

# Revisiting the Core Elements of Our Capacity Building Framework for Scaling School Reforms:

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**Lessons from the Field after Four Years of Work**

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## **Background**

This paper builds on the successes, challenges, and lessons from early phases of our work in two school districts – Broward County Public Schools in Florida, and Fort Worth Independent School District in Texas as part of the National Center on Scaling-Up Effective Schools (NCSU) at Vanderbilt University’s Peabody College.

It is written from the perspective of experienced education developers, who have worked in partnership with a multi-disciplinary team of researchers, developers, and school practitioners for the past four and a half years to identify and articulate the essential requirements for deep system wide reform.

Funded by the Institute for Education Sciences, the first year of the five-year NCSU project identified combinations of practices that appeared to make some high schools more effective with low income, minority, and English language learners than other high schools within the same district.

Florida and Texas were selected as ideal states for the study because they have two of the most comprehensive achievement data systems among the 50 states. While NCLB only required states to test once during high school, both Texas and Florida tested English/language arts and mathematics in multiple times. Both states had data systems that had been in place since 2003. The initial analyses of statewide data identified two urban school districts, one in Texas (Fort Worth Independent School District) and one in Florida (Broward County School District). Each school district has both high and low-performing high schools that serve students from traditionally low performing subpopulations and were selected to serve as sites for research, intervention design, implementation, and scale-up (Sass, 2012).

Broward County Public Schools was selected because of the availability of rich individual-level data that links students and teachers over time. It is the sixth largest public school system in the United States, the second largest in the state of Florida, and the largest fully accredited K-12 and adult school district in the nation. The

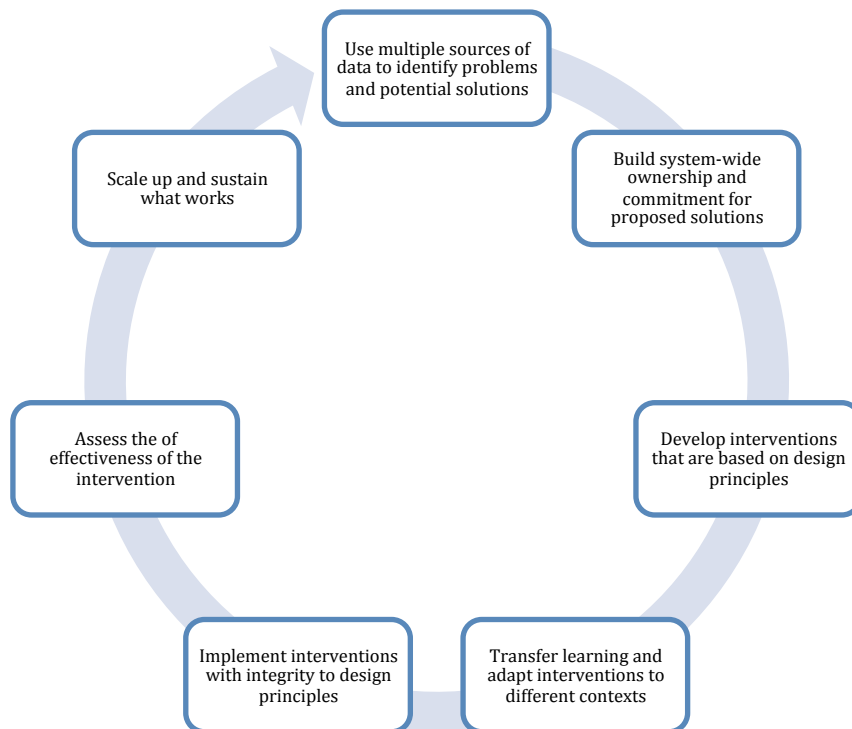
District offers a diverse educational environment to over 260,000 students and 175,000 adults in 315 schools, centers, charters and virtual schools.

Fort Worth Independent School District has over 80,000 students and is one of the fastest growing cities in Texas, with a surging Hispanic population. The district serves large populations of low-income, minority, and ELL students. The student population during the 2012-2013 school year was 24 percent African American, 60 percent Ethnically Hispanic, 14 percent white, and 2 percent other. In the district, 75 percent of students are eligible for free or reduced - price lunches and 27 percent are classified as ELL (Sass, 2012).

## Introduction

Following two years of work in schools to design, develop, and begin implementing interventions that respond to the identified needs of schools in Broward and Fort Worth, authors revisit their initial theoretical framework for building system capacity to implement effective practices at scale in large, urban high schools to see if it continues to hold during the transition from theory to practice.

For the purposes of this study, we define capacity building as the process by which teachers, principals, and district office leaders increase their abilities to *perform core functions, solve problems, define and achieve objectives*; and understand and deal with their development needs at scale and in a sustainable manner. We argue that any approach to capacity building for these purposes must be multidimensional and proposed seven core elements of an emerging framework (King, Haferd, Avery, & Fabilar, 2012).



**FIGURE 1: CORE ELEMENTS OF A CAPACITY BUILDING FRAMEWORK FOR SCHOOL REFORM**

In this paper authors reflect on strategies being used to build school and district capacity to implement change ideas at increasing levels of scale. We provide case examples of strategies used, challenges encountered, and lessons learned about the efficacy of our initial capacity building framework. We end the paper by raising several questions that have emerged as a result of our work to date using the CB framework and propose a working logic model.

## Theoretical Underpinnings

Our initial capacity building framework draws principally from three bodies of literature: design thinking, implementation science, and scaling education reform. Highlights from these literatures that inform our evolving framework follow.

### *From design thinking literature...*

Based on Tim Brown's premise that "the faster we make our ideas tangible, the sooner we will be able to evaluate them, refine them, and zero in on the best solutions" (p. 89), we embraced the idea of prototyping as the preferred approach for school based intervention designs (Brown, 2009). Brown argues that one of the best tools in yielding great results in the design phase of reform is prototyping. He recommends that prototyping "...start early in the life of a project"(p.106). However, he argues that innovation as continuum should be understood as a system of 3 spaces: inspiration, ideation and implementation, where any project can loop back through these spaces more than once as a team refines ideas and examines new directions. First, he describes the inspiration space as the place where the problem or opportunity motivates the search for a solution. He refers to the second space as ideation, this Brown contends is where ideas are generated, developed, and tested. The third space Brown calls implementation -- where ideas go from the design table to market by way of superb communication and sufficient clarity. To make sure the developed solution is realistic, the author identifies three constraints to keep in mind during the process of prototype development: *desirability* (addresses user

needs), *viability* (doable given organizational resources), and feasibility (given technological capacity).

*From implementation literature...*

A meta-analysis of relevant research conducted from 1970 to 2005, concluded that information dissemination and training alone are insufficient for ensuring effective implementation (Fixen, et al, 2005). Researchers argue that successful program implementation requires a long-term, multilevel approach. They go on to suggest that while evidence concerning the influence of organizational and system interaction is lacking, there is little doubt that these relationships play an important role in effective program implementation.

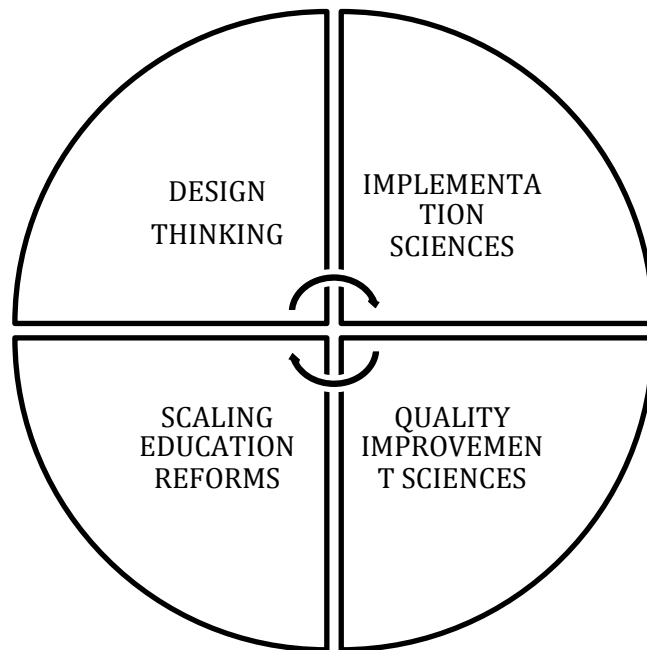
*From the Quality Improvement Literature (PDSA)...*

The model of plan-do-study act (PDSA) quality improvement as described in the literature uses the scientific method to answer the question “How will we know that a change is an improvement?” (p.17). The PDSA model advocates the formation of a hypothesis for improvement (Plan), a study protocol with collection of data (Do), analysis and interpretation of the results (Study), and the iteration for what to do next (Act). Conducting a scientific study is the core concept of PDSA quality improvement that is fundamental to iterative learning. Deming recommends that organizations adopt the real-time use of the scientific method as a way to accumulate multiple studies over time in order to develop a deep knowledge about how to achieve quality. The core objective in PDSA quality improvement research is to assess whether a study intervention imposed to change a process produces an improvement in the desired outcome. The rigor of a PDSA quality improvement study design is strengthened using replication schemes and research methodology to address extraneous factors that weaken the validity of observational studies [add citation]

*From the scaling education reform literature...*

The issue of “scale” as a key challenge for school reform also remains under-

theorized in the literature (Coburn, 2003). Coburn argues that definitions of scale that focus only on *expanding* the number of schools reached by a reform conceal the complex challenges associated with developing the *depth of change* necessary to support and sustain widespread system change. Coburn’s conception of scale as four interrelated dimensions: *depth, sustainability, spread, and shift in reform ownership* offers important guidance for considering how to build individual, organizational, and system capacity for scaling and sustaining effective schools.



**FIGURE 2: CBF LITERATURE UNDERPINNINGS**

Figure 1 illustrates the four primary bodies literatures that our capacity building framework draws from for this work. In many cases there is significant overlap and reinforcement for the CBF core elements.

In the next section, we revisit each of the core elements to trace the evolution of our CB strategies as a result of our work in Broward County and Fort Worth, over the past four years. We share stories about our efforts to build capacity with school and district teams around each of the seven core elements. We begin with



descriptions of the strategies we used and discuss how they evolved over time, as we responded to the changing direction of the work. We reflect on the successes, challenges, and the lessons learned for each core element conclude with a discussion of implications of CB for scaling and sustain reforms (Coburn, 2003).

## **Core Elements of Our Capacity Building Framework**

Our multi-dimensional capacity building framework (King, Haferd, Avery, & Fabilar, 2012) constitutes the through line for assessing changes in school and district capacities on seven core elements. We predict that when taken together, these core elements will provide the capacities needed to accomplish desired changes that can be scaled and sustained.

### **Using Multiple Sources of Data**

The first element of the CB framework seeks to build school and district capacities to use multiple sources of data to better understand why solutions work in certain contexts. For the purposes of this project, the emphasis is placed on building capacities to 1) interpret research findings, 2) conduct gap analyses, 3) study selected case examples from the broader reform literature, 4) design interventions based on the data, and 5) collect “just in time” data using an adapted PDSA<sup>1</sup> approach to support continuous improvement.

In our two study school districts, Broward and Fort Worth, developers and researchers work together in coordinated ways to advance a culture of inquiry as a key driver of change in our six innovation high schools. What follows are selected case examples that describe the strategies used to build these capacities in school and district teams. Case examples are followed by a discussion of what worked well, what proved to be challenging, and what lessons were learned that informed our thinking about what to do next.

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### *CB Emphasis: Interpreting Research Study Findings*

Several strategies were adapted for use in each of the study districts to increase school and district teams' capacities to interpret research study findings about effective practices in selected high value added (HVA) high schools in Broward and Fort Worth. Researchers in both districts adapted versions of written reports of findings for use by school and district teams as they worked to understand how HVA high schools in Broward personalized academic and social learning (PASL) and how HVA high schools in Fort Worth promoted student ownership for academic learning (SOAR). Both of these practices were positively associated with higher student performance and were deemed worthy of further investigation in their respective districts.

### *CB Emphasis: Additional Data Collection and Analysis*

Teams from both districts quickly moved from literal interpretations of study findings about PASL and SOAR to identifying additional questions about how each of these practices was being implemented. The results of their gap analyses led them to look for evidence of effective SOAR and PASL practices that were currently underway in their own schools. Teams developed questions, designed interview protocols and set out to find answers. They implemented surveys, conducted interviews, and were both creative and strategic in the methods they used to engage their colleagues in the process. Though it was a messy process with more information than teams at times knew what to do with, teams in both districts learned important lessons about the wisdom of having focused and coordinated approaches to data collection and analysis across schools and districts. There is anecdotal evidence that a culture of inquiry is beginning to take hold in both districts.

### *CB Emphasis: Case Studies from the Literature*

While teams found evidence of practices underway in their respective schools that could be positively associated with study findings, there remained many

unanswered questions and teams were prompted to turn to the literature for additional examples to study.

*CB Learning Emphasis: Needs Assessment and PDSA*

The process of using multiple sources of data evolved in year 4 to incorporate a need assessment of schools' capacities to implement change ideas based on several indicators<sup>2</sup> of readiness that included adequate time, human and financial resources, and collective will. Additionally, a derivation of Deming's plan, do, study, act methodology<sup>3</sup> was introduced in year 4 to provide a structure for developing school and district teams' capacities to set goals, make predictions, collect and interpret "just in time" information, and act on the findings. Early anecdotal evidence suggests that school and district teams are indeed growing more sophisticated in their abilities to interpret and use multiple source of data to inform their practice. More work remains to be done in order to accurately measure changes in individual and organizational capacities to interpret and use multiple sources of data.

While the benefits of using multiple sources of data to identify both problems and solutions far outway the drawbacks, two challenges emerge from our work with schools and districts that warrant mentioning here. First, we found that collecting, interpreting, and applying multiple sources of data to inform teaching and learning decisions is a time consuming endeavor. School practitioners are challenged to implement these practices on a consistent basis without extensive technical assistance and training. Another interesting observation from our experience with practitioner is that practitioners working within a particular school or district context tend to privilege the findings from their own contexts and experiences over more generalizable findings from the broader literature. As the PDSA practices of continually testing interventions in different and larger contexts continues to take hold, we predict that this tendency may be offset.

## **Building System Wide Ownership and Commitment for Proposed Solutions**

Building broad ownership and buy-in from multiple stakeholders for reform efforts using high leverage communication and engagement strategies represents a formidable challenge for anyone attempting to implement change (Otoo, Agapitova, Behrens, 2009).

In Broward and Fort Worth it is a gradual process that started with widespread sharing of research findings, participatory design with cross contextual and disciplinary members on the design team; participatory teams of school-based practitioners to refine and gradually take ownership of the design. For example, to build understanding and ownership of the initial study results and provide a preview of the innovation design process, a formal public event was convened to introduce the study findings to a broad constituency in both school districts (e.g. school board members, district level leadership, innovation school leadership teams and design team members) and allow the district leadership to publicly express commitment to the aims of the partnership.

To build buy-in and ownership as an ongoing process, design teams were established with explicit communication channels for sharing results of design and implementation activities. Members were selected based upon their interest and capacity to be change agents, team players, and to be part of a shared leadership initiative. Selection criteria reflected the design challenge identified for the district. For example, the content of the PASL design challenge required that some team members should have content knowledge in the area of both academic and social emotional learning and school professionals more typically responsible for behavior management. Hence, the members selected include professional educators with representative assistant principals, teachers and guidance staff. The complete DIDT also includes three researchers from the partner universities and three development specialists.

DIDT members bring multiple perspectives to the table. Creating safe spaces for dialogue and deep inquiry, through structured activities and protocols, allowed for all voices to be heard. This process helped to develop relationships and build ownership and commitment among DIDT members. At the same time, we recognized the greater need to establish a stronger DIDT collective identity. Logically, their identities reside in the context of their specific work in schools and districts or their positions. As developers, we needed to build a community of practice that focused on a DIDT whose collective identity and mission lies in innovation design for scale up of effective practices in high schools across the district.

To accomplish effective communication and engagement, capacity-building activities used targeted professional development, technical support, and the intentional roles and responsibilities of study participants to support communicating with their stakeholders. In Broward, this included sharing progress about the development of the innovation and sharing progress about the process of implementing the innovation. For example, most design and implementation sessions included explicit time at the end of the session to prepare detailed plans for sharing results of the session with other stakeholders. Furthermore, many sessions dedicated time between sessions in which members of the design team were tasked with specific communication and engagement strategies with their colleagues in schools. Often these activities included both sharing findings and progress from the design sessions as well as asking for feedback from various stakeholder groups about possible directions the design might take. Delegating and sharing responsibility among implementation team members for communication of progress with their specific stakeholder constituencies accelerated the process of shifting the ownership of design and implementation activities from outside agencies to the district.

In Fort Worth, ongoing meetings with principals of innovation sites provided opportunities to establish common understandings and a common vision for the work. This was essential to our work, particularly given that one principal was

brand new to the school and to the district and another principal came on board as we were launching the SIDT in August 2013. Ongoing communication with principals reflected a transparent process and generated support for SIDT coordinators. In addition, principal meetings enabled SIDT coordinators to step up and take on leadership roles.

Developing, articulating, and communicating a shared vision of the intended change is also important for creating the conditions for change that are necessary to take an intervention from inception to system-wide ownership and commitment. To build the schools' capacity for this, we developed a workshop on communications delivered during the Summer Institute for School Coordinators and their SIDT, and we created a communication planning tool to be used as part of their implementation plan. In Broward, the communications workshop guided participants to shape a common message across the 3 schools articulating the vision for student success that will be achieved through PASL. We then assisted coordinators in creating communications plans for their respective schools using the common message and integrating practices in creating norms for engagement that they were guided through in another workshop during the Summer Institute. Various communications activities were implemented at the different schools including posting on one school's marquee "We are a PASL school", regular morning announcements about PASL, communication about PASL to parents during open house and welcome letters, PASL posters in the school, and inclusion of the PASL vision and strategies in school mission statements, annual goals, and school improvement plans.

A challenge that presented in initial design sessions and is a recurring issue for building buy-in and ownership is that large districts, for which Broward is an especially good example, typically do not engage in participatory design activities. Rather, they more typically purchase established programs from vendors and then construct rigid systems for implementing the program with fidelity. The expectation is that a well-developed program will be delivered with complete instructions, materials and professional development. This creates a habit of mind

towards dependency on outside agencies to own the design and development of innovations. The mindset is prominent throughout the ranks of professionals in the district. Design activities persistently encountered resistance among participants to take on the role of owning the creative process of designing an innovation. Rather, participants were more accepting of being told what to do, provided the materials and instructions for doing it and then expected to make it work within their own context. Changing this mindset through guided practice and structured capacity building activities was just as essential during ongoing design and implementation sessions as it was to get the design right.

Another challenge we encountered is that while EDC provided guidelines for SIDT membership, school context and dynamics among staff ultimately influenced the selection process. This in turn affected the level of buy-in and ownership, and in some cases required greater negotiating and relationship building during the 2013-2014 school year.

Many SIDT members did not feel a sense of ownership at the outset particularly since they were not part of the original design process. Furthermore, we had to address issues of turnover and transition. In one school, SIDT membership and leadership changed drastically over time. At the same time, two schools ensured more smooth transitions when select SIDT coordinators moved on to administrative positions. SIDTs did make efforts to recruit early adopters in spring 2014 and enabled them to play key roles in professional development activities during the launching of the implementation phase. Generating buy-in and ownership among early adopters prior to broader school implementation proved to be an effective strategy.

Currently, SIDT and DIDT continue to make efforts to generate buy-in and ownership. As in any school reform effort, there will be staff members who resist change, others who are not entirely convinced of the benefits but are willing to explore ideas, and others who may need to develop a deeper understanding of the intervention in order to adapt it with integrity.

## Developing Interventions Using Design Principles

Build district and school capacity for creating new and innovative ways of thinking about solutions to persistent problems of practice. Using a series of design strategies, school and district teams are trained to apply design principles in their efforts to generate responsive interventions (Brown, 2009).

One of the desired outcomes for the DIDT is to develop their individual and collective capacities for innovation design and implementation. Another intended outcome was for the DIDT to deepen their understanding of the differentiating practices of effective high schools. In order to achieve these goals, we adopted an approach to system-wide capacity building with a two-pronged learning agenda that attended to both content and process. During the course of six monthly two-day design sessions, DIDT members were challenged to deepen their understanding of differentiating practices of effective schools and design a solution that could be implemented in other schools. The capacity to engage in this creative work applied three prominent design principles 1) establishing a spirit of openness to new ideas; 2) building self-efficacy in the district's capacity to design, develop and own an innovation that better suits the needs and solves the problems of the district; and 3) coherence and alignment to the existing structures and priorities of the district. These design principles continue to shape the approach to implementation as school teams use adaptation to context to find innovative ways to capitalize on existing resources, policies and programs to put the innovation into action in their own context.

The design principles are actualized in a rapid-prototyping process in which change ideas are first tested with a few stakeholders, improved upon and then tried again with others and, when found to be effective, scaled up. This iterative design and development process builds openness in a low-stakes environment. It also supports the increase in self-efficacy through learning in successive efforts to succeed, in which failure often accelerates learning. Furthermore, by attending to alignment

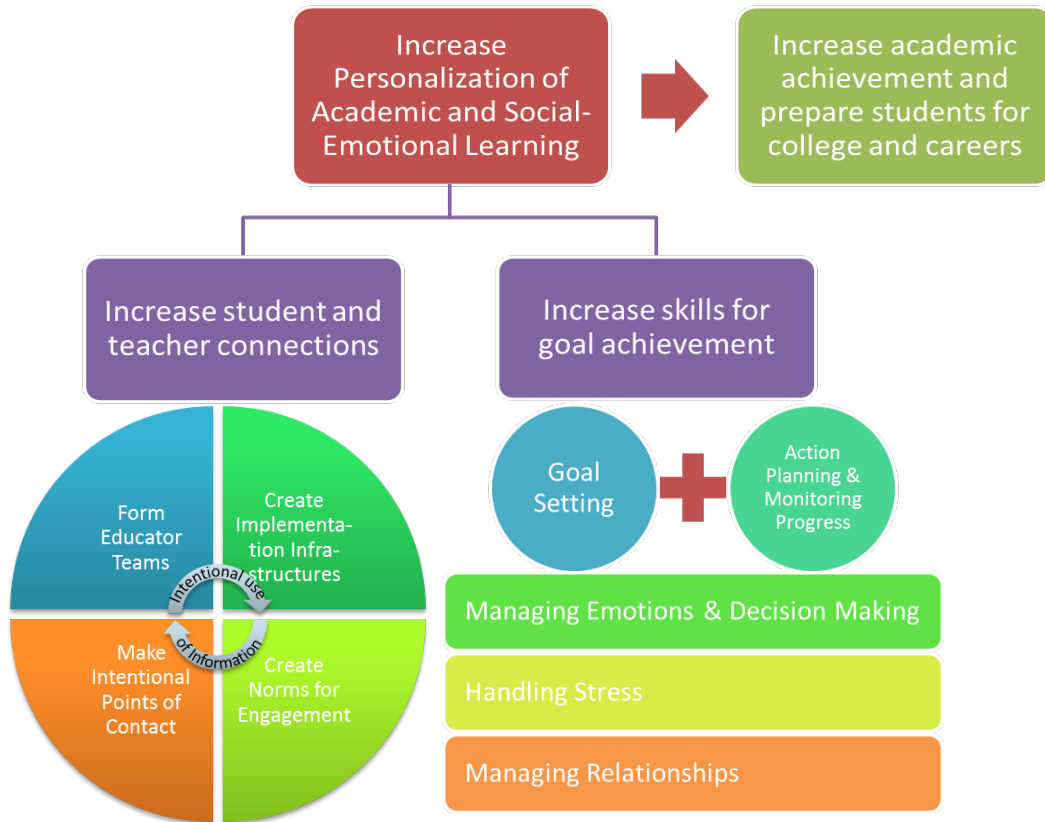


with existing structures and priorities, it engenders the creative use of resources in ways that align with what exists.

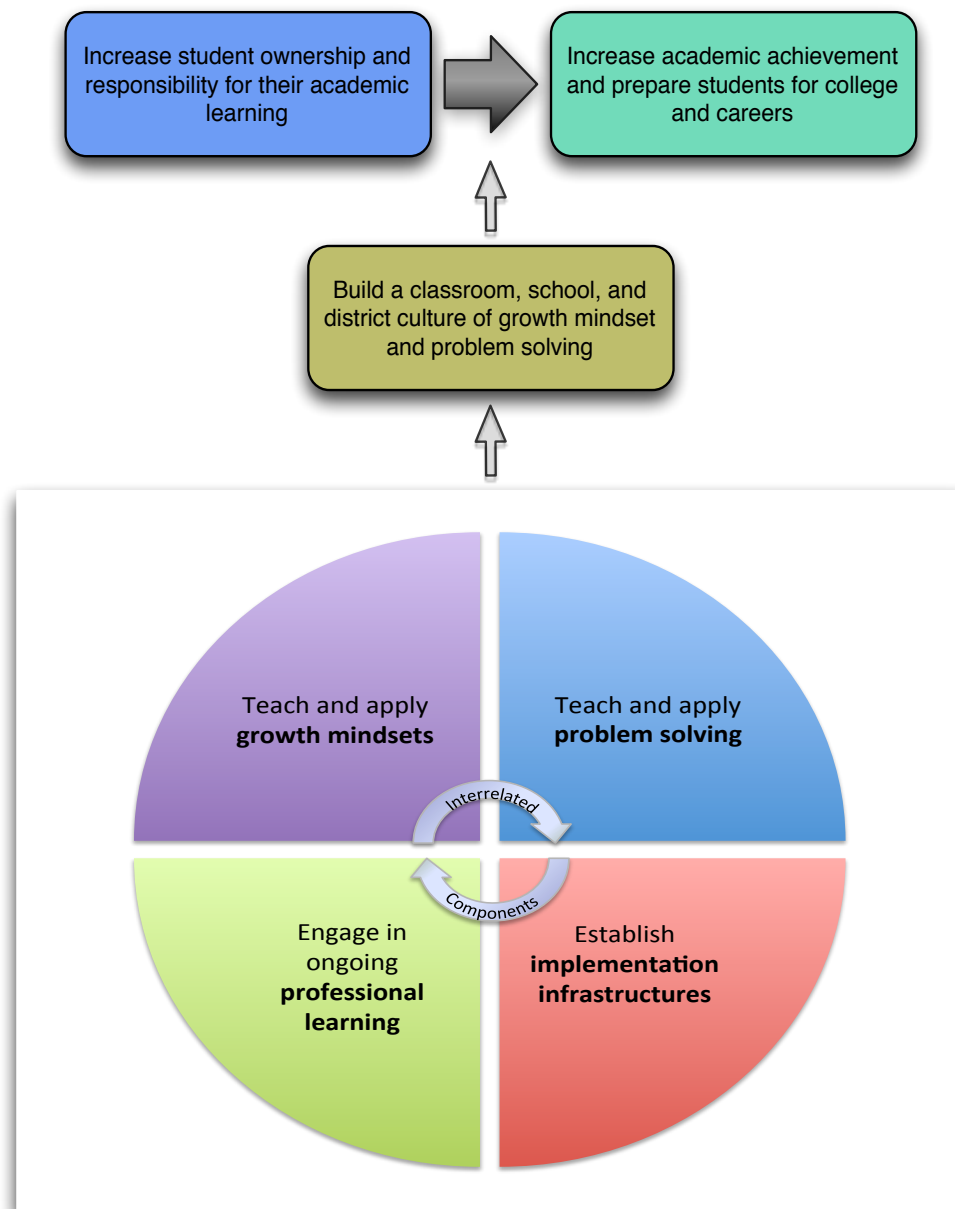
By emphasizing these design principles and explicitly developing the DIDTs ability to use these principles during the design phase, each district was able to generate an innovation that was unique to their context and designed to fit well within the existing culture of the district. However, the SIDT did not have the time (and in some cases the capacity) to engage in development of the innovation components. While efforts were made to support collaboration and provide SIDT-DIDT ownership of all aspects of the innovation, it was clear that continued capacity building was necessary and that the role of the intermediaries was important in developing the innovation components. EDC developers refined the innovation and developed professional development materials and curricula to support the innovations in each district. The collaboration between the districts and EDC developers resulted in a clearly articulated innovation in each district that fits the unique contexts and cultures of each district.

The resulting Broward innovation includes four modules that facilitate increasing student and teacher connections and also a set of lessons that help students increase skills for individual goal achievement – see Figure 1 below. Each module includes content and professional development to be used by schools that choose to implement PASL. The components are designed to increase personalization of academic and social-emotional learning. This is accomplished by increasing student and teacher connections through making intentional points of contact and increasing skills for goal achievement through explicit instruction and modeling of skills by teachers.

Figure 2: Broward Innovation Conceptual Diagram



The Fort Worth innovation includes four interrelated components that facilitate increasing student ownership and responsibility for their academic learning: 1) teach and apply growth mindsets, 2) teach and apply problem solving, 3) engage in ongoing professional learning tied to mindsets and problem solving, and 4) establish implementation infrastructures. The components are designed to cultivate a classroom and school culture of growth mindsets and problem solving.



Through the lessons, students understand how the brain works and that intelligence is malleable, become familiar with definitions of fixed and growth mindsets and make connections to their lives, and develop their knowledge of strategies to support growth mindsets. Students also understand the core steps/elements to problem solving, become familiar with the definition of real-world or “ill-structured” problems, learn to apply problem solving steps to real-world life or academic problems, and understand their skill set related to problem solving.

The extension practices for applying growth mindsets and problem solving build on the lessons and reinforce student knowledge and skills. Embedded practices include praise language, goal setting, school posters, designated time and frequency for students to reflect on and improve their work, designated time and frequency for students to apply problem solving in life and academics, and a behavioral reflection intervention.

Another key component of the innovation is ongoing professional learning. Materials were developed for introductory professional development with suggestions and discussion protocols for ongoing activities in school-based professional learning communities. This innovation component encourages schools to sustain professional learning communities to support the teaching of growth mindsets and problem solving across disciplines.

***Example of openness to new ideas:***

That DITD members adopted a spirit of openness to new ideas through the design process is evident through both districts' willingness to trust the findings from the comparison of higher value added schools to lower value added schools and attempt to create an innovation based on these findings. These activities were foreign to DITD members who have never been involved in examining the results of a research study to develop their own innovation. However, through guided practice, many ideas were generated and considered during the design process which helped to build ownership for the innovation.

***Example of developing self-efficacy:***

That DITD members developed self-efficacy in creating solutions to address the needs in their district is evident in the fact that both districts were able to come up with their own unique solutions to address their students' needs. This was an especially challenging area for Broward DITD members because the district is accustomed to purchasing prepackaged programs from developers and told what to do to implement them. To build their beliefs in their own ability to generate an

effective innovation that can address student needs required guided practice and structured capacity building activities. However, this process was essential for building ownership and commitment for the proposed innovation.

In Fort Worth, design teams developed the self-efficacy to brainstorm and design embedded classroom practices that would reinforce habits of mind and skills and build a classroom and school culture of growth mindsets and problem solving. During the January 2014 session, SIDT-DIDT explored potential practices based on research and their experiences. Each innovation site then prioritized and identified practices that they would pilot. The collaborative process involved both site-based team and whole group discussions, which resulted in cross-pollination of ideas across the three sites. This process proved to be an important step as it gave SIDT an opportunity to think deeply about the needs of their students and to design one of the intervention components; thereby generating a greater sense of ownership of the intervention.

***Example of alignment:***

That DIDT members gained capacity in their ability to create coherence and alignment of the innovation to district priorities is evident in the creation of innovations that fit well within the context of their districts. PASL aligns with the Broward County School District priorities of increasing college and career readiness and reducing the achievement gap. SOAR aligns with the Fort Worth School District priorities. This alignment to district priorities allowed for greater commitment to the intervention because it was seen as important to the district.

## Transferring Learning to Stakeholders and Adapting Interventions to Context

Based on the premise that content and processes can be transferred from one group to another, we define all learning as transfer and contend that new learning builds on previous learning (Bransford, Brown, & Cocking, 1999). Moreover, we support researchers' contentions that learning can be transferred by activating what individuals already know and by making thinking visible (Gott, 1989). Additionally, we define adaptation to context as the ability to appropriately modify an intervention in response to a new setting using a series of structured interactions and feedback protocols. Design teams are trained to transfer learning and to adapt interventions to different contexts.

In both districts, after the conceptual design was completed, initial testing of specific practices stalled in the absence of concrete materials, tools and professional development. The development partners prepared more specific modules to crystalize the design in a way that could be more easily shared with teachers and students. We then led design teams through a process that helped to define the core strategies and activities associated with each of the components in the design (see Table 1 for an example from Broward). This process helped to clarify the boundaries of the innovation which made it easier to transfer to other stakeholders. This was apparent during the Summer Institute where teachers new to the innovation were introduced to the innovation for the first time.

Table 1. PASL Core Strategies

PASL Core Strategies
<ul style="list-style-type: none"><li>• Strategy 1 – Form Educator Teams: An Educator Team is composed of grade-level PASL teachers and the Core Team, usually an Assistant Principal, Guidance Counselor and Class Sponsor. Each PASL teacher is responsible for checking in on a subset of students specifically assigned to him or her. The Core Team is responsible for planning PASL program activities and meeting with identified students to solve problems. Core Teams are intended to loop with their cohort of students, if possible.</li></ul>
<ul style="list-style-type: none"><li>• Strategy 2a – Make Intentional Points of Contact – Rapid Check-Ins (RCIs): Informal, short interactions with PASL students that can happen throughout the day as they attend class, during lunch or in the hallways. Though time is limited, these informal interactions reinforce the fact that teachers care about the student to which they are assigned. Rapid check-ins help the Educator Team to personal students' experiences by: 1) Maintaining an on-going connection with the student; 2) Proactively engaging with students about their academic, social and emotional well-being, facilitating the early identification of problems or issues; and 3) Following up on areas of concern identified by the Core</li></ul>

Team, bringing the issue to the students' attention, letting them know that support is available, and identifying deeper issues requiring further intervention
<ul style="list-style-type: none"> <li>• Strategy 2b – Make Intentional Points of Contact – Problem Solving Meetings (PSMs): Proactive problem solving meetings usually occur between a PASL student and a member of the Core Team, but may include the PASL teacher as appropriate. They emerge in response to established criteria regarding a problem or issue the PASL student is having and can be initiated by the student, the teacher or a member of the PASL Core Team. In each case, meeting discussions focus on ways to identify the root cause for the problem prior to seeking solutions.</li> </ul>
<ul style="list-style-type: none"> <li>• Strategy 3 – Norms of Engagement: Standards that build a PASL culture such as: 1) High expectations for student achievement and behavior; 2) Expectation that the academic, social-emotional, and behavioral needs of all students will be attended to; 3) Expectations that students will take responsibility for their own learning; and 4) Positive, fair, and consistent behavioral management base on respect</li> </ul>
<ul style="list-style-type: none"> <li>• Strategy 4 – Instruct Goal Achievement: Skills in creating effective goals and making progress toward them include goal setting and action planning and monitoring progress. Skills that help facilitate goal achievement include managing emotions and decision making, handling stress and managing relationship</li> </ul>
<ul style="list-style-type: none"> <li>• Strategy 5a – Make Intentional Use of Information: Core Team reviews PASL student information gathered through IPSs, BASIS, data binders, interim assessments, etc. and shares student information with PASL teachers to help them make more intentional connections with their students. Core Team also uses student information to: 1) Help plan PASL activities that address the collective needs of their assigned student cohort; and 2) Identify students who may need proactive assistance</li> </ul>
<ul style="list-style-type: none"> <li>• Strategy 5b – Make Intentional Use of Information: PASL teachers share student information with each other to meet the needs of students they have in common and share information with each other about successful approaches for putting PASL into practice. PASL teachers also share student information with the Core Team to make them aware of emerging issues.</li> </ul>

The Summer Institute was designed with the purpose of deepening participants understanding of the innovation and building their capacity to transfer knowledge of the innovation to those new to the innovation. In order to build the coordinators' and SIDTs/DIDTs capacity to transfer knowledge to new stakeholders, we prepared them to lead or co-lead the Summer Institute activities and workshops with Center staff. In one activity, SIDT and DIDT were asked to create and contribute to posters that describe the innovation's core strategies and then talk about their poster and answer any questions about it from teachers new to the innovation as well as district personnel. The fact that teachers and administrators from within the district were able to talk passionately and knowledgably about the innovation and transfer their knowledge of the innovation to teachers new to the innovation is indication of capacity in the regard of knowledge transfer. The Summer Institute as a whole served as an example of how to transfer knowledge and engage those new to the innovation, and in fact, elements of the Summer Institute were mirrored in teacher

professional development around the innovation at the beginning of the school year such as inclusion of the posters describing the innovation.

In Spring 2014, EDC provided SIDT-DIDT with guidelines for developing a comprehensive implementation plan. As part of their readiness assessment, we provided guidance to schools for aligning the innovation with school and district priorities. This alignment helped to identify areas for adapting the innovation to context.

In Fort Worth, one innovation site aligned the SOAR innovation to a school-based literacy initiative. One example of an adaptation is that SIDT included additional student readings in the core classroom lessons and students apply literacy strategies when reading articles tied to growth mindsets and problem solving. Another school aligned the innovation to their AVID program. In so doing, they integrated the goal setting sheet (one of the embedded practices) in student academic planners.

<b>Examples of Alignment of School Policies or Programs with SOAR Innovation</b>		
<b>School Program or Policy</b>	<b>Innovation Component</b>	<b>Alignment</b>
Literacy programs (e.g., STING or Disciplinary Literacy)	Growth mindset and problem solving lessons and embedded practices	<ul style="list-style-type: none"> <li>Teachers can apply literacy strategies to readings on problem solving</li> <li>Teachers can apply growth mindsets embedded practices to literacy challenges students face</li> </ul>
Learning Walks	Ongoing professional learning and supports	<ul style="list-style-type: none"> <li>Support culture of growth mindsets and problem solving through classroom visits</li> </ul>
<b>Alignment of District Policies or Programs with SOAR Innovation</b>		
<b>District Program or Policy</b>	<b>Innovation Component</b>	<b>Alignment</b>
Professional Learning Communities (PLCs)	Ongoing professional learning and supports	<ul style="list-style-type: none"> <li>Professional learning and supports in PLCs for building a classroom and school culture of growth mindsets and problem solving</li> </ul>
District Definition of Rigor	Problem solving classroom lessons and embedded practices	<ul style="list-style-type: none"> <li>Focus on teaching problem solving across subject areas</li> </ul>
Baldrige Model	Growth mindset embedded practices	<ul style="list-style-type: none"> <li>Learner centered education incl. student self-assessments</li> </ul>



In Broward, one school aligned the core strategy of conducting Goal Achievement Lessons with existing HOPE classes. The content of the Goal Achievement Lessons aligned well with the objectives of the HOPE classes and thus could be adapted to be taught within those classes and reach all students since everyone is required to take HOPE. This enabled the school to use existing resources in a way that aligned with established capacity (both in terms of the use of instructional time and the use of teacher knowledge and capacity for teaching the skills).

In another school, the PASL component of sharing information between PASL teachers about students they have in common was aligned with professional learning communities (PLCs). Teachers already have time set aside during PLCs to connect with other teachers. Although in many cases, the PLCs are structured around content specific learning (e.g., ELA teachers meet to discuss common strategies for introducing content and preparing students for common assessments, Math teachers meet with their math colleagues, etc.), one school restructured the second hour of PLCs for teachers to make appointments to meet with colleagues around their PASL students, which allowed for the sharing of information between teachers that was an essential component of PASL.

The strategy of making assignments of students to PASL teachers was simplified in one school by assigning them to their period 1 teacher, enabling the school to spread the implementation across the entire school at once. This became known as Power of Period 1. Also, by creating a normative expectation across the school for building more connective relationships between period 1 students and their respective teachers, the school shifted the responsibility of adding something more to teachers' roles to become an ordinary expectation for all teachers aligned to established school and district procedures. Finally, by aligning the implementation with a known concern of all teachers (e.g., increasing student attendance and decreasing tardiness), the strategy enhanced teacher buy-in and ownership.

EDC in collaboration with SIDT-DIDT developed professional development introductory activities and guidelines, which serves a core component of the innovation. These materials reflected research-based professional development principles. EDC developers essentially modeled both the design and the delivery of effective professional development. Transfer of knowledge occurred when SIDT adapted some of the materials and engaged broader school faculty in professional development of the SOAR innovation on growth mindsets and problem solving in August 2014.

### **Implementing Interventions with Integrity to Design Principles**

We argue that only by understanding and measuring whether an intervention has been implemented as intended can researchers and practitioners gain a better understanding of how and why an intervention works, and the extent to which outcomes can be improved.

To build the capacity of the SIDTs to implement the innovations with integrity, we first led design teams through the process of coming to agreement on the core strategies and activities of the innovation. This then served as the foundation for the implementation infrastructures, which are a set of tools to help schools identify the level of scale they want to implement at, assess the readiness of their stakeholders for implementing the innovation, define the roles and responsibilities of their team for various implementation activities, and create the implementation plan which includes an implementation action plan, a communications plan, and a measurement plan. These documents serve as the roadmap for implementing the core strategies and activities of the innovation as well as monitoring the implementation of each strategy and activity.

In Fort Worth, after piloting of the innovation components, DIDT established non-negotiable elements of the innovation as a strategy for maintaining the integrity of

the innovation. At this early stage of implementation, innovation sites have implemented several non-negotiable elements with school faculty, including establishing common SOAR language through school-wide posters and the teaching of core introductory growth mindsets and problem solving lessons. Early data collection revealed that a significant percentage of faculty increase their knowledge of and comfort level with growth mindsets. The delivery of these innovation components represents one level of integrity to design principles.

Another level of integrity is tied to quality pedagogy. While many of the adaptations maintained the integrity of the innovation, SIDT members and other implementers have had difficulty with the pedagogical approaches embedded in the classroom lessons and in the PD activities. PD activities tended to be lecture based with very little or no space for discussion or small group collaboration. Many of the SIDT members lack experience in facilitating professional development among educators. Similarly, many of the classroom lessons observed did not reflect a student-centered approach to teaching and learning. Students were not given opportunities to collaborate or engage in questioning and deep discussion. However, at this stage it is unclear if or how this will impact desired student behavioral outcomes.

In order to build the SIDTs capacity to make informed revisions to the innovation, we engaged them in PDSA continuous improvement cycles to collect meaningful data that can be used to improve innovation components. Initially, these cycles of data collection and analysis were used to refine the innovation, but as schools move into implementation, these data also inform the level of implementation of the innovation. To build the capacity of the schools to use PDSA, the Center provided PDSA templates and training on PDSA, created sample PDSA plans and data collection tools, and guided the analysis of PDSA data and the development of recommendations for changes. During each successive PDSA cycle, the schools were given more responsibility for the creation of the PDSA plan, analysis of the data, and the development of the recommendations for changes. We are still in the process of building the schools' capacity for using PDSA as an implementation

and improvement process and will continue to use the gradual release of responsibility model in order to support the schools in using PDSA.

In one Broward school, teachers keep track of which of their PASL students they have had interactions with. Collection and analysis of these forms revealed that some teachers were not conducting this core activity of the innovation with integrity which led to some one-on-one coaching to improve the implementation of this core activity.

### Continuously Assessing the Effectiveness of the Intervention

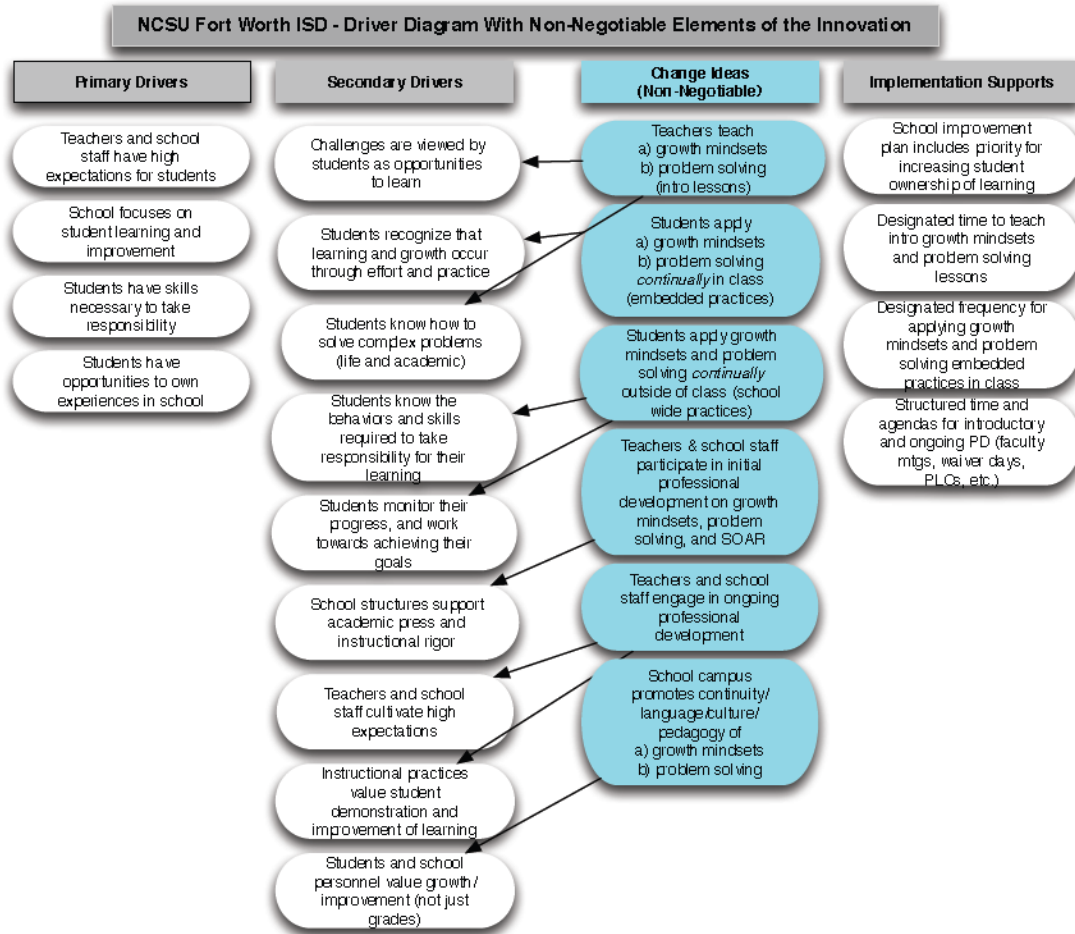
The first step in assessing the effectiveness of the innovation is to understand the connection of the innovation to expected outcomes. We guided the SIDTs and DIDTs in the process of generating a theory of change for the innovation with associated short-term, intermediate-term, and long-term outcomes. In Broward, this took the form of a logic model (see Figure 3). In Fort Worth, this took the form of a driver diagram (see Figure 4).

Figure 3. PASL Logic Model.

GOAL	STRATEGIES & CORE ACTIVITIES	THEORY OF CHANGE ("IF-THEN" STATEMENTS)	OUTCOMES
Increase academic achievement and prepare students for college and careers	<p><b>Strategy #1:</b> Form Educator Teams (ET)</p> <p><b>Core Activities:</b></p> <ul style="list-style-type: none"> <li>Form ETs composed of core team and PASL teachers</li> <li>Assign students to teachers</li> <li>PD for ETs on PASL</li> <li>Core Team meets to plan PASL program activities</li> <li>Admin. training to align w/Marzano evaluations of ET</li> </ul> <p><b>Strategy #2:</b> Make Intentional Points of Contact (IPC)</p> <p><b>Core Activities:</b></p> <ul style="list-style-type: none"> <li>PD for ETs on IPCs</li> <li>Conduct Routine RCIs</li> <li>Conduct Exploratory RCIs</li> <li>Conduct PS meetings as needed</li> </ul> <p><b>Strategy #3:</b> Create Norms for Engagement (standards that build a PASL culture: high expectations; attending to academic, SEL, and behavioral needs of all students; student responsibility for their own learning; positive, fair, and consistent behavioral management based on respect)</p> <p><b>Core Activities:</b></p>	<p><b>Strategies 1, 2, 3, and 5:</b></p> <p><b>IF</b> we form educator teams who share a subset of students, conduct IPCs with those students, make intentional use of individual and cohort level student information, and create positive and supportive norms for engagement, <b>THEN</b> conditions will be in place for:</p> <ul style="list-style-type: none"> <li>all students to form a personal relationship with at least one adult in the school</li> <li>adults to know about and address academic and social-emotional issues before they become behavioral issues</li> <li>adults to support students' academic and social-emotional goals</li> </ul> <p><b>IF</b> the above happens, <b>THEN:</b></p> <ul style="list-style-type: none"> <li>students will feel a greater sense of connection with the adults in their school</li> <li>students will have fewer behavioral issues that hamper learning and social-emotional development</li> <li>students will make greater progress toward their academic and social-emotional goals</li> </ul>	<p><b>Short-Term</b></p> <ul style="list-style-type: none"> <li>Increase in students who have a personal relationship with at least one adult in the school</li> <li>Increase in teachers' and administrators' knowledge of academic and social-emotional issues of their students</li> <li>Increase in students who are provided academic and social-emotional support</li> </ul> <p><b>Intermediate-Term</b></p> <ul style="list-style-type: none"> <li>Increase in students' feeling of connection with adults in the school</li> <li>Decrease in behavioral issues</li> <li>Increase in students' progress toward academic and social-emotional goals</li> </ul> <p><b>Long-Term</b></p> <ul style="list-style-type: none"> <li>Increase in school and classroom engagement</li> <li>Increase in graduation rates</li> <li>Increase in students who are ready to learn</li> <li>Increase in academic</li> </ul>

<ul style="list-style-type: none"> <li>Engage community (students, teachers, parents, administration, custodians, lunch staff, secretaries, partners, local community members, etc.) to achieve PASL goals <ul style="list-style-type: none"> <li>Provide positive communication that is goal focused and data based and/or from PASL teachers</li> <li>Promote student engagement in school activities</li> <li>Provide school-wide communication to promote norms (e.g., morning announcements, student recognition, posters)</li> <li>Align school mission and vision to PASL</li> <li>Incorporate PASL strategies into existing school improvement plan</li> </ul> </li> </ul> <p><b>Strategy #4:</b> Instruct Goal Achievement (GA) Skills  <b>Core Activities:</b></p> <ul style="list-style-type: none"> <li>PD for Educator Teams on GA lessons</li> <li>Deliver GA lessons</li> <li>Model and reinforce goal achievement skills</li> </ul> <p><b>Strategy #5:</b> Make Intentional Use of Information  <b>Core Activities:</b></p> <ul style="list-style-type: none"> <li>PD on use of data to help staff strategize for student needs</li> <li>Core Team reviews PASL student information gathered through IPCs, BASIS, data binders, interim assessments, etc.</li> <li>PASL Teachers meet with each other and discuss needs of students they share and common approaches for putting PASL into practice</li> <li>PASL Teachers document rapid check-ins and collect student goals and action plans to facilitate work with students</li> <li>Establish pathway for communication between Core Team and PASL teachers</li> </ul>	<p><b>IF</b> the above happens, <b>THEN:</b></p> <ul style="list-style-type: none"> <li>students will be more engaged with school and learning and more likely to graduate</li> <li>students' academic achievement will increase</li> <li>students will be more prepared for college and careers</li> </ul> <p><b>Strategy 4:</b></p> <p><b>IF</b> we instruct, model, and reinforce goal achievement skills and potential barriers to success, <b>THEN</b> students will gain skills in:</p> <ul style="list-style-type: none"> <li>goal setting</li> <li>action planning and monitoring progress toward goals</li> <li>managing emotions and decision making</li> <li>handling stress</li> <li>managing relationships</li> </ul> <p>as well as feel supported in their goal pursuit</p> <p><b>IF</b> the above happens, <b>THEN</b> students will:</p> <ul style="list-style-type: none"> <li>be more motivated to pursue goals</li> <li>be more likely to set and make progress toward academic and social-emotional goals</li> <li>use social-emotional strategies to help achieve their goals</li> </ul> <p><b>IF</b> the above happens, <b>THEN:</b></p> <ul style="list-style-type: none"> <li>students will be more engaged with school and learning and more likely to graduate</li> <li>students' academic achievement will increase</li> <li>students will be more prepared for college and careers</li> </ul>	<p>achievement</p> <ul style="list-style-type: none"> <li>Increase in students who are prepared for college and careers</li> </ul> <p><b>Short-Term</b></p> <ul style="list-style-type: none"> <li>Students increase their skills in: <ul style="list-style-type: none"> <li>goal setting</li> <li>action planning and monitoring progress toward goals</li> <li>managing emotions and decision making</li> <li>handling stress</li> <li>managing relationships</li> </ul> </li> <li>Increase in students' feeling of support for their goals</li> </ul> <p><b>Intermediate-Term</b></p> <ul style="list-style-type: none"> <li>Increase in motivation to pursue goals</li> <li>Increase in students who set and make progress toward academic and social-emotional goals</li> <li>Increase in students who use social-emotional strategies</li> </ul> <p><b>Long-Term</b></p> <ul style="list-style-type: none"> <li>Increase in school and classroom engagement</li> <li>Increase in graduation rates</li> <li>Increase in students who are ready to learn</li> <li>Increase in academic achievement</li> <li>Increase in students who are prepared for college and careers</li> </ul>
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Figure 4. SOAR Driver Diagram.



PDSA is also being used to collect some key proximal indicators of effectiveness of the intervention. Our guidance in collecting these proximal indicators lies in connecting them with the innovation. For example, Broward schools are looking at whether PASL teachers who implement rapid check-ins with integrity are less likely to make discipline referrals.

We also included in the implementation infrastructures an outcome measurement tool for creating a plan for measuring each of the identified short-term, intermediate-term, and long-term outcomes. However, because school coordinators are already overloaded with their responsibilities for implementing the innovation and collecting PDSA data, we didn't feel it was the right time to focus their attention toward systematically collecting outcome data.

## Scaling Up and Sustaining Effective Practices

Intentionally expands capacity of schools and districts to not only expand the number of classrooms and schools reached by the reforms but also builds capacity four interrelated dimensions of scale: *depth, sustainability, spread, and shift in reform ownership*.

The 4th year of the center was devoted to piloting pieces of the innovation and preparing for scale up within each innovation school. In order to build each school's capacity for scaling up, the Center developed Implementation Infrastructures materials to help guide schools in determining what scale they were prepared to go to in year 5 and to develop a plan for implementing at that scale in year 5. This included facilitating the development of a logic model or driver diagram for the innovation that included the agreed upon essential strategies and activities of the innovation. This process helped to solidify the key components of the innovation for the SIDT and DIDT and allowed them to focus attention on developing a plan for implementing each key component. In order to help coordinators determine the right scale to implement in year 5, Center staff guided school coordinators in the process of aligning school resources and initiatives with the innovation and assessing the level of commitment from stakeholders. Once the level of scale was determined, Center staff guided coordinators in the development of implementation plans for year 5 that included how they would implement each key component of the innovation at the level of scale determined as well as measure the quality of implementation for each component.

PDSA has also been used as an avenue for scale. As innovation activities are tested and improved upon, they are tried in new contexts and with larger numbers of implementers building on previous cycles. In Broward, the tests of RCIs started with just a handful of teachers. As improvements were made to RCIs, these teachers gained a deeper understanding of RCIs and more teachers were

asked to try out RCIs. Trying out pieces of the innovation has also changed teachers' beliefs about the innovation. Several teachers who tried out RCIs last year were doubtful it would have an impact on their students, but after conducting RCIs, these teachers began to see changes in their students that changed their beliefs about the innovation. For example, teachers observed that students with whom they conducted RCIs began to seek them out for conversations and assistance.

Research indicates that rolling out and sustaining programs must go hand-in-hand with the creation of or alignment with supporting infrastructures. Each of the components of the innovation requires attention to specific implementation infrastructures so that people, policies, and systems are aligned with appropriate time, support, and resources. As described earlier in Fort Worth, innovation sites have already aligned the SOAR innovation to existing school priorities and policies. And most recently the Assistant Superintendent of Fort Worth ISD asked the DIDT to align the SOAR innovation with their strategic plan, which he will then present to key district personnel and school administration. Alignment made across school-district policies, priorities, and programs sets the stage for sustainability and system change.

We have focused a fair amount of capacity building activities toward buy-in and ownership because they are essential to sustainability and scale. Shift in ownership and buy-in was established through shared responsibility, active engagement and gradual release of responsibilities over a sustained period of time with school-based implementation teams. Both the innovation design model and the PDSA framework provided opportunities for SIDT-DIDT to engage in an iterative and reflective process. Many of the SIDT-DIDT embraced this new way of thinking and working, which reflects a continuous improvement mindset. As a result, SIDT and DIDT are gaining leadership skills and see themselves as active agents in this reform effort. Capacity building among SIDT and DIDT on effective implementation and continuous improvement paves the way for an effective leadership structure that can support the development of innovations based on emerging needs.



## Lessons Learned about Capacity Building for Scaling and Sustaining Effective Reforms

As we approach the end of our first quarter in year 5, we revisited the initial CB framework to consider again the relevancy of the initial set of competencies (knowledge, skills, and dispositions) to scaling and sustaining effective practices.

We acknowledge the interdependence of each of the seven core CB elements and argue that our original hypotheses about this seven core CB elements hold. For school district wishing to take effective practices to scale, we suggest that all seven elements of the CB receive careful and focused attention. The following lessons were selected to represent the “aha” moments for each of the elements.

We have adopted more structured approaches for documenting practices used to increase capacity and measuring the impact of learning on proximal and distal outcomes articulated in the logic models discussed earlier in this paper.

### *CB Element 1: Use multiple sources of data to identify problems and potential solutions*

#### Lessons Learned:

- Schools and districts, as they are currently organized, are not equipped with the resources (time, skills, interest) required to implement PDSA as intended without substantial guidance and technical support.
- Using PDSA cycles to test change ideas is an effective way to engage school staff in continuous improvement.
- Using PDSA cycles to test change ideas in different schools and contexts may be an cost efficient way to think about scaling-out effective interventions
- It remains unclear at this point if/how practitioners will use PDSA test results to modify initial change ideas.
- Schools and districts will work on things that they care about and that they feel make a difference for students.

## *CB Element 2: Build system-wide ownership and commitment for proposed solutions*

### Lessons Learned:

- Building buy-in and ownership for change ideas must move beyond the classroom walls if it is to be scaled
- Including at-large members on the DIDT has proven to be an effective strategy for positioning non-innovation schools to implement *effective* change ideas
- More time and strategic thinking about ways to build system-wide buy in and ownership is needed.
- A strong communication strategy that aims at sharing information about the work with ALL stakeholders is a must for getting buy-in.
- Missteps here are costly and can quickly derail good work
- Practitioners are not always in a position to effectively influence change at the district level. The principal is better suited for this role. It was a misstep not to engage principals in this process from the beginning
- When school and district leaders are engaged and demonstrate that they value and are committed to advancing the work, things moves forward.
- Measures for assessing district capacity to build system wide buy-in and ownership for change are needed.

## *CB Element 3: Develop interventions that are based on design principles*

- School practitioners embraced the design principles as a “user friendly” structure that offered an easily adaptable process for responding specific problem/challenge.
- Design principles align well with PDSA process
- Moving from conceptual design of an intervention to concrete prototypes for implementation proved to be a challenge and could have been more clearly articulated as the desired outcome from the onset
- Measures for assessing capacity to design interventions without external support are needed.

*CB Element 4: Transfer learning and adapt interventions to different contexts*

- School and district practitioners appreciate and demonstrate capacities to understand and adapt innovations to their context.
- Overall, this is an area that has been relatively underdeveloped both from a theoretical and practitioner perspective.
- Opportunities for innovation schools to collaborate with staffs from the study high schools may have helped to build capacity for all of the core CB elements and should be explored for future potential

*CB Element 5: Implement interventions with integrity to design principles*

*CB Element 6: Assess the of effectiveness of the intervention*

*CB Element 7: Scale up and sustain what works*

Experiences to date with the PDSA processes for continuous improvement in innovation high schools suggests that strategies for building capacity for these three elements are embedded in the replication cycles designed to use data to improve quality and effectiveness. We predict that as a result of these PDSA cycles, we will be able to more accurately define what implementation with integrity looks like, better equipped to assess the effectiveness of interventions, and better positioned to take to scale what works.

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