



From the

AERA Online Paper Repository

<http://www.aera.net/repository>

Paper Title Get Started — Get Better: Using Improvement Cycles to Achieve State Systemic Improvement

Author(s) Caryn Sabourin Ward, University of North Carolina - Chapel Hill

Session Title The Scholarship of Improvement: Building Community Around an Emerging Tradition of Practice-Focused Research

Session Type Session Paper

Presentation Date 4/7/2019

Presentation Location Toronto, Canada

Descriptors

Methodology

Unit SIG-Systems Thinking in Education

DOI <https://doi.org/10.3102/1436732>

Each presenter retains copyright on the full-text paper. Repository users should follow legal and ethical practices in their use of repository material; permission to reuse material must be sought from the presenter, who owns copyright. Users should be aware of the [AERA Code of Ethics](#).

Citation of a paper in the repository should take the following form: [Authors.] ([Year, Date of Presentation]). [Paper Title.] Paper presented at the [Year] annual meeting of the American Educational Research Association. Retrieved [Retrieval Date], from the AERA Online Paper Repository.

Get Started – Get Better: Using Improvement Cycles to Achieve State Systemic Improvement

Caryn S. Ward, PhD at National Implementation Research Network,
FPG Child Development Institute, UNC-Chapel Hill

Commentary Paper for AERA Poster Session: “The Scholarship of Improvement: Showcasing an Emerging Tradition of Practice-Focused Research”

Objectives or purposes

The purpose of presentation is to share how state education agencies (SEA) make use of improvement cycles within a Transformation Zone as a way to get started, manage the change, get better, and ultimately produce more effective and efficient ways to achieve outcomes for students.

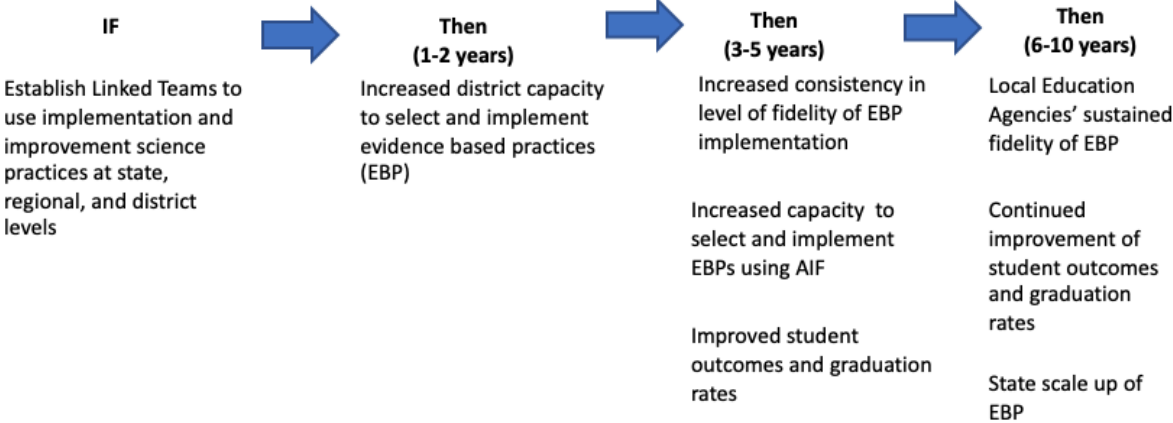
Perspective(s) or theoretical framework

Enabling contexts must be developed to support the effective, sustained use of skills for the full and effective use of practices supported by evidence. Too often, practices or innovations are changed to fit the system and results remain stagnant. Education systems struggle to transfer practices supported by evidence into educators’ and leaders’ skill sets (Madon et al., 2007). Leaders and Implementation Teams can make use of the Active Implementation Frameworks (AIF; Fixsen, Blase, Metz, & Van Dyke, 2015), inclusive of Improvement Cycles, to help create the enabling context and develop the necessary implementation infrastructure so that the system is changed to support the innovation. The AIF include: 1) Usable innovations: operational descriptions of innovations that include a practical assessment of fidelity correlated with outcomes, 2) Linked Implementation Teams: highly skilled, representative groups accountable for the use of implementation science and system change practices, 3) Implementation Drivers: methods to assure the development of innovation-related competencies, organization changes, and engaged leadership, 4) Implementation Stages: activities required to develop implementation infrastructure over time divided into exploration, installation, initial implementation, and full implementation; and 5) Improvement cycles: plan-do-study-act cycles, usability testing methods, and practice-policy communication protocols to continually improve, align, integrate, leverage and measure existing structures, roles, and functions. The Plan-Do-Study-Act Cycle (PDSA-Cycle; Deming, 1986) involves a “trial-and-learning” approach in which the PDSA steps are conducted over iterative cycles designed to discover and solve problems, and eventually leads to achieving high standards while eliminating error. Each type of improvement cycle serves a different function, involves fewer or greater numbers of staff and layers of the system, and can require varying lengths of time.

To guide the SEA’s use of the AIF to support implementation of evidence-based practices (EBPs), an underlying theory of change was developed (see Figure1). The premise as outlined is that if implementation teams are established to use the AIF at state, regional, and district levels, then LEAs will develop capacity to select and implement an EBP in one to two years, followed by increased consistency in level of fidelity of the EBP, increased SEA capacity to use AIFS to select and implement EBPS, and student outcomes (i.e., graduation rates, student engagement, academic outcomes) will improve within three to five years. Long term outcomes within six to 10 years include increased

sustained fidelity of EBP at LEA level, continued improvement of student outcomes including academic achievement, and scale up of the EBP by the SEA.

Figure 1. Theory of Change



Methods, techniques, or modes of inquiry

Four SEAs made use of all three improvement cycles within a Transformation Zone with the goal of purposefully developing a sustainable, replicable, and effective infrastructure with state education systems. A Transformation Zone represents a vertical slice of the system from the practice level to the policy level (e.g. from the classroom to the Capitol). The slice is small enough to be manageable but large enough to be representative of the system as a whole. For each of the four states, a stage-based approach used to develop a linked teaming structure and implementation infrastructure to support use of a selected practice within selected schools. PDSA cycles were used to refine and improve teams' capacity and implementation supports.

Implementation sites within the Transformation Zone of a state serve as the first cohort to participate in the improvement cycles of purposeful change processes to develop and refine the system to support effective implementation and use of innovations. Each state selected their own focus area based on needs assessment, selected specific EBPs to implement, and developed an implementation infrastructure to support selected practices in partnership with their local education agencies. Refinements and improvements to the infrastructure using different types of data within PDSA cycles were made. Each state and participating local education agencies, received intensive technical assistance (i.e., training, coaching) on how to make use of the implementation and improvement science practices as operationalized by the Active Implementation Frameworks.

Table 1. State Education Agency Focus Areas, Target Populations, and Number of Partners

SEA	Focus Area	Target Population	N
State #1	Graduation Rate	African American and Native American Students with Disabilities	4 Regions 4 Districts
State #2	Mathematics	3rd – 8th grade students with disabilities	3 Regions 5 Districts

State #3	Literacy	K-3rd grade students with disabilities	2 Regions 2 Districts
State #4	Literacy	K-3rd grade students with disabilities	2 Regions 5 Districts

Note: SEAs 1, 3 and 4 are in the Midwest; SEA 2 is located in South Central U.S. Each SEA has representation of urban, suburban, and rural districts.

Data sources, evidence, objects, or materials

Practical illustrations and examples from Transformation Zones within two the four states are shared. Specifically, data from SEA number one and SEA number two. Partnerships with SEAs three and four were begun a year after and are just reaching the initial implementation stage. Across all states, data from implementation capacity assessments at state, regional, district, and school levels are presented. These assessments were developed to assist organizations in assessing their current supports and resources for quality use of selected practices supported by evidence. Specifically, organizations can use the capacity assessment to identify strengths and opportunities for improvement in their current supports and resources; select implementation best practices to strengthen staff competency and organizational practices; and provide an implementation team with a structured process to develop an action plan and data to monitor progress. The assessments include the following:

- State Capacity Assessment (SCA; Ward, et al., 2019),
- Regional Capacity Assessment (RCA; St. Martin et al., 2015),
- District Capacity Assessment (DCA; Ward et al., 2015), and
- Drivers Best Practices Assessment (DBPA; Ward et al., 2019).

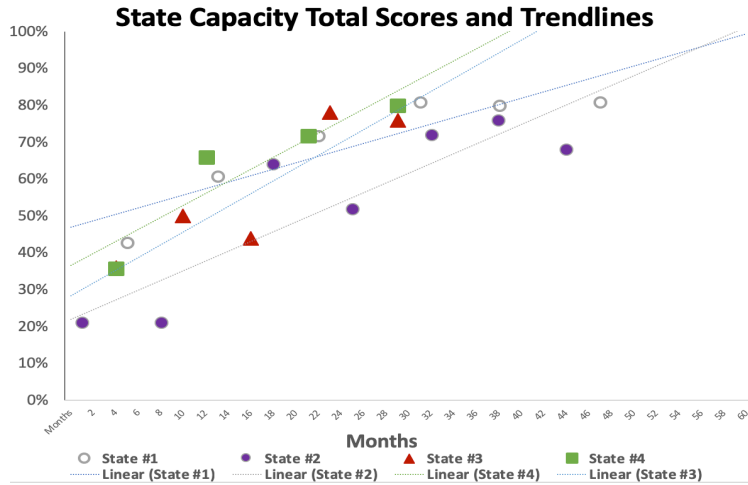
It should be noted that all of the capacity assessments are administered by a trained facilitator and completed by identified respondents as a group/team using consensus-based scoring. The use of consensus-based scoring produces greater depth of discussion, exchange of knowledge and information, generation of items for action planning, and collective commitment to continuous improvement. The administration method also helps to address power differentials that may be present and protect voices of diverse perspectives. Each assessment has had various components of its’ technical adequacy established.

In addition to capacity data, fidelity data, and student outcome measures (e.g., math benchmarks assessments, state summative assessment graduation rates) are also presented and highlighted for States one and two. The fidelity and student outcome data are specific to the state and their identified program. For state one, the fidelity assessment included a self-report adherence checklist and for state two, the fidelity assessments included an observation of delivery of instructional practice by a trained observer.

Results and/or substantiated conclusions or warrants for arguments/point of view

Results from the use of implementation capacity assessments across six SEAs demonstrate improvement within 36 months in the use of active implementation framework practices including use of improvement cycles as intended to produce sustainable change (see Graph 1).

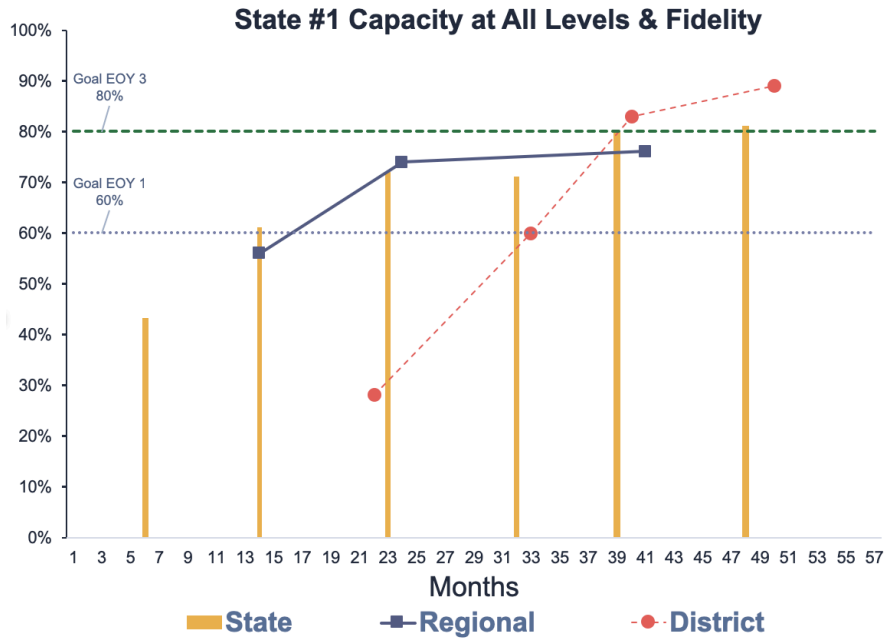
Graph 1: State Capacity Total Scores



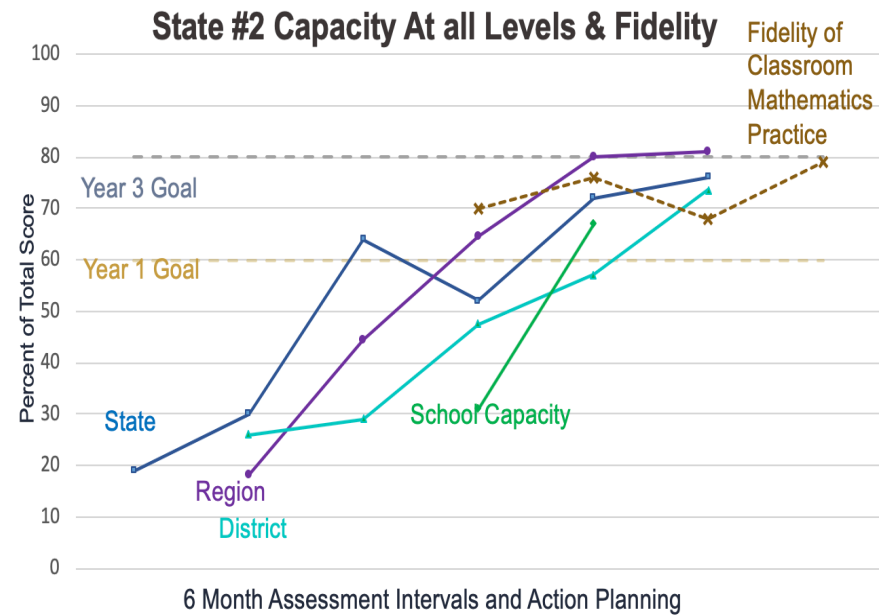
Results from two state education agencies' transformation zone methodology to produce not only system change but impact in student outcomes as measured by graduation rates and academic benchmarks in mathematics are highlighted. In State 1, the six-year graduation rate increased from 53.9% to 57.9% for African-American and Native American Students with Disabilities over a three-year period. In addition, focus groups with students (n = 25 of 170 students served across four districts) across four districts revealed that the majority of students felt the Check and Connect intervention was helping them in having someone in their school who cares about how they do in school, holds them to high expectations, checks in with them regularly, and provides feedback on how they are doing in school. See graph 2 for implementation capacity results at the state, regional, and district level. It should be noted that 71% of interventionists met the fidelity criteria.

In state 2 example for the first region, district and schools, capacity development and growth was seen at all levels (see Graph 3). In terms of student outcomes, 21.5% of students were proficient in the fall of 2017, increasing to 38.5% in the winter of 2018, and 51% in the spring of 2018 – a 29.5% increase on the math screening measure within the district. State summative assessment results revealed that the percentage of students with disabilities performing at the novice level decreased by 5.7% at participating schools. Notable decreases were also seen in other subgroups of African American, Free and Reduced Lunch, and Hispanic. All students within the participating school increased proficiency by 3.7%.

Graph 2. Example SEA 1: State, Regional, and District Capacity



Graph 3. Example SEA 2: State, Regional, and District Capacity and Fidelity Outcomes



Scientific or scholarly significance of the study or work

State capacity development is informed by the Active Implementation Frameworks that provide a guide for action, methods to defragment and integrate system units, and a focus for improved system functioning. While the data presented in this presentation provide a basis for optimism, it is likely that current methods to develop capacity in state education systems will continue to evolve and improve. Several catalysts and challenges were encountered across all four states. Catalysts include those such as having data collected and used in six months, the building of staff competency in the “middle” of the SEA in the implementation and improvement practices, starting small and continually improving before expanding reach, selecting practices that meet “usable criteria” for scaling, using co-creation methods to engage stakeholders in the implementation process, use of effective exploration practices for cost efficiency, alignment and leverage of SEA strategic plans (e.g., ESSA, SSIP), and political visibility and support from leadership. Challenges encountered across all four states included managing the pace and expectations while creating value for implementation data on the way to outcomes, use of a “framework” for implementation versus practice, moving accountability and systems from “ghost” to “host” systems for new ways of work within the state and local agencies, competing urgencies and agendas, supporting staff competencies as role of the SEA changes, and managing staff turnover and transition

The project is in the Initial Implementation stage. Full implementation will require continued investment in improvement informed by implementation capacity growth, practice fidelity and outcome data over the next several years. Once we can establish that a sufficient number of students are receiving and benefiting from the EBP, we can then evaluate the effectiveness and efficiency of this comprehensive approach to achieve student outcomes at scale. All outcome data results are preliminary at this time. Several limitations exist for this implementation demonstration. For future research, additional rigorous testing of the AIF validity, and other models of implementation science, in education is needed to continue expanding knowledge about the value of implementation science for promotion of EBPs in education. Also, continued validity studies of the implementation capacity measures are needed to explore their use and efficacy in education. Finally, evaluation of the resources necessary to apply the AIF within the context of low-resource settings (e.g., rural, limited district funding) is warranted for continued learning and generalizability. The current project was strategic in aligning and leveraging current efforts and resources. Given competing needs to use limited resources wisely, the value of this approach might also benefit from research which focuses on calculating the return on investment.

In summary, our data suggests that using the AIF to guide capacity development of SEAs and their local education agencies supported the establishment of an implementation infrastructure for the use of EBPs. Furthermore, progress is being seen in the use of selected EBPs with fidelity. Continued progress and monitoring towards full implementation is needed to evaluate impact on student outcomes.

References

- Fixsen, D., Naoom, S., Blase, K., Friedman, R., & Wallace, F. (2005) *Implementation research: A synthesis of the literature*. Tampa, FL: National Implementation Research Network. Retrieved from <https://fpg.unc.edu/sites/fpg.unc.edu/files/resources/reports-and-policy-briefs/NIRN-MonographFull-01-2005.pdf>
- Madon, T., Hofman, K. J., Kupfer, L., & Glass, R. I. (2007). Implementation science. *Science*, 318, 1728-1729. doi:10.1126/science.1150009
- St. Martin, K., Ward, C., Fixsen, D. L., Harms, A., & Russell, C. (2015). *Regional Capacity Assessment*. Chapel Hill, NC: National Implementation Research Network, University of North Carolina at Chapel Hill.
- Ward, C., Cusumano, D., Metz, A., Louison, L., & Loper, A. (2019). *State Capacity Assessment (v.26)*. Chapel Hill, NC: University of North Carolina at Chapel Hill. Based on: Fixsen, D.L., Ward, C. S., Duda, M.A., Horner, R. & Blase, K.A. (2015). *State Capacity Assessment (SCA) for Scaling Up Evidence-based Practices (v. 25.2)*.
- Ward, C., Harms, A., St. Martin, K., Cusumano, D., Levy, R., & Russell, C. (2019). *Regional Capacity Assessment Technical Manual*. National Implementation Research Network, University of North Carolina at Chapel Hill.
- Ward, C., Metz, A., Louison, L., Loper, A., & Cusumano, D. (2018). *Drivers Best Practices Assessment*. Chapel Hill, NC: National Implementation Research Network, University of North Carolina at Chapel Hill. Based on: Fixsen, D.L., Blase, K., Naoom, S., Metz, A., Louison, L., & Ward, C. (2015). *Implementation Drivers: Assessing Best Practices*. Chapel Hill, NC: National Implementation Research Network, University of North Carolina at Chapel Hill.
- Ward, C., St. Martin, K., Horner, R., Duda, M., Ingram-West, K., Tedesco, M., Putnam, D., Buenrostro, M., & Chaparro, E. (2015). *District Capacity Assessment*. Chapel Hill, NC: University of North Carolina at Chapel Hill.
- Ward, C., St Martin, K., Harns, A., & Russell, C. (2018). *District Capacity Assessment: Development of a Tool to Support Implementation of Education Practices and Innovations*. Manuscript submitted for publication.