A Philosophical and Evidence-based Basis for Including Students with Disabilities in the General Curriculum

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Snell (2003) reminds us that in addition to their collective diversity and need for supports, individuals with disabilities share a fundamental human trait, the "capacity to learn" (p. 221).

Opportunities for Interaction and Reciprocal Benefit

- The ways in which students with disabilities are perceived and subsequently treated by others can have a major impact on the quality of their lives.
- First and foremost students with disabilities are human beings—they are someone's child, someone's sibling, someone's classmate, or someone's friend.

Reasons for Optimism

Inclusive Education

Access to the General Curriculum

School Reform & Restructuring

Transition

Reasons for Optimism Cont.

Positive Behavior Supports

Peer Supports

Self-Determination

Criterion of the Least Dangerous Assumption (Donnellan, 1984)

- Martin Pistorius (Ghost Boy)

Criterion of the Least Dangerous Assumption (Donnellan, 1984)

- "We should assume that poor performance is due to instructional inadequacy rather than to student deficits."
- In other words, if a student does not do well, the quality of the instruction should be questioned before the student's ability to learn.

A New Paradigm
Cheryl Jorgenson (2005)

- All people have different talents and skills.
- Intelligence is not a one-dimensional construct, nor can it (or its absence) be measured accurately and reliably enough to base students' educational programs and future goals on test results.
- Children learn best when they feel valued, when people hold high expectations for them, and when they are taught and supported well.

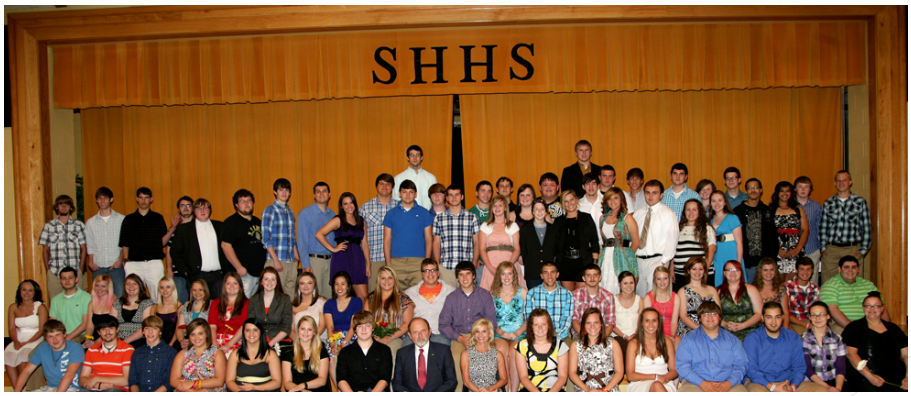
Each Decade We Have Expected More from Students with Disabilities

- For Example for Sts with Severe Disabilities
- **Early 1970s- Developmental Skills**
- **1980s- Functional Skills**
- **1990s- Inclusion/Self-Determination**
- **2000s- Academic Content**
- **2010-current- Academics aligned to state standards**

How all of this has guided our work…

- Ann Donnelon and Cheryl Jorgenson, along with legal mandates which require access to grade aligned content, have pushed our thinking in regard to innovation and research in this area.
- Although we will always use rigorous research methodology and data to guide development and future research in this area.

Ayers Foundation and the Impact of LDA on a Community



Learning in General Curriculum for Ss with Disabilities *Based on Leased Dangerous Assumption*

1. Create full educational opportunity.
2. Promote current and future options.
3. Complement daily living skills.
4. Enhance inclusion.
5. Promote student abilities.

1. Create a Full Educational Opportunity

- We do not know what students can achieve until they have the opportunity to learn.

2. Promote current and future options in the community and beyond

Academic Learning can enhance use of technology for daily life.

Skills like reading and math increase post school outcomes (e.g., employment, postsecondary ed.)

3. Compliment acquisition of daily living skills.

- There is no evidence that a person must master all or most daily living skills before being able to learn academics.
  In fact that expectation is a double standard only applied to students with more severe disabilities.

4. Enhance school inclusion.

- Academic learning enhances school inclusion as students focus on the same/similar content.

5. Promote Student abilities.

- Academic learning can be augmented with technological supports and may actually be more feasible and appealing for some Ss with disabilities.

Apply the following criteria to promote LDA

1. Standards based instruction
2. Evidence based practices
3. Differentiated instruction which maintains rigor
4. Consistent data capture and decision making

1. Standards Based Instruction

Grade Level Achievement Alternate Achievement?

Consider a variety of ways to make standards accessible

- **Prioritize**
  - Teach a portion of the standards
- **Pinpoint**
  - Teach a portion of each standard
- **Simplify**
  - An extension of the standards
- **Task Analyze**
  - Skill sequences

Extending Grade Level Standards: National Standard Example- ELA

Strand: Category of standard	Grade level standard	Objectives based on present level of performance
Reading: Literature **Integration of Knowledge and Ideas**	**4th Grade** Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures.	**Beginning Symbolic** Leslie will select an object/picture to represent a story's theme for 4 of 5 opportunities. **Early Symbolic** Adam will use pictures to identify themes in literature that has been read to him and sort the different stories by corresponding themes for 4 of 5 opportunities. **Symbolic** Thomas will use a Venn diagram to compare and contrast the themes of literature he has previously read with 90% of responses correct for at least 3 stories.

2. Use Evidence-Based Practices

- Special Issues
  - Exceptional Children (Winter, 2005), V. 71-2
- What Works Clearinghouse
- National Secondary Transition Technical Assistance Center
- National Autism Centers National Standards Project
- Reviews of the Literature

Use Evidence-Based Practices

- Reviews of the literature
  - Hudson, M. E., Browder, D. M., & Wood, L. (2013). Review of experimental research on academic learning by students with moderate and severe intellectual disability in general education. *Research and Practice for Persons with Severe Disabilities*, 38, 17-29.
  - Spooner, F., Knight, V., Browder, D., & Smith, B. (2012). Evidence-based practices for teaching academics to students with severe disabilities. *Remedial and Special Education, 33,* 374-387.
  - Chard, D. J., Ketterlin-Geller, L. R., Baker, S. K., Doabler, C., & Apichatabutra, C. (2009) Repeated reading interventions for students with learning disabilities: Status of the Evidence. *Exceptional Children, 75,* 263-281.

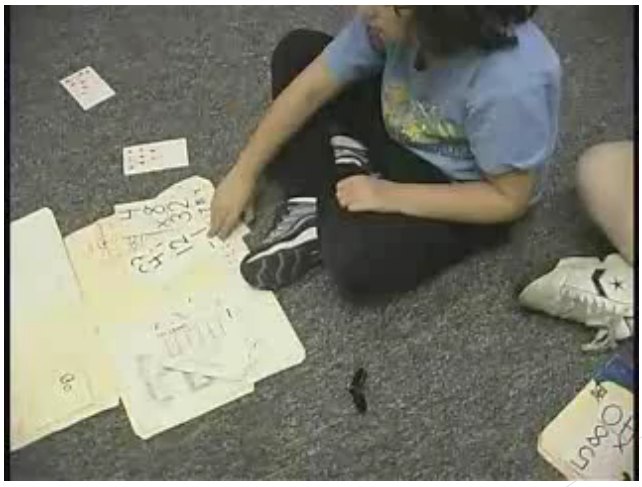
Evidence-Based Practices for Students Disabilities

- Strategies that enhance student responding
  - Choral Responding
  - Response Cards
  - Model, Lead, Test teaching procedures
  - Systematic Error Correction
  - Teaching to Mastery

Choral Responding

Choral Responding (math)

Peer Supports



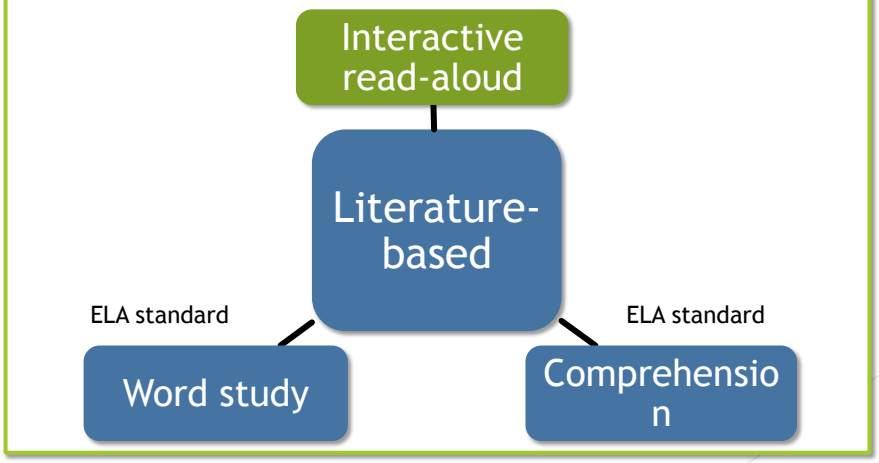
Model, Lead, Test

Use Evidence-Based Practices with scientifically researched curricula

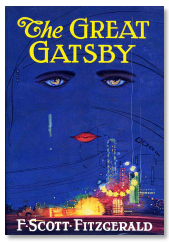
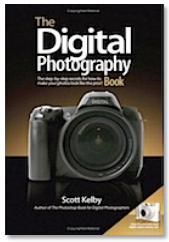
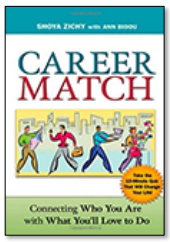
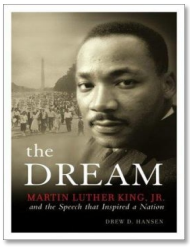
English Language Arts

- Hudson, M. E., & Test, D. W. (2011). Evaluating the evidence base for using shared story reading to promote literacy for students with extensive support needs. *Research and Practice for Persons with Severe Disabilities*, 36, 34-45.
- Browder, D. M., Trela, K., & Jimenez, B. A. (2007). Training teachers to follow a task analysis to engage middle school students with moderate and severe developmental disabilities in grade-appropriate literature. *Focus on Autism and Other Developmental Disabilities*, 22, 206-219.

EBPs for
English Language Arts
for Students with Low Incidence Disabilities



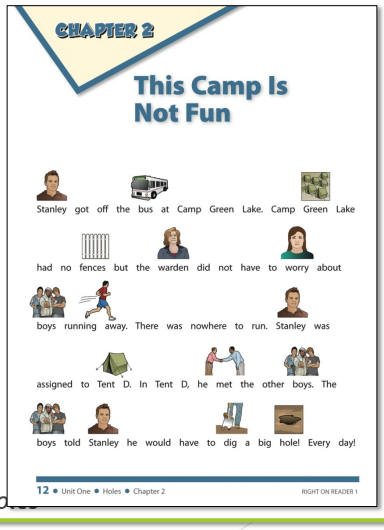
Choose the Text

Literature from Grade Level English Language Arts	Text Related to Student Interests	Text Related to Transition Goals	Literature from Content Areas e.g., Science, Social Studies
			

Determine if Text Needs to Be Adapted

Adapting Text

- Summarize and abbreviate (can use study guides for novels)
- Add visuals of key vocabulary (optional)



CHAPTER 2

This Camp Is Not Fun

Stanley got off the bus at Camp Green Lake. Camp Green Lake had no fences but the warden did not have to worry about boys running away. There was nowhere to run. Stanley was assigned to Tent D. In Tent D, he met the other boys. The boys told Stanley he would have to dig a big hole! Every day!

12 • Unit One • Holes • Chapter 2 RIGHT ON READER 1

Example from *Ho*

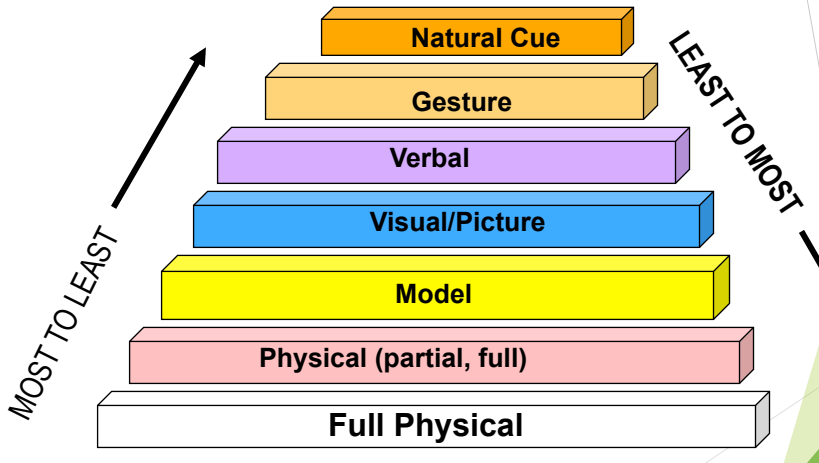
Select Key Vocabulary

Tier 1
- Everyday speech and functional words found in the literature
- Examples: man, son, mother, dream, sad, football

Tier 2
- Academic words found primarily in written texts
- Examples: act, scene, stage, tragedy, setting, tone

Tier 3
- Words related to the topic of the text; may be the academic concepts in content area
- Examples: simonize, philandering, condensation, democracy

Use Response Prompting Systems like System of Least Prompts



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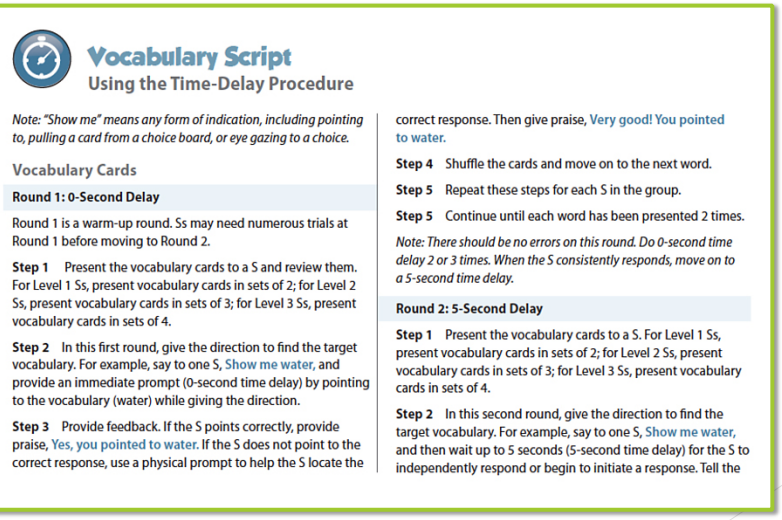
Using Time Delay



Vocabulary Script

Using the Time-Delay Procedure

Note: "Show me" means any form of indication, including pointing to, pulling a card from a choice board, or eye gazing to a choice.

Vocabulary Cards

Round 1: 0-Second Delay

Round 1 is a warm-up round. Ss may need numerous trials at Round 1 before moving to Round 2.

Step 1 Present the vocabulary cards to a S and review them. For Level 1 Ss, present vocabulary cards in sets of 2; for Level 2 Ss, present vocabulary cards in sets of 3; for Level 3 Ss, present vocabulary cards in sets of 4.

Step 2 In this first round, give the direction to find the target vocabulary. For example, say to one S, Show me water, and provide an immediate prompt (0-second time delay) by pointing to the vocabulary (water) while giving the direction.

Step 3 Provide feedback. If the S points correctly, provide praise, Yes, you pointed to water. If the S does not point to the correct response, use a physical prompt to help the S locate the correct response. Then give praise, Very good! You pointed to water.

Step 4 Shuffle the cards and move on to the next word.

Step 5 Repeat these steps for each S in the group.

Step 5 Continue until each word has been presented 2 times.

Note: There should be no errors on this round. Do 0-second time delay 2 or 3 times. When the S consistently responds, move on to a 5-second time delay.

Round 2: 5-Second Delay

Step 1 Present the vocabulary cards to a S. For Level 1 Ss, present vocabulary cards in sets of 2; for Level 2 Ss, present vocabulary cards in sets of 3; for Level 3 Ss, present vocabulary cards in sets of 4.

Step 2 In this second round, give the direction to find the target vocabulary. For example, say to one S, Show me water, and then wait up to 5 seconds (5-second time delay) for the S to independently respond or begin to initiate a response. Tell the

Choose State Standard from Grade Level

- Standard 9-12 Reading: Informational RI 11-12.1
  Cite strong and textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.

Less Complex

The S will identify an emotion shown in informational text

Mod Complex

The S will identify an explicit claim in informational text

More Complex

The S will cite a fact and an inference in informational text to determine an area for further exploration.

Comprehension: Develop the Questions

Develop comprehension questions at different levels of complexity. Also consider the target standard selected to write questions.

Some examples based on *To Kill a Mockingbird:*

Knowledge

How old was Miss Caroline?

Comprehension

Why did the class murmur when Miss Caroline said she was from Winston County? What happened first, second, last?

Application

Miss Caroline was 21. What will happen to you when you are 21?

Analysis

Why was Jem in a haze?

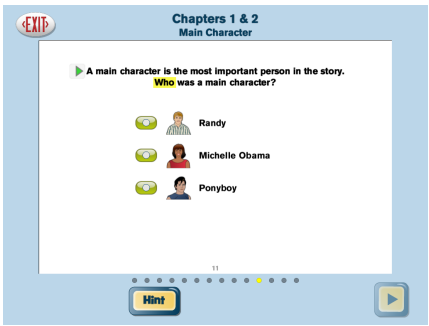
Synthesis

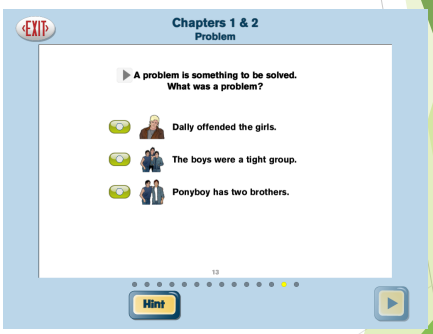
What is the theme of this story?

Evaluation

What is the author's tone in this passage? The author's purpose?

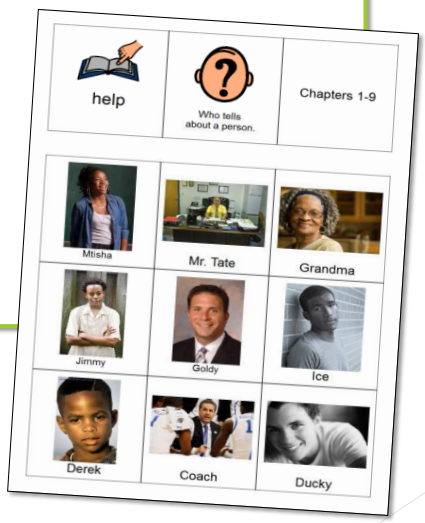
Consider Technology



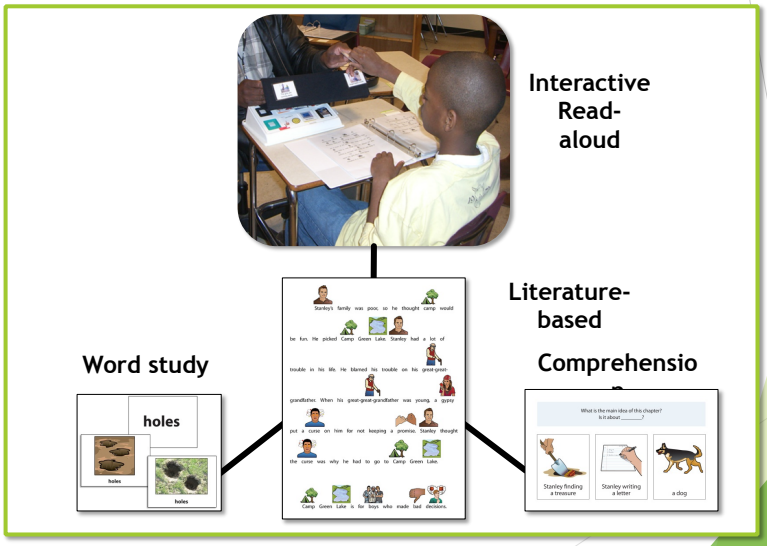


How Will Student Answer? Response board option

- Provides a visual aid
- Simplifies responding by offering options
- Only use for students who cannot compose answer using speech

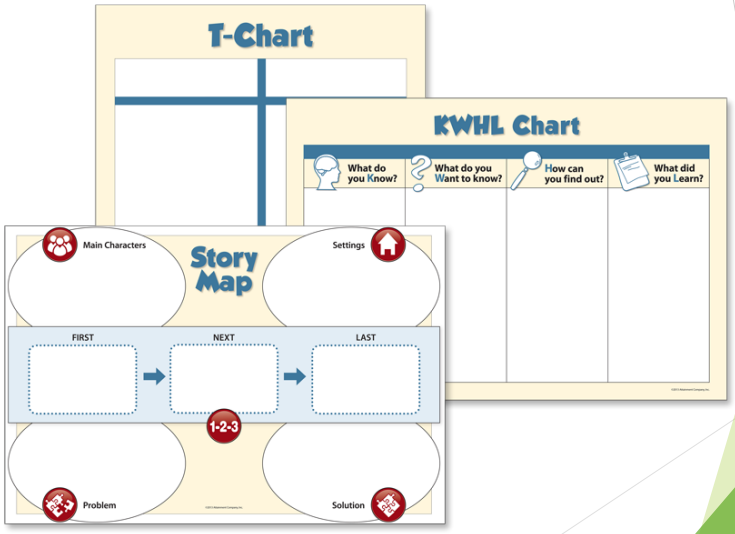


Put It All Together



Same Strategy for Informational Text

Graphic Organizers



Student Led Research-example of Nonfiction text- *A Thousand Paper Cranes*

KWHL Organizer

K What do I KNOW?	
W What do I WANT to know?	
H HOW do I find out?	
L What did I LEARN?	

KWHL Organizer

K What do I KNOW?	Sadako lived in Hiroshima, Japan. Sadako became sick with leukemia. Sadako made paper cranes when she was sick.
W What do I WANT to know?	What is leukemia?
H HOW do I find out?	I used the internet and watched a video on Leukemia Education for Kids
L What did I LEARN?	

Use Evidence-Based Practice: Mathematics

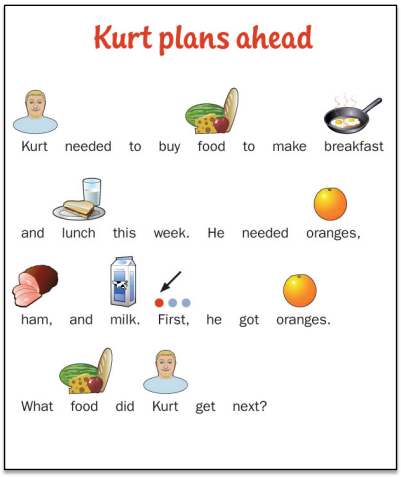
- Browder, D. M., Trela, K., Courtade, G. R., Jimenez, B. A., Knight. V., & Flowers, C. (2012). Teaching mathematics and science standards to students with moderate & severe developmental disabilities. *The Journal of Special Education*. 46, 26-35.
- Browder, D. M., Jimenez, B., Spooner, F., Saunders, A., Hudson, M., & Bethune, K. (2012). Early numeracy instruction for students with moderate & severe developmental disabilities. *Research and Practice for Persons with Severe Disabilities*, 37, 308-320.

Standards-Based Math Instruction

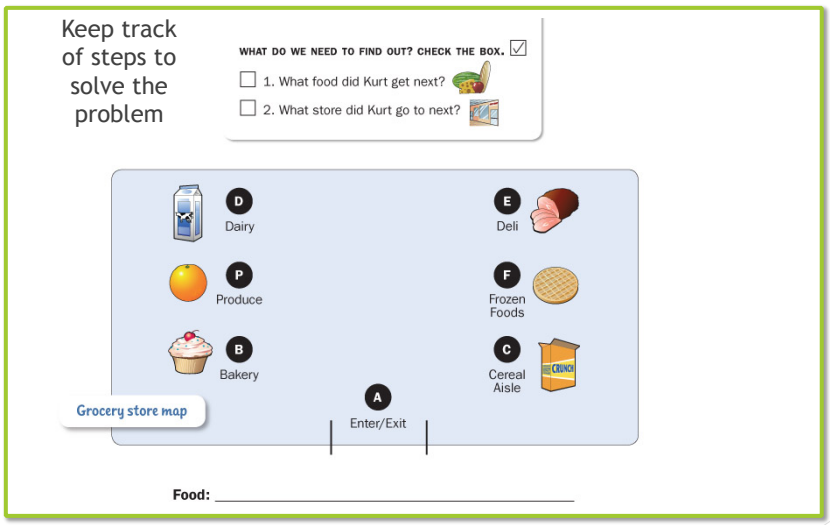
Math standard
+
Real Life Math Story
+
Task analysis for computation
+
Graphic organizer; manipulatives
=
Standards-based mathematics

Math in context

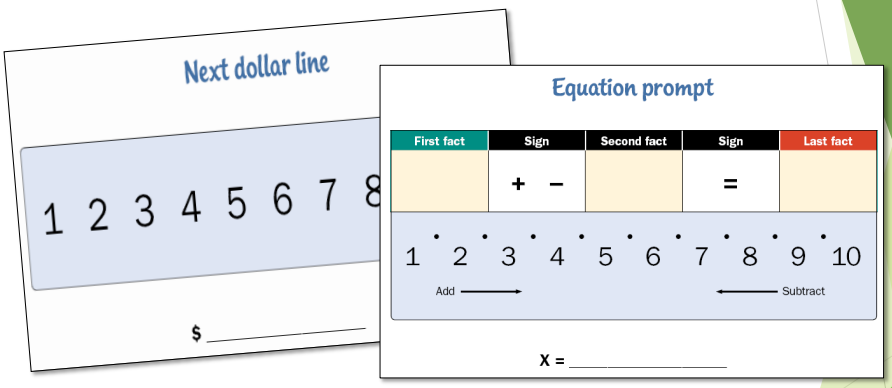
- Write to address math standard
- Adapt word problems
- Focus on activities students prefer or are familiar with
- Change stories so students do not memorize



Graphic Organizer: Points on a Plane



Graphic Organizers



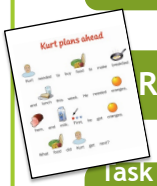
Task Analyze the Steps to Solve the Problem and Prompt for Each

Teacher	Target Response	Prompting	Reinforcement
"Show me the coordinate plane."	Points to the coordinate plane.	Constant time delay: "Here is the coordinate plane. Now you show me." (0, then 4).	"Good. That is the coordinate plane"
"Show me point A."	Points to A.	CTD: "Here is point A. Now you find it."	"Excellent. That is point A."
"Show me point D."	Points to D.	CTD: "Here is point D. You show me."	"Yes. That's point D."
"Draw the AD line segment."	Draws line from A to D.	CTD: "Here is A, here is D, here is the AD line. Now you draw it."	"Great. You drew the AD line segment."

Putting It All Together

Math standard:
Find points on coordinate plane

+



Real Life Math Story

+

Task analysis for computation:
Points to coordinate plane, points to A, D, draws line from A to D

+

Graphic organizer; manipulatives

=

Standards-based mathematics

Also Build Early Numeracy Skills

Early Numeracy Skills Builder

Math Worksheets

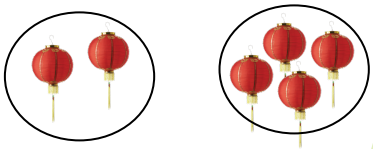
It's time to do our math worksheet so we can summarize our story. Follow the directions as I read the math worksheet with you. Use teacher directions on worksheet as needed to help students complete worksheet.

Embedded Instruction

Use the checklist for this level to select the skills the student will embed in the math lesson in general education.

Level 2.2 Lesson Two **The Chinese New Year**

1. Mark the set that is > (greater than):

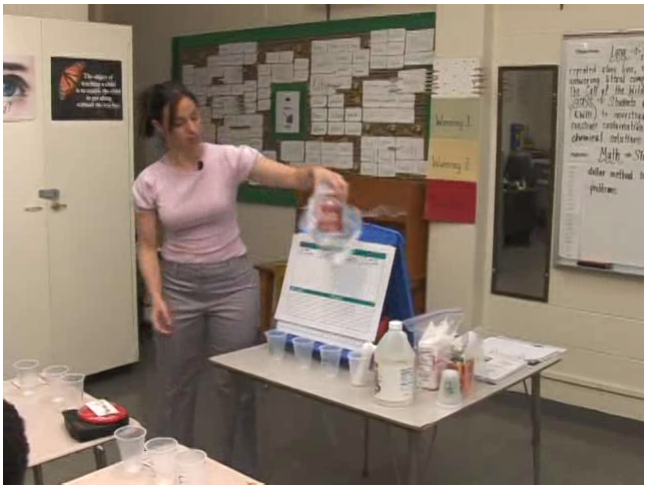


2. How many boys are there?

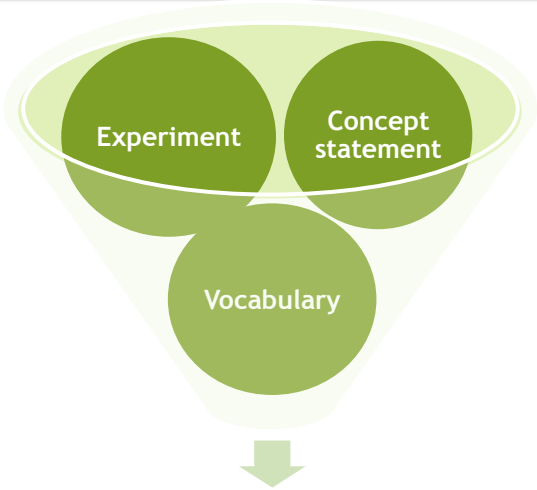
8 3 7

Use Evidence-Based Practice: Science

- Courtade, G., Browder, D.M., Spooner, F.H., & DiBiase, W. (2010). Training teachers to use an inquiry-based task analysis to teach science to students with moderate and severe disabilities. *Education and Training in Developmental Disabilities, 45,* 378-399.
- Smith, B. R., Spooner, F., Jimenez, B., & Browder, D. M. (2013). Using an early science curriculum to teach science vocabulary and concepts to students with severe developmental disabilities. *Education & Treatment of Children*, 36, 1-31.



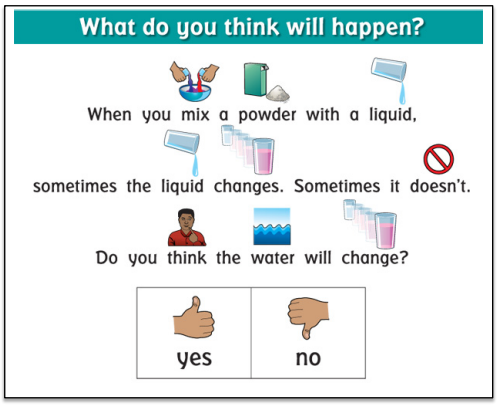
Standards-based Science Lesson



May Use Text: A "Wonder" Story

Experiment

Identify the experiment general educator uses for concept.



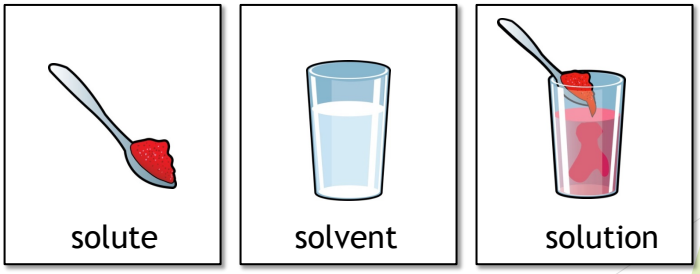
Concept Statement

Identify the science concept in the standard, rewrite it as a simple statement.

Solvent + solute = solution.

Vocabulary

Use vocabulary sight word cards to teach words and symbols needed for the concept statement (e.g., symbols for solute, solvent, solution).



Task Analysis/ Inquiry Approach

Let the students discover the science concept through a hands-on approach. Frame the inquiry lesson with a task analysis.

Table 1. Steps to an inquiry-based science lesson

Teaching procedure	Opportunities for students
Engage	
1. Teacher shows objects, pictures, and/or science materials.	1. Students make comments and may ask a question about what the materials are.
2. Teacher asks, "What is (are) this (these materials)?"	2. Students respond, using the Student Response Guide if needed.
3. Teacher asks, "What do you know (about the materials)?" After students respond, the teacher records answers on the KWHL chart under "K" for "know."	3. Students identify what they know, using the Student Response Guide if needed.
4. Teacher asks, "What do you want to know (about the material)?" After students respond, the teacher records the answers on the KWHL chart under "W" for "want to know."	4. Students identify what they want to know, using the Student Response Guide if needed.
Investigate and describe relationships	
5. Teacher asks, "How can we find out?" After the students respond, the teacher records the answers on the KWHL chart under "H" for "how" to find out.	5. Students identify how to find out, using the Student Response Guide if needed.
6. Teacher reviews the science safety rules and guides students to make a prediction about the outcome of the experiment. After the students respond to "What do you think will happen?" the teacher records predictions on the KWHL chart.	6. Students predict what they think will happen.
7. Teacher provides cues to conduct the experiment.	7. Students participate in conducting the experiment.
8. Teacher asks students to compare science materials by asking, "What's the same (about the materials)?"	8. Students respond, using the Student Response Guide if needed.
9. Teacher asks students to compare science materials by asking, "What's different (about the materials)?"	9. Students respond, using the Student Response Guide if needed.
Construct explanation	
10. Teacher provides an explanation of the scientific discovery made and ties the science concept to the science vocabulary.	10. Students read or follow along as the teacher reads the scientific discovery statement. Students point to the science vocabulary word and picture related to the science concept and then match the sight word to the picture symbol.
Report	
11. Teacher reviews what was discovered by asking, "What did we find out?" and ties cause to effect by asking "Why?"	11. Students report what they learned specific to the experiment, using the Student Response Guide if needed.
12. Teacher makes a final summarizing statement about the science concept. After students respond, the teacher records the concept on the KWHL chart under "L" for what was "learned."	12. Students respond to a fill-in-the-blank statement about the science concept, using the Student Response Guide if needed.

May Use KWHL Chart

KWHL Chart			
What do we **K**now?	What do we **W**ant to know?	**H**ow can we find out?	What did we **L**earn?
It is wet 			

Student's name	Prediction

Putting it All Together

3. Build Foundational Skills- Differentiate Instruction

Lower: Early Literacy

- Begin with objects and picture books
  - Make age appropriate
- Build understanding through multisensory experiences related to story
- Watch for early awareness and anticipation of familiar story lines

Higher: Independent Reading

- Use story summary or some story lines written at student's reading level
  - Combination of teacher (or peer) read-aloud and student reading
- Teach phonics to build independence in decoding text

4. Consistent Data Collection and Data Based Decision Making

Student Name:

Date:

Objective: The student will independently complete all 8 steps of the science experiment

	100											
	90											
	80											
	70											
	60											
	50											
	40											
8		Clean up	-	-	+	-	-	-	-	+	+	-
7	30	Compare prd. & resu	+	-	+	+	-	-	-	-	+	-
6		Indicates results	-	-	+	-	-	-	-	+	+	-
5	20	Observes variables	-	-	+	-	+	+	-	-	+	+
4		Conducts experiment	+	-	-	-	+	+	-	+	-	-
3	10	Makes prediction	+	-	+	-	-	-	-	-	+	+
2		Collects materials	+	+	-	-	-	-	+	-	+	-
1	0	Safety attire	+	+	+	-	+	-	+	+	+	-
steps	%											
		DATE	11/1	11/2	11/3	11/4	11/5	11/8	11/9	11/10	11/11	11/12

Goal Mastered: Yes No **Percent ___**

Anecdotal notes:

Decision made:

To Promote LDA

- Teach Grade Level Content
- Use Evidence Based Practices
- Differentiate instruction for all learners
- Collect and Analyze daily instructional data

Resources and Contact Information

- Chapter
  - "What Should We Teach Students with Moderate and Severe Disabilities?"
- Browder, D. M., Jimenez, B., Spooner, F., Saunders, A., Hudson, M., & Bethune, K. (2012). Early numeracy instruction for students with moderate & severe developmental disabilities. *Research and Practice for Persons with Severe Disabilities*, 37, 308-320.
- Browder, D. M., Trela, K., Courtade, G. R., Jimenez, B. A., Knight. V., & Flowers, C. (2012). Teaching mathematics and science standards to students with moderate & severe developmental disabilities. *The Journal of Special Education*. 46, 26-35.
- Courtade, G., Jimenez, B., & Browder, D. (2013). *Instructional strategies for teaching Common Core* Standards to students with moderate and severe disabilities. Verona, WI: IEP Resources Attainment Company.
- Carnine (1976)
- Lambert, Cartledge, Heward, & Lo (2006)
- Lo & Cartledge (2004)
- Maheady, Mallette, & Harper (2006)
- Miller, Hall, & Heward (1995)
- Reffel, Barnett, Lee, & Patrick (2004)
- Wood (2005)

Contact Information

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