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

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

**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.
Step 2: Problem Analysis

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).

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?
## General Hypothesis
- Is the instruction evidence-based, explicit, and intense enough?

## Review:
- 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

## Interview:
- teacher for intended versus actual use of strategies; perceptions of use of strategies
- peers for perception of tasks and instruction

## Observe:
- lessons for adherence and use of evidence-based 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

## Test:
- administer fidelity checklists or measures of instructional practices
- manipulate instructional practices or demands and measure effect on student(s’) responses

## Instruction
- Does the student(s) have the prerequisite skills to access the curriculum successfully?

## Curriculum
- 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

## Environment
- lesson plans for extent to which behavioral expectations were taught
- seating charts or arrangement for access to materials, board, sound in room

## Learner(s)
- 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

### Source:
Harlacher et al., 2024

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## Possible factors within each domain to assess

<table>
<thead>
<tr>
<th>Instruction</th>
<th>Curriculum</th>
</tr>
</thead>
</table>
| • Use of explicit instruction  
• Adequate modeling  
• Prompting and precorrection  
• Opportunities to respond  
• Corrective feedback  
• Minutes and frequency of sessions  
• Standards of practice  
• Pacing | • Scope and sequence relative to student’s background knowledge/skills  
• Fidelity to curriculum materials  
• Skills taught to mastery  
• Adequate opportunity for practice and review |

<table>
<thead>
<tr>
<th>Environment</th>
<th>Learner</th>
</tr>
</thead>
</table>
| • 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 | • 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

<table>
<thead>
<tr>
<th>Stage</th>
<th>Goal</th>
<th>Student Performance</th>
<th>Instructional Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquisition</td>
<td>Perform the skill(s) accurately and independently</td>
<td>• Initial learning of skill</td>
<td>• Use explicit instruction, including modeling and prompting use of the skill</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Inconsistent responding and performance</td>
<td>• Provide feedback on effort and accuracy</td>
</tr>
<tr>
<td>Automaticity</td>
<td>Perform skill(s) accurately with fluency, and can combine skill with others skills</td>
<td>• Performs skill accurately</td>
<td>• Provide practice and repetition</td>
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<tr>
<td></td>
<td></td>
<td>• Slow and laborious</td>
<td>• Ensure blending with other skills</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Provide feedback for reaching standards or improving fluency</td>
</tr>
<tr>
<td>Generalization</td>
<td>Use of skill(s) across situations and settings; can apply to real world settings</td>
<td>• Accurate and fluent in responding</td>
<td>• Model, practice, and reinforce across different settings and contexts</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Does not perform skill well in settings different than instructional setting</td>
<td></td>
</tr>
<tr>
<td>Adaptation</td>
<td>Can modify skill(s) within a new context or settings</td>
<td>• Accurate and fluent with skill</td>
<td>• Provide opportunities for adaptation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Can perform in novel settings</td>
<td>• Have the student identify the key concepts of the skill(s)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Does not modify skill to adapt to situations</td>
<td></td>
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</table>
Step 3: Plan Identification and Implementation

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:
- Who (Individual)
- What (Skill)
- How Much (Criteria)
- By When, Where (Conditions)

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*
Step 4: Plan Evaluation

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?
Plan Evaluation Flowchart

Was the plan implemented as intended? (What is the fidelity data?)

- **No**
  - Ensure fidelity; Continue with plan

- **Yes**
  - What does progress monitoring data look like?
    - **Positive**
      - Fade out or select new goal
    - **Flat, Questionable, or Negative**
      - Do the skills being taught match the student’s need or function of behavior?
        - **Yes**
          - Adjust instruction or environment to intensify instruction.
        - **No**
          - Adjust the curriculum or focus of instruction.

Consider ICEL
## Taxonomy of Intervention Intensity

<table>
<thead>
<tr>
<th>Adjust Strength</th>
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<tbody>
<tr>
<td>Select an intervention with stronger effect size.</td>
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<tr>
<td>Select an intervention more effective for students with intensive needs.</td>
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<table>
<thead>
<tr>
<th>Adjust Alignment</th>
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<tbody>
<tr>
<td>Adjust instructional focus to ensure it targets student skill gaps.</td>
</tr>
<tr>
<td>Adjust instructional focus so that it’s not redundant with other support or teaches previously taught skills.</td>
</tr>
<tr>
<td>Ensure that the intervention does not supplant access to core instruction or other forms of support.</td>
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<table>
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<tr>
<th>Change Dosage</th>
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<tbody>
<tr>
<td>Increase opportunities to respond.</td>
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<tr>
<td>Increase minutes per session (<em>e.g.</em>, <em>from 20 to 30 minutes/session</em>).</td>
</tr>
<tr>
<td>Increase frequency of sessions (<em>e.g.</em>, <em>from 2 days/week to 4 days</em>).</td>
</tr>
<tr>
<td>Increase total sessions (<em>e.g.</em>, <em>extend intervention time from a 6-week course to 10 weeks</em>).</td>
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<tr>
<td>Add additional time blocks (<em>e.g.</em>, <em>add a 10-minute block; add before or after-school time</em>).</td>
</tr>
<tr>
<td>Change intervention facilitator.</td>
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<tr>
<td>Reduce group size or regroup students with similar needs.</td>
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# Taxonomy of Intervention Intensity

<table>
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<tr>
<th>Adjust Attention to Transfer</th>
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<tbody>
<tr>
<td>Coordinate instruction across other levels of support to ensure taught skills transfer.</td>
</tr>
<tr>
<td>Increase connections made among mastered and related skills.</td>
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<tr>
<td>Modify sequence or order of skills</td>
</tr>
</tbody>
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<table>
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<tr>
<th>Adjust Comprehensiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activate background knowledge more</td>
</tr>
<tr>
<td>Increase accuracy of responses</td>
</tr>
<tr>
<td>Ensure appropriate scaffolding</td>
</tr>
<tr>
<td>Make instructional strategies more conspicuous</td>
</tr>
<tr>
<td>Modify sequence or order of skills</td>
</tr>
<tr>
<td>Adjust examples and non-examples</td>
</tr>
<tr>
<td>Ensure judicious review</td>
</tr>
<tr>
<td>Adjust amount of practice; ensure spaced practice</td>
</tr>
<tr>
<td>Ensure clear error correction procedures and corrective feedback</td>
</tr>
<tr>
<td>Add meta-cognitive/comprehension strategies</td>
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<tr>
<td>Increase modalities used</td>
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</tbody>
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<tr>
<th>Adjust Behavioral or Academic Support</th>
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</thead>
<tbody>
<tr>
<td>Change setting to reduce distractions</td>
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<tr>
<td>Reteach/reinforce behavioral expectations</td>
</tr>
<tr>
<td>Ensure a 5:1 ratio of positive statements to corrective statements</td>
</tr>
<tr>
<td>Ensure use of behavior-specific praise statements (instead of general praise)</td>
</tr>
<tr>
<td>Ensure pre-correction and prompting is adequate</td>
</tr>
<tr>
<td>Teach self-regulation or executive functioning skills</td>
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<tr>
<td>Ensure reinforcement for behavior skills that support engagement and work completion</td>
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