Grants for Scaling

- As part of their design for their scale-up evaluation EIR evaluation plans describe:

- Scale-up goals



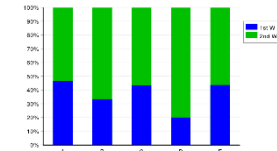
- Challenges to scaling



- Strategies to mitigate challenges / achieve goals



- How they will measure implementation of strategies



# Four Themes of Scale-up Goals in Grants' Design Plan

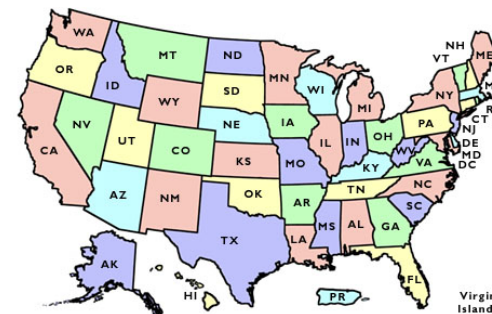
- Cost-efficient intervention



- Sufficient organizational capacity to implement at scale



- Expansion to new populations of students



- Sustainability of model



# Strategies to Achieve Scale-up Goals: Cost-Efficient Intervention



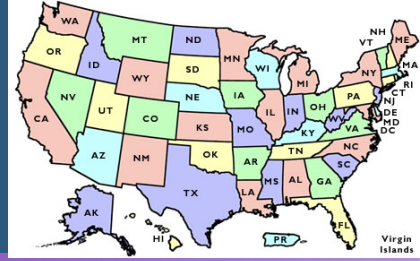
- Strategies to lower the cost of implementation at scale:
  1. Transfer program functions to districts: teacher PD, teacher coaching/facilitation
  2. Technology to support teacher PD/program implementation
  3. Produce materials/resources in bulk
  4. Create training hubs to support local staff to provide PD, coaching

# Strategies to Achieve Scale-up Goals: Organizational Capacity



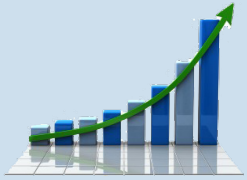
- Strategies to increase organizational capacity of program to implement at scale:
  1. Create regional program hubs for recruitment, supports for implementing schools, regional presence
  2. Create national groups/structures to convene to promote, share lessons on implementing model

# Strategies to Achieve Scale-up Goals: Expansion to New Populations



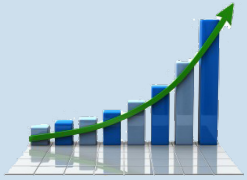
- Strategies to support expansion of populations targeted by intervention:
  1. Developing curriculum/materials/PD for new grades
  2. Developing curriculum/materials/PD for specific populations, e.g., ELLs

# Achieving Scale-up Goals: Improvement of Program Model



- Strategies to revise content of intervention:
  1. Improving instructional strategies in model through small-scale “lab” testing
  2. Making online components usable on all types of computers/platforms

# Strategies to Achieve Scale-up Goals: Support Sustainability



Strategies to support sustainability of intervention model:

1. Developing mentor schools to support new schools to implement model
2. Involving districts in planning and coordination
3. Promoting local partnerships to sustain model

# Expectations for EIR Scale-up Studies

- Mid-phase and Expansion grants are expected to:
  - “**Test new strategies** to support effective/cost-efficient implementation at scale in heterogeneous populations/settings”
  - Define and measure progress towards scaling their intervention
- **Research question for scale-up study:**
  - Are the project scale-up strategies being implemented successfully in the current project?



# How Impact Studies Intersect with Scale-up Studies

- Scale-up studies identify strategies to address challenges and make progress towards goals, and measure the extent to which scale-up strategies are successfully implemented
- Impact studies measure the effective of the intervention – the intervention being tested may :
  - Be tested at scale
  - Be tested on a scaled-up version of the intervention
  - Be the current version of the intervention (not at scale, not a scaled-up version)

(These are defined in the next slide)

# Testing At Scale, A Scaled-up Version, or the Current Version

- What testing “at scale” means in EIR: *Impact study is based on implementation sample that is...*
  - Multi-state (mid-phase), multi-region, or national,
  - Heterogeneous in terms of types of schools and students, or
  - Representative of the full set of grades that intervention will claim to be appropriate for
- Testing a scaled-up version means:
  - Estimating the impact a version of the intervention in which newly implemented strategies for scaling are being used for the first time
- Testing the current version means:
  - Estimating the impact the current, pre-scale-up, intervention while developing and testing new scale-up strategies

# Research Questions Posed by Scale-up and Impact Studies

## **Scale-up study research question:**

- Are the project scale-up strategies implemented successfully in the current project?

## **Impact study research question:**

- What is the effect of...
  - ... the intervention implemented at scale relative to business as usual?
  - ... the scaled-up version of the intervention relative to: business as usual (or relative to the pre-scale-up version)?
  - ... the intervention (not at scale, not the scaled-up version) relative to business as usual?

# Measurement: The Tale of Four Scale-ups

- *The Pre-K Mathematics Intervention [FY2018 Expansion grant]*
  - Evaluator: Jaime Thomas, Format Consulting
- *Rural Early College Network (RECN) [FY2018 Mid-phase grant]*
  - Evaluator: Eric Grebing, SERVE at University of North Carolina
- *Scaling and Sustaining Effective Teacher Professional Development for Secondary Schools Using MyTeachingPartner–Secondary (MTP-S) [FY2017 Mid-phase grant]*
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- *Helping Early Readers Obtain Excellence in Special Education (HEROES) [FY2019 Mid-phase grant]*
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# Pre-K Mathematics: Intervention and Impact Study

- *Pre-K Mathematics* is a multicomponent supplementary math curriculum for pre-kindergarten (pre-K) children
- Key components of the curricular intervention:
  - Common Core-aligned mathematics content with classroom and at-home activities
  - Teacher and trainer (local coach) professional development
- Impact study design:
  - RCT with randomization of pre-K classes within public pre-K programs and within Head Start programs
- Key outcomes:
  - Math achievement (ECLS-B Mathematics Assessment)

# Pre-K Mathematics: Scale-up Study

Goals	Challenges	Strategies	Measurement of Strategies
<p>Expand previously successful state-level intervention to a national scale</p>	<p>1) Pre-K teachers' insufficient preparation to teach mathematics effectively</p> <p>2) No ready-made manipulatives for <i>Pre-K Mathematics</i> activities</p> <p>3) Plans needed to determine how programs will cover start-up costs and schedule curriculum roll-out</p>	<p>1) Establish national network of 4 regional training centers</p> <p>2) Make commercially produced materials kits available to teachers</p> <p>3) Consult with state education agencies and Office of Head Start to create generic plans</p>	<p>1) Yes/No: Were 4 regional networks established?</p> <p>2) Yes/No: Were sufficient materials kits produced?</p> <p>3) Yes/No: Were generic plans created for Head Start and each state served by regional training centers?</p>

# Pre-K Mathematics: Impact Study and Scale-Up

- This grant estimates the effect of the intervention implemented **at scale** by ***testing a scaled-up version of the intervention*** and ***forming a study sample that reflects the national population of low-income pre-K students***
- Grantee is scaling up the intervention by creating
  - Regional teacher training centers
  - Vendor-produced curriculum materials

# Pre-K Mathematics: Impact Study and Scale-Up

- Grantee is implementing *Pre-K Mathematics* at a national scale
  - Purposively selecting sites to reflect the national population of low-income pre-K students in terms of race/ethnicity and urbanicity
  - Challenge: No national sampling frame for pre-K students
    - In particular, no national database for state-funded pre-K programs
  - Solution: Obtain data on target population from Head Start Program Information Report (PIR) and Common Core of Data (CCD)
  - Solution: Recruit programs within different regions (West, Midwest, Southeast, Northeast) across two cohorts

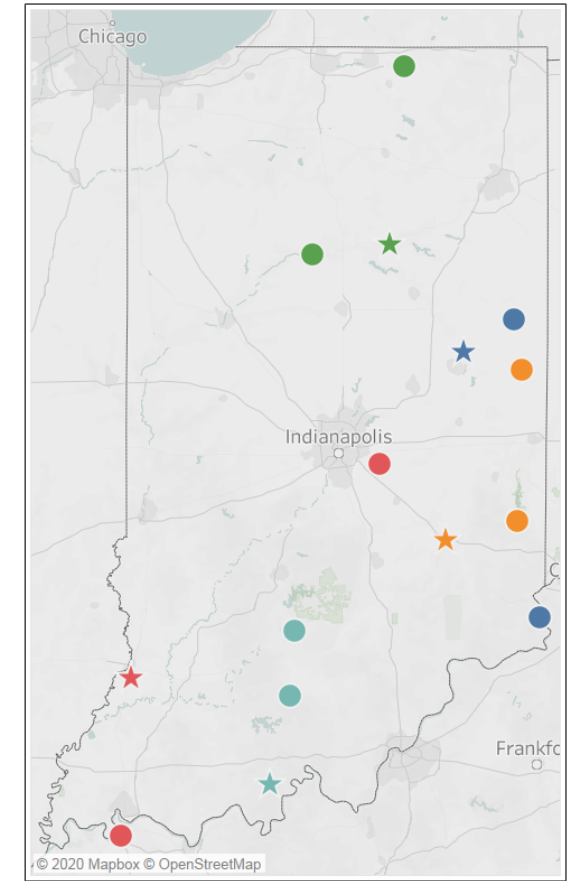


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# RECN: Intervention and Impact Study

- The project will establish a Rural Early College Network (RECN) to help rural Indiana schools more quickly implement the Early College (EC) model with fidelity.
- Key components of intervention:
  - PD / coaching
  - Plans for early college enhancements
  - Pathways and work-based learning
  - **School to school mentoring**
  - **Support for dual credit teacher credentialing**
- Impact study design:
  - RCT with randomization of students for within-school, early high school outcomes
  - QED with matching for between-school, later in high school outcomes
- Key outcomes:
  - Attendance, college preparatory course completion, college credits, PSAT scores, postsecondary enrollment



# RECN: Scale-up Study

Goals	Challenges	Strategies	Measurement of Strategies
Expand to more rural districts with 6 additional endorsed programs	Rural districts have unique challenges – smaller staff sizes, less access to higher ed campuses, fewer local employers	1) Support for mentor schools; building the capacity for new mentor schools	1) Mentor schools developed plans to improve program (Y/N); School received support from grantee (Y/N)
More teachers credentialed to teach dual credit courses	Access to teachers with credentials is highly dependent on the locality; accessing graduate coursework can be a challenge in rural areas	2) Partnership facilitation and policy advocacy	2) Grantee facilitated partnerships (Y/N); Policy advocacy (Y/N)
Sustain and scale up rural early college beyond the grant	The early college model is complex and requires knowledge and support to implement well with students in the target population (underserved, first-generation)	3) Formation/facilitation of rural education networks in Indiana	3) Collaborative for Rural Education met at least two times per year; School's district representative attended at least two meetings

# RECN: Impact Study and Scale-Up

- This grant estimates effect of the intervention **at scale** by ***estimating effect of intervention in rural schools***
- The RCT impact study will also inform practices for scaling to new schools beyond the grant period – local variations in supports provided to 9<sup>th</sup> grade cohorts
- There is also a connection to the cost study by addressing the question, *How much funding is required to open and operate a successful early college program?*

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# MTP-S: Intervention and Impact Study

- MTP-S is an individualized video-based teacher coaching program designed to improve the quality of teacher-student interactions and thereby foster student engagement and academic achievement.
- Key components of two-year intervention:
  - Annual preparatory teacher workshops (3 hours total)
  - Coaching cycles (6–10 cycles/year, ~21–35 hours total)
- Impact study design:
  - RCT with assignment of teachers to treatment and control conditions
- Key outcomes:
  - Quality of teacher-student interaction and class engagement; Student ELA and math achievement



# MTP-S: Scale-up Study

Goals	Challenges	Strategies	Measurement of Strategies
<p>Increase the use of the intervention to reach more teachers and students</p>	<p>Districts prefer to use local, district- or school-based instructional coaches rather than outsource coaching to external, remote vendors</p> <p>Variation in local coach capacity</p>	<p>Guide district selection of coaches</p> <p>Train coaches and require CLASS-S certification</p> <p>Provide ongoing monitoring and support of coaches</p>	<p>Coaches hired with correct qualifications (Y/N)</p> <p>Coaches trained to certification level (Y/N)</p> <p>Coach specialist conducts monthly quality reviews/ individual check-ins (H/M/L)</p> <p>Coach attendance at group videoconference support sessions (H/M/L)</p> <p>Coach confidence in knowledge and skills (H/M/L)</p>

# MTP-S : Impact Study and Scale-Up

- This grant estimates effect of the intervention when **scaled up using local coaches**
  - Teachstone is providing scaling supports for local staff in heterogeneous high needs districts (both large & small, urban & rural)
- Table: Sample distribution (Cohort 1 – anticipated Cohort 3):

School Characteristics	Average	Std. Dev.	Min	Max
Enrollment	1295.4	616.8	365.0	2963.0
% Minority (non-white)	89.6%	13.8%	30.6%	100.0%
% Eligible for FRL	80.2%	13.8%	45.6%	99.7%
Proficiency in Reading	40.3%	21.6%	7.0%	89.0%
Proficiency in Math	23.5%	16.2%	2.0%	68.0%



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# HEROES: Intervention and Impact Study

- An intervention that provides evidence-based reading instruction to children between the ages of 6 and 9 who have been identified as needing special education services for reading.
- Key components of intervention:
  - Training for special education teachers through two graduate-level courses
  - Intensified instruction, including one-on-one lessons, differentiated instruction, structured lesson components, weekly progress monitoring
  - Coaching for special education teachers
- Impact study design:
  - RCT with randomization of teachers
- Key outcomes:
  - Increased reading achievement and reduction in intensity of IEPs

# HEROES: Scale-up Study

Goals	Challenges	Strategies	Measurement of Strategies
Expand to multiple regions	1) Scaling to multiple districts while ensuring high-quality training and adequate support for each district/school/teacher	Expand through the hub model	Number of new districts, schools, teachers affiliated with each of four hubs. Number of new coaches to promote intervention
Create online data portal	2) Tracking student growth and performance and ensuring implementation fidelity efficiently across multiple districts	Create data portal for tracking	Proportion of teachers who track student growth with the new system
Develop network and online resource center	3) Implementing continuous improvement strategies despite practical constraints	Develop network and online resource center	Proportion of teachers accessing online materials and participating in network activities
Refine intervention through research and development		Engage in continuous improvement	Conduct R&D lab studies to improve intervention

# HEROES: Impact Study and Scale-Up

- External evaluation estimates effect of the intervention at a **larger scale** and with a **more diverse student population** and **more diverse geography**
  - Testing at scale? Yes, sampled schools will represent a full array of population diversity, including more states, urban, rural, suburban schools, and EL students
  - Testing scaled-up version? Yes, the treatment will be the scaled-up version without modifications. Will hold treatment constant over four evaluation cohorts.

# Reflections on EIR Scale-Up Studies

- Should the EIR scale-up studies be addressing additional questions?
- Is it realistic to think that the EIR program will identify models that can really be scaled up to a national level?
- How could EIR scale-up study results help inform the field?
- Should Expansion grants be required to include a national study?
- Should factors potentially affecting implementation fidelity at scale be measured formatively during implementation?

# Questions



# Contact

## EIR Evaluation TA Team

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