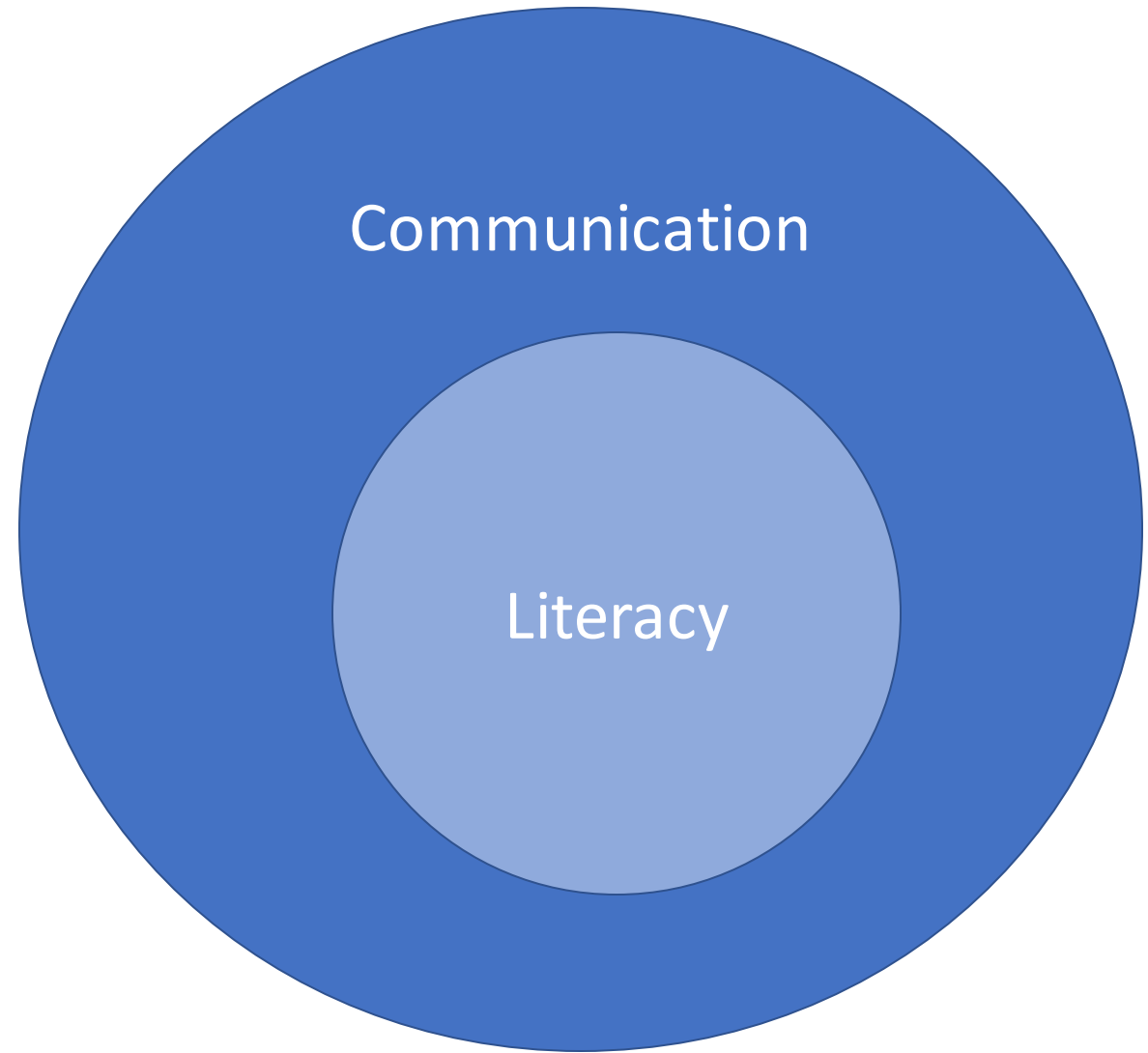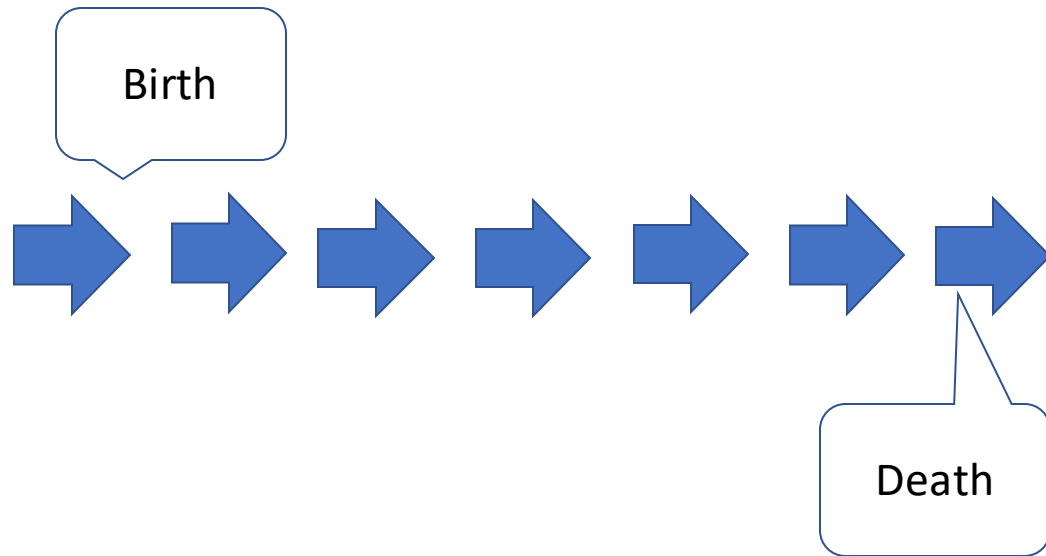# Digging Into Literacy for Students with Dual-Sensory Impairments

Spring 2020

Cathy Haarstad

What is Literacy?

The ability to speak, listen, read, spell and write using symbolic communication.
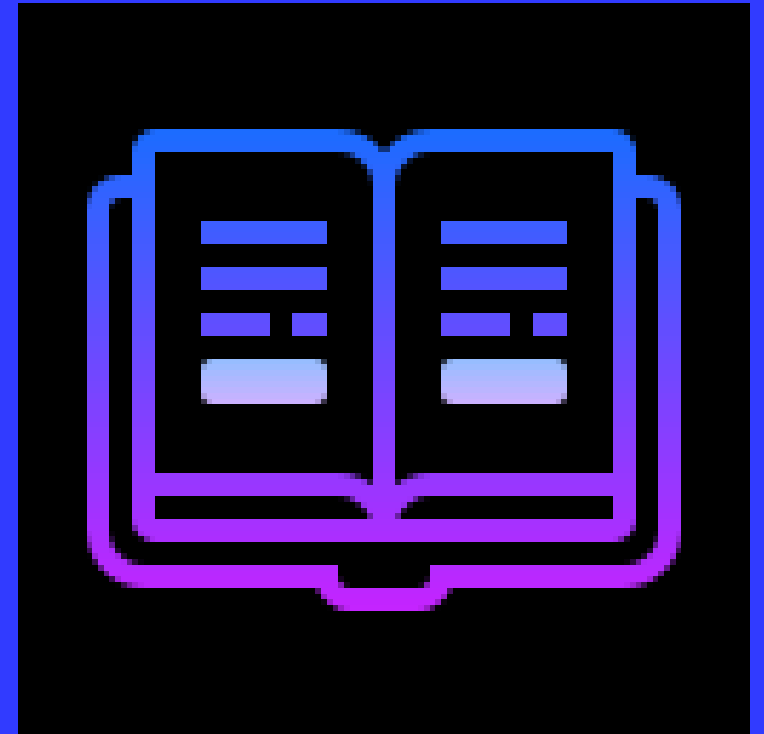
What's Involved?

Learning to . . .

- Send and receive messages

- Use symbols to convey meaning

- Sequence symbols to convey meaning

- Interpret symbols to obtain meaning

- Translate thoughts into stories and messages

Use available vision and hearing

Tap into tactile and haptic learning channels

Traditional Ways to Teach Literacy

- Talking to/with children
- Listening to children
- Telling and reading stories
- Writing notes, names, lists, reminders, cards, steps
- Writing stories
- Using labels, calendars, schedules, graphs, captions
- Using skill worksheets for practice
- Using tablets and computers

Shared memories

Through touch, the student has experiences and memories. These may be broad or limited.

Our goal is to help the student develop and use meaningful movements and then symbols to communicate around shared memories.

THE LITTLEST THINGS IN LIFE
bring me joy

Affirm and Respond

- **Affirm** (I heard/saw you)

- Respond (I understand what you meant)

This is essential so that the student learns that communication is about sharing and can enjoy full and rich communication.

Concrete to Abstract

Children's experiences leave bodily-emotional traces in the memory and how students express these memory traces in their behavior.

Memory and Emotion

Why?

Work to establish "shared experiences" with a student.

We want to co-create shared meaning of a student's expressions and develop gestures, meaningful sounds, and objects of reference.

Intervention

- Active Participant
- Student Perspective
- Affirm, Interpret, Take Turns
- Consistent, accessible language

Awareness of someone sharing space and perspective.

Awareness of someone as a responder who shares and affirms

- Memories
- Feelings
- Thoughts
- Needs

Awareness of someone as a responder who understands and with whom I would want to connect again.

Go slow now to go fast later

PLAY

Play is a primary avenue to giving us experiences that we want to communicate about.

Play routines

Social routines

Comfort routines

Learning routines

Appropriate Goals

To crawl towards a vibrating toy.

To get a vibrating toy and take turns playing with it with a parent.

Understanding

- What the child sees – how he or she uses vision.
- What the child hears – how he or she uses hearing.
- How the child moves – what posture supports learning.
- How vision, hearing and movement interact.
- How best to use available vision, hearing and movement to teach.

Frequency Spectrum of Familiar Sounds
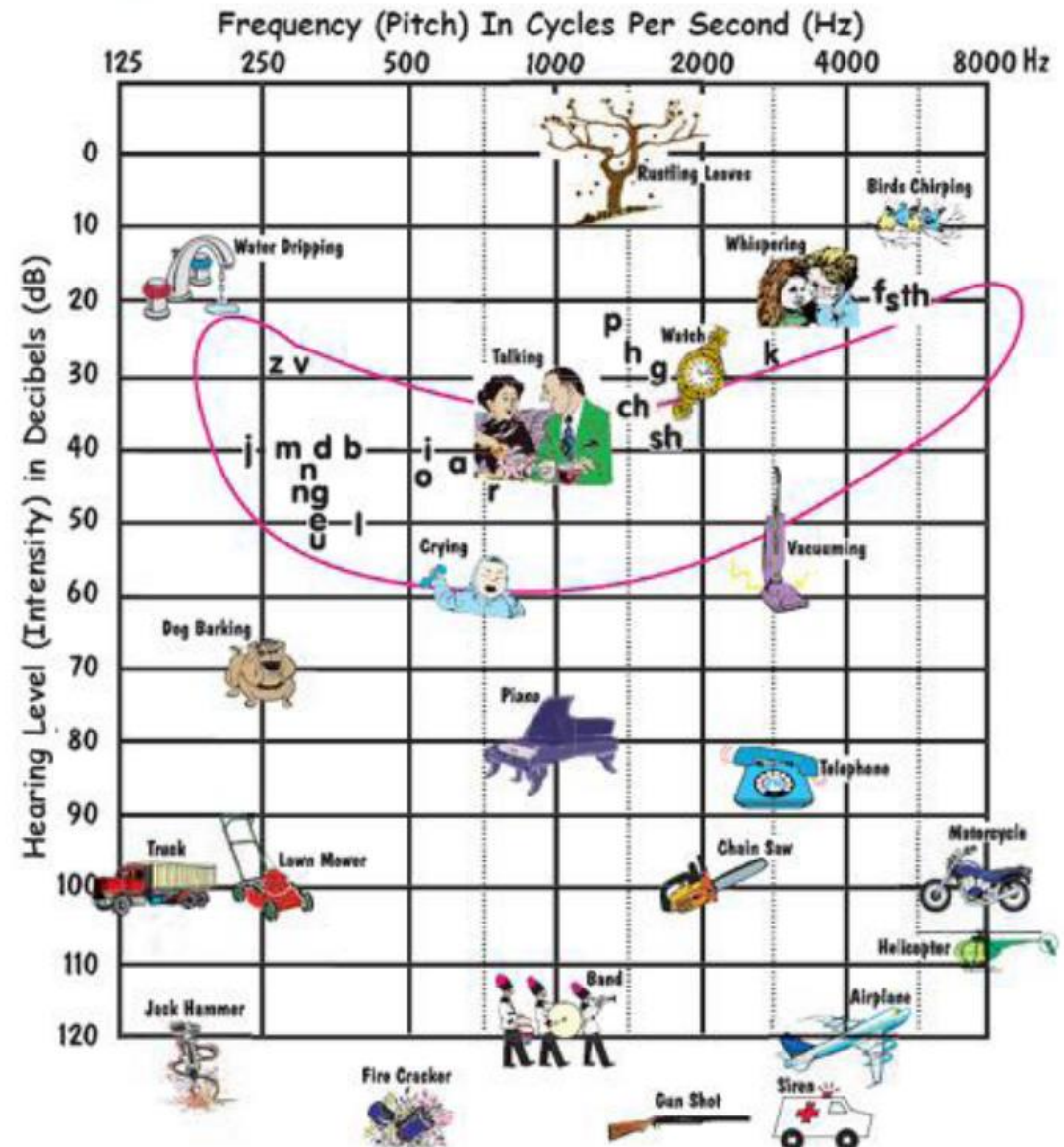
Repetition = Practice

Talented and Gifted Students:
Between 1 to 4 repetitions required

Typically Developing Students:
Between 8 and 18 repetitions required.

Deafblind Students: Varies – sometimes very few repetitions are needed and sometimes hundreds

Review
Five Major Components of Reading Instruction

VOCABULARY COMPREHENSION

ORAL LANGUAGE COMPREHENSION

PHONOLOGICAL AWARENESS

PHONICS

FLUENCY

Think About

Meaning Focused	Code Focused

- Vocabulary Comprehension
- Oral Language Comprehension

- Phonological awareness
- Phonics

FLUENCY

LINKED

All of the strands integrate over time to facilitate the complex act of reading for meaning.

Pathways to Literacy for Students Who are Deafblind

Observation of significant people reading and writing for a variety of purposes

Meaningful conversations during literacy experiences

Accessibility of literacy materials

Connection of literacy to experiences and interests

Regular opportunities for independent use of reading and writing materials

http://literacy.nationaldb.org/

Focus on What the Person Can Do At Any Age

	Reading	Writing	Comprehension	Vocabulary	Fluency
Build a Foundation	X	X			
Teach Early Emergent Literacy	X	X	X	X	X
Strengthen Emergent Literacy	X	X	X	X	X
Teach Reading and Writing	X	X	X	X	X
Expand Literacy	X	X	X	X	X

http://literacy.nationaldb.org/

Steps to Literacy

First Step

Literacy Skills Checklist

Building a Foundation

Child demonstrates some of the following skills:
- Demonstrates little or no interest in people around him/her
- Uses behavior as communication
- Seems reluctant to engage in the environment
- Engages in self-stimulating behavior for a significant part of the day
- Demonstrates behaviors that are difficult to interpret
- Demonstrates passive behavior
- Disengages when invited to participate in a learning activity
- Has little or no experience with rhythm activities
- Has little or no experience with books or stories
- Has little or no experience with literacy learning activities

STRATEGIES - READING
- Develop a trusting relationship with the child.
- Embed opportunities for communication throughout the day.
- Design learning experiences that are meaningful to the child.

STRATEGIES-WRITING
- Teach children to use written language for self-expression, recreation, and leisure.

Early Emergent Literacy

Child demonstrates some of the following skills:
- Attends to a communication partner
- Participates in turn-taking activities
- Attends to objects and/or pictures in a familiar routine or activity
- Is beginning to use consistent objects/symbols/signs for communication
- Child is beginning to understand that people and objects have names/labels/signs
- Enjoys and/or participates in music and rhythm activities
- Shows interest in books, stories and/or others engaged in literacy activities
- Handles, mouths or explores books (even in non-traditional ways)
- Attends to pictures (or objects) in traditional or adapted books
- Shows interest in writing materials

STRATEGIES - READING
- Model reading and writing behaviors.
- Embed the use of objects, symbols or words throughout the child's day.
- Incorporate rhythm, music, finger plays and mime games.
- Provide opportunities for handling and exploring reading and writing materials.
- Teach print and book awareness.
- Teach name, name sign and/or personal identifier of child and those the child interacts with on a regular basis.
- Embed literacy learning activities into routines.

STRATEGIES - WRITING
- Provide opportunities for children to experiment with a variety of writing materials and methods.
- Make writing a part of daily routines and activities.
- Engage children in writing activities for identifying and remembering objects, tasks, and events.

Emergent Literacy

Child demonstrates some of the following skills:
- Holds, carries and/or turns pages of a book
- Lets someone know he/she wants to look at a book/be read to
- Searches for favorite pictures/objects
- "Reads" to self
- Participates in story reading using child's preferred communication method(s)
- Begins to prefer certain stories
- Shows interest in print, Braille and/or tactile representations
- Notices and/or protests when adult leaves or changes part of the story
- Repeats familiar parts of stories using his/her preferred communication method(s)
- Scribbles, stamps, finger -paints, places stickers or uses alternative pencils
- Points to and/or names (or signs) objects
- Understands that text/pictures convey meaning
- Makes the connection between signed or spoken language and print, Braille or tactile representations
- Recognizes and begins to read familiar logos and signs in the environment
- Begins to recognize and read familiar words

STRATEGIES - READING
- Expand awareness of books, print and writing.
- Establish reading and writing procedures that follow a prescribed sequence.
- Connect real-life experiences to literacy activities.
- Create books adapted to individual child preferences, abilities and interests.
- Teach concepts using child's preferred communication method(s).
- Provide multiple opportunities to interact with text through shared storybook reading.
- Teach letters and familiar words.

STRATEGIES - WRITING
- Teach children to write personal information.
- Teach writing skills for organization, record keeping and finances.
- Teach children to communicate their thoughts and feelings through writing.
- Teach children to use written language for self-expression, recreation, and leisure.
- Use writing to expand a child's vocabulary.
- Incorporate writing into activities used to check reading comprehension.

Expanding Literacy
- Provide access to the general education curriculum using individualized reading and writing materials.
- Use consistent methods to evaluate a how well a student understands what he or she is learning.
- Provide opportunities to use new vocabulary in a variety of situations.
- Provide ongoing support for new reading tasks
- Provide opportunities for students to read for the purpose of gaining information or knowledge.
- Provide opportunities for students to read for the purpose of experiencing new feelings and attitudes.
- Provide opportunities for students to demonstrate critical thinking skills and understanding of content.

STRATEGIES IMPORTANT FOR ALL LITERACY LEVELS

STRATEGIES – COMPREHENSION
- Conduct a symbol assessment to ensure symbols in literacy materials are understood by and accessible to student.
- Design the environment and develop or adapt literacy materials, including related communication symbols, based on child's needs, skills, and learning objectives.
- Implement comprehension strategies **before** reading, **during** reading, and **after** reading
- Align to the general education curriculum using adapted reading materials.

STRATEGIES - VOCABULARY
- Teach vocabulary using the representation mode(s) most familiar to the child (e.g. objects, pictures, tactile symbols, print, braille).
- Introduce vocabulary in a meaningful context.
- Teach new vocabulary within a variety of activities.
- Teach vocabulary by matching objects to words.
- Use pairing and fading to move children along a hierarchy toward recognizing words in print and braille.
- Take time to teach vocabulary in preparation for an activity (pre-teach) and review vocabulary following the activity.

STRATEGIES – INCREASING FLUENCY
- Engage children in multiple re-readings of stories.
- Engage children in reading activities with peers.
- Engage children in presentation activities in the classroom and community.

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Function of Reading/Writing

Function of Reading/Writing	Example for student who is Deafblind
Organizing and supporting memory	Calendars, lists, texts
Acquiring information	Newspapers, contacts
Instructions	Recipes, directions, store rules
Financial negotiations	Checks, bank statements; contracts
Entertainment:	Comic books, magazines, internet; tablets
Identifying things or places	Signs, labels, packages
Self-expression, dealing with emotions	Understand facial expressions; ask for help; place to go
Creating/maintaining relationships	Letters, journals, emails, cards

Accessing the General Education Curriculum

https://www.pathstoliteracy.org/accessing-curriculum-frameworks-through-english-language-arts-literacy

Subject Area: English Language Arts
  Strand: Reading and Literature
  General Standard 8, Understanding a Text: Students will identify the basic facts and main ideas in a text.
  Essence(s): identify main event, retell a story, identify what will happen next
  Access Skills: Respond to text read aloud, turn pages in a book, orient books right side up
  IEP Goal: The student will interact with and use books
  Relationship to Literacy: skills of matching words to pictures, sequence a story using pictures, answer simple questions about a story

Print Concepts Taught in Primary Grades

Print Concepts typically learned in K and Grade 1

1. Reading from left to right and top to bottom

2. Words are separated by spaces and convey meaning.

3. Spoken words can be represented by text alone.

4. Letters are unique (must be recognized)

Literacy for Students Who Are Not Speaking

1. Systematic reading instruction for students able to speak

2. Use of read alouds (shared stories)

3. Individualized engagement and response mechanisms.

- Touch or gaze at pictures

- Laugh or vocalize

- Select from pictures/words on voice output devices

- Discriminate between meaningful/distracting objects to respond to comprehension questions.

- Adapt grade-level text with software

Effective Literacy Strategies

Instruction of phonological awareness and phonics skills most-to-least prompting and time delay

Use internal speech to promote the acquisition of phonetic reading skills.

Sound out words in their head then select a written word to represent it.

Offer carefully planned response choices supported by error analysis

Use pointing and eye gaze as a nonverbal responding format

Use Shared Stories to Teach Concepts About Print

Adapting Books

Consider the overall message/subject of the book

Reduce amount of text on page

Re-write the story with integrity

Add photo or object support

Make it more physically accessible

What is a Story Box

A Book with a collection of objects or photos that can be used to provide tactile or cognitive information that is more informative and stable.
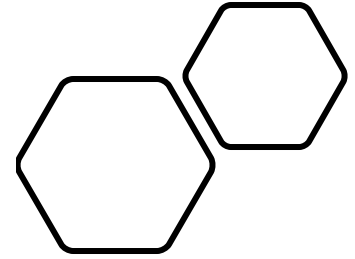
Handling the materials gives a non-verbal student a way to participate.

Considerations for Adaptations When Students are Deafblind

How much vision does the individual have?

How much hearing does the individual have?

Is either of those losses progressive?

Are there medical considerations that affect learning?

Are there additional disabilities?

At what age did the individual lose vision and hearing?

Are assistive devices being used consistently?

How does the individual communicate?

Story Box Overview

create access for different learners

Unique

- Story boxes should be unique to the student
- Age appropriate
- Reflect the student's interests

Concrete → Abstract

- Unique to student's level of communication
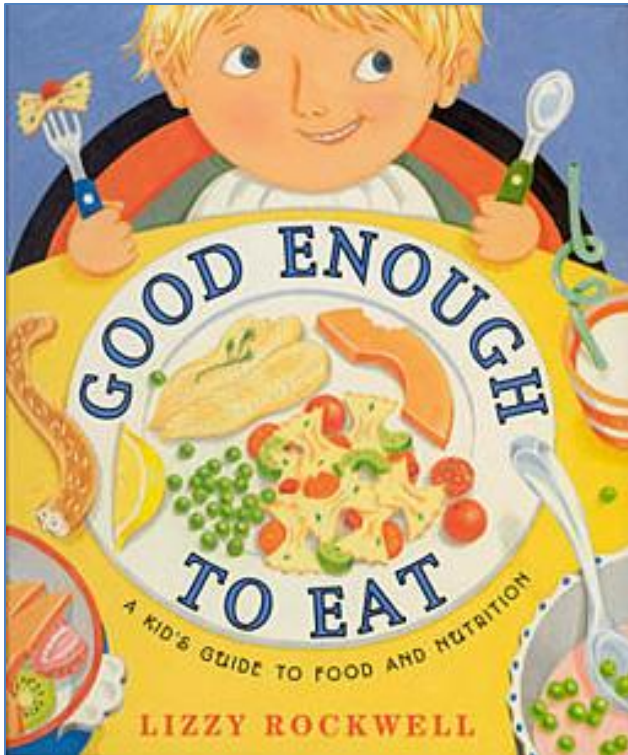
Concrete → Abstract

- Concrete: Real objects that are meaningful to the student
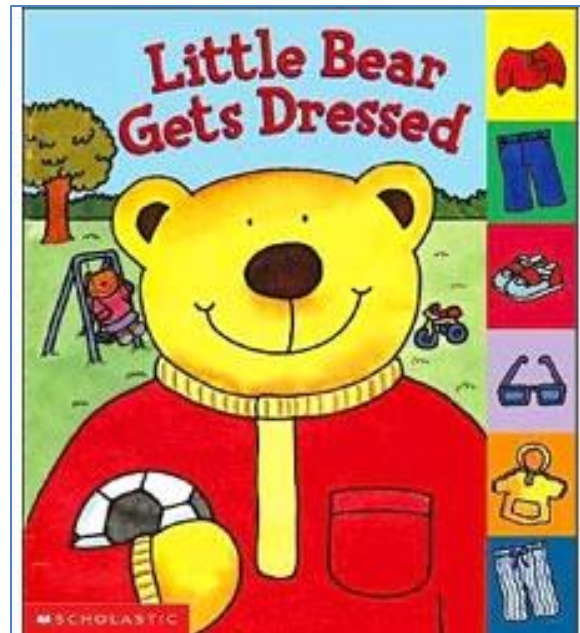
Concrete → Abstract

- Abstract: Represents another meaning

Concept vs. Abstract

- A student who is not yet an abstract thinker can still use abstract objects in a story box

- Use to focus on concepts

Focus on the object being RED, not on it representing an apple
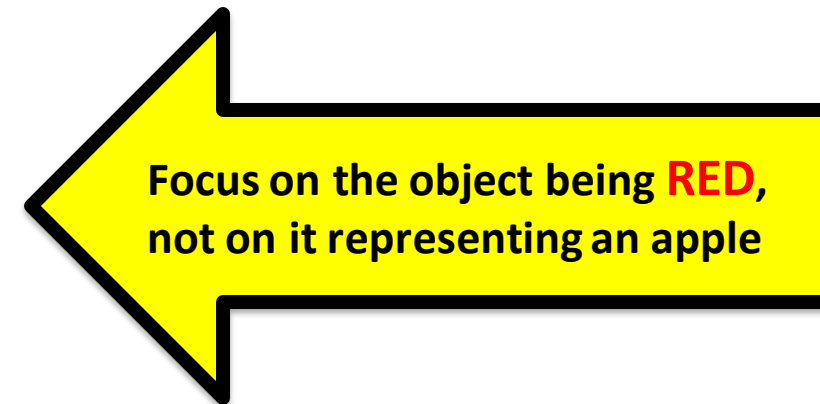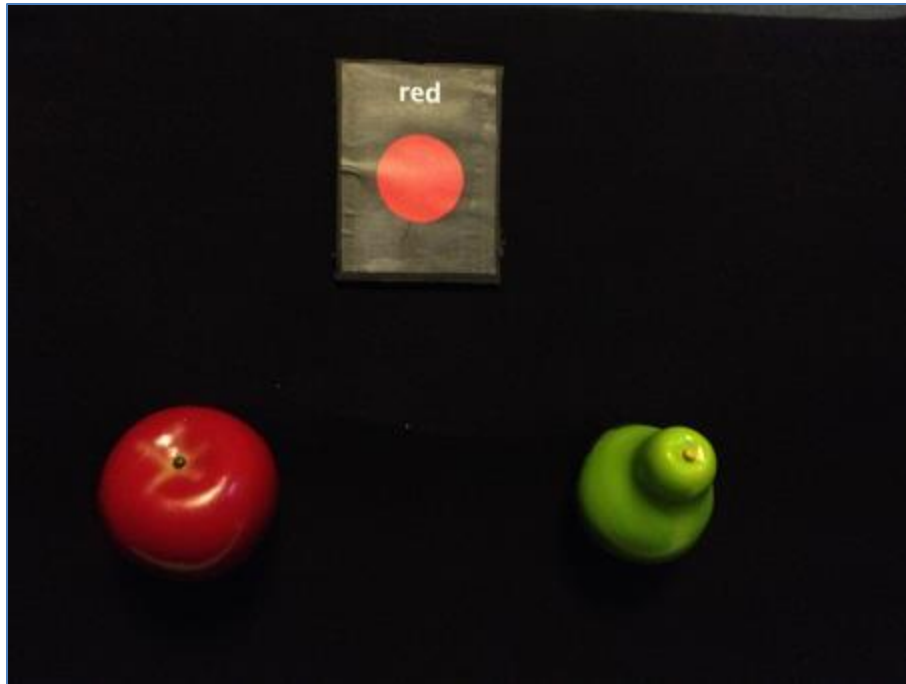
For All Story Boxes

- Consistency of words & labels

Vs.
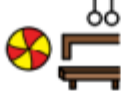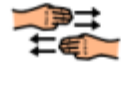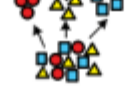
"SHOE"   **"SNEAKER"**

For All Story Boxes

- Repeat Exposure

For All Story Boxes

- Unique and Engaging!

How to Create a Story Box

Book Materials:
- Paper (Black)
- Lamination
- Sheet Protectors
- Hole Puncher
- Rings

Pictures:
- Scanner
- Internet Search
- Personal Camera
- Draw it
- Cut out of Book

Objects:
- Donation
- Dollar Stores
- Craft Stores
- E-Bay

THE VERY HUNGRY CATERPILLAR by Eric Carle

Bilms & Padhye, 2013
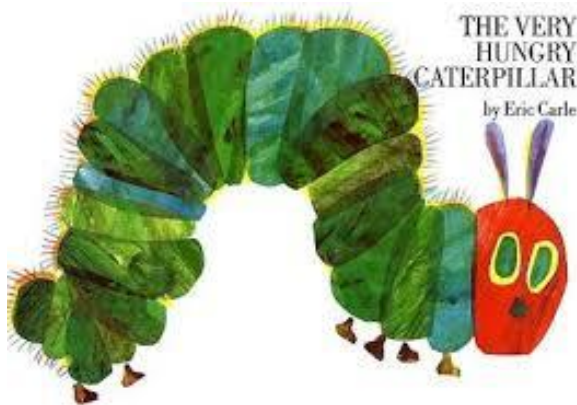
Experience Book
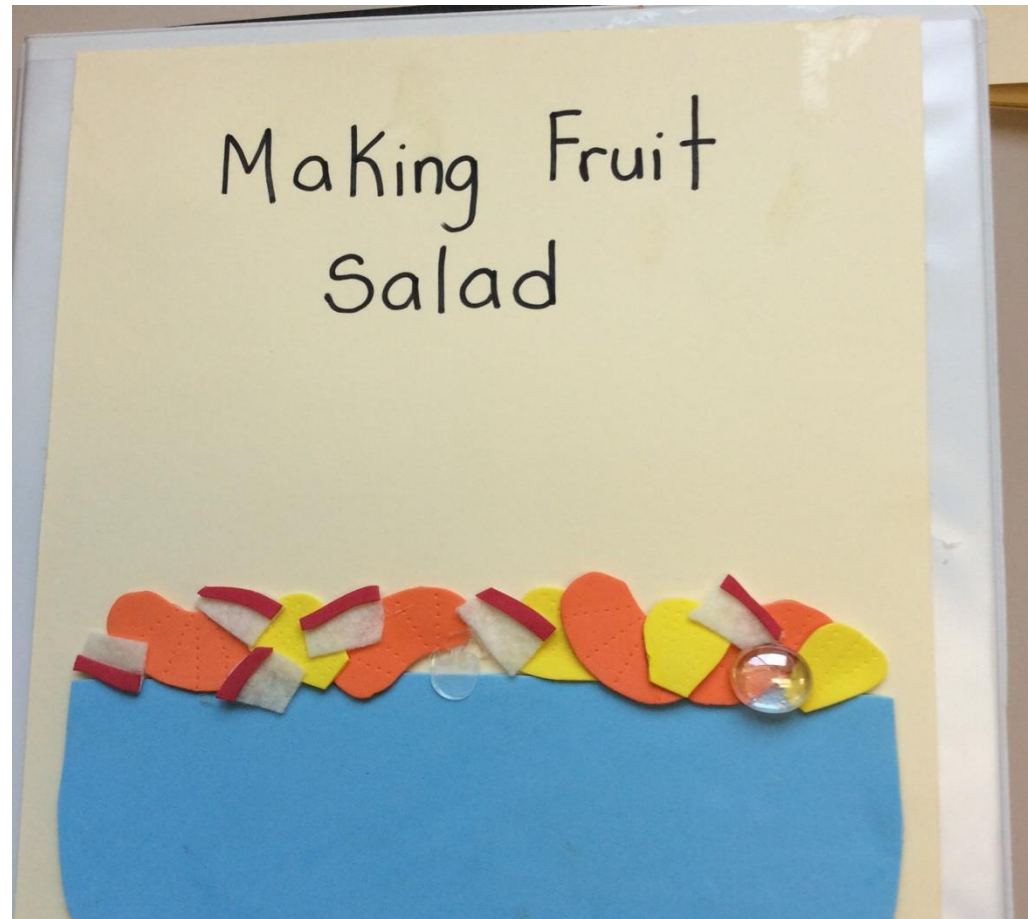
Embed Instruction on Other Reading Skills in Shared Stories

Pre-teach vocabulary using constant time delay

Identify the words being taught (Various ways to respond)

Embed quick teaching trials.

Ask a variety of comprehension questions that vary in the depth of understanding

Reread the text. Identify questions to ask. Have response options and distractors ready for students (e.g., photo, picture, word)

Address fluency through repeated readings of the same text

Apply a Task Analysis

Use of task analysis instruction in which a chained skill (one that is made up of multiple components) is broken down into smaller discrete skills using total task chaining.

Find	Find and share an anticipatory set (Motivation)
Orient	Orient the book
Identify	Find the author
Select	Find the title
Ask	Ask/answer a prediction question
Open	Open the book
Turn	Turn the page
Point	Point to text
Choose or Match	Demonstrate understanding of vocabulary
Ask	Ask/answer a comprehension question.

Use Active Student Responding:

the teacher models → the teacher leads the whole class in unison responding

the whole class provides a unison response without the teacher model. → Provide students with an AAC device or response cards
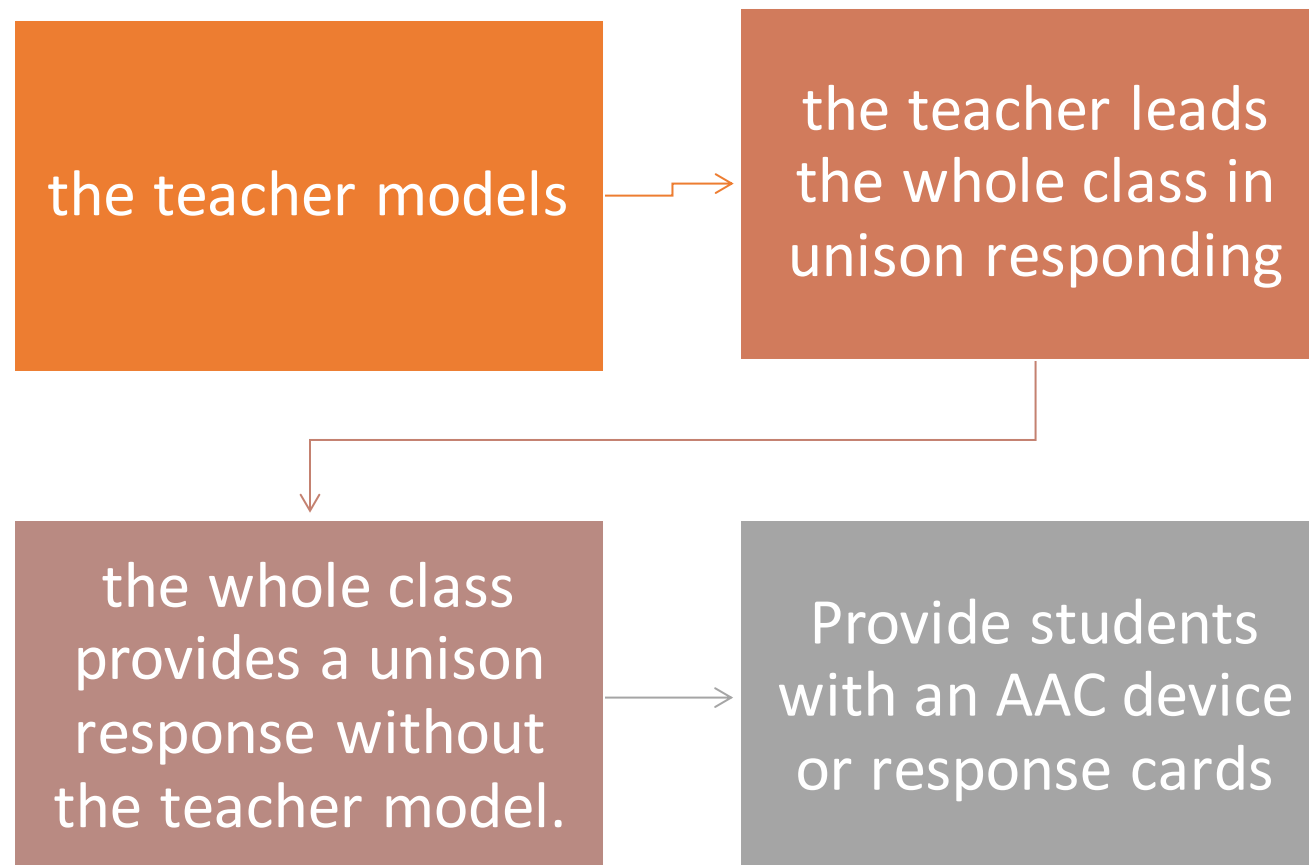
Incorporate an Augmentative and Alternative Communication Devices

Use Voice Output	Use a prerecorded voice output device to participate giving the repeated storyline during a story-based lesson.
Use Picture Communication	Use a picture communication board with the target answer and distractors to answer questions.
Use Grade Level Biographies	Use adapted grade level biographies

Systematic Instruction Plans

- the learning objective
- schedule for instruction
- prompting system to be used
- description for fading out prompts
- description of feedback to be used
- plan for generalization and maintenance

Develop Systematic Instruction Plans

Use evidence-based practices to develop Systematic Instruction Plans, task analysis for a shared story, commercially available curricula, and MLT scripts.

Plan for student responding

- Pointing

- Eye gazing

- AAC devices

Consider Adaptations

Presentation	Consider modifications font size, font type (san serif), groupings, color, etc.
Response Options	Consider modifications to the number and type of response options
Distractors	Use distractor (incorrect) options and change for new learning situations
Vary Locations	Vary the location of a printed response card.
Sequence	Use an easy to difficult sequence in selecting response cards
Analyze	Analyze errors and use the information to adjust response options
Auditory Cuing	Use auditory cuing (press twice) for selecting a response option
Use of Pictures	Use pictures and symbols to teach sounds then fade the picture.

Use Scripted Curricula

Follow the script	Work towards fidelity of use
Adapt the Curricula	Know when/how to adapt the curricula
Adapt the Instruction	Know when/how to adapt the instruction

Published Curricula

Early Literacy Skills Builder
https://www.attainmentcompany.com/elsb

Pathways to Literacy
https://www.attainmentcompany.com/pathways-to-literacy

Building with Stories
https://www.attainmentcompany.com/building-stories

The Explicit Phonemic Alphabetic Connections Curriculum
https://www.attainmentcompany.com/epacc

Published Curricula

MEville to WEville

http://www.spectronics.com.au/product/meville-to-weville-complete-collection-ablenet-bundle-updated-version

https://www.youtube.com/watch?v=-bhGClQSg9c

GoTalk NOW

https://www.attainmentcompany.com/gotalk-now

Writing with Symbols

https://www.widgit.com/writing-with-symbols/

https://www.youtube.com/watch?v=L5YGu0RIgqo

Accessible Literacy Learning Reading Program

https://www.tobiidynavox.com/en-us/software/windows-software/accessible-literacy-learning-windows/

https://www.youtube.com/watch?v=gyuS97bDkP4

MLT script

The Model-Lead-Test Procedure, also known as My Turn-Together-Your Turn or I Do-We Do-You Do, is highly effective in promoting active student engagement and increasing student success and achievement.

https://www.attainmentcompany.com/blog/practical-perspective-model-lead-test-direct-instruction-approach/

See the video at the same link.

Continuity

Skilled instructors

Extended instructional time

Accommodate student's attention span.

Continue throughout school time

Practice with generalization and maintenance

What About Braille

Braille Basics
http://www.brailleauthority.org/learn/braillebasic.pdf

Types of Braille https://www.seewritehear.com/learn/an-explanation-of-braille-formats/

Braille, Print or Both
https://www.nfb.org/sites/www.nfb.org/files/images/nfb/publications/fr/fr18/issue1/f180104.htm

Braille Literacy https://www.pathstoliteracy.org/instructional-strategies-teaching-braille-literacy

Braille Resources

- [Advantages to uncontracted braille](#)

- [Advantages to contracted braille](#)

- [Learn Braille by Mail](#)

- [An Introduction to Sign Language and Braille OHOA module](#)

Thank You!

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