Identifying and Intensifying Intervention: What to Do and How to Do It

Produced by the Technical Assistance Partnership for Academics
Disclaimer

The resources shown are designed to provide helpful information. Resources are provided for instructional use purposes only and do not constitute NYSED endorsement of any vendor, author, or other sources. To the best of our knowledge, the resources provided are true and complete.
Today’s Facilitators

Name
Introduction and Objectives
Introductions

NAME
ROLE
DISTRICT
SCHOOL
POPULATION SERVED
Learning Objectives

Participants will be able to identify and differentiate between skill-based, fluency-based, and performance-based interventions.

Participants will learn when each of these approaches is appropriate, given the nature of the observed problem.

Participants will learn how to titrate the intensity of intervention to the learner as a response to instruction.
Schedule of Events

Review how assessment can inform instruction so interventionists can problem-solve.

Review a case example to guide discussion

Define and differentiate between three families of academic interventions

Practice categorizing academic interventions

Review methods to intensify these types of interventions
Defining Intervention

*Intervention entails the purposeful and selective intensification of elements of instruction for an individual or group of students beyond that which is typically delivered to all.*

So, intervention = instruction.

To understand what makes good intervention, we need to understand what makes for good instruction. The principles are the same.
Skill x Treatment Interactions

When formulating an intervention, you use assessment data to determine:
- The appropriate intervention given the nature of the instructional deficit.

The appropriate amount of intervention given the severity of the instructional deficit.

When a pattern of scores is used to predict the best treatment, this is called a skill x treatment interaction.
- This is the treatment most likely to be successful in remediating the problem, given the data observed.
Skill x Treatment Interactions II

• When we say data, we mean:
  Data that is quantifiable
  It’s meaning is easily understood
  That is reliable and a valid measure of the problem
  That can be used formatively (repeatedly over time)

• For example, Reading CBM (R-CBM) has been shown to be a reliable and valid indicator of reading fluency. It:
  Results in a numerical score (words correct per minute), representing a student’s oral reading fluency rate, which can be easily graphed
  Can be used repeatedly over time.
  Has evidenced reliability and validity as a measure of fluency
Sample Data Table

Torie’s scores were as follows:

<table>
<thead>
<tr>
<th>Titles</th>
<th>R-CBM</th>
<th>NWF</th>
<th>WRF</th>
<th>MAZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td>30 Words Count</td>
<td>50 Correct Letter Sequences</td>
<td>20 Words Read Fluently</td>
<td>3 Correct</td>
</tr>
<tr>
<td>Accuracy</td>
<td>91%</td>
<td>92%</td>
<td>88%</td>
<td>100%</td>
</tr>
<tr>
<td>Benchmark</td>
<td>Intensive Support Needed</td>
<td>Strategic Support Needed</td>
<td>Strategic Support Needed</td>
<td>Intensive Support Needed</td>
</tr>
</tbody>
</table>
Sample Data Skill v. Performance

We did a skill v. performance deficit analysis to figure out whether Torie COULD exhibit the target behavior (reading fluency) under different conditions. We told her she could get a prize if she beat her old score on a new R-CBM passage.

<table>
<thead>
<tr>
<th>R-CBM w/o reinforcement (from sample data)</th>
<th>R-CBM w/ reinforcement</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 words correct</td>
<td>35 words correct</td>
</tr>
</tbody>
</table>

So the difference is 5 words correct, or a 14% difference
Sample Data Problem Statements

From Torie’s data, we can develop several problem statements.

A problem statement requires the following information:
- The condition under which the behavior occurs
- Observed performance
- Goal performance
Sample Data - Torie

• When presented with a 2nd grade R-CBM probe, Torie reads 30 wcpm in one minute with an 8% error rate. An average peer reads at least 51 wcpm in one minute with less than 10% error.

• When presented with a 2nd grade NWF probe, Torie reads 50 cls in one minute with an 8% error rate. An average peer reads at least 55 cls in one minute with less than 10% error.

• When presented with a 2nd grade WRF probe, Torie reads 20 wr in one minute with a 12% error rate. An average peer reads at least 30 wr in one minute with less than 10% error.

• When presented with a 2nd grade MAZE probe, Torie achieved a score of 3 in one minute. An average peer achieves a score 5 correct.
Sample Data Torie Continued

Thinking aloud about Torie’s data

Torie’s accuracy across skills is marginally adequate. It seems like she can decode and correctly identify words.

Reading fluency is a problem.

The fluency problem is likely carrying over to comprehension. Slow readers often struggle to comprehend text.

This does not seem to be a performance issue (i.e., she can, but she won’t). It seems she does not yet have the right skills to read fluently.
Sample Data Goal Setting

So let’s set a goal for reading fluency

Torie is reading 30 wcpm. With good instruction, she probably can gain +2wcpm/week.

So in six weeks, a realistic goal for Torie would be reading about 42 wcpm. That’s not a final goal – it doesn’t catch her up to her peers yet – but it’s a reasonable short-term goal.
Sample Data Questions

Given Torie’s scores, how do we program intervention to meet her needs?

What should that intervention look like?
Choosing Amongst Interventions

We can use data to choose between three types of interventions:

- Skill deficits
- Fluency deficits
- Performance deficits

Data informs intervention for:
A skill deficit is defined as an observed lack of accuracy, such as when a student makes many mistakes when orally reading.

We see it when the behavior is done with high inaccuracy or at a very low fluency level.
## Choosing Amongst Interventions III

### Interventions for Skill Deficits

<table>
<thead>
<tr>
<th>Antecedent Supports</th>
<th>Response Supports</th>
<th>Consequence Supports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific, explicit cues to provide a correct response.</td>
<td>Additional opportunities to respond.</td>
<td>Immediate feedback for each answer.</td>
</tr>
<tr>
<td></td>
<td>Varying the way responses occur.</td>
<td></td>
</tr>
</tbody>
</table>

### Examples for Each Support

<table>
<thead>
<tr>
<th>Antecedent Support Examples</th>
<th>Response Support Examples</th>
<th>Consequence Support Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>“This word is “why”. What is this word?” Student is directed to look at a model of a spelling word prior to copying the problem/word</td>
<td>Student repeats the task multiple times. Student writes and orally identifies a letter.</td>
<td>Student is provided immediate feedback on the accuracy of each word identified correctly.</td>
</tr>
</tbody>
</table>
Choosing Amongst Interventions IV

A fluency deficit is defined as a lack of speed in using the behavior.

We see it when the behavior (i.e., reading) we observe is done accurately, but slowly.

Lack of attention to fluency is a chronic problem in our educational system (NRP, 2000)

Fluency is needed before students can apply skills in new areas.

### Interventions for Fluency Deficits

<table>
<thead>
<tr>
<th>Antecedent Supports</th>
<th>Response Supports</th>
<th>Consequence Supports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting a specific time to respond.</td>
<td>Providing additional opportunities to respond (Drill).</td>
<td>Feedback after session.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Self Graphing</td>
</tr>
</tbody>
</table>

### Examples for Each Support

<table>
<thead>
<tr>
<th>Antecedent Support Examples</th>
<th>Response Support Examples</th>
<th>Consequence Support Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telling a student he has one minute to show his best reading (i.e., encourage speed).</td>
<td>Repeat a brief session several times over in a session.</td>
<td>Providing feedback on all words incorrect AFTER the session ended. Have the student chart their own progress to build understanding and excitement.</td>
</tr>
</tbody>
</table>

### Examples Interventions for Fluency Deficits

- Repeated Readings
- Explicit Timing
- Wide Reading
Choosing Amongst Interventions VI

A performance deficit is defined as an observed lack of accuracy and/or fluency, despite the student having the skill.

We see it when the behavior is done with low accuracy or fluency, but only in certain environments.

Sometimes students can show both a skill/fluency deficit AND a performance deficit.

# Choosing Amongst Interventions - VII

## Interventions for Performance Deficits

<table>
<thead>
<tr>
<th>Antecedent Supports</th>
<th>Response Supports</th>
<th>Consequence Supports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting a goal.</td>
<td>Allowing the student choice of response.</td>
<td>Self-graphing.</td>
</tr>
<tr>
<td>Allowing the student choice of intervention.</td>
<td></td>
<td>Feedback and reinforcement for target behavior</td>
</tr>
</tbody>
</table>

### Examples for Each Support

<table>
<thead>
<tr>
<th>Antecedent Support Examples</th>
<th>Response Support Examples</th>
<th>Consequence Support Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tell the student they will get a prize if they beat their old score.</td>
<td>Telling the student they can orally present the answer or write it down.</td>
<td>Allowing the student to graph their project, providing verbal and tangible reinforcement for performance.</td>
</tr>
</tbody>
</table>

---

**Example Interventions for Performance Deficits**

- **Behavior plan for work productivity.**
- **Threading reinforcement for performance into intervention.**
- **Ample verbal reinforcement throughout the intervention.**
Choosing Amongst Interventions - Activity

With a partner, review the provided list of interventions:

Categorize each intervention for target deficits:

- Skill
- Fluency
- Performance

Identify each instructional strategy used in the intervention:

- Antecedent
- Response
- Consequence
Break
Back to Torie I

- So, what would work for Torie?
- Let’s look at the data again:

<table>
<thead>
<tr>
<th>Titles</th>
<th>R-CBM</th>
<th>NWF</th>
<th>WRF</th>
<th>MAZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td>30 Words Count</td>
<td>50 Correct Letter Sequences 8 Words Read Correct</td>
<td>20 Words Read Fluently</td>
<td>3 Correct</td>
</tr>
<tr>
<td>Accuracy</td>
<td>91%</td>
<td>92%</td>
<td>88%</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>R-CBM w/o reinforcement (from sample data)</th>
<th>R-CBM w/ reinforcement</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 words correct</td>
<td>35 words correct</td>
</tr>
</tbody>
</table>
So, Torie is:

Borderline accurate in her observed reading. She can sound out letters quickly but struggles a bit with blending them fluently.

Her scores are similar (< 20% difference) whether reinforcement is offered or not.

She lacks reading fluency.
So Torie is borderline accurate, lacks fluency, and seems motivated in basic 2nd grade reading.

What intervention from your toolkit might work for Torie?

Take 5 minutes and discuss with a partner.
A good intervention that includes heavy repeated practice, end-of-trial feedback, and some accuracy/skill building is Repeated Readings with Listening Passage Preview.

This involves having the student read the same passage several times over, with feedback. Prior to the first reading, the teacher models the read-aloud.
Returning to Skill x Treatment

So, in this case, we used Torie as an example of using data to inform treatment.

We used a pattern of high and low scores observed from measurement of direct academic skills (NWF, ORF, WRF, MAZE) to plan a specific course of intervention.

Research shows this works for direct, research-based measures, like CBM, but not for indirect measures. For example, we couldn’t use a measure of working memory to predict which math intervention might work best.

- Kearns & Fuchs, 2013
We implement the intervention x15min/day, 4 days a week.

We plan to evaluate progress after six weeks of implementation.
Intensifying Intervention - I

We identified and implemented an intervention for Torie, but…

How did that go?

We monitored x2/week using R-CBM probes
So there was upwards progress, but it was shallow.

It’s too early to change the intervention outright or consider Tier 3. We don’t want to throw the baby out with the bathwater.

How can we intensify the intervention?
Intensifying Intervention - II

Intensification IS NOT simply making smaller groupings
What about “smaller” will make the intervention more “intense”?  
• The additional practice?
• Ability to introduce a more diverse array of evidence-based instructional techniques?
• Possibility for more corrective feedback?

Research on smaller/individualized groupings as an intervention modification shows mixed results.

- Iversen, Tummer & Chapman, 2005
Intensifying Intervention - Dose & Sessions - I

One obvious option – increasing the amount of intervention

We can increase the dose (i.e., how many times we run the intervention components in each session)

And the number of sessions

So overall intervention time becomes dose x sessions
Intensifying Intervention - Dose & Sessions - II

Duhon et al (2009) conducted a study where they administered a quick (2min) class wide math intervention once a day.

If a given student didn’t respond, they intensified to x5 times a day.

If the student didn’t respond to that, they intensified to x10 times a day!

Most students responded to the base level of intervention. Some didn’t.

Of those that didn’t (3 students), two responded to x5. The last student responded to x10.
Intensifying Intervention - Dose & Sessions - III

So the take-home point:

One way to intensify intervention may be to increase the dose of the intervention and/or the amount of sessions.

This has been shown to work for many, but not all, students

We may not know what the right amount of intervention is until we progress monitor.
Intensifying Intervention – Dose & Sessions - IV

Schutte et al. (2015) spaced, or distributed, student practice

Time in intervention was equal across conditions, but distributed across:
  One session
  Two sessions
  Four sessions

Distributing the practice resulted in learning “sticking” better.
Research shows students respond well to having set goals and feedback on their progress.

This is seen in research as usually beating one’s previous score

- This gives them an explicit goal to work towards.

- Interventionists can share improvement from progress monitoring with students to motivate them to continue to improve.
Intensifying Intervention – Goal Setting - II

Research shows students respond well to having set goals and feedback on their progress.

Commonly, this is done visually and orally.

- Present a graph of their progress. Ask them to review and/or help complete it with data from the last or present session.
- Identify on the graph what the student's next goal is.
- Provide specific reinforcement for meetings short-term goals.
Intensifying Intervention – Feedback - I

Research shows students respond well to having explicit and immediate feedback regarding their response.

This is seen in research as usually feedback item-by-item or at the end of a task (reviewing what was correct and incorrect).
Intensifying Intervention – Feedback - II

Duhon et al. (2015)

48 2nd grade students

3 level group design
  Control
  Explicit Timing + Goal Setting + Reward
  Explicit Timing + Goal Setting + Immediate Feedback + Reward

Estimated Marginal Means Fluency

Digits Correct Per 2 Min

Pretest  Posttest
Intensifying Intervention – Set Size/Scope

Say we are doing a flashcard intervention for letter names. Should we teach ALL letter names at once? 10 at a time? 5?

One way we can intensify is to reduce the amount of information being taught and use the extra time to increase repetitions of that information.

Beginning ranges of 8-10 items, if teaching individual letters/words, is typical.

- Haegele & Burns, 2015
Intensifying Intervention – I

We intensified for Torie

We doubled the dose – 15min/x2 a day.

We also added goal setting (Torie must beat her score from the last cold read and graphs that progress herself).
R-CBM Performance

Words Read Correct Per Minute

31-Oct 10-Nov 20-Nov 30-Nov 10-Dec 20-Dec 30-Dec 9-Jan 19-Jan 29-Jan 8-Feb 18-Feb 28-Feb

Increased Intensity

Intervention Change
Intensifying Intervention – II

Intensification goes both ways

Putting students with mild/moderate deficits into highly intensive, resource rich environments is a waste of resources, including:

• Staff
• Materials
• Space
• And most importantly, student time!

We want to use data and experience to predict the best environment and use progress monitoring to revise, as necessary.
Identify an intervention that you’ve delivered. What was one of your “go to” strategies for students at-risk of a given reading problem?

What were the antecedent and consequence strategies engrained in that strategy? What about the intervention leads to change?

What was the dose and how many times did you administer it a week?
Now, consider:

Three ways you could intensify the intervention if you observed no or low response to instruction.

Why might these changes work?

What part(s) of the intervention do they target?

What data would you use to monitor progress and make these decisions?
Contact Us
References


