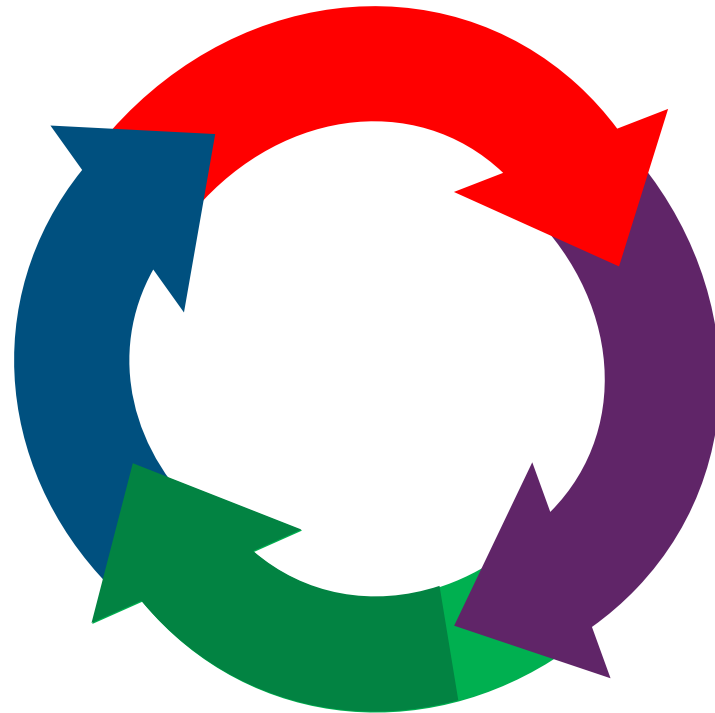


A Flipbook to Support Use of the Problem-Solving Model for Individual Students

Step 1: Problem Identification

What is the problem?

**Step 2:
Problem Analysis**
Why is it occurring?



**Step 4:
Plan Evaluation**
*Did we follow the plan?
Did it work?*

**Step 3:
Plan Identification
and Implementation**
What can we do about it?

Step 1: Problem Identification

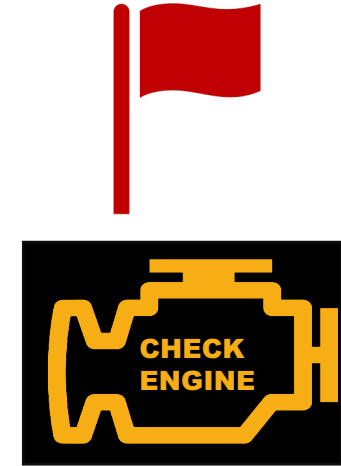
What is the problem?

Purpose:

- 1) Define the problem as the gap between the expected and the desired outcome.
- 2) Determine if the problem is large enough to warrant solving.

Guiding Questions and Thoughts:

- *What is the difference between the expected performance and observed performance?*
- *Is the difference large enough to warrant problem solving (moving to Step 2)?*
- *Has the initial problem been verified through a risk verification process?*
- *Is the observed problem evident in groups of students (classroom, grade-level, schoolwide) and thus reflective of a systems issue?*
- *Consider academic and behavioral data when identifying a problem*
- *A student goal can be identified here or later within Step 3*



What red flags indicate that a problem exists?

Examples:

- *Student reads 40 words per minute. Expected to read 90 words. Gap is 50 words and large enough to move to Step 2.*
- *Student scored 400 on a benchmark assessment. Should score between 420-500. Problem is not large enough to warrant moving to Step 2.*

Why is the problem occurring?

Purpose:

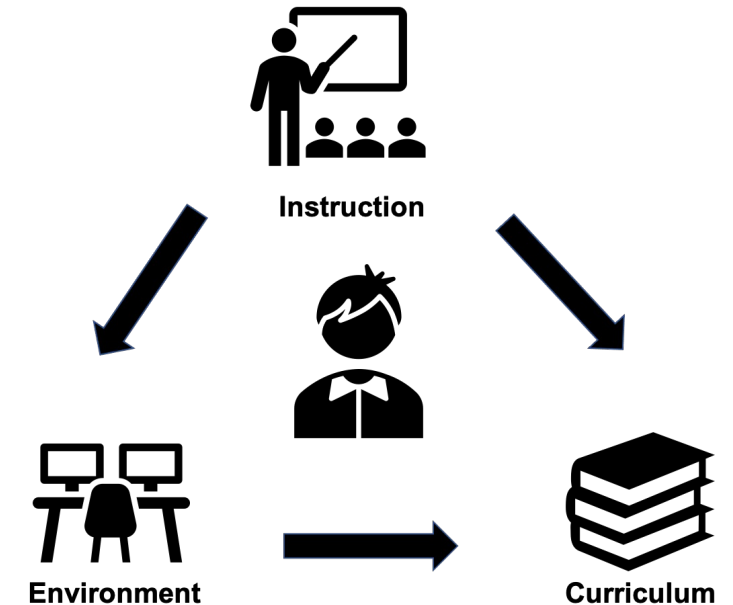
- 1) Understand the context of the problem
- 2) Identify contributing factors (i.e., hypotheses) as to why the problem is occurring.
- 3) Gather information using RIOT (*review, interview, observe, test*) across ICEL (*instruction, curriculum, environment, learner*).

Instruction	How we teach
Curriculum	What we teach
Environment	Where we teach
Learner	Who we teach

Focus on alterable variables!

Guiding Questions and Thoughts:

- *Have we collected data about educationally relevant and alterable variables that test our hypotheses?*
- *Have we found factors to change among instruction, curriculum, and environment that would increase student learning?*
- *What skills do students/the student have related to the defined problem?*
- *What skills are missing related to the problem?*
- *What stage is the missing skill within on the instructional hierarchy?*

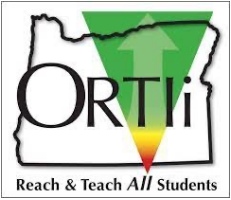


RIOT and ICEL Matrix with Sources of Information and Examples of Variables to Assess

	Instruction	Curriculum	Environment	Learner(s)
General Hypothesis	Is the instruction evidence-based, explicit, and intense enough?	Do(es) the student(s) have the prerequisite skills to access the curriculum successfully?	Does the environment support learning in a positive, proactive way?	Does the instruction, curriculum, and environment consider learner(s') characteristics?
Review:	<ul style="list-style-type: none"> permanent products or lesson plans for previous strategies and interventions used; instructional demands; differentiation provided; types of responses by students previous instruction for practices or interventions used 	<ul style="list-style-type: none"> lesson plans for skills taught in relation to students' mastery of skills; scope and sequence of skills; learning objectives relative to student skills; massed versus distributed practice; juxtaposition of examples used for concepts 	<ul style="list-style-type: none"> lesson plans for extent to which behavioral expectations were taught seating charts or arrangement for access to materials, board, sound in room 	<ul style="list-style-type: none"> products or gradebook for comparing student(s) scores to classroom average or others in group records for health history; attendance; previous test results and patterns previous instruction for response and change in skills
Interview:	<ul style="list-style-type: none"> teacher for intended versus actual use of strategies; perceptions of use of strategies peers for perception of tasks and instruction 	<ul style="list-style-type: none"> teacher for adherence to curriculum, pacing, lessons, etc; alignment of core with interventions and of needs of student(s) 	<ul style="list-style-type: none"> teacher for teaching of expectations and routines; use of classroom management strategies students for perception of climate, structure, and routines 	<ul style="list-style-type: none"> perception of needs and skills; perceptions between classes or core versus intervention(s)
Observe:	<ul style="list-style-type: none"> lessons for adherence and use of evidence-base practices task demands; completion of tasks by student(s); opportunities to respond and accuracy of responses; focus of instruction compared to students' mastery of skill along instructional hierarchy 	<ul style="list-style-type: none"> fidelity to content/lesson plans alignment of objectives, use of curriculum, content covered between classrooms, settings, etc; clarity of learning objectives 	<ul style="list-style-type: none"> physical environment interactions among students and among student-staff/teacher feedback (error correction and praise) provided 	<ul style="list-style-type: none"> behavior patterns (antecedents, behaviors, responses) student engagement with content
Test:	<ul style="list-style-type: none"> administer fidelity checklists or measures of instructional practices manipulate instructional practices or demands and measure effect on student(s') responses 	<ul style="list-style-type: none"> determine readability of texts, assignments, etc in relation to student reading level manipulate difficulty of material or manner in which it's presented to measure effect on student(s') responses 	<ul style="list-style-type: none"> administer classroom environment scales compare student(s') performance between settings or classrooms 	<ul style="list-style-type: none"> direct assessment to determine student's mastery of skills along instructional hierarchy administer/examine diagnostic data for student(s') conduct error analysis to determine error patterns direct behavior rating to quantify behaviors of concern

Possible factors within each domain to assess

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Instruction	Curriculum
<ul style="list-style-type: none">• Use of explicit instruction• Adequate modeling• Prompting and precorrection• Opportunities to respond• Corrective feedback• Minutes and frequency of sessions• Standards of practice• Pacing	<ul style="list-style-type: none">• Scope and sequence relative to student's background knowledge/skills• Fidelity to curriculum materials• Skills taught to mastery• Adequate opportunity for practice and review
Environment	Learner
<ul style="list-style-type: none">• Rate of feedback/praise• Physical layout of room• Evidence-based classroom management• Classroom routines and behavior• Peer work/partnerships explicitly taught and used• Student engagement• Teacher-student interactions• Relationships with others• Group size and arrangement• Transition times minimized	<ul style="list-style-type: none">• Current skill(s) on the instructional hierarchy• Mastered and missing skills• Learner attributes in relation to setting• Requisite skills for skills being taught• Motivation and persistence• Self-efficacy• Attendance• Academic skills across domains• Connections with school• Vocabulary/language skills

Instructional Hierarchy and Suggested Instruction

Stage	Goal	Student Performance	Instructional Recommendations
Acquisition	Perform the skill(s) accurately and independently	<ul style="list-style-type: none"> Initial learning of skill Inconsistent responding and performance 	<ul style="list-style-type: none"> Use explicit instruction, including modeling and prompting use of the skill Provide feedback on effort and accuracy
Automaticity	Perform skill(s) accurately with fluency, and can combine skill with others skills	<ul style="list-style-type: none"> Performs skill accurately Slow and laborious 	<ul style="list-style-type: none"> Provide practice and repetition Ensure blending with other skills Provide feedback for reaching standards or improving fluency
Generalization	Use of skill(s) across situations and settings; can apply to real world settings	<ul style="list-style-type: none"> Accurate and fluent in responding Does not perform skill well in settings different than instructional setting 	<ul style="list-style-type: none"> Model, practice, and reinforce across different settings and contexts
Adaptation	Can modify skill(s) within a new context or settings	<ul style="list-style-type: none"> Accurate and fluent with skill Can perform in novel settings Does not modify skill to adapt to situations 	<ul style="list-style-type: none"> Provide opportunities for adaptation Have the student identify the key concepts of the skill(s)

What can we do about it?

Purpose:

- 1) To identify a goal for the student and method for progress monitoring
- 2) To identify and implement a clear plan (solution) for the problem
- 3) To identify a way to measure fidelity and outcome(s) for the plan



Guiding Questions and Thoughts:

- Is the data on fidelity and student outcomes (i.e., progress monitoring) efficient and easy to collect?
- Does the instruction match the student's skill on the instructional hierarchy?
- Is the solution designed to effectively teach the expected skill or behavior?
- Is the solution designed to effectively and consistently prompt and reinforce the expected skill or behavior?

4 Components of a Goal:



Reference: Simonsen & Myers, 2015

Questions for Creating a Comprehensive Plan

Teaching Strategies

- How can we define and teach the skills we want?

Prevention Strategies

- How can we prompt the skill we want?
- How can we avoid misuse of the skill?

Response Strategies

- How can we build in systematic rewards for the taught skill?
- How can we correct any misuses of the skill or use of unwanted skills?

Data Collection

- How will we collect and use data to evaluate (a) implementation fidelity and (b) impact on student outcomes?



Harlacher & Whitcomb, 2022; Newton et al., 2012; Simonsen et al., 2021

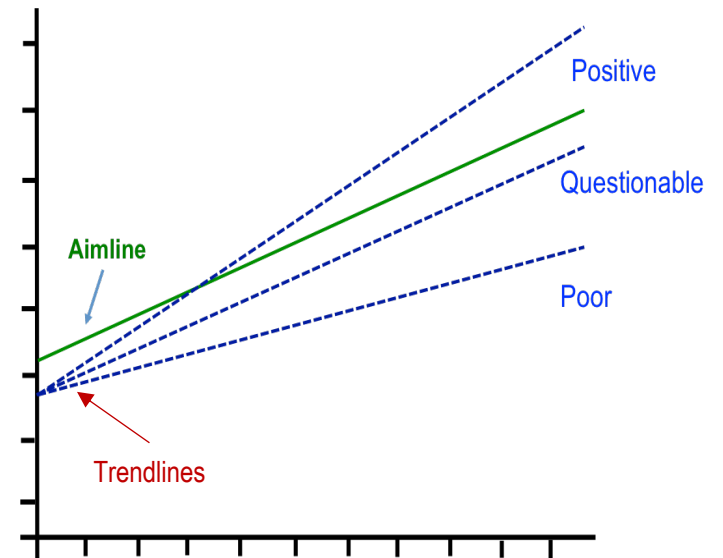
Did we follow the plan? Did it work?

Purpose:

- 1) To evaluate fidelity of the plan
- 2) To evaluate student progress/outcome

Guiding Questions and Thoughts:

- Was fidelity of the plan 90-95% or higher?
- Is there sufficient data points to judge the student's response to the plan?
- Is the student on-track to reach their goal? (Is the trendline positive, questionable, or negative?)
- If a positive response, how can the plan be faded out?
- If a questionable response, can the support be intensified to ensure a positive response?
- If a negative response, what instructional factors can be adjusted to ensure a positive response?



Intersection of Fidelity and Outcome Data

**High fidelity,
Low outcomes:**

Plan did not work (revise plan to address issue)

**High fidelity,
High outcomes:**

Plan worked (consider fading out supports)

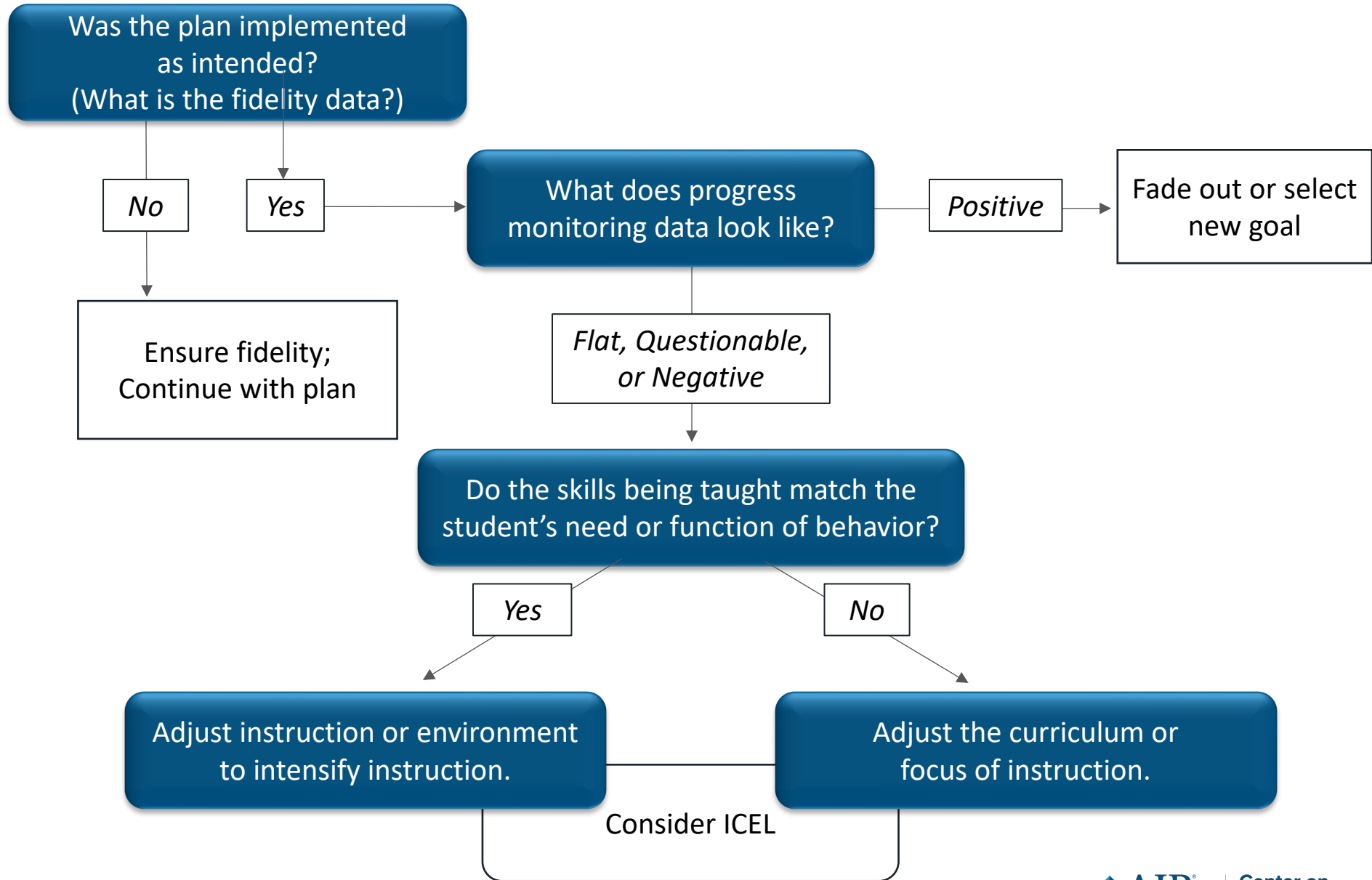
**Low fidelity,
Low outcomes:**

Plan did not work (improve fidelity)

**Low fidelity,
High outcomes:**

Plan worked (unknown what led to results)

Plan Evaluation Flowchart



Taxonomy of Intervention Intensity

Adjust Strength

Select an intervention with stronger effect size.

Select an intervention more effective for students with intensive needs.

Adjust Alignment

Adjust instructional focus to ensure it targets student skill gaps.

Adjust instructional focus so that it's not redundant with other support or teaches previously taught skills.

Ensure that the intervention does not supplant access to core instruction or other forms of support.

Change Dosage

Increase opportunities to respond.

Increase minutes per session (*e.g., from 20 to 30 minutes/session*).

Increase frequency of sessions (*e.g., from 2 days/week to 4 days*).

Increase total sessions (*e.g., extend intervention time from a 6-week course to 10 weeks*).

Add additional time blocks (*e.g., add a 10-minute block; add before or after-school time*).

Change intervention facilitator.

Reduce group size or regroup students with similar needs.

Taxonomy of Intervention Intensity

Adjust Attention to Transfer

Coordinate instruction across other levels of support to ensure taught skills transfer.

Increase connections made among mastered and related skills.

Modify sequence or order of skills

Adjust Comprehensiveness

Activate background knowledge more

Increase accuracy of responses

Ensure appropriate scaffolding

Make instructional strategies more conspicuous

Modify sequence or order of skills

Adjust examples and non-examples

Ensure judicious review

Adjust amount of practice; ensure spaced practice

Ensure clear error correction procedures and corrective feedback

Add meta-cognitive/comprehension strategies

Increase modalities used

Adjust Behavioral or Academic Support

Change setting to reduce distractions

Reteach/reinforce behavioral expectations

Ensure a 5:1 ratio of positive statements to corrective statements

Ensure use of behavior-specific praise statements (instead of general praise)

Ensure pre-correction and prompting is adequate

Teach self-regulation or executive functioning skills

Ensure reinforcement for behavior skills that support engagement and work completion

1400 Crystal Drive, 10th Floor

Arlington, VA 22202-3239

202.403.5000

mtss4success.org

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