

Improvement Cycles Overview

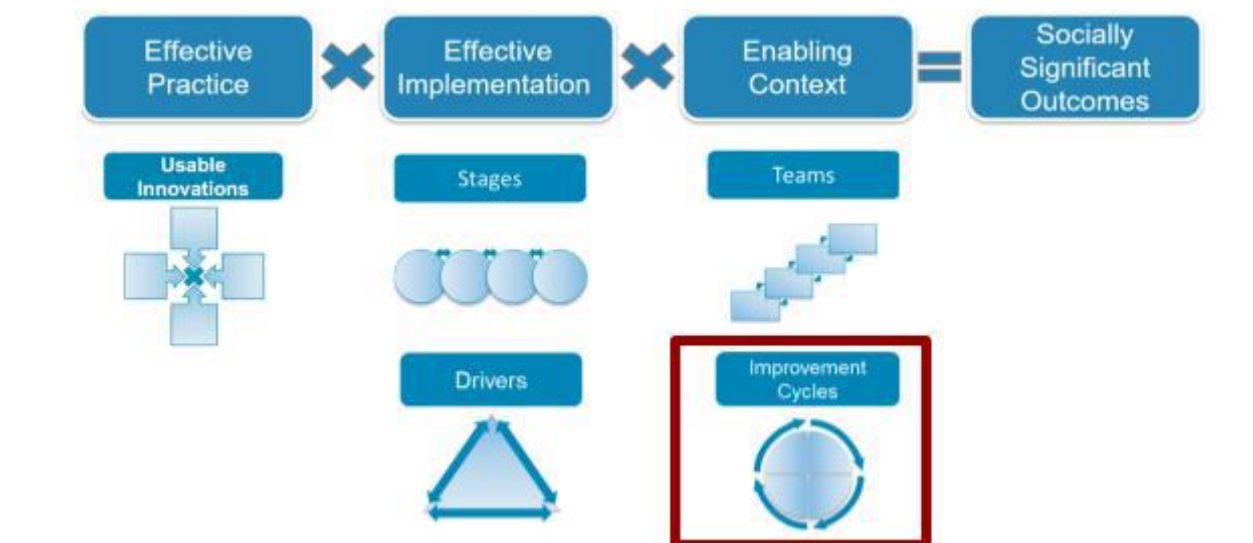


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Introduction

Change is great! You go first!

When changes are planned and initiated, we often launch into the work in a big way with lots of moving parts, communication challenges, confusion, and 'push back' as the result. In addition, we often try to layer the work onto the existing structures with people picking up extra responsibilities. Trying to get the current system to just go faster or layer on responsibilities rarely yields results.



Such approaches seldom work well because the **current system is designed to achieve the current results (on purpose or unwittingly)**. This means that new programs or practices are not likely to fare well in the current system. Typically, the current system exerts pressure on programs or practices to change to fit the status quo. It is rare to have an existing system automatically change to support more effective education practices and frameworks. A program or practice that has been altered may be a better fit with the current system, but it is likely that the program or practice will lose its effectiveness as a result of the adaptation process.

At the beginning of a change process, leaders and [Implementation Teams](#) cannot know everything that will be required to successfully use and sustain a new evidence-based program or practice (EBP). However, with each step forward, the next step becomes

clearer. Steps forward result in discoveries about what's working and what's not. And some discoveries will be surprising! The challenge is to engage in a 'trial and learning' process of rapid improvement not a 'trial and error' process characterized by random acts of innovation. This module reviews the forms of Improvement Cycles that can guide these more systematic improvement processes.

Key Takeaways

- Understand the Plan, Do, Study, Act process for improvement
- Determine the rationales for using PDSA Cycles
- Identify the types of Improvement Cycles and know when to use them
- Establish the use of linked communication protocol to develop a process to improve communication and alignment between two teams or entities
- Relate the application of Transformation Zone work to implementation practices

Terminology

- **EBP** – Evidence-Based Program (or Practice)
- **PDSA** - Plan, Do, Study, Act
- **DIT** – District Implementation Team

Let's examine how Improvement Cycles support the Active Implementation Formula (see above). It is important to start with the end in mind, Improved Outcomes for students. Socially Significant Outcomes represent the "why" in the equation. We want to improve instructional practices and behavioral supports to improve student outcomes.

The "what" in the equation is Effective Practices. We need to know "what" it is we're going to be implementing so that we can ensure Effective Implementation, the "how" in the equation. With Effective Implementation, we create the infrastructure to ensure the practice or program is in place, being used as intended, and producing outcomes. The "who" in the equation are Implementation Teams, a part of the Enabling Context who are linked across the system, responsible for developing capacity using data to support implementation.

Improvement Cycles are a part of the Enabling Context component of the equation. Improvement Cycles generate data Implementation Teams need to intentionally identify, problem-solve, and address barriers to improve and sustain implementation.

Commitment to Organized Improvement Processes

People involved in change initiatives, particularly leaders and Implementation Teams, *need to become comfortable and effective at learning as they go*. No matter how well planned or carefully monitored, change efforts typically do not go well at first. Instead of floundering, change efforts can be done using Improvement Cycles. By using Improvement Cycles, each new attempt to solve a problem or improve a practice adds value and information. Each attempt to use an EBP leads to new learning, whether or not the outcome is completely successful. Applying and embedding the new learning leads to improved processes and better outcomes and increased competence and confidence for managing change.

With clear, shared goals of ensuring that students benefit from effective practices, everyone is motivated to CHANGE to support the use of an EBP as intended. That means that organizational and systems change will be required to support new instructional practices, content, and frameworks.

New or repurposed structures, processes, positions, and functions will be needed at multiple levels. Often these functional changes are possible using current resources and funding to repurpose the positions and job functions to support **new** ways of doing things.

Topic 1: Improvement Cycles Description

Get Started, Get Better!

Underlying the Improvement Cycles described in this module is the Plan, Do, Study, Act Cycle or [PDSA Cycle](#). PDSA is a process derived from industrial quality control research. Deming (1986) built on an earlier process by Shewhart (1931), and then Deming and Juran used the process extensively in post-war Japan to bring their devastated manufacturing and economic system to the forefront of production capacity and quality in a relatively short time (DeFeo & Barnard, 2005). The process is now used widely in human services (Varkey et al., 2007; Daniels & Sandler, 2008; IHI, 2010). The PDSA Cycle is used for making small incremental improvements as well as for significant ‘breakthroughs’ in performance. The process can be used to make a small test of change, help define and refine new evidence programs or practices (EBPs) and ways of work, be applied to scale-up efforts, and can be used to better align policies and guidelines to support new ways of work.

Let’s take a brief look at each phase of the PDSA Cycle.

- The PLAN phase refers to identifying barriers or challenges and specifying necessary processes to move programs forward.
- The DO phase refers to using those processes as intended.
- The STUDY phase refers to monitoring the process. Did we DO the processes as intended? The STUDY phase also includes the analysis of the data about the process and the outcomes achieved.
- The ACT phase refers to applying what was learned during the cycle to improve the process and the outcomes.

Three Types of Improvement Cycles

The three types of PDSA [Improvement Cycles](#) are as follows:

- Rapid-Cycle Problem-Solving is used to address immediate and pressing issues and to make incremental improvements quickly. Rapid-Cycle Problem-Solving works well when there are a few examples (e.g., teachers, schools, districts) and the use of an evidence-based program or practice (EBP) can be viewed frequently (e.g. hourly, daily, weekly). For example, using new instructional practices (e.g. encouraging student engagement with the subject matter) or new

implementation practices (e.g., coaching with competence) provide excellent opportunities to use Rapid-Cycle Problem-Solving to solve problems as the new methods are attempted in practice.

- Usability Testing is well suited to situations where the EBP is complex and involves more people or several aspects of an organization or system working together. In these cases, there are more examples (3 to 5 at a time) and the use of an EBP can be observed frequently (daily, weekly, monthly). For example, 3 [District Implementation Teams](#) (DITs) can be initiated and the challenges of having the DIT begin working with school staff to support teachers in schools can be noted and corrected. Armed with these changes and improvements, 3 additional DITs can be initiated to see if the improvements are realized with a new group of DITs and to detect any further changes that need to be made. Data from other fields indicate that most of the critical problems can be detected and corrected by the end of the third or fourth usability test. Usability Testing quickly can identify trouble spots that otherwise would torpedo success if EBPs were rolled out all at once.
- Practice-Policy Feedback Loops are useful when whole organizations and systems are involved in change. In these situations, the interplay among aspects of the system are difficult to predict and observations are difficult to conduct. The goal of changes in education is improved instruction to produce improved student outcomes. Thus, the standard for assessing what needs to change is:
 - Are school leaders and staff supporting teachers in using the EBP with fidelity and good outcomes for students?
 - Are district leaders and staff supporting schools and teachers' use of the EBP with fidelity and good outcomes for students?; and
 - Are state leaders and operating units supporting schools and teachers' use of the EBP with fidelity and good outcomes for students?

The Practice-Policy Feedback Loops increases feedback from the classroom to the administration at school, district, and state levels. Implementation Teams, via PDSA Cycles, assure work at the practice level (e.g., feedback from teachers) informs administrative support and resource allocation. And it gives administrators the information they need to actively support the use of new practices as intended.

Everyday Examples

Many of us engage informally in these cycles as we think through and test out hypotheses or go about improving our lives.

- How many of you have tried to get to know or inform a new leader, a new family, a new partner, or a new teacher. We start by getting clear about what we want to do with whom (e.g., information to provide, relationship to develop). Then we make a plan (PLAN) to get to know them better or to provide information; we engage in behavior as planned (DO) and we evaluate (STUDY) how effective our behavior was in communicating, getting to know, and helping to inform that person. Then we make more plans based on how well our first engagement with them went (ACT).
- When cooking, have you ever made a PLAN to ‘tinker’ with a favorite recipe and add, take away, or change the amount of certain ingredients. We DO the new recipe and then STUDY the results by asking our family and friends to eat it and observing or asking them how they liked it. Then we ACT and write down the new recipe that everyone loved, or we go back to the original recipe or try a new variation.

Transformation Zones

All three types of Improvement Cycles work well in [Transformation Zones](#) designed to help transition the system “as is” into the system “to be.” The transition process begins with a manageable cohort that represents a small ‘slice’ of the system (e.g., two rural, two suburban, two high needs, two urban districts). The diversity combined with the manageable scope helps to uncover challenges and solve problems with the EBP and implementation supports before moving ahead with scale-up or expanded use.

The next four topics will take you more deeply into the PDSA work by discussing the three types of PDSA Improvement Cycles, Transformation Zones, and improvement tools and processes you can use.

Topic 2: Rapid-Cycle Problem-Solving

We will go into a bit more detail related to the PDSA process as we discuss Rapid-Cycle Problem-Solving. The subsequent sections will rely on the processes described here and will focus on what's different about them and the tools that will be helpful.

Definition

Rapid-Cycle Problem-Solving is one type of Improvement Cycle that uses the [Plan, Do, Study, Act](#) process. It is typically used to solve emergent or urgent problems that are impacting the roll-out or use of the evidence-based program or practice (EBP) or to make quick, incremental improvements.

Rationale

Rapid-Cycle Problem-Solving helps us get comfortable with 'enough' planning and avoids having the perfect become the enemy of the good. In short, no roll out of an EBP will be perfect and not all problems can be anticipated. We have to get started and then get better. That's where Rapid-Cycle Problem-Solving comes into play. The inevitable challenges and problems associated with using a new program or set of practices can be quickly detected, defined, and addressed. Prompt attention and the use of a Plan, Do, Study, Act process helps to avoid letting problems grow or abandoning the new way of work and retreating to familiar but less effective approaches.

Key Functions and Processes

Problems are more likely to be detected, defined, addressed and resolved (or re-solved) when....

- We know who is tasked with smoothing out the bumps in the implementation highway and the right people are involved in the PDSA process;
- We view implementation challenges as normal and have a transparent process to detect and report challenges;
- We have the information we need to address, measure, and solve the problems.

So let's learn more about Rapid-Cycle Problem-Solving by answering these questions:

- Who engages in Rapid-Cycle Problem-Solving?
- When and how do problems get detected, defined, and reported?
- What information is needed for a Rapid-Cycle PDSA process to work?

Who Engages in Rapid-Cycle Problem-Solving?

Handing challenges off to a single individual or inadvertently letting a challenge linger is not likely to be helpful. Most challenges that benefit from Rapid-Cycle Problem-Solving require quickly pulling together the right team to engage in the PDSA process. An [Implementation Team](#) is accountable for forming this PDSA Team and supporting their work. The first step in creating a Rapid-Cycle Problem-Solving Team is to identify an Implementation Lead who will take responsibility for pulling together the team, organizing the process, and seeing it through to a “successful” conclusion.

The Implementation Lead needs to gather the ‘right people’ to solve the particular problem under consideration. These are people who have a stake in the outcome, who have expertise and information relevant to the problem at hand, and who have authority to make necessary changes to solve the problem or access to decision-makers. The problem-solving team might be a selected subset of the Implementation Team and it might involve inviting some additional “right people” to join the Rapid-Cycle Problem-Solving Team. Those invitations occur because there may be people who have the knowledge, authority, or linkages that are needed to solve the problem at hand. For example, if there are resource issues then people with the authority to allocate or reallocate resources might need to be on the Rapid-Cycle Problem-Solving Team.

The team formed for Rapid-Cycle Problem-Solving often is an ad hoc group that has a time-limited role focused on analyzing the problem, developing a plan, executing the plan, using data to determine if the problem has been solved and if called for, repeating the process and then ‘embedding’ the solution.

Using the [Plan, Do, Study, Act](#) process allows the team to maintain focus, engage in productive problem-solving, and understand when their work is done so they can disband. As a result, this can be a very efficient method to solve a clearly defined problem or make an incremental improvement.

When and How Do Problems Get Detected and Reported?

Problems amenable to Rapid-Cycle Problem-Solving can emerge during any [Implementation Stage](#). Installation and Initial Implementation can be particularly challenging and bumpy because the new ways of engaging with each other and with students are bumping up against the status quo.

The [Implementation Team](#) needs to establish [Communication Protocols](#) for detecting and reporting challenges. Some questions the Implementation Team may want to answer are below. Which settings will experience the change? Classroom? Grade-level?

- Given those settings, who are the point people for collecting or identifying challenges?
- To whom will they report challenges?
- On what schedule, or through what process?
- Who will receive the information and make the decision to form a rapid-cycle problem-solving team? Or not?
- Who communicates with those reporting the challenge?

Confidence and persistence of implementers improve when we have simple, clear reporting processes and messages that normalize the problem detection and resolution process (e.g., designated email address for reporting problems, review meetings after specified number of days of implementation, email access to named implementation team members).

A balance also needs to be achieved by asking people to report what is going well! The only thing worse than failing and not knowing why you failed, is succeeding and not being able to succeed again!

What Information Is Needed for a Rapid-Cycle PDSA Cycle?

Rapid-Cycle Problem-Solving requires clarity about the problem at hand or the area requiring improvement. This clarity begins during the PLAN phase of the PDSA Cycle.

- What are the dimensions of the problem? Frequency? Intensity? Pervasiveness? Who is involved?

- Are we clear about the desired outcome; what improvement would be considered sufficient?
- What is our best guess (hypothesis) about what might work and why?
- What data will be collected and analyzed to indicate that:
 - We did the improvement process as intended?
 - We know the extent of change that occurred as a result?; and
 - A solution has been reached, or that another round of PDSA is needed?

Rapid-Cycle Problem-Solving Teams can be formed to address on-going improvement efforts through the analysis of fidelity and outcome data and the development and implementation of long-term and systemic solutions.

If an Implementation Team has been formed to guide a change process, the practice improvement function is built into their ongoing responsibilities. The Implementation Team may be engaged directly in conducting the Rapid-Cycle plan or they may create the conditions and supports for the work to occur. Regardless, the Implementation Team remains accountable for improvement occurring.

Example: Rapid Cycle Problem Solving

Problem Definition	Only 10% of expected role play activities (fidelity issues) occurred as teachers used a social-emotional intervention in their classrooms to prevent bullying.
Plan	<i>Goal:</i> Improve frequency of teachers' use of role play during an anti-bullying intervention (fidelity). At least 80% of role play events occur as scheduled in the lessons. <i>Hypothesis:</i> Teachers are not skilled at introducing role plays and are concerned about addressing challenges students present. <i>Plan:</i> Have experienced teachers practice with new teachers and provide classroom feedback and support on how to introduce role play and handle challenges
Do	Experienced teachers provide additional 1 hour session for new teachers to practice introducing role play and handling challenges, receiving feedback, and re-practicing. Experienced teachers visit classrooms at least once to observe, provide support, and encourage implementation.
Study	Measure the percent of expected role play events that occurred in classrooms over a three-week period following the practice sessions.
Act	Determine if the desired outcome was achieved (80% or more) and make a decision about the next right steps <i>Goal met</i> – embed solution into training and coaching routines <i>Goal not achieved</i> – make a new plan with teacher input and try again (Cycle)

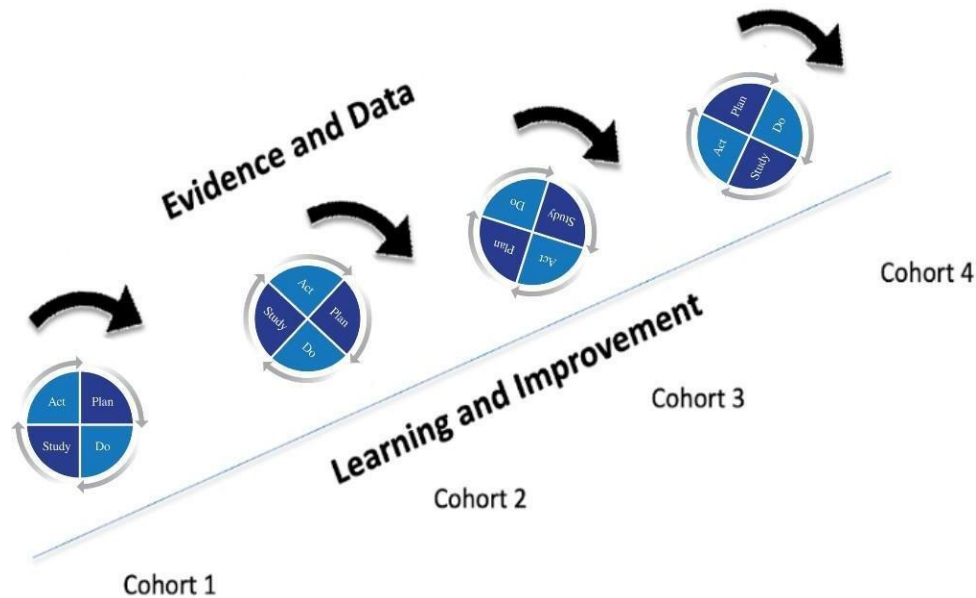
Summary

Rapid-Cycle Problem-Solving uses the Plan, Do, Study, Act process to solve emergent or urgent problems that are impacting the roll-out or use of the new EBP or to make quick, incremental improvements. Rapid cycles of the Plan, Do, Study, Act process are used to detect, define, and address inevitable challenges and problems associated with using a new set of practices or a new program and allows the team to maintain focus and engage in productive problem-solving to make incremental improvements in implementation.

Topic 3: Usability Testing

Definition

Usability Testing consists of a planned series of tests of an evidence-based program, components of the program or practice, or implementation processes. Usability Testing makes use of a series of [PDSA Cycles](#) to refine and improve the EBP's elements or the implementation processes. It is used proactively to test the feasibility and impact of a new way of work prior to rolling out the evidence-based program or practice (EBP) or implementation processes more broadly and/or prior to conducting an evaluation of the program or practice.



Rationale

Programs and practices are more likely to be adopted and sustained when they can be implemented as intended in real world settings – our classrooms and schools. Educators deserve supports to implement programs and practices that are “classroom ready.” But how do we know if programs, practices, and educators are “ready?”

Usability Testing is a method [Implementation Teams](#) use to test an EBP or the implementation methods with a larger sample under more typical conditions, as opposed to research or ‘pilot’ conditions characterized by special resources and conditions.

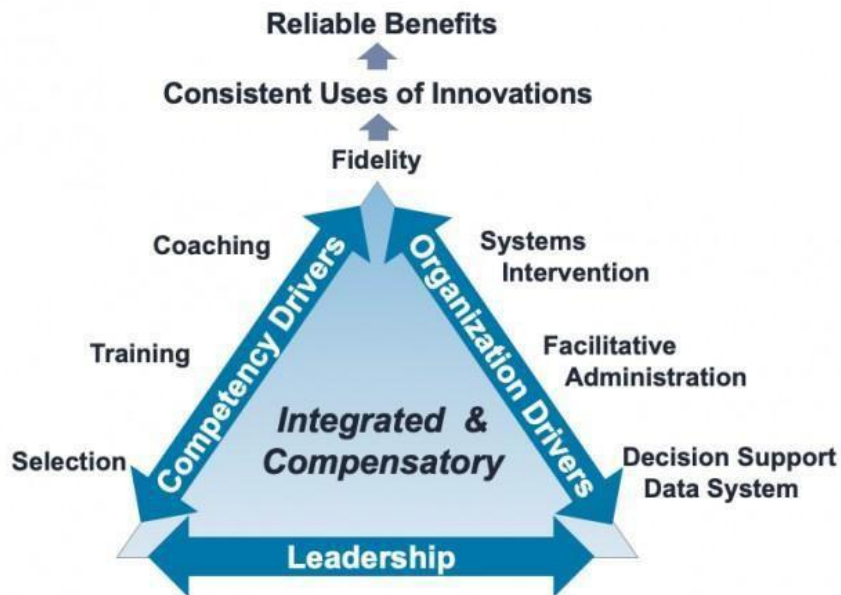
Usability Testing originally was developed by computer scientists as a very efficient way to develop, test, and refine new software programs or websites, both very complex endeavors. The idea is to use the PDSA processes with small groups of 4 or 5 typical users. Computer scientists found that the first group would identify most of the errors in the first version of the program. Once the errors were corrected, the next group would find different and deeper errors. By repeating this process 4 or 5 times (involving about 20 typical users in total), the program would be nearly error free and ready for general use. Researchers have found that the end user experience is improved much more by 4 tests with 5 users each than by a single test with 20 users.

Key Functions and Processes

It takes time and expertise to conduct a series of valid Usability Tests related to either the core components of an EBP or key implementation processes. Below are the steps to consider. Many of these should be familiar to you because they are built on the PDSA process detailed previously in Topic 1: Rapid-Cycle Problem-Solving.

- 1. Choose ‘worthy’ elements to test** - They might be any of the following that the Implementation Team thinks will be challenging to do well:
 - Core components of program or practice that are deemed or demonstrated to be necessary to getting good outcomes
 - Core contextual components necessary to get good outcomes
 - Implementation processes that are necessary to getting good fidelity (e.g., processes that help educators and other staff change their instructional practices to support the innovation)
- 2. Determine on the dimensions of the “test” considering the following questions:**
 - What criteria will be used to identify the first group of ‘testers’ and subsequent groups?
 - What is the scope of the test?
 - What data will be reported to whom, on what schedule?
 - What are the criteria for a successful test?
- 3. Engage in just enough preparation so that the participants can get started.**
 - The goal is to build the successful processes not to develop an all-encompassing, perfect process
- 4. Keep testing improved processes until the data indicate that most of the “bugs” have been found and fixed and the success criteria have been met.**
- 5. Install the improved processes by considering which of the [Implementation Drivers](#) will be used to successfully scale-up the program or practice, or implementation processes that were tested.**

Implementation Drivers



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Keep in mind that you are creating improved processes not perfect processes. There will always be some variation around the 'ideal' – we can't let the perfect be the enemy of the good.

Summary

In summary, Usability Testing is a variation of the PDSA Improvement Cycle process. It requires tests of 'worthy' processes using repeated PDSA Cycles by small cohorts of participants. The goal is to work out the challenges and improve the processes before more widely implementing the innovation, instructional practice, or implementation process.

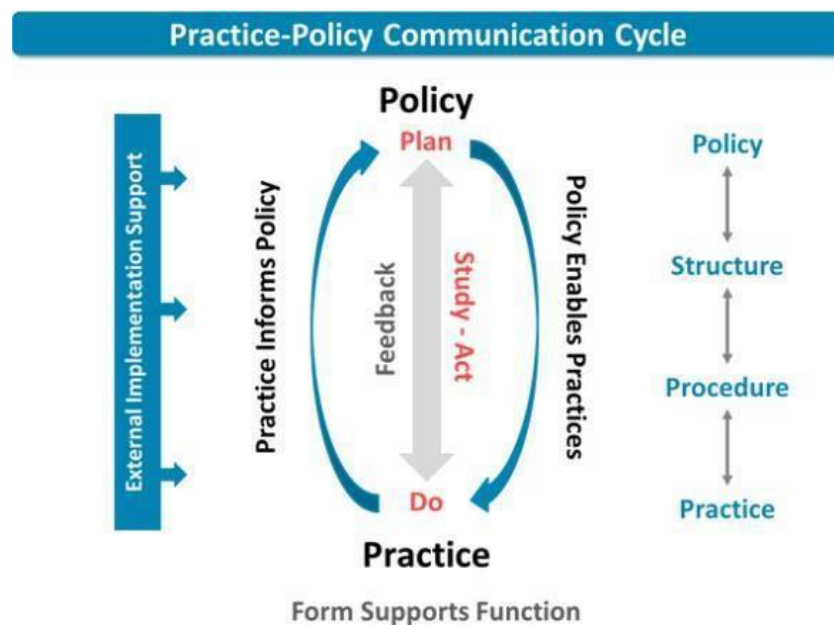
Topic 4: Practice-Policy Feedback Loops

Definition

Often [PDSA Cycles](#) are carried out at the practice level. However, Practice-Policy Feedback Loops are carried out on a larger scale in a more complex environment. This process occurs less frequently and at a slower pace than [Rapid-Cycle Problem-Solving](#) and [Usability Testing](#).

Practice-Policy Feedback Loops are PDSA Cycles designed to provide organizational leaders and policy makers with information about implementation barriers and successes so that a more aligned system can be developed. Feedback from the practice level (Practice Informed Policy) engages and informs organizational leaders so that they can ensure that policy, procedures, resources, etc. enable evidence-based practices (EBPs) to occur in classrooms, schools, and districts (Policy Enabled Practice) as intended.

Critical to any effort to coordinate the implementation of the new practice, program, or policy, is the need to intervene actively, at multiple levels of implementation to help increase the likelihood that such meta-contingencies as funding, licensing, referral mechanisms, policies, regulations, and reporting requirements are aligned to support the new way of work.



This graphic illustrates the PDSA Cycle in the context of a Practice-Policy Communication Cycle. Policymakers often execute plans in the form of laws, guidelines, regulations and funding opportunities. At some point “doing” the policy impacts the practice (e.g., at the teacher, school, or district level). That’s often the end of the PDSA cycle. We Plan-Do and Plan-Do without feedback about how the policy is impacting practice. The Study-Act Feedback arrow represents bi-directional communication; the direct feedback of information and data to inform policymakers about policy impact on practice. Communication Cycles enable policies, structures, procedures and practices to become better aligned to support effective educational programs and practices.

Rationale

Using policy to mandate change and provide incentives works best when:

- Everyone who is required to participate has the knowledge, skills, and abilities needed to enact the change
- Everyone involved has a reasonably similar definition of the problem and potential solutions are generally known and agreed upon
- The only thing that was lacking to address the challenge and create change was permission, motivation, and resources to move forward

However, when it comes to adopting, effectively using, and scaling evidence-based programs and practices (EBPs), we typically need to support educators in gaining confidence and developing new competencies. Certainly policies should be passed and incentives provided that ‘enable’ the new EBP to be used as intended. But such policies and incentives are seldom sufficient for making transformative or systemic change that results in academically or socially significant outcomes.

For example, federal and state governments make new policies designed to improve practices every year so this is common across all states. What distinguishes successful system change efforts from the many failures that occur in education, health, and human services is the FEEDBACK from the practice level to inform the policy makers of the enabling or inhibiting aspects of the policy – left side of the graphic.

And, not surprisingly, priorities related to using EBPs at the district, school, and classroom level do not always neatly align with the latest federal requirements, state statutes or school board mandates. The system is a complex one with many [adaptive challenges](#). This means that there are many unintended or unanticipated consequences related to the adoption of any new program or practice.

A process to ensure that ‘policy enables practice’ **and** that ‘practice informs policy’ can help improve our chances to make change and achieve outcomes. Enabling policies set the stage for implementation, reduce perceived risk, and promote the new ways of work. And when you add the opportunity for the practice level to inform policy about the impact there is a much greater likelihood that we will create ‘hospitable’ environments over time. Recurring feedback loops that involve policy enabling practices and the practice level informing policy will create conditions that support, rather than hinder, the use of evidence-based practices.

Key Functions and Processes

The System ‘As Is’

In most systems, there are no formal mechanisms for the practice level to inform the policy level. Instead, there typically are layers of managers and administrators between those implementing the ‘practice’ and the ‘policy’ makers. This ‘layering’ makes sense for solving the right problems at the right level. However, some problems need to be ‘lifted up’ to the next level for resolution.

Without a known and transparent process for communicating challenges to the right level, the layers serve to buffer the organizational leaders and policymakers from hearing about or experiencing the challenges and unintended consequences of the new policy, guidelines, incentives, or reporting requirements. Or one-way communication prevents understanding other variables that may be preventing implementation from occurring as intended.

Processes for Communication and Feedback

There are two other processes that can be used together or separately to help improve communication and feedback between and among levels. These are linked-in agenda items and linked team membership.

Linked-In Agenda Items

Linked-in Agenda Items refers to beginning and ending each meeting with agenda items that ask the following:

At the beginning of the agenda, the chair asks:

- Is there any follow-up communication from our previous requests we have made of others?
- Are there new issues that need our input and support that are coming to us from other parts of the system?

At the end of the agenda, the chair asks:

- Are there any requests of others arising out of this meeting?
- Is there information to communicate to others who have requested our input, support, or problem-solving?

Having these questions posed by the chair at the beginning and the end of the meeting ensures that the feedback loops are on the agenda.

Linked Team Membership

Another logical way to encourage linking communication and Policy-Practice Feedback Loops is by ensuring that membership on each [Implementation Team](#) (e.g., building, district, state), to the extent practicable, includes designated representatives from other levels, creating Linked Team Membership. [Building Implementation Teams](#) could have a member of the district office who attends regularly or who serves as the point of communication. [District Implementation Teams](#) can and should have representation from building level staff and regular communication with relevant regional entities. Embedding Linked Team Membership at other levels in a single team helps facilitate [linked communication](#).

Summary

To conclude, Practice-Policy Feedback Loops are Improvement Cycles carried out on a larger scale in a more complex environment. Practice-Policy Feedback Loops are established to ensure that barriers to effective practice are brought to the attention of policy makers and to assist in the development of policy enable practices and practice informed policies. Improvement Cycles share a common framework, the PDSA Cycle, and can be used in various ways to facilitate the necessary adjustments to the system to support effective evidence-based practices.

Topic 5: Transformation Zones

Definition

A [Transformation Zone](#) represents a vertical slice of the system from the practice level to the policy level (e.g., from the classroom to the Capitol). The entities (e.g., districts, schools, classrooms) are representative of the larger system. The slice is small enough to be manageable but large enough to be representative of the system as a whole (e.g., urban, suburban, rural, frontier, high needs, etc.). The vertical slice represents the system as it functions today and the implementation sites within the zone serve as the first cohort to participate in the change processes necessary to become the system of the future. All three types of improvement cycles can be useful in the Transformation Zone as you ‘change on purpose’ from the system as is to the system you need to host the new ways of work.

Rationales

Pilots and initiatives come and go. Islands of excellence rise and sink. The immediate results may be excellent, but the end results are unsustainable pockets of programs and practices. Efforts to ‘train everyone’ result in little lasting change. Work in the Transformation Zone is designed to avoid or address such challenges.

Demonstrations or ‘pilots’ are a place to start with an evidence-based program or practice (EBP). These first few tests of the “good idea” are an important start to the process. We have to be able to do it once to be able to do it many times. However, the first test of the good idea won’t lead to more systemic change. In most cases, successful demonstrations have not been staged with replication or sustainability in mind. Often extraordinary individuals have implemented their desired change by developing ‘work arounds’ or calling in favors to combat systemic problems. A ‘ghost system’ develops to support these one-time heroic efforts.

The Transformation Zone work is designed not only to improve instructional and program practices, but it is also a purposeful approach to developing a sustainable, replicable, and effective infrastructure. By making changes in a defined Transformation Zone, leaders have the opportunity to develop the system as they want it to be; the system as it will function in the future. The Transformation Zone provides the opportunity to align system components to support the new way and work.

In addition, the Transformation Zone provides the opportunity to develop capacity and understand the implementation infrastructure needed to support the [Selection](#), Training, [Coaching](#), and [Fidelity Assessment](#) of individuals who will be implementing new ways of work. We need to understand what is required to support and sustain change over time and across staff so that the evidence-based program or practice (EBP) can be used beyond the first cohorts in the Transformation Zone and beyond the Transformation Zone on the way to full scale-up.

In short, an effective way to move from a few successful pilots to “[readiness](#)” for scale-up is the use of a Transformation Zone.

Key Functions and Processes

Transformation Zones are used to establish simultaneously new ways of work (e.g., the EBP) and to develop the capacity to support the new ways of work (an implementation infrastructure to assure effective use of the EBP).

Using All Forms of PDSA

As noted previously, all forms of [Improvement Cycles](#) using [PDSA](#) processes we’ve reviewed are likely to be used in a Transformation Zone. There will be a need for Rapid-Cycle Problem-Solving as challenges to effective implementation emerge.

Usability Testing may be needed to be sure core components of the instructional program or practices are well-operationalized, improved, and can be used as intended in the full range of settings in the Transformation Zone. Practice-Policy Feedback Loops will be needed to communicate systemic challenges that need to be addressed to better align system requirements, resources, and supports with the new ways of work.

Transformation Zone Dimensions

It is impossible to make significant change simultaneously and successfully in all parts of a system. The Institute of Medicine examined large-scale reform efforts and concluded that, “Inducing major change in large organizations is much more difficult than simple behavioral changes because organizations themselves are problematic. Additionally, most organization designs are outdated and do not reflect current environments, requiring more comprehensive organizational change” (Chao, 2007).

[Implementation Teams](#) begin their work in a Transformation Zone to have a realistic shot at making a difference. The size and location of the Transformation Zone is determined by considering the following factors:

- How deep and significantly does this change the status quo?
 - How different is the new way of work?
 - How much change will be required at each level of the system?
 - How much competence and confidence building will be needed at every level?
- Do we have the necessary knowledge and expertise related to the EBP itself?
 - Are there many people available who are “experts” in the new way of work? Or are we relying on a few?
 - Is the new way of work well operationalized or is that part of the work in the first Transformation Zone experience?
 - Is formal technical assistance and support available to us or are we ‘building and flying the plane’?
- How experienced and accessible are our Implementation Teams?
 - Is this their first experience or are we able to “seed” new teams with experienced people who can guide and support the new teams?
 - Can we manage the geographic spread of the sites we are considering? Can we get to them frequently enough to do the work required?
- How well resourced is the implementation effort?
 - Are we layering this onto the work of already too-busy people?
 - Are other initiatives actively competing for attention?
 - Do we have the ability for the Implementation Team or Teams to meet frequently, communicate regularly and use PDSA processes?

The change agents, often the first Implementation Team(s), need to consider what it will take to be successful and simultaneously expose the effort to the challenges of real-world implementation, sustainability, and system change. Overall, the Transformation Zone size and characteristics need to be sufficiently diverse in terms of representing the overall system and scoped to be successful.

In a Transformation Zone, as challenges to uses of the EBP arise, these issues are brought to the attention of district leaders, regional support systems, or if needed to the [State Management Team](#) through the use of Practice-Policy Feedback Loops. Monthly meetings with these Leadership Teams are essential to making the organization and system changes needed to support and sustain effective [Implementation Teams](#) and effective education practices for all students. They are the vehicle for removing barriers

and institutionalizing facilitators to support improved educational practices and improved student outcomes.

This process is very different from typical pilot tests, demonstrations, or broad brush exhortations where systems and supports are not intentionally developed to use practices or make significant systemic change. [PDSA Cycles](#) help teams attend to what is working and what is not working and focus on developing supports and infrastructure needed to assure intended outcomes. The whole process is done with an eye on defragmenting the system, removing barriers to effective outcomes, and creating the future capacity to make use of a variety of evidence-based programs and other practices statewide.

Scaling-Up

The first adaptive challenges are dealt with in a constructive way as a result of activities in the [Transformation Zone](#). As the Transformation Zone expands to include more districts and their schools, new challenges will arise resulting in more changes to the current systems. As this process continues, the system itself is reinvented to more precisely and functionally support EBPs and implementation infrastructure within districts and the entire state education system. This is in contrast to effective EBPs changing to survive in the current system and as a result, ‘adapting out’ the very components that make them effective. As implementation capacity expands and [adaptive issues](#) are resolved, the Transformation Zone encompasses all districts in the state and the ‘ghost’ system has become a ‘host’ system for continual improvement of education outcomes for generations to come.

Real World Requirements

But what about federal, state, or grant requirements that require large-scale rollouts? It is a fact of life that mandates, state statutes, contracts, and grant requirements are not necessarily informed by implementation best practices! What to do?

Even when large-scale roll outs are required it is often possible to use Transformation Zone concepts. You might think of it as selecting a ‘virtual transformation zone’. You can recruit and select a cohort of districts, agencies, or entities in the larger system that want to work with you more deeply. You can then provide them with the kind of training, coaching, feedback, support, and problem-solving that would have gone into a more explicit use of a Transformation Zone. By paying attention, through interactions with [Implementation Teams](#) and by more carefully monitoring challenges and process data,

you can learn what it will take to improve processes and outcomes over time in the rest of the state.

Think of the less intensive work and lower levels of attention for the broader system as [Exploration Stage](#) work to create readiness and improve knowledge. The provision of information, access to assessments and materials, and web-based toolkits can all contribute to broader system buy-in and preparation. And we know from the literature that 5% to 15% of the entities not receiving formal implementation support will find a way to be somewhat successful.

Summary

Student outcomes can be improved with greater effectiveness and increased efficiency. An infrastructure for implementation can be established to support the successful uses of multiple evidence-based programs or other practices statewide. This infrastructure can be tested, improved, and organized on a limited scale in a Transformation Zone. The ‘bugs’ in the process can be safely and more quickly detected and resolved by using all the forms of [Improvement Cycles](#): Rapid-Cycle Problem-Solving, Usability Testing, and Practice-Policy Feedback Loops. The Transformation Zone itself is a large-scale Plan, Do, Study, Act Cycle with the next “act” including the next cohort of implementation settings and sites (e.g., regions, districts, schools).

Summary

Improvement Cycles support the purposeful process of change. Implementation teams use Improvement Cycles to change on purpose. Improvement cycles are based on the Plan, Do, Study, Act process. Improvement Cycles help us identify challenges, solve problems, improve practices, and create hospitable environments for new ways of work.

Key Takeaways

1. **Rapid-Cycle Problem-Solving** is one type of improvement cycle that uses the Plan, Do, Study, Act process. It is typically used to solve emergent or urgent problems that are impacting the roll-out or use of the innovation or to make quick, incremental improvements.
2. **Usability Testing** is used to test the feasibility and impact of a new way of work prior to rolling it out more broadly. Usability Testing consists of a planned series of tests of an innovation, components of an innovation, or implementation processes for improvement.
3. **Practice-Policy Feedback Loops** are another example of an Improvement Cycle process. Practice-Policy Feedback Loops are established to ensure that barriers to effective practice are brought to the attention of policy makers, sound policy that strengthens implementation is maintained, and transparent processes exist to support the development of policy enabled practices and practice informed policies.
4. A **Transformation Zone** is a “vertical slice” of the system; small enough to be manageable and large enough to ‘disturb’ and impact key aspects of the system, yet not impact the entire system. The intention is to develop the systems and infrastructure that will be needed for successful implementation, sustainability, and scale-up.

Resources

Read

- [Four Domains for Rapid School Improvement: An Implementation Framework](#)
NIRN and the National Center for School Turnaround (2018) published the Four Domains for Rapid School Improvement: An Implementation Framework as a companion to the Center for School Turnaround’s (2017) recent publication of The Four Domains for Rapid School Improvement: A Systems Framework. The aim of this companion paper is to describe how to use the improvement domains in practice.

- [Integrating Improvement and Implementation Sciences to Enhance Educational Outcomes](#)

This brief highlights similarities and differences between implementation science and improvement science, as well as how they can be used together to support programs and practices aiming to improve outcomes.

Watch

- [Voices from the Field Video Series \(Improvement Cycles\)](#) Voices from the Field Video Series: Improvement Cycles

Reflect

- [Activity: Getting started with Improvement Cycles](#)
Review these diagrams and consider the following questions. We encourage you to review and discuss these with your team and/or to write down your responses.
- [Activity: PDSA – Who Am I?](#)
Implementation Teams use PDSA Cycles to help them make meaningful changes, alleviate barriers, and achieve expected outcomes. This activity is designed to help you understand your PDSA strengths, recognize strengths in others, and identify potential team gaps.

Apply

- [Tool: PDSA Planning Template](#)
Plan-Do-Study-Act (PDSA) Cycles are used for rapid cycle problem solving in active implementation. Use of this PDSA Planning Template will help ensure there is clear communication, the plan is enacted, you begin to collect data to study, and you act on what was learned.

For additional resources, visit: <https://implementation.fpg.unc.edu/resources/>

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