

Rapid – Cycle Problem-Solving

We will go into a bit more detail related to the Plan, Do, Study, Act (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 innovation 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 innovation 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 set of practices or a new program 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?

“Let Rosa solve this, she’s been in on it from the beginning.”

“Somebody needs to fix this.”

“This is so frustrating; they just dump things on us and expect us to work miracles.”

“Well, that’s not the problem anyway. They are just resisting the change.”

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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 a team lead who will take responsibility for pulling together the team, organizing the process, and seeing it through to a “successful” conclusion.

The team 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.

A problem-oriented example might be generating more timely reports for monitoring the progress of students who are engaged in receiving a new math curriculum and new instructional practices.

An incremental improvement example might be *improving the integration of meaningful parent input* into the selection of a school-wide anti-bullying initiative.

When and How Do Problems Get Detected and Reported?

The important message here is that undetected and unreported problems cannot be solved....but they will fester.

Thinking back to the [Module 4: Implementation Stages](#), you will recall that 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. However, problems amenable to rapid-cycle problem-solving can emerge during any stage.

“This is so frustrating; they just dump things on us and expect us to work miracles.”

The Implementation Team needs to establish communication protocols for detecting and reporting challenges. Some questions the Implementation Team may want to answer are below. For more information see [Handout 8: Communications Protocols Worksheet](#).

- 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). Here is an example of a reporting form from the MiBLSi project in Michigan: [Handout 16: PDSA Worksheet \(Michigan Integrated Behavior and Learning Support Initiative Program\)](#)

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 Plan, Do, Study, Act 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 that a solution has been reached, or that another round of PDSA is needed?

“Well, that’s not the problem anyway. They are just resisting the change.”

Rapid Cycle 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 on-going 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	<p><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.</p> <p><i>Hypothesis:</i> Teachers are not skilled at introducing role plays and are concerned about addressing challenges students present.</p> <p><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</p>
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)