



Sustainability Series
Number 5 • March 2009

Implementation: Promising Practices to Sustained Results

What is implementation?

Implementation Research:
What does it mean for evidence-based reading programs?



Welcome

Sustainability Series

Number 5

Implementation: Promising Practices to Real Results

To achieve lasting success in improving reading achievement, we must achieve initial success. One simply cannot sustain that which has not been achieved. To have initial success one must have practices that work *and* implement them well. Hence, an understanding of successful implementation processes is essential to understanding sustainability.

This brief explores several approaches to implementation and offers guidance on why strong implementation is needed not only for achieving initial success, but also for sustaining improved outcomes over time.

This brief is part of a series which addresses various issues related to the sustainability of school-wide reading improvement initiatives, such as Reading First and other evidence-based practices. It is intended for leaders at the school, district, and state levels who are responsible for implementing change to improve student outcomes. The rest of this series addresses other elements related to sustainability and can be found online at <http://www.ed.gov/programs/readingfirst/sustaining.html>.

This brief was written by Dr. Dean Fixsen of the National Implementation Research Network (NIRN) and Dr. Stan Paine of RMC Research Corporation. NIRN is part of the Frank Porter Graham Child Development Center at the University of North Carolina at Chapel Hill. Dr. Fixsen's work focuses on conducting research, developing resources, and providing training and consultation related to the effective implementation of evidence-based practices in education and other social services. Dr. Paine is a nationally recognized expert in sustaining Reading First.

Sustainability is the ability of a program to operate on its core beliefs and values (its reading culture) and use them to guide essential and inevitable program adaptations over time while maintaining improved outcomes.

Adapted from Century and Levy, 2002

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Why is it that researchers so often claim to have developed educational practices that “work,” yet those practices find such little use in classrooms?

●
How is it that practices can come with such a high reputation for effectiveness, yet practitioners can still say, “We tried that, and it doesn’t work”?

●
Do any practices work consistently, and what determines whether they do?



What is implementation?

The questions on the previous page, and others like them, are the focus of implementation research, which has important implications and high utility in Reading First and in other educational improvement efforts. The research shows that implementation is a process that can be studied in its own right, and is beginning to address many questions that have troubled us for decades, while offering some answers. In this brief, we will begin to describe what we are learning from this work and apply those lessons to the implementation of evidence-based practices at the state and local levels, using Reading First as an example.

Many reasons have been given for the lack of impact that programs designated as 'effective' have on education. When new programs do not work as we expect them to, it is easy to explain the lack of results in terms of the program design, the students

with whom we are working, resistant teachers, weak leaders, lack of funding, or other variables outside our control. In fact, weak results often have more to do with the manner in which the procedures are implemented (which is within our control) than with any other variable. Similarly, good results are generally due to a combination of proven intervention practices and strong implementation procedures. Perhaps by using the research on implementation, we can fix the problem (student difficulty in learning to read) instead of misplacing the blame.

Recent evaluations of comprehensive school reforms (Aladjem & Borman, 2006; Vernez, Karam, Mariano, & DeMartini, 2006) concluded that the interventions being studied were effective when they were fully implemented and were not effective when they were poorly implemented or implemented in name only and not in fact. This

In the effort to improve outcomes, weak results—or fleeting results—often have more to do with *the manner in which new procedures are implemented* than with any other variable.

makes a lot of sense. We cannot expect students to benefit from practices—even from scientifically based practices—that they do not fully experience. Attention to implementation factors is not new in education. What is new is the realization that the implementation process itself must be given the same careful attention that we give to choosing the educational improvements we intend to use.

What do we mean by implementation?

Implementation can be thought of as a process, meaning “to carry out, to put something into use or action.” Wallace, Blase, Fixsen, & Naoom (in press) define implementation as “a specified set of activities designed to put into practice an activity or program of known components.” This definition calls attention to two critical dimensions—a *program and the conditions surrounding its use*.

Specifically, to have a solid understanding of implementation (1) the activity or program must be well-specified so we know what ‘it’ is that we are trying to do; and (2) the activities designed to put ‘it’ into practice must be well-specified so we know how to derive the best results from the program.

For Reading First, for example, the “activity or program of known dimensions” consists of the core elements of Reading First:

What are implementation teams?

The group chosen to help put effective practices in place, whose members:

- are very knowledgeable about the program or practice;
- are highly skilled at using effective implementation practices;
- are available to assist in the implementation of specific practices at the local, district, and state level; and
- take responsibility for the outcomes of putting the promising practices in place.

professional development, formative assessment, use of time (the 90 minute reading block), curriculum and instruction that reflect scientifically based reading research, and interventions for struggling readers. The goal of implementation is to apply these core elements in teaching every student who can benefit from them so that every student learns to read. What, then, do we need to know about the “activities designed” to put evidence-based reading practices in place?

How can implementation be classified?

Greenhalgh, Robert, McFarlane, Bate & Kyriakidou (2004) conducted an intensive review of the diffusion and dissemination research literature and noted that over the past several decades,

putting science into service has moved from *letting it happen*, or *helping it happen*, to *making it happen* styles of implementation. In the *letting it happen* style, education researchers and innovators publish their findings, and it is up to teachers and school personnel to find the information, assess its usefulness and apply it to their situation. In the *helping it happen* style, summaries of new findings are provided directly to teachers and others via handbooks and websites as well as through training or other technical assistance. Both approaches hold the teacher accountable for any benefits to students; it is up to teachers and other school personnel to access the research-based information and to figure out how to use it in their setting. By contrast, in the *making it happen* approach, implementation teams take responsibility for helping teachers and other school personnel learn how to use education practices to produce good outcomes for students. Thus, *making it happen* is not a heavy-handed approach to implementation; rather, it is an approach that makes full use of implementation knowledge with accountability for results resting fully with the implementation team.

The concept of implementation teams should not be confused with that of school or district leadership teams or literacy teams. While leadership or

literacy teams commonly have considerable knowledge about evidence-based practices in reading, the expertise needed by implementation team members goes further to include skills and sensitivity to the details of implementing change, the availability to assist in installing new practices in the school or classroom, and ‘active accountability’ for assuring that the new procedures have the desired effect and ‘take root’ in the local setting. In

this sense, implementation teams are specialized groups of technical assistance providers who are involved in installing new improvement initiatives to help assure that the change happens, that it works and that it lasts.

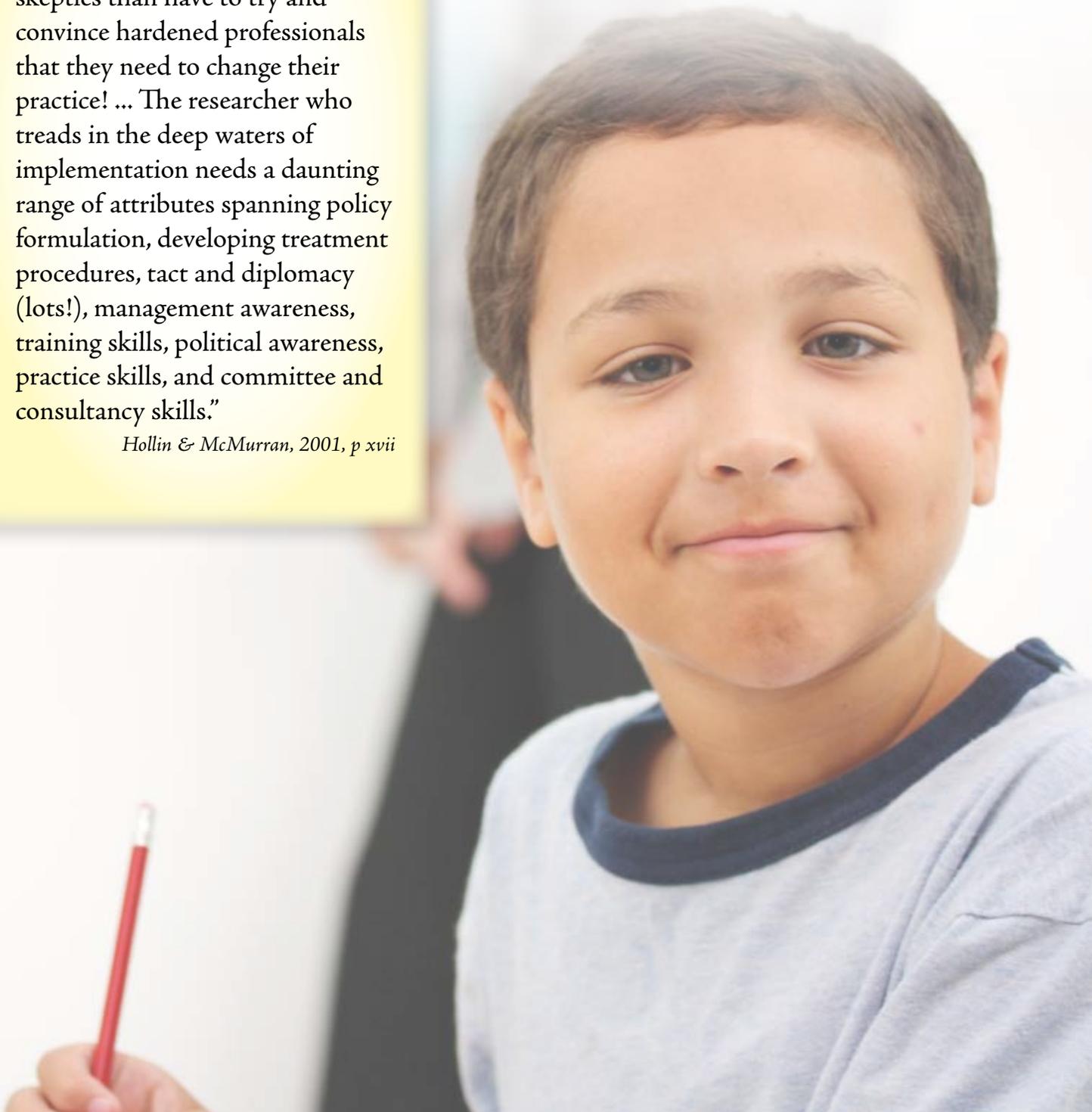
The Greenhalgh et al. (2004) classification of implementation efforts is useful for assessing current work in education and other human service fields. In reality, all three styles of implementation are very

much in evidence today and need to be. Currently, implementation teams are not commonly assembled and only a few states are in the beginning stages of developing implementation capacity by forming such teams. Thus, we must continue to rely upon the *letting it happen* and *helping it happen* models while state and local education systems establish and expand their implementation capacity.



“As anyone knows who has worked in the field, implementation of new practice is the biggest challenge of all. ... There are many of us who would rather face legions of skeptics than have to try and convince hardened professionals that they need to change their practice! ... The researcher who treads in the deep waters of implementation needs a daunting range of attributes spanning policy formulation, developing treatment procedures, tact and diplomacy (lots!), management awareness, training skills, political awareness, practice skills, and committee and consultancy skills.”

Hollin & McMurrin, 2001, p xvii



Understanding Implementation: Two Frameworks

In thinking through the process of implementation, it is useful to employ a framework that breaks it down into stages. The Concerns Based Adoption Model (CBAM) and the National Implementation Research Network (NIRN) framework are two examples.

framework for thinking about how individuals respond to change. It's "staying power" is clear, as the model is still used in education some three decades after its introduction.

The CBAM model allows us to consider three elements in the human response to change:

the individual's perspective on change, assessed by the stages of concern, the degree or quality with which the individual implements the change procedures, measures as his/her *levels of use of the innovation* and the details of the new procedures,

Understanding Implementation: The CBAM Model

In the Concerns Based Adoption Model (CBAM), "concerns" refers to issues of importance related to implementation and "adoption" refers to the incorporation of new procedures in an organization. Hence, CBAM addresses how the adults in an organization assimilate new procedures and how their response to change evolves over time. The model gives us a very useful

Figure 1: CBAM Levels of Use

Level	Name	Description
0	Non-use	Have little or no knowledge of an innovation.
1	Orientation	Acquire information about innovations and make a decision to use an innovation.
2	Preparation	Prepare for the first use of an innovation and begin to use it
3	Mechanical Use	Focus on immediate needs of users (e.g. teachers) as they master the tasks involved in using the innovation
4	a. Routine Use	Become a skilled user; make a few changes in the innovation based on evaluation of the innovation-in-use.
	b. Refinement	A teacher varies the use of the innovation to maximize impact on students.
5	Integration	Combine the efforts of all teachers to maximize the collective impact on students.
6	Renewal	Evaluate the use of the innovation, seek major modifications, and explore new developments.

described as the *innovation configuration*. We will briefly describe each of these components.

The Stages of Concern

The Stages of Concern relate to the users (teachers, mostly) as they consider and attempt to use an innovation. Stages of Concern vary along the dimensions of:

- ◆ Awareness: *I am not aware of a problem.*
- ◆ Self: *How does this affect me?*
- ◆ Task: *What is the effort or time required?*
- ◆ Impact: *What is the impact on students and colleagues?*

As teachers become more knowledgeable and involved in using a new intervention, the answers to these questions become more important to the teachers' use of the intervention itself (also see Prochaska & DiClemente, 1982 for a description of "Transtheoretical Stages of Change").

Levels of Use

Levels of Use vary along a scale from 0 to 6, with Level 0 representing no use of an intervention by a teacher and Level 6 representing full and responsive use of the intervention. The levels start with *non-use, orientation and preparation*; transition into *mechanical and routine use*; and then, once implementation is well underway, move into

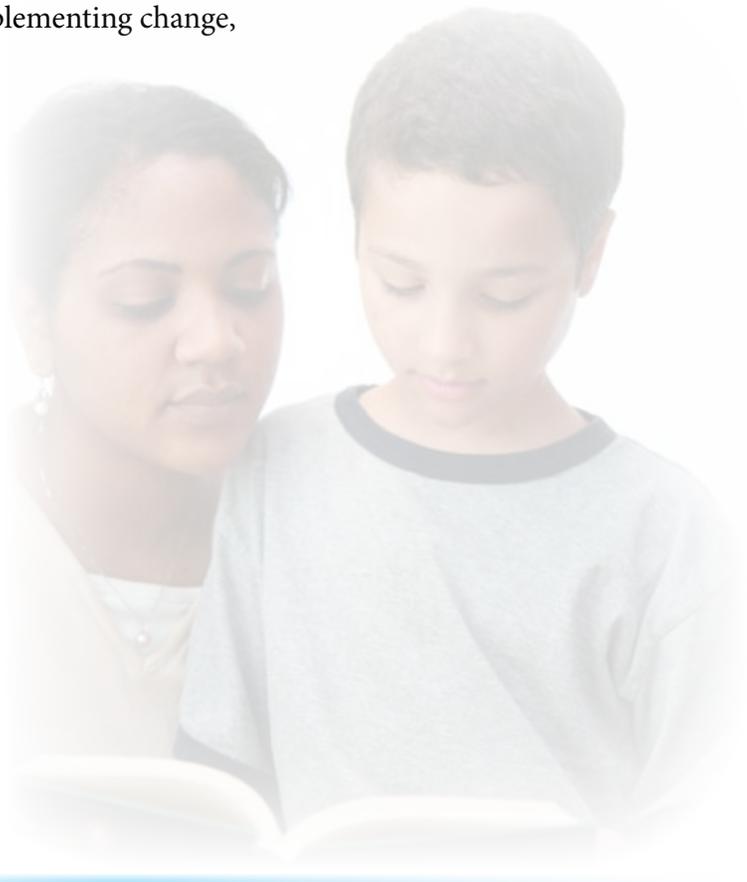
refinement, integration, and renewal. See Figure 1 for a more detailed explanation of the CBAM Levels of Use.

Innovation Configurations

Innovation Configurations refer to the operationally defined critical components of an innovation, in concrete and tangible terms. When an innovation is poorly defined ("team teaching," for example) a logic model or similar aid may be necessary to operationalize what the innovation is for a particular school or district so outside observers would know whether or not it is being used by individual teachers or schools.

Thus, CBAM (1) addresses the changing perspectives people take in implementing change,

(stages of concern), (2) identifies the steps in the process of learning to use new practices (levels of use), and (3) identifies a method for defining the new practices in operational details (innovation configurations). For many innovations, CBAM will be the best available alternative, given that many innovations (even scientifically based ones) are not clearly defined, and skilled implementation teams are not available to support their use. In the CBAM model, however, the burden of use lies squarely on the teachers and other school personnel who are accountable for puzzling through what the innovation is and how to make effective use of that innovation in their situation.





Recent Work to Extend Our Understanding of Implementation: The NIRN Framework

The NIRN Implementation Framework builds on and extends the CBAM Model from an individual perspective to an organizational or schoolwide view. While the CBAM model focuses on the individual's response to change which is introduced into the organization, the NIRN Framework looks at implementation in terms of organizational variables needed to make the change work and to make it last—to be sustained over time. In this section, we will examine the elements of the NIRN Framework. In the final section, we will apply these elements to the well-known example of Reading First as the new practices being implemented.

A growing number of initiatives support implementation teams that are making it happen in schools across the country. There are two examples of implementation teams familiar to those involved in evidence-based reading programs, such as Reading First: state education agency field staff and federally funded technical assistance providers. Larger school districts or regional (county-wide or multi-county) service centers might also have or be able to develop the capacity to provide training, consultation and technical support to schools wanting to implement evidence-based reading programs and practices such as those

supported by Reading First.

School-Wide Positive Behavior Support (SWPBS) is another well-known example of a highly effective whole school intervention that is being implemented nationally with significant impact on students (Horner, Sugai, & Horner, 2000; Sugai, Horner, Dunlap, Hieneman, Lewis, Nelson, et al., 2000). Using state-based implementation teams supported by the national SWPBS Technical Assistance Center, SWPBS combines expertise in the intervention with expertise in implementation to establish evidence-based practices in thousands of schools nationally.

Recently, Fixsen, Naoom, Blase, Friedman, & Wallace (2005) completed a comprehensive review of the implementation evaluation literature and produced a synthesis of that literature. The implementation frameworks described in the monograph take our understanding of implementation to a new dimension. CBAM generated initial interest in implementation as an important variable in its own right. The frameworks summarized by NIRN *extend* that interest to a new understanding of what is needed to make *change* happen. They offer new ways to view the methods needed to make better use of science in education and other human service settings. The frameworks, or “ways of thinking about this topic,” have subsequently been tested in a series of reviews of current successful implementation practices (Blase & Fixsen, 2003; Blase, Fixsen, Naoom, & Wallace, 2005). Thus, the components of making it happen (provided on page 11) represent the best available evidence amassed from the implementation evaluation literature and implementation best practices.

The frameworks include three components: stages of implementation, implementation drivers and implementation teams. The six stages of implementation can be found in the graphic on the following page.

The Critical Implementation Team

In the language of Greenhalgh et al., a growing number of evidence-based initiatives are beginning to make use of implementation teams that are making it (change) happen in schools across the country. There are two examples of implementation teams familiar to those involved in evidence-based reading programs, such as Reading First: one is state agency field staff; the other is federally funded technical assistance providers. Members of each group have knowledge of both the evidence-based practices with which they work and the process of implementation as it is applied to these practices.

Implementation teams are the missing link in the science-to-service chain. Without an implementation team, busy teachers, staff, and administrators are left on their own to discover how to make effective use of the new program or practice. As a state develops implementation capacity, implementation teams are formed and team members acquire specialized knowledge to systematically help teachers and schools successfully traverse the stages of implementation and make full and continuing use of the implementation drivers. Implementation teams know what works and they know how to make use of this specialized knowledge. Thus, implementation team members represent a new set of competencies, roles, and functions that currently are not part of state education systems. They work with teachers, schools, and districts to help inform and prepare them to make effective use of Reading First and other innovations. Once everyone is adequately prepared, the implementation team efficiently helps teachers and schools make full use of new practices to provide demonstrable benefits to students. Developing this implementation capacity in a state consumes precious resources in the beginning, but returns a substantial dividend on that investment in terms of more effective education practices, more efficient schools and districts, and streamlined state education systems.

Stages of Implementation

- 1) Exploration
- 2) Installation
- 3) Initial implementation
- 4) Full implementation
- 5) Innovation
- 6) Sustainability



The frameworks are interrelated and ongoing. All components of each framework are integrated and important from the first thoughts about using an evidence-based practice until that practice is (a) fully integrated into

“education as usual,” (b) available to all students who need that intervention, and (c) effective in providing effective benefits to each student.

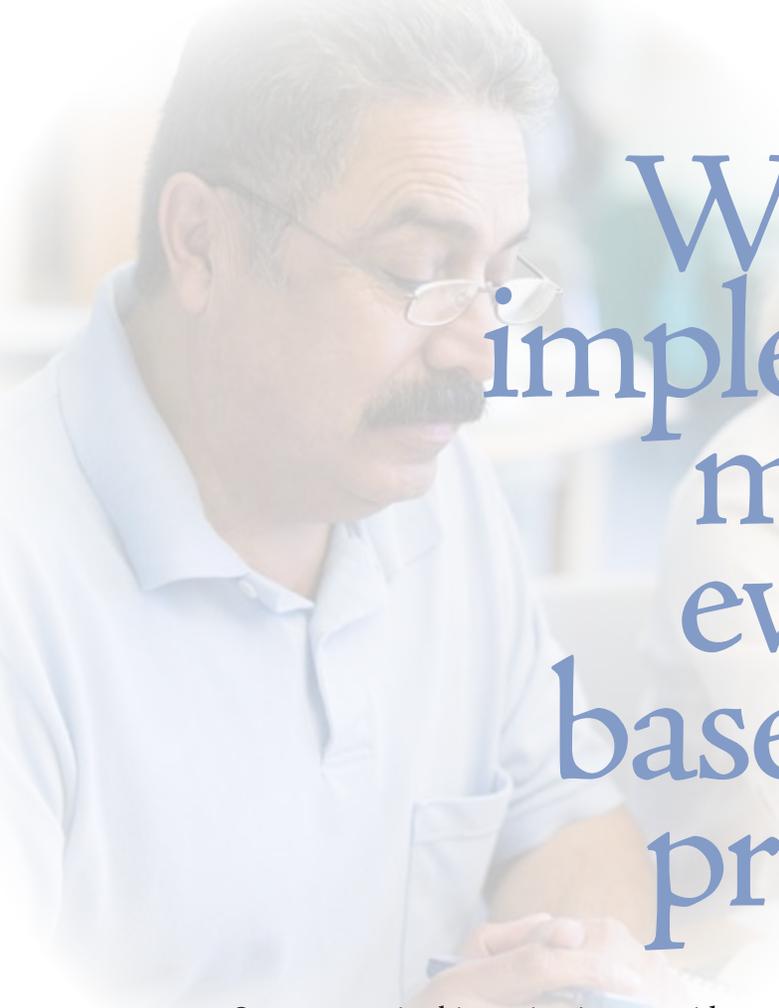
There are many similarities between the CBAM model and the framework developed by NIRN. The main difference is NIRN research emphasis on (1) the presence of the implementation team, (2) the implementation team’s purposeful and skillful use of the implementation drivers, and (3) the Implementation team’s accountability for *making it happen*. The major benefits of using the frameworks researched by NIRN are that they can help reduce the uncertainty that surrounds implementation of innovations, shorten the time required to implement innovations successfully, and provide a foundation for scaling up innovations across grades, schools or districts.

The Stages of Implementation

The six stages of implementation can be found in the graphic at the top of this page. This sequence is familiar to anyone who has attempted to implement a significant change in any organization. It begins with exploration of the new practices and ends with efforts to adapt and sustain the change.

Implementation Drivers

Implementation drivers are the variables present in every school system, which are controlled by staff and which can be used as tools or strategies to support the implementation or continuation of evidence-based practices. Examples include staff selection, training, coaching and performance assessment; and organization decision support data system, facilitative administration, and intervention in external systems.



What does implementation mean for evidence-based reading programs?

Our purpose in this section is to provide an overview of the implementation framework developed by NIRN and apply it to an evidence-based schoolwide reading model such as Reading First as the improvement

of interest. In doing so, we will illustrate how an *implementation team* might use the *implementation drivers* to work through the *stages of implementation* to establish an effective reading initiative in a school or district.

Stage 1 Exploration: Gathering Information	<ul style="list-style-type: none">• Contact any available implementation team or resource people who can provide information about effective practices and lead the group to understand a need and make a change commitment (district, regional or state “capacity builders” or TA providers).• Recruit support from top administrators and policy makers for implementing these practices as the best way to address needs.• Publicly identify the need for change in practices using data; take time for conversations with stakeholders for these practices as the way to address the established needs (> 80 percent staff buy-in recommended).• Consider not just the features of the practices, but also how they will be implemented.• Implementation team assesses and helps create readiness among staff and other stakeholders to move forward.• Form a decision to move forward; decision is made and communicated/announced.
Stage 2 Installation: Making Preparations	<ul style="list-style-type: none">• Identify implementation team members and roles in helping to guide the implementation once it begins.• Identify all reading stakeholders; inform them about the new program and engage them in assuring its success.• Identify procedures to select and assign people to new roles.• Communicate new functions and roles to those who will be implementing and supporting new practices through job descriptions, trainings, expectations and goals (principals, coaches, teachers, specialists, instructional assistants, etc.).• Identify trainers and schedule all needed training (90 minute block, additional time for those who need it, assessment time).• Develop schedules that allow implementation to take place.• Consider space needs for program implementation.• Order any materials needed to implement the program.

<p>Stage 3 Initial Implementation: Using New Practices</p>	<ul style="list-style-type: none"> • Staff are trained in the new practices; coaching begins as staff begin to implement the practices (the elements of the model). • Principal and coach begin providing active supervision of the implementation to encourage and support staff and to see where more training or support is needed. • The implementation team helps develop effective ways of monitoring both implementation and its results and works with staff to interpret results and plan strategic adjustments. • The data system, which might include multiple measures, is monitored regularly to assure that information needed to make program adjustments is available and accurate. • The implementation team also helps establish feedback to district leaders to allow development of systems-level supports. • The data system enables a continuous improvement cycle of monitoring implementation and results and making needed adjustments.
<p>Stage 4 Full Implementation: Use the Model and Assess the Outcomes</p>	<ul style="list-style-type: none"> • A majority of staff are using the new procedures according to standards to which they have been trained and coached. • Program elements and supports are in place and are working at the individual and organizational levels. • Changes in instruction, assessment, and program support are now well under way. • Cannot meaningfully evaluate outcomes until this point. • Goal is to embed the new practices and the implementation drivers into teacher practices and support systems respectively to maintain implementation and positive results. • Process that led to this point must be continued (ongoing training, coaching, leadership, data monitoring, etc.). • The work of the implementation team is critical to getting to this stage, keeping it there as staff adjust to changes in context (for example, staff turnover or variation in implementation strength over time) then bridging to sustainability.
<p>Stage 5 Innovation: Refining the Practices (This stage assumes practices are fully implemented and have produced positive results.)</p>	<ul style="list-style-type: none"> • Implementation team and school staff collaborate to consider refinements to practices to address local context. • Refinements are clearly stated, systematically implemented, and evaluated using program data at student and school levels. • Changes with positive data add value to the program and are called innovations; those without data are called program drift and detract from the program's strength.
<p>Stage 6 Sustainability: Building Support for the Practices</p>	<ul style="list-style-type: none"> • School variables are controlled by staff and are used as tools or strategies to support the implementation or continuation of evidence-based practices. • Sustainability begins in the exploration stage when new practices are sought and implementation is thought through and planned for. • Support from multiple stakeholders at various levels is sought through the implementation stages to build strength and broad support for practices. • Support is developed through various systems of the organization: personnel, budgeting, professional development, evaluation, communication, etc. • These elements of policy, procedure, and administrative practice help drive the continued implementation and refinement of the program and are called implementation drivers. • New staff are trained to implement the practices as they are hired. • Leaders continue to monitor results and engage staff in celebrating progress and addressing issues and needs.

Sustainability Stage: Embedding Supports into Organizations and Systems

As noted earlier, the implementation frameworks are not linear – they interact in interesting ways at every turn. Sustainability actually begins during the Exploration Stage when interventions are sought and

implementation plans are thought through. The stakeholders, champions, and leaders who participate in that process promote the effective use of the evidence-based intervention from that point forward. With the help of the implementation team, the supporters are expanded vertically and horizontally through the various stages of implementation, especially

as changes in schools, districts, and state systems begin to be made to bolster the impact of the program on students. As this process progresses, the culture of the organization is transformed. “The new way” becomes “the accepted way” and eventually becomes “the way we do education here in our school, district or state.” Sustainability of evidence-based reading programs and other innovations is no accident. It is the result of several years of implementing effective reading practices with competence and good outcomes for students and working hard to create the organizational and system supports to sustain it and scale it up to benefit students district-wide—or even statewide.

As the evidence-based reading program becomes accepted practice, the implementation team can become less involved. By this time, the implementation drivers are embedded in school and district ways of conducting education, and the decision support data systems are in place to provide guidance for

continual improvements in the intervention and in the implementation drivers. At this time, the implementation team can move on to other evidence-based practices waiting to be implemented to achieve further benefits to students.

Conclusion

The research on implementation shows that to truly sustain improvement initiatives, such as evidence-based reading programs, implementation must be supported in a systematic way. Deciding to adopt an evidence-based reading program or practice should not be confused with successful implementation of the program or practice. Further, successful implementation may be a prerequisite of sustaining the program or practice—but it is not a guarantee. Insights from research on implementation contained in this brief should be part of the repertoire of any educational leader hoping to increase and sustain student achievement.



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As a nation, we have invested substantial funds in research on education. We now realize we need to invest in the practice and science of implementation if we are to make effective use of scientifically based interventions in education settings where they can benefit student learning and achievement. Given the scope of the problems in education, we can no longer afford to *let it happen* or *help it happen* and

ask teachers and administrators to somehow figure out how to make use of scientifically based interventions.

If we hope to improve education in America, we must *make it happen* by creating new infrastructures that facilitate implementation processes so students routinely can actually experience and benefit from what has been promised in the research literature.



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