# Identifying and Matching Evidence-Based Interventions to Student Needs

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OTISS
OKLAHOMA TIERED INTERVENTION SYSTEM OF SUPPORT

# What is an intervention?

The general concept of intervention is very broad…
- An intervention is anything you do to change something you want changed

Intervention in RtI is much more specific…
- Systematic and explicit steps taken over time for the purpose of remediating or preventing deficits in a specific skill area

# Interventions annotated

Systematic and explicit steps
- ◦ RtI interventions consist of a series of steps that are explicit
- ◦ What is completed during the intervention is planned and specific to the problem targeted

Taken over time
- ◦ RtI interventions take time to work
- ◦ Therefore they must occur consistently over time

# Interventions annotated

For remediating or preventing deficits
- ◦ Interventions serve the primary purpose of remediating or preventing deficits

In a specific skill area
- ◦ Interventions are not designed to solve all problems
- ◦ Interventions are designed to remediate or prevent deficits in very specific areas

# Intervention Process

Intervention process includes
- Problem/Skill Assessment
- Intervention/Strategy Development
- Progress Evaluation

Utilizing conceptual models to
- Determine what to assess
- How to intervene

Problem solving approach
- A step-by-step model linking assessment and intervention

# What will we cover?

Interventions
- ◦ Both academic and behavioral
- ◦ Necessary Components
- ◦ Relationship of these components to the decision making process

We will not
- ◦ Discuss everything there is to know about interventions
- ◦ Provide a list of all possible interventions

We will
- ◦ Discuss conceptual models to assist in assessment & intervention development
- ◦ Outline the steps in the intervention process as well as progress evaluation

# Intervention can be complex

When attempting to intervene on problems we are often in the dark

We ask ourselves
- Where do I start?

and

- How do I pick the right intervention?

# How are interventions currently selected at your site?

# It can be made simple

Problems can seem complex and overwhelming, but the process can be made easier by

- Employing a **structure** for assessment and intervention
  - What to do from beginning to end
- Utilizing **conceptual models** of learning
  - How to select an intervention

What results is a problem solving approach that can guide you through the process

# Advantages to problem solving approach

Flexible approach useful for lots of problems
- ◦ Can be used for math, reading, behavior, etc.

No need for extensive experience with a particular problem type
- ◦ Solutions can be generated regardless of your familiarity

Rarely are you left without options
- ◦ Provides potential solutions in most cases

# Another Advantage

Takes the guess work out
- Typically the team process
  - Consist of a discussion of a child
  - May rely mainly on recollection
  - Intervention results from guesses about why the problem exists and what might work
- Good data from a structured procedure gives you information for differential decision making regarding interventions.

# Employing a Structure

What to do and when to do it

- **Validate**
  - The existence of the problem
- **Assess**
  - The problem
- **Analyze**
  - Assessment results and make decision about intervention
- **Implement**
  - The intervention
- **Evaluate**
  - Intervention outcome

# Validation

Ensure that the problem is a valid problem
- ◦ A **crucial** first step

Many things could cause a false problem to be identified
- ◦ Invalid assessment results
- ◦ Faulty expectations or unrealistic expectations on the part of the teachers or parents

# Assessment

Identify the problem
- A missed step here will lead to failure

Define the problem
- Be specific
- Make sure it is a measurable problem
- Make sure it is a relevant problem

Measure and evaluate the characteristics of the problem

# Assessment (cont.) Select the target rather than related behavior

Common language is often used as a classification system to make communication easier

- Aggression
- Anger
- Sad
- Bad
- ADHD
- Learning Disabled
- However these categories are not behaviors
  - They allude to possible classes of behavior
  - Assessment will only be useful if it targets the behavior

# Analysis

Determine what the assessment results (characteristics of the problem) tell us about why the problem exists

This task is made easier if the results are matched against a conceptual model
◦ No guessing with regard to the why

Based upon this comparison, make a recommendation for intervention

# Implementation

Carry out the intervention you have decided upon

You will need to
- Create or gather the materials
  - Directions
  - Manipulative
  - Data collection forms
- Train all who are involved
- Collect data
  - Implementation & outcome

# Evaluation

Evaluation is based upon asking a few simple questions.
- Is the intervention effective?
  - Did it help at all?
- Will it resolve the problem in an appropriate time frame?
  - Based on some established goal or criteria.
- Is it feasible in the regular classroom?
  - Or are the needs to great to continue in the general education classroom?

# A structure is not sufficient on its own

**Conceptual models need to be used to help determine the what…**

- **Validate**
  - What types of problems can exist?
- **Assessment**
  - What aspect of the problem do I assess?
- **Analysis**
  - What do the assessment results indicate?
- **Intervention**
  - What options do I have when intervening?
- **Evaluation**
  - What do I do if I am wrong?

# Conceptual Models

Provide a guide for
- what aspects of student behaviors should be assessed

    and
- how to choose an intervention

Two useful models
- Can't Do/Won't Do
- Instructional Hierarchy

# Can't Do/Won't Do

Categorizes students based upon the presence or absence of the target skill

More simply stated

◦ If they are not doing something (not reading or not accurately completing math work) is it due to the absence of a skill or the lack of motivation

# Can't Do/Won't Do Student Classification

**Won't Do** students
◦ Students who can perform better but for whatever reason don't
◦ In some cases they can perform as good as peers

**Can't Do** students
◦ Students who don't have the ability to perform an better than they currently are
◦ Even when they try their best they are well below expected levels

# Can't Do/Won't Do Assessment

Attempt to determine if student performance will improve given more environmental support

◦ Provide a reward for improved performance on a previously failed task to determine if the student can perform the task

## Steps in Can't Do/Won't Do Assessment

Identify, within the target area, a previously failed or incomplete task

Inform the student of their previous performance

Offer a reward for improving performance

Allow a reasonable amount of time to complete the task

Reward the student if he/she beats the previous score

# Analysis of Can't Do/Won't Do Results

**Won't Do problem**
◦ Improvement to such a degree that the problem no longer exists when reward is offered

**Can't Do problem**
◦ Little or no improvement in performance occurs

**Combination problem**
◦ Performance improves markedly, but even with reward the problem remains

# Possible outcomes

Tony's multiplication problem
- ◦ In class performance = 25% accurate
- ◦ Can't Do/Won't Do = 89% accurate

Susan's reading comprehension
- ◦ In class performance = 0% accurate
- ◦ Can't Do/Won't Do = 30% accurate

Willy's spelling problem
- ◦ In class spelling = 45% accurate
- ◦ Can't Do/Won't Do = 40% accurate

# Can't Do/Won't Do Link to Interventions

Won't Do problems
◦ The intervention should focus on improving motivation for that skill.

Can't Do problems
◦ The intervention should focus on strengthening or developing the desired skill.

# Won't Do Interventions

Environmental supports are not sufficient to produce the appropriate levels of behavior

Improve environmental supports through
◦ **Reward** the targeted behavior
◦ Discourage the **interfering** behavior

# Can't Do Interventions

These students lack the skill necessary to complete the task given

Remediate the skill through instruction
◦ That's easier said than done.

However, this leads to more questions
◦ What skill do we intervene on?
◦ What instructional approach do we use?

To answer these questions we employ another conceptual model
◦ The Instructional Hierarchy

# Instructional Hierarchy (IH)

Conceptual model that distinguishes between differing levels of skill development

- Acquisition
  - Student who is becoming accurate with a new skill
- Fluency
  - Student develops speed in performance
- Generalization
  - Student learns to perform in novel situations
- Adaptation
  - Student modifies the response to a novel task

# Assessment with the IH

Detailed analysis of performance

Identify the functional level within the **IH**

Where is the student performing?
- Acquisition
- Fluency
- Generalization
- Adaptation

# Steps in the IH assessment

Identify a work sample or work samples
- ◦ The work sample from Can't Do/Won't Do
- ◦ Previously completed work products

Assessment consist of evaluation with these question in mind:
- ◦ Was the performance accurate?
- ◦ Was the performance too slow?

# Analysis of IH Assessment Results

Student is inaccurate
- ◦ Acquisition phase

Student is accurate, but slow
- ◦ Fluency phase

Student is accurate and fast, but cannot perform in novel situations
- ◦ Generalization phase

# What type of problem do you see the most in your class?

Aquisition

Fluency

Generalization

Adaptation

# Link to Interventions with IH

Acquisition phase
  ◦ Intervention should focus on task that promote accurate responding

Fluency phase
  ◦ Intervention should focus on improving fluent performance

Generalization phase
  ◦ Intervention should provide opportunities to practice in other settings

# Acquisition Interventions

These students need to learn how to perform accurately
- Teach them
  - Modeling (Tell, Show, Do)
  - Corrective feedback
- Make curricular modifications
  - Instruct them at a more appropriate level
- Teach them what they are missing
  - Instruct keystone skills

# Fluency Intervention

These students need to learn how to perform more quickly while still maintaining accuracy

Provide additional opportunities to practice
- Drill and practice
- Reward with feedback about performance
- Goal setting
- etc

# Generalization Intervention

These students need to learn how to perform accurately and fluently in new settings or situations

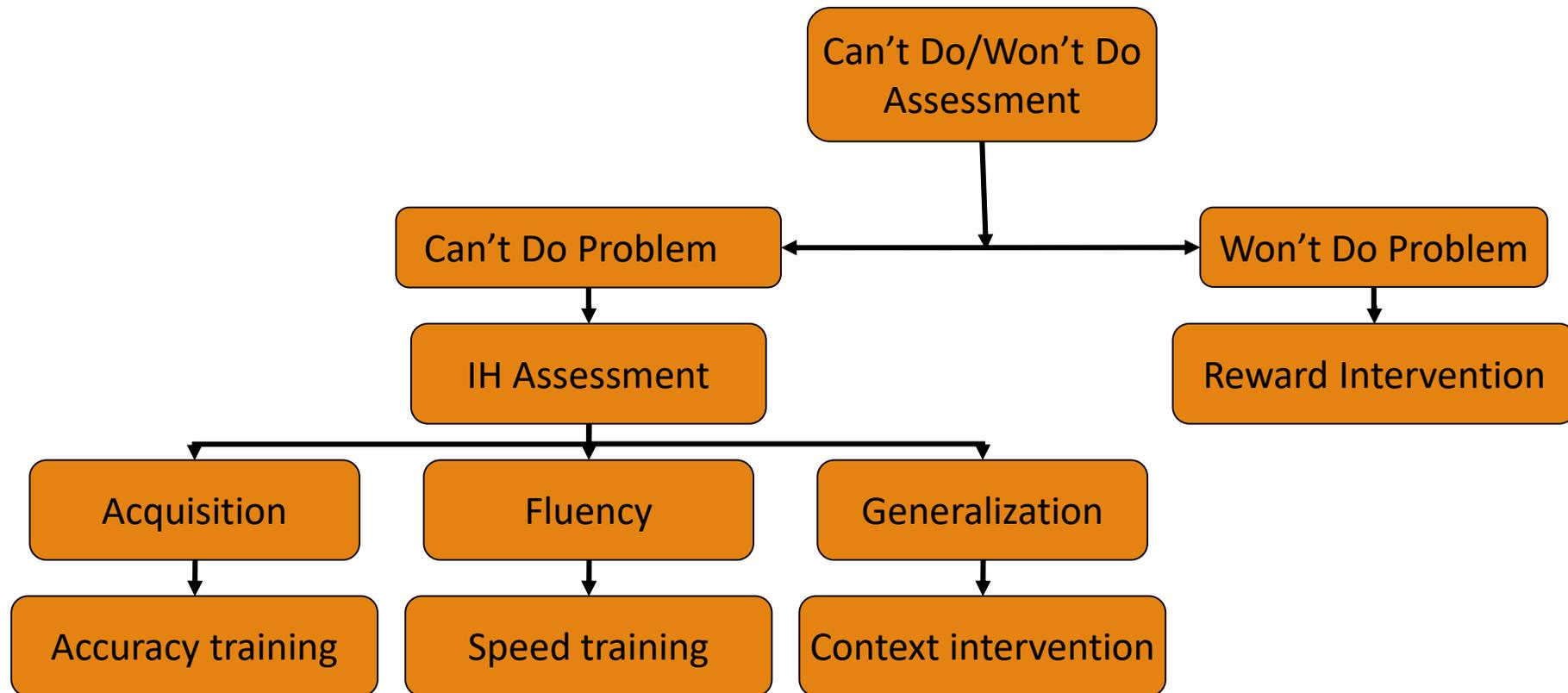Provide opportunities for responding across different context
- ◦ Model across context
- ◦ Drill across context
- ◦ Reinforce across context

# Combining the Models

These two models can be combined
- This would result in a general problem solving approach
- Effective for many school based problems

# Overview of the Process

# Applying the Model

**Ensure there is a Problem**
- ◦ **Validate**

**Define the Problem**
- ◦ **Assessment**

**Develop an Intervention Plan**
- ◦ **Analysis (can't do/won't do + IH)**

**Implement the Plan**
- ◦ **Implementation**

**Evaluate Intervention Effects**
- ◦ **Evaluation**

# Once complete you will have…

Solid information **(data)** to build an intervention

Later stages are much easier
◦ Intervention development
◦ Intervention implementation
◦ Intervention evaluation

Without this data you are simply in the dark

# Activity 1

Lets decide how we will intervene.

# Finding Evidence-based intervention

Are required by
- Individuals with Disabilities Education Act (IDEA)
- Elementary and Secondary Education Act (ESEA)

Consist of
- Programs,
- Curricula, and
- Practices based on "scientifically-based research" "to the extent practicable."

This means that
- Educational interventions being used must be strongly supported by evidence from well-conducted scientific research studies.

# Educational research may be said to be scientific when it:

Uses a sound research design.

The outcomes of students receiving an intervention are compared to similar students who do not receive the intervention.

Is based on high quality data analysis.

Involves other researchers to review the results.
- ◦ Reported in a journal

# Identifying Evidenced-Based Interventions

Even if an intervention meets the above criterion, it must also have

◦ Clear target or targets (skills and students)

◦ Protocols for data collection

◦ Clear directions

◦ Materials for implementation

# Activity 2

Evaluate the interventions to determine if they are evidenced based
- Flash Cards
- Cover Copy Compare
- Flip Card
- Multisensory interventions

Are they evidenced based?

Do they contain all the components?
- Use the Intervention Evaluation Form

# Where do I find information on evidence-based practices?

What Works Clearinghouse: WWC: U.S. Department of Education's Institute of Education Sciences. WWC produces practice guides and reports with recommendations for schools on interventions in various topical areas.

Promising Practices Network: The PPN provides research-based information on programs that have been shown effective in improving the lives of children + educational outcomes.

The Center for Evidence-Based Practices: The CEBP goal is to bridge the research-to-practice gap in the areas of early childhood education and family support.

Research Basics: Collection of articles and resources on understanding educational research and statistics from the National Dissemination Center for Children with Disabilities (NICHCY).

# When interventions don't work here is why

Five Common Reasons Why Students Fail and What You Can Do About Them
- ◦ Daly 1997

Can be adapted to evaluate intervention ineffectiveness
- ◦ **REASON #1: They do not want to do it.**
- ◦ **REASON #2: They have not spent enough time doing it.**
- ◦ **REASON #3: They have not had enough help to do it.**
- ◦ **REASON #4: They have not had to do it that way before.**
- ◦ **REASON #5: It is too hard.**

# Activity 3

Come up with actions for addressing each of the 5 reasons for intervention failure.

# Identifying the problem worksheet:

## Validate and Assessment.

For each student circle the problem that can be **validate**d?

| Student | Option 1 | Option 2 | Option 3 | Option 4 |
|---------|----------|----------|----------|----------|
| Billy | ADHD | Non-compliance | Poor Attitude | Work completion |
| Susie | Math | Number Sense | Addition | Place Value |
| Sam | Comprehension | Reading | Decoding | Dyslexia |
| Tony | Writing Speed | Spelling Accuracy | English | Language |

For each problem what assessment data would assist in **assess**ing the problem?
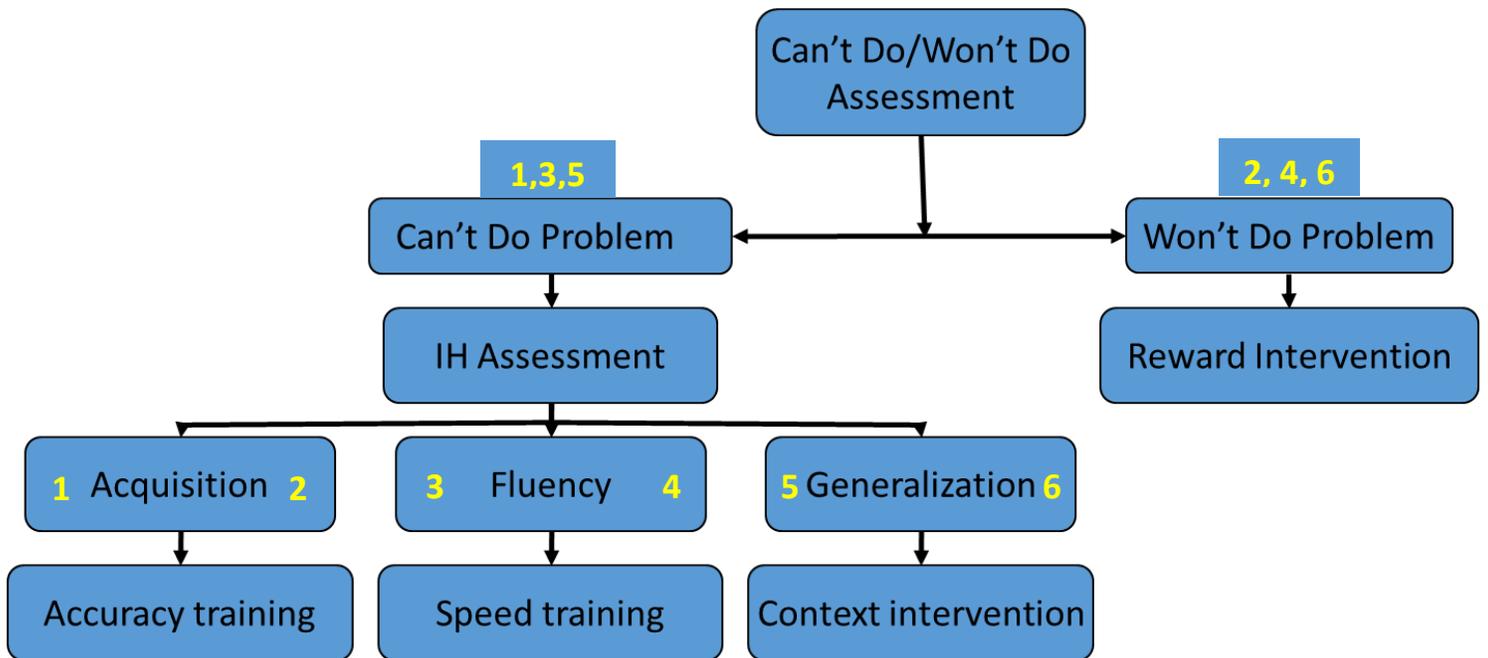
| Student | Problem | Additional data source |
|---------|---------|------------------------|
| Billy | Work completion | |
| Susie | Addition | |
| Sam | Reading Decoding | |
| Tony | Spelling Accuracy | |

Activity 1

## Identify the intervention.

For each problem work through the flow chart and decide which intervention type matches with the problem identified.

*Use the dice to simulate assessment results.

```
                              Can't Do/Won't Do
                                 Assessment

        1,3,5                                              2, 4, 6
      Can't Do Problem    ◄─────────────►    Won't Do Problem

         IH Assessment                          Reward Intervention

  1  Acquisition  2      3   Fluency   4      5 Generalization 6

  Accuracy training       Speed training       Context intervention
```

| Student | Problem | Intervention Selected |
|---------|---------|------------------------|
| Billy | Work completion | |
| Susie | Addition | |
| Sam | Reading Decoding | |
| Tony | Spelling Accuracy | |

## Intervention Evaluation Worksheet

| | |
|---|---|
| **Is there research that demonstrates the effectiveness of the intervention?**<br>**Citation:** | |
| 1. Are your students similar to those in the study? | |
| 2. Does the intervention specify a clear target? | |
| 3. Is the targeted need similar to the need of your student? | |
| 4. Is there a protocol describing the intervention in detail? | . |
| 5. Does the protocol contain clear directions? | |
| 6. Are there materials available or easily constructed for implementation? | |
| 7. Are there materials for data collection? | |
| 8. Is the intervention realistic in your setting? | |