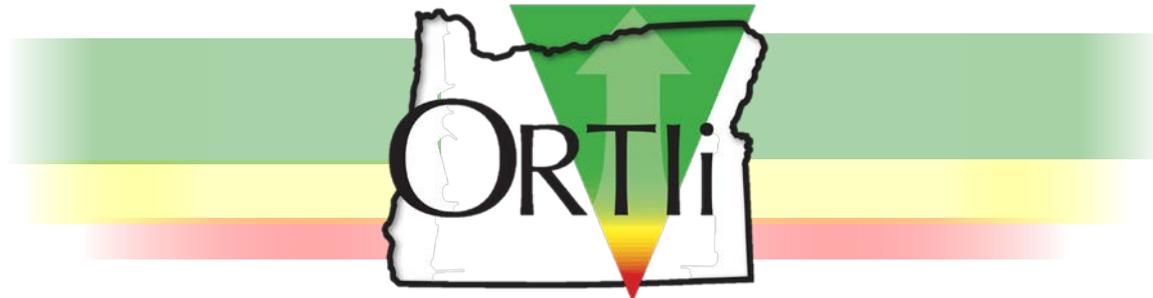
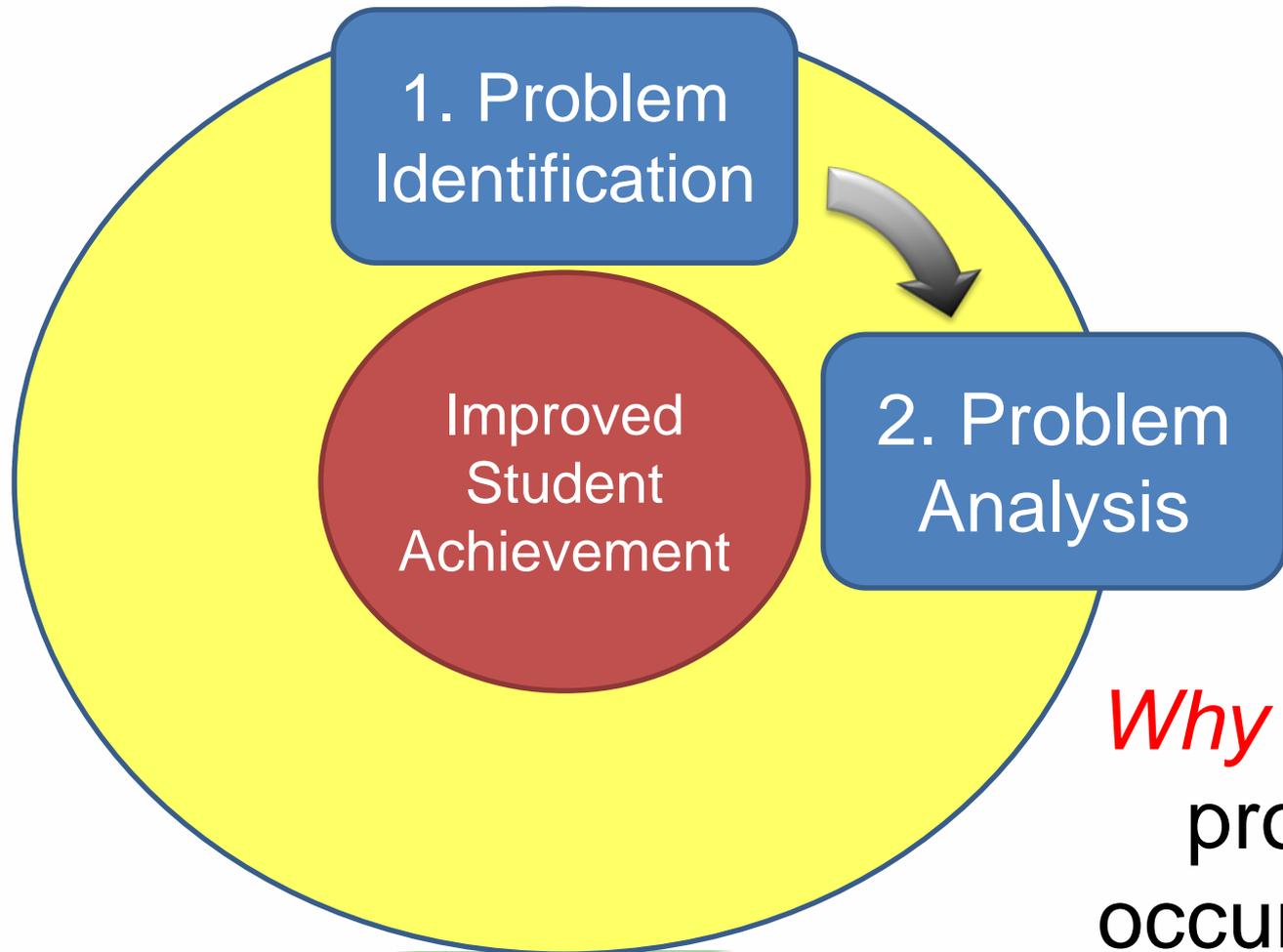


Vision: Every child in every district receives the instruction that they need and deserve...every day.

Hypothesis Development



The Problem Solving Process



Remember Nathan's "Problem"



Nathan is inaccurate.
He has difficulty decoding words, which
leads to fluency and comprehension
difficulties.

WHY?



Hypothesis Development

Instruction:

?

Curriculum:

?

Environment:

?

Learner:

?



Hypothesis Development

Why is the student not making progress in the target skill?

- **The skill is too hard** - the student needs instruction in pre-requisite skills
- **They haven't had enough instruction** The student lacks the necessary skills to perform the academic task & needs additional instruction, modeling, and feedback.
- **They haven't had enough practice** - The student possesses the necessary skills but is not yet fluent and automatic in those skills
- **They don't want to do it** - The student has the necessary skills but lacks the motivation to complete the task

It is important to link analysis to the target skill

Acquisition

Proficiency
/ Accuracy

Proficiency
/ Speed

Application
/ Motivation

**The skill
is too
hard**

**They
haven't
had
enough
instruction**

**They
haven't
had
enough
practice**

**They
don't
want to
do it**

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Problem Analysis Process

- Look at the information/data we have
- Identify what additional information/data we need in order to dig deeper
- Generate an *Initial Hypothesis* about why the problem is happening?
- **Confirm the hypothesis with data**



Start with the information that we know



Nathan's skill need is phonics

ICEL	What do we know?	What do we want to know?
Curriculum	Phonics for Reading with fidelity (98%) for 30 minutes a day He's not passing his checkouts	
Instruction	Phonics for Reading: Explicit & systematic instruction	
Environment	Intervention group is free from distractions Group size is 3	
Learner	Attendance is good Doesn't have any health concerns Making some progress but not enough to close the gap	

Acquisition

Proficiency
/ Accuracy

Proficiency
/ Speed

Application
/ Motivation



n



Initial Hypothesis:

Nathan's reading accuracy, fluency and comprehension problems occur because he hasn't received enough instruction.

What additional information do we need?



Whole Group



Small Group



Intervention Group



Independent Work

Step 2: Problem Analysis (Why is it happening?)

Domain	Relevant Known Information	
INSTRUCTION <ul style="list-style-type: none"> • <i>Is the student present for instruction (attendance)?</i> • <i>Is instruction explicit (i.e., model-lead-test format)?</i> • <i>Is the pacing brisk (frequent opportunities to respond)?</i> • <i>Is corrective feedback provided?</i> • <i>Are engagement strategies used?</i> • <i>Other?</i> 	CORE:	INTERVENTIONS:
CURRICULUM <ul style="list-style-type: none"> • <i>Is the time spent in intervention/small group enough to catch the student up?</i> • <i>Does the student need more targeted practice?</i> • <i>Is the curriculum too hard for the student?</i> • <i>Other?</i> 	CORE:	INTERVENTIONS:
ENVIRONMENT <ul style="list-style-type: none"> • <i>Are the expectations and routines clearly understood by the student?</i> • <i>Does the student have sufficient motivation to follow the expectations and routines?</i> • <i>Does the student need more specific positive feedback (reinforcement)?</i> • <i>Other?</i> 	CORE:	INTERVENTIONS:
LEARNER <ul style="list-style-type: none"> • <i>Attention/Motivation/Behavioral Difficulties (include any discipline referral data)</i> • <i>Has there been disruption in educational history?</i> <ul style="list-style-type: none"> • <i>Attendance Rate (all previous years)</i> • <i>Multiple Schools</i> • <i>Retention</i> • <i>Title X</i> • <i>ELPA data for all previous years</i> • <i>Vision/Hearing/other health concerns</i> • <i>Intervention History (attach Student Intervention Profile)</i> • <i>Other?</i> 		

Problem Hypothesis

Based on the above information (**INSTRUCTION, CURRICULUM, ENVIRONMENT, & LEARNER**) why do you think the current problem is occurring and what is the predicted result of an appropriately matched intervention?

Problem Hypothesis: The problem is occurring because

Prediction: The problem will be reduced if

Data used to validate hypothesis:

Do you have enough information to complete the problem analysis and develop an intervention? If no, what else is needed and who will be responsible for collecting it?



What else do we need to know?



Nathan's skill need is phonics

ICEL	What do we know?	What do we want to know?
Curriculum	Phonics for Reading with fidelity (98%) for 30 minutes a day He's not passing his checkouts	
Instruction	Reading Mastery: Explicit & systematic instruction	core instruction?
Environment	Intervention group is free from distractions Group size is 3	
Learner	Attendance is good Doesn't have any health concerns Making some progress but not	

INSTRUCTION

Problem Analysis		Plan Development	
Questions to ask about INSTRUCTION	How would we know? We could:	IF Evidence indicates:	THEN Consider the following solutions:
Is attendance consistent?	<p style="text-align: center;">Review...</p> <p>Attendance reports for core and intervention periods</p> <p>Lesson plans for explicit routines</p> <p style="text-align: center;">Interview...</p> <p>Teachers to determine instructional strategies used and expectations for learning</p> <p>Student to determine their perception of instruction (i.e., is it clear & engaging?)</p> <p style="text-align: center;">Observe...</p> <p>Core AND Intervention instruction to determine:</p> <ul style="list-style-type: none"> ➤ # of opportunities to respond per minute ➤ # of student errors made ➤ % of student errors corrected ➤ % of time engaged ➤ Instructional strategies used <p style="text-align: center;">Test...</p> <p>All students in cohort group to determine aggregate peer performance as compared to a proficiency standard</p>	The student is not attending regularly	→ • Determine why the student is not attending regularly and initiate attendance intervention
Is instruction explicit ?:		There is not enough teacher modeling	→ • Use clear, concise, & consistent language • Provide examples & non-examples • Demonstrate the task (e.g. think alouds) • Limit language to demonstration of skill • Break steps into smaller, simpler chunks • Sequence learning chunks from easier to more difficult
• Is there enough modeling (I do)?		There is not enough guided practice or pacing is slow	→ • Scaffold instruction, and fade level of support as student demonstrates independence • Provide more than one opportunity to practice each new skill • Provide opportunities to practice after each new step of instruction • Build in more opportunities to practice into program (<i>See examples in CURRICULUM section</i>)
• Is there enough guided practice and student opportunities to respond (We do)?		There is not enough feedback	→ • Ensure specific, immediate corrections • Focus on the correct answer, not the incorrect answer • Utilize an appropriate tone when correcting errors • End every correction by having students give the correct response
• Is there enough feedback ?		There are not enough independent opportunities to respond	→ • Ensure independent practice is at appropriate difficulty level & completed with high level of accuracy • Build in more opportunities to practice into program (<i>See examples in CURRICULUM section</i>)
• Is there enough independent practice (You do)?		Student are not engaged in instruction	→ • Vary student response methods (e.g. verbal, written, physical, partner responses)
Are effective engagement strategies used?			
Other questions?			



What else do we need to know?



Nathan's skill need is phonics

ICEL	What do we know?	What do we want to know?
Curriculum	Phonics for Reading with fidelity (98%) for 30 minutes a day He's not passing his checkouts	
Instruction	Reading Mastery: Explicit & systematic instruction	Is he getting enough OTR's? Is he getting enough feedback? Is he engaged in small group core instruction?
Environment	Intervention group is free from distractions Group size is 3	
Learner	Attendance is good Doesn't have any health concerns Making some progress but not	

Case Example Practice

Let's practice step 2!
Problem Analysis



Rita

Rita is a third grade student in the Hudson School District. She is a capable and eager student who gets along well with others and enjoys activities such as soccer and drawing. She entered the Hudson SD in the middle of her kindergarten year, after her parents separated and her family moved from a nearby district. She loves listening to her parents read to her but she has had difficulty mastering grade level reading skills.



Step 2: Problem Analysis

1. Read Rita's existing information & initial hypothesis statement
 2. Determine what questions you want to answer
 3. Determine what additional "data" you would want to collect to refine your hypothesis statement
 4. Determine who would collect those "data" and how they will collect it
- Turn your cup to green when finished
 - Approx. time (15 mins)



Start with the information that we know



Problem Definition: Rita is currently reading a median of 37 cwpm with 76% accuracy on 3rd grade DIBELS Next ORF passages with a score of 0 on the Daze comprehension measure. The 3rd grade winter benchmark is 86 cwpm with 96% accuracy, and 11 on the Daze. 3rd graders in the district are currently reading an average of 101 cwpm with 96% accuracy with a score of 10 on the Daze. She also scores 30% on core comprehension assessments while the class average is 85%.



Start with the information that we know



Rita's skill need is phonics

ICEL	What do we know?	What do we want to know?
Curriculum	Phonics for Reading with fidelity (97%) for 30 minutes a day No core small group time	
Instruction	Phonics for Reading routines in intervention	
Environment	Intervention group is well organized Group size is 5	
Learner	Attendance is generally good, intervention attendance unknown Doesn't have any health concerns Not making any progress	

Acquisition

Proficiency
/ Accuracy

Proficiency
/ Speed

Application
/ Motivation




Initial Hypothesis (Rita):

Rita's reading accuracy, fluency and comprehension problems occur because the skill is too hard for her.

Step 2: Problem Analysis

Step 2: Problem Analysis (Why is it happening?)

<i>First, Fill in the relevant questions from the If-Then Form that you would want to answer</i>	<i>Second, Determine who will collect this information and how it will be collected across both Core and Intervention time.</i>	
INSTRUCTION <i>Example: Is Attendance consistent?</i>	CORE: Attendance: Counselor will pull attendance reports	INTERVENTION: Attendance: Lit Specialist will review daily intervention attendance log
CURRICULUM	CORE:	INTERVENTION:
ENVIRONMENT	CORE:	INTERVENTION:
LEARNER		

First, determine what additional “data” you would want to collect to refine your hypothesis statement. (What questions do you want to answer?)

Step 2: Problem Analysis

Step 2: Problem Analysis (Why is it happening?)

<i>First, Fill in the relevant questions from the If-Then Form that you would want to answer</i>	<i>Second, Determine who will collect this information and how it will be collected across both Core and Intervention time.</i>	
INSTRUCTION <i>Example: Is Attendance consistent?</i>	CORE: Attendance: Counselor will pull attendance reports	INTERVENTION: Attendance: Lit Specialist will review daily intervention attendance log
CURRICULUM	CORE:	INTERVENTION:
ENVIRONMENT	CORE:	INTERVENTION:
LEARNER		

Second, determine who will collect this information and how it will be collected across both core and intervention time



Step 2: Problem Analysis

1. Read Rita's existing information & initial hypothesis statement
 2. Determine what questions you want to answer
 3. Determine what additional "data" you would want to collect to refine your hypothesis statement
 4. Determine who would collect those "data" and how they will collect it
- Turn your cup to green when finished
 - Approx. time (15 mins)



Share Out

- Each school will share out 1-2 pieces of data/information you would collect in one or more ICEL domains
 - Instruction
 - Curriculum
 - Environment
 - Learner



What else do we need to know?

Nathan's skill need is phonics



ICEL	What do we know?	What do we want to know?
Curriculum	Phonics for Reading with fidelity (98%) for 30 minutes a day He's not passing his checkouts	Does he need more targeted practice? Is the curriculum too hard for him?
Instruction	Phonics for Reading: Explicit & systematic instruction	Is he getting enough OTR's? Is he getting enough feedback? Is he engaged in small group core instruction?
Environment	Intervention group is free from distractions Group size is 3	None at this time
Learner	Attendance is good Doesn't have any health concerns Making some progress but not	Any previous disruption to educational history?

Data Used to Validate your Hypothesis

OBSERVATION of INSTRUCTION		
	Intervention	Core/Small Group
<i>OTR's</i>	5 per minute	2.5 per minute
<i>Accuracy</i>	87% correct responding	85% correct responding
<i>Corrective Feedback</i>	17% of errors corrected	Good Overall
<i>Engagement</i>	Choral, Partner, & Individual responses	Mostly individual Responses
REVIEW of CURRICULUM		
	Intervention	Core/Small Group
<i>Materials Used</i>	Reading Mastery	Leveled Readers

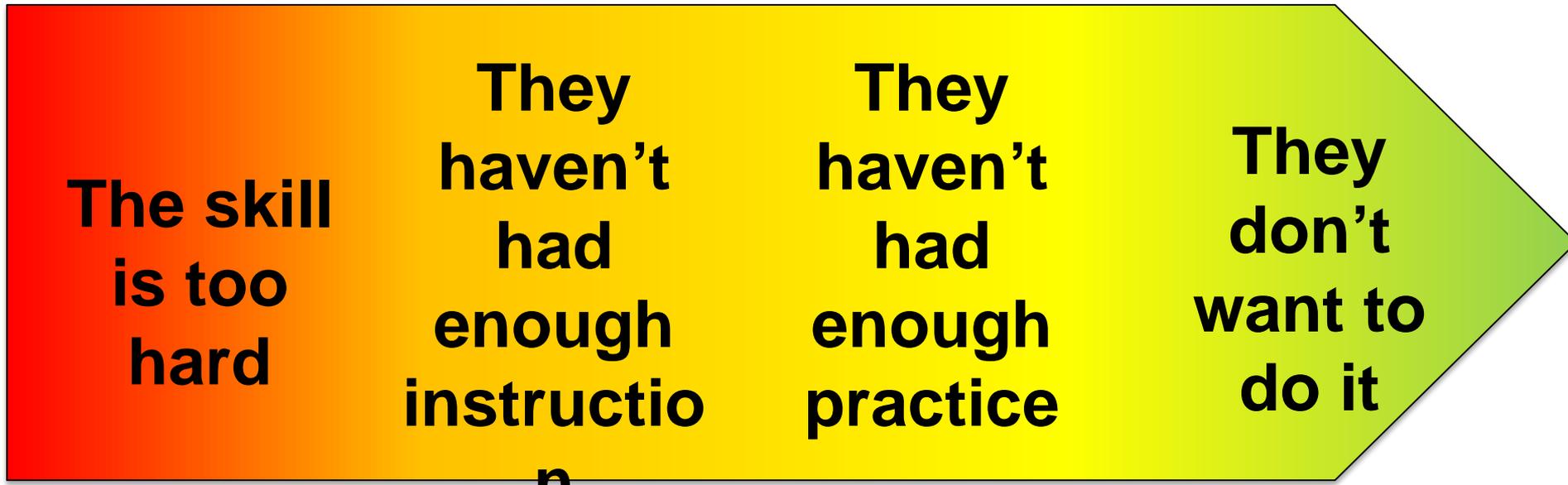


Acquisition

Proficiency
/ Accuracy

Proficiency
/ Speed

Application
/ Motivation



n



Initial Hypothesis:

Nathan's reading accuracy, fluency and comprehension problems occur because he hasn't received enough instruction.

Data-Supported Problem Hypothesis

Data-Supported hypothesis:

- Nathan's reading accuracy, fluency and comprehension problems occur because he lacks strategies for decoding **silent-e** words and **vowel digraphs** (*oa, ea, ae, ou, etc*). His current instruction does not provide enough **opportunities to practice** or enough **corrective feedback**. He also currently has a **low level of engagement** and is highly distracted in both his classroom and intervention room.



Prediction Statement

What will make the problem better?

- Nathan will improve if he receives **small group, explicit instruction** in his identified missing skills. He also needs instruction that utilizes **high pacing** and **effective active engagement strategies** to keep him highly engaged in instruction, and an environment that is quiet, without distraction from other students. Increasing **opportunities to respond** and **corrective feedback** will help improve his accuracy and fluency in reading as well.

