Phonological Awareness, Phonemic Awareness & Early Literacy

Core Early Language & Early Literacy Skills

- ✓ **Oral Language:** helps build vocabulary and exposes child to world of print
- ✓ **Concepts of Print Knowledge:** ability to recognize print & understand how it works
- ✓ **Phonological Awareness:** ability to identify, count, and manipulate parts of language
- ✓ **Alphabet Knowledge:** ability to name and write all 26 letters of the alphabet
- ✓ **Developmental Writing:** develops understanding that words create meaning and that sounds connect to the spelling of words

Ehri's Phases of Word-Reading Development

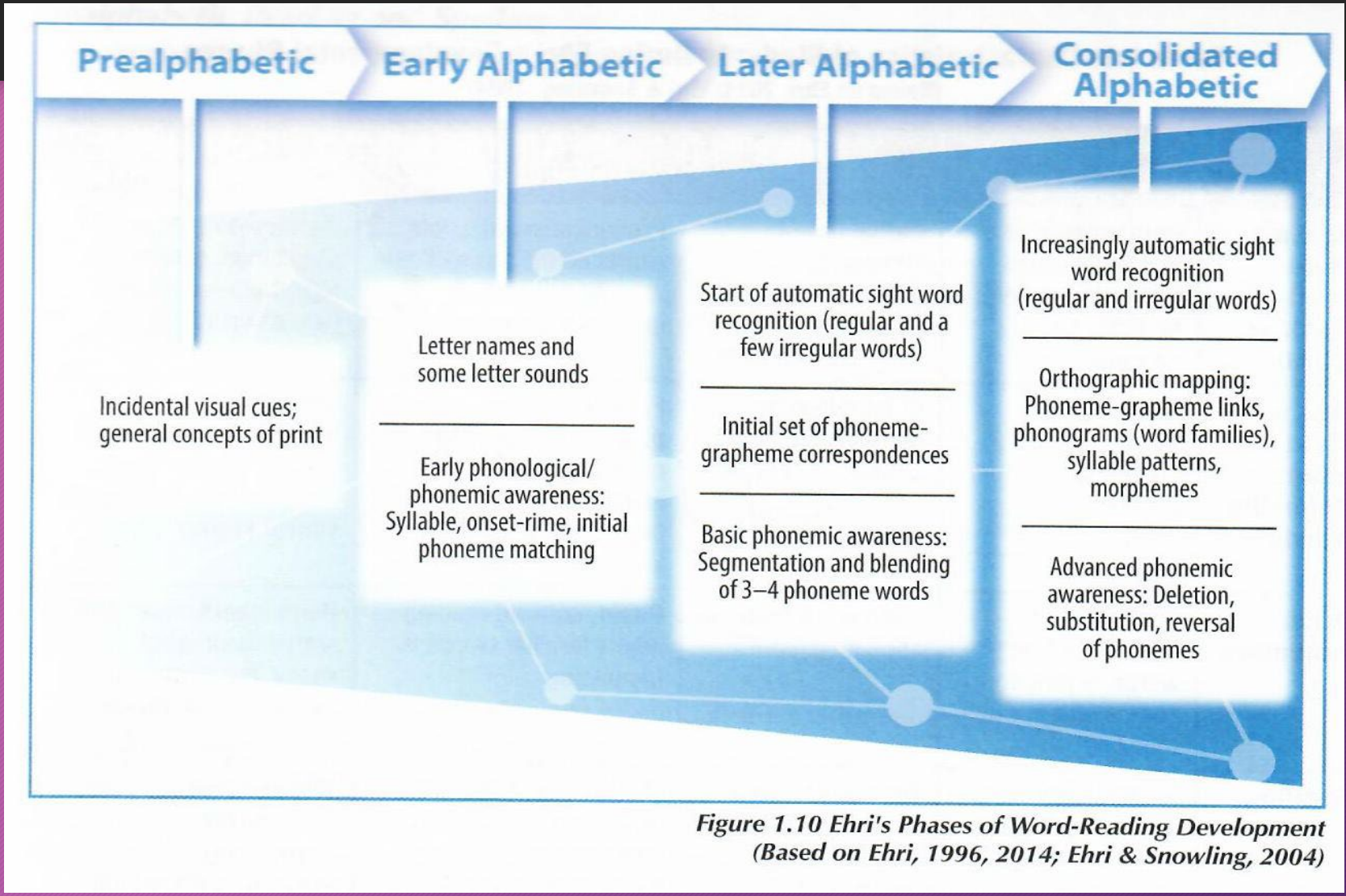


Figure 1.10 Ehri's Phases of Word-Reading Development (Based on Ehri, 1996, 2014; Ehri & Snowling, 2004)

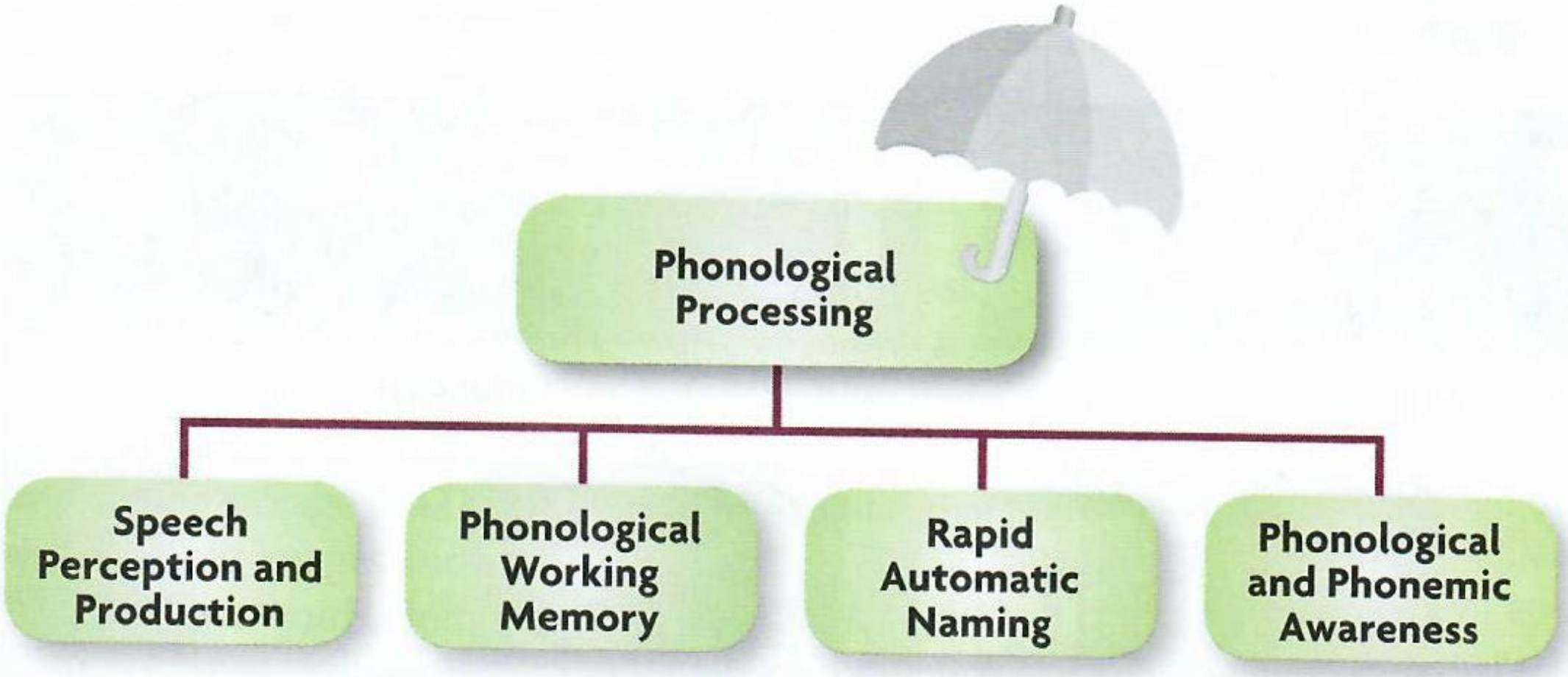
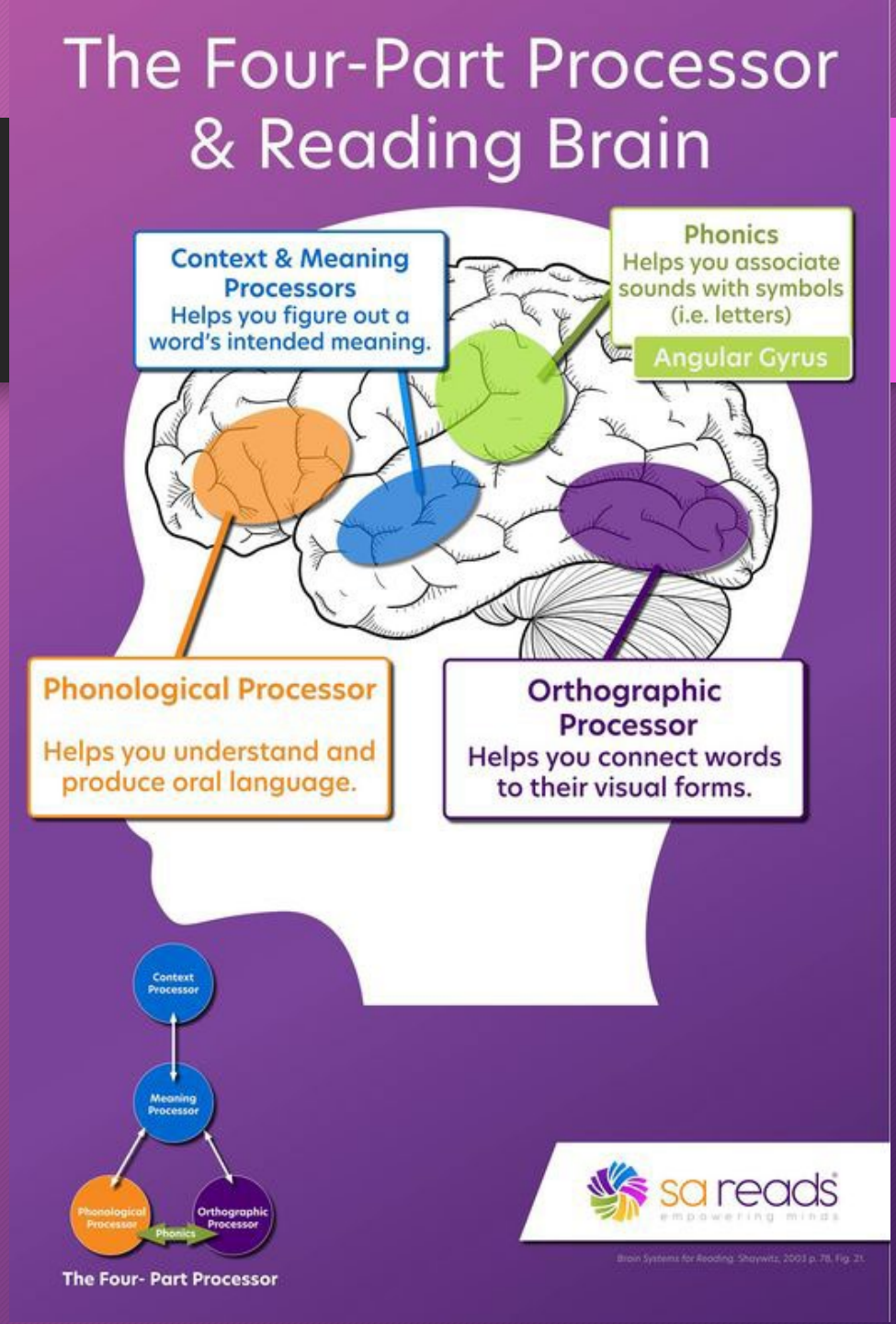


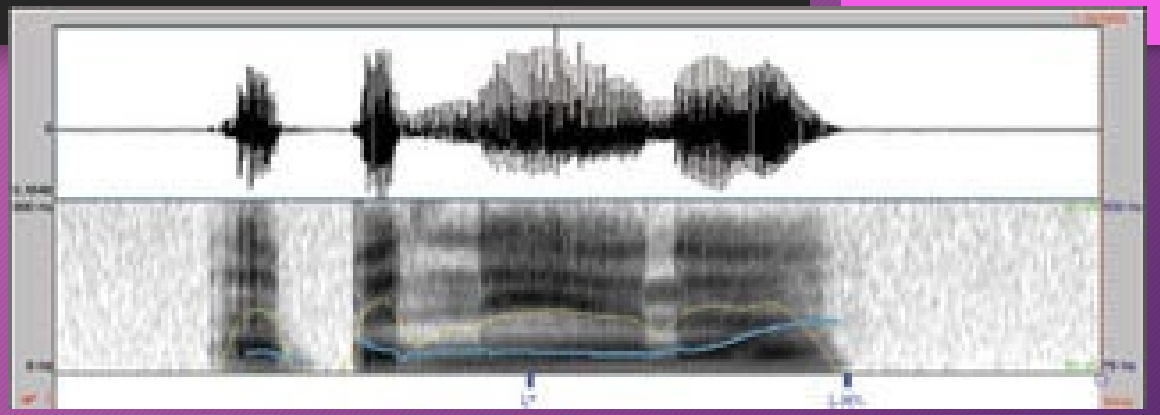
Figure 2.2 The Phonological Processing Umbrella

Phonological Processing

- Phonological Processing: the ability of the brain to understand and produce oral language
- Important foundation for moving from Speech → Print



Speech Perception and Production

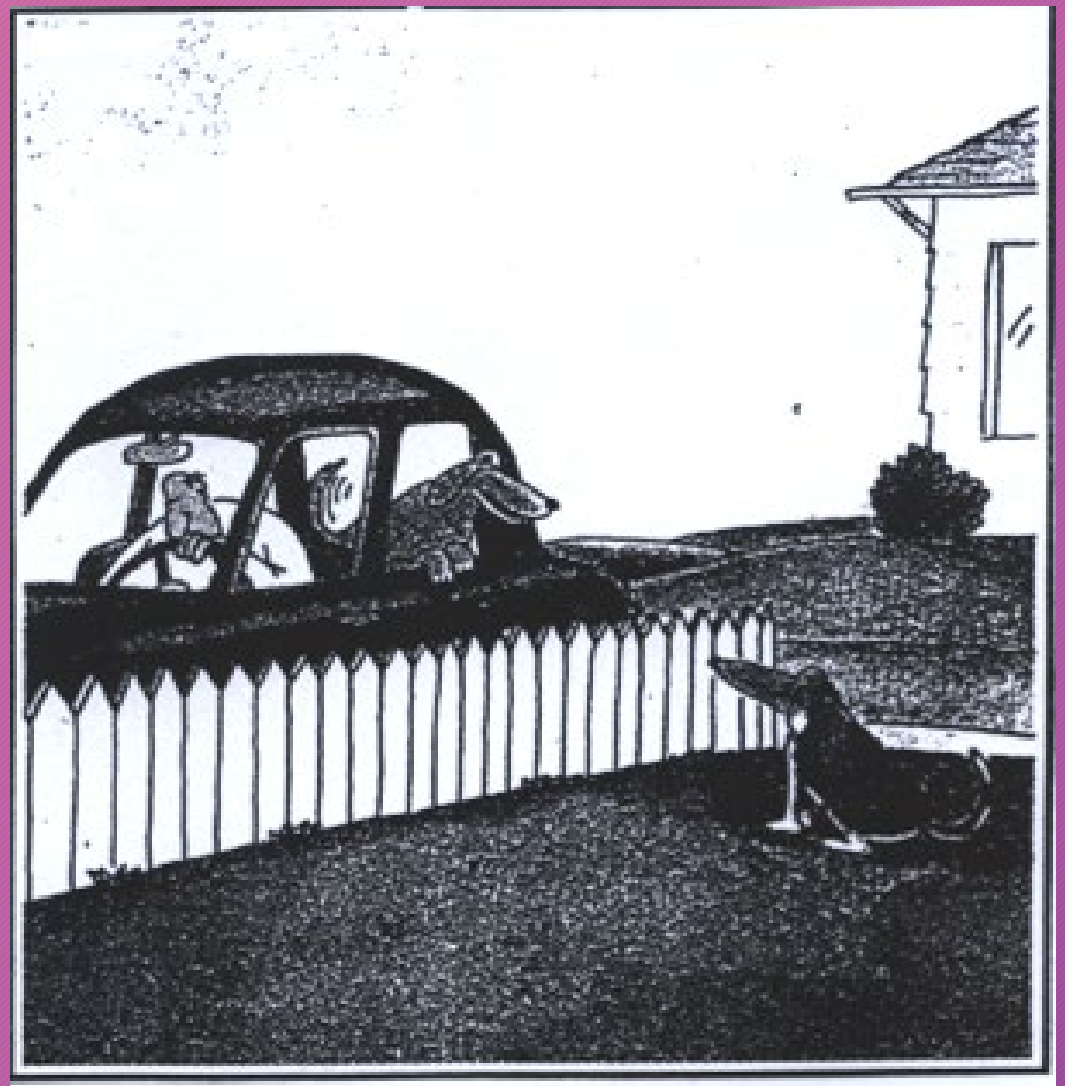


Perception

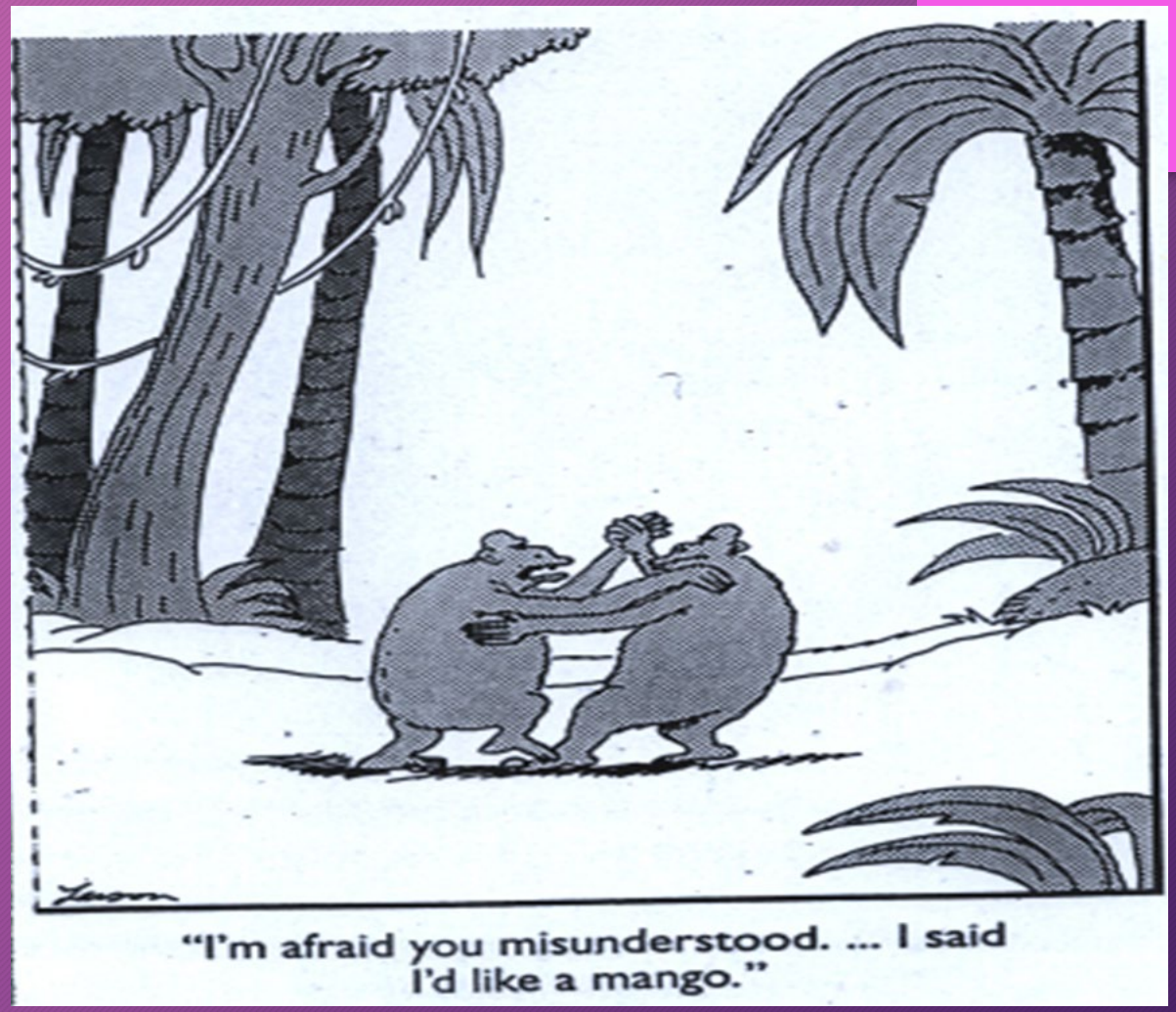
- Perceive spoken words through a set of acoustic signals or sound frequencies
- Distinguishes like-sounding words from one another
- Matches incoming speech to stored memories for spoken words

Production

- Articulation of pronunciation of speech sounds and speech sound sequences
- Coarticulation: natural flow of speech (makes it difficult for non-native speakers to hear individual words)



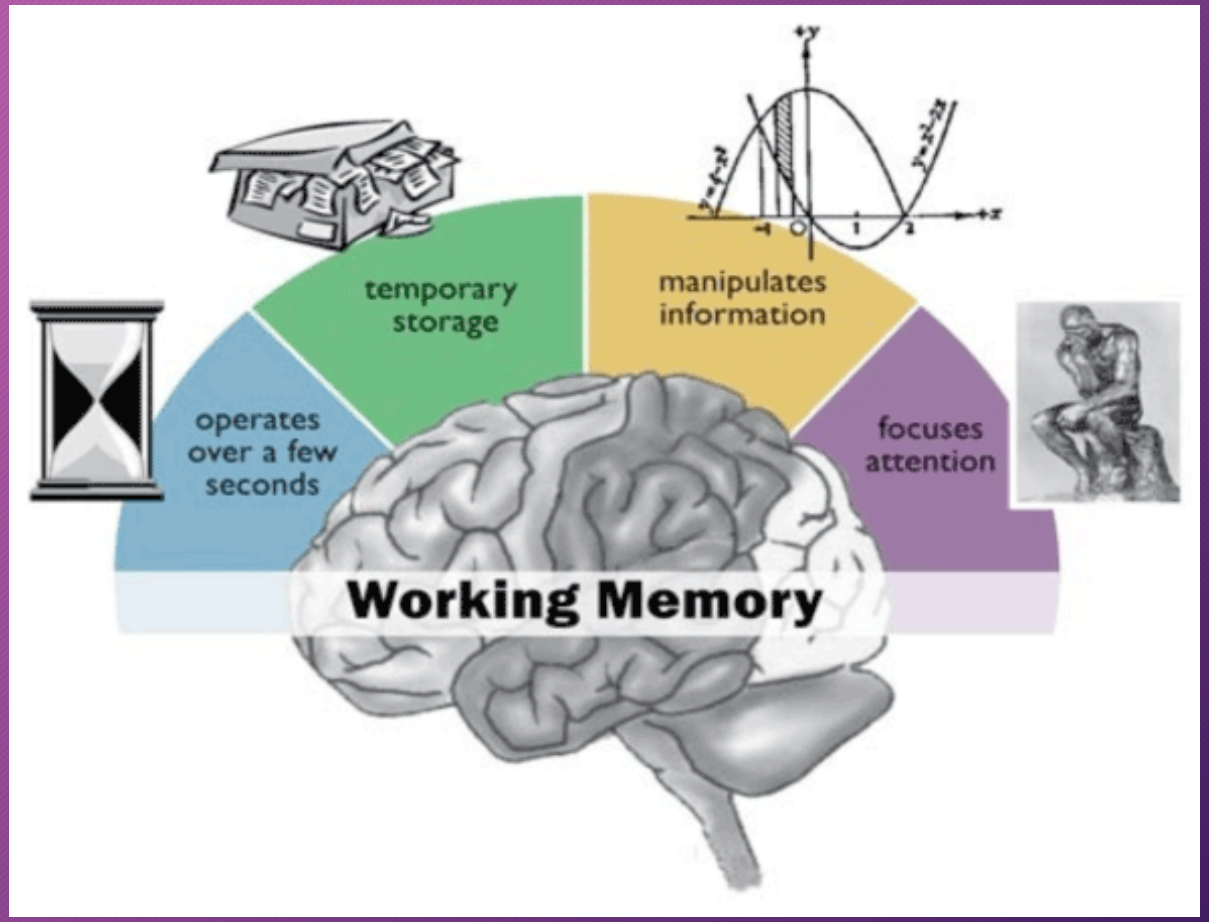
"Ha ha ha, Biff. Guess what? After we go to the drugstore and the post office, *I'm* going to the vet's to get tutored."



"I'm afraid you misunderstood. ... I said I'd like a mango."

Phonological Working Memory

- Memory system that remembers speech long enough to extract meaning from it
- Holds onto words during writing



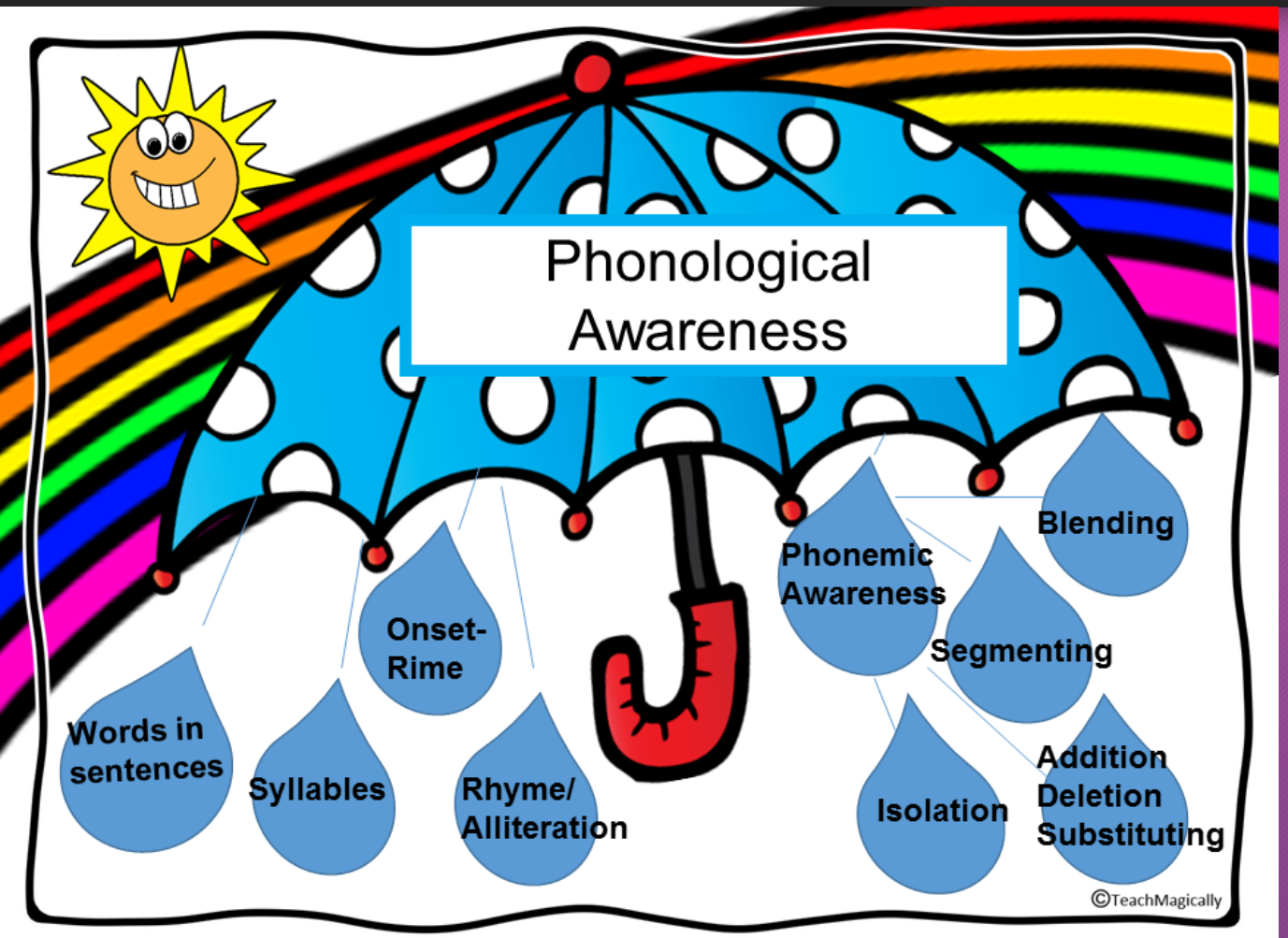
Rapid Automatic Naming

- Ability to quickly name a series of printed, repeating numbers, letters, objects, and/or colors (names that should be known by rote)
- Verbal retrieval skill
- May be a better predictor of reading success than originally thought
- CANNOT be practiced, but with good instruction, RAN can increase

Name these letters as quickly as possible:

A	O	B	G	S	R
O	R	S	B	A	G
S	G	A	B	R	O
B	O	R	A	G	S

Phonological Awareness



- Phonological Awareness: ability to identify, count, and manipulate parts of words
- Auditory skill
- Includes rhyming, alliteration, sentence segmenting, syllables blending and segmenting, AND phonemic awareness

In order of development

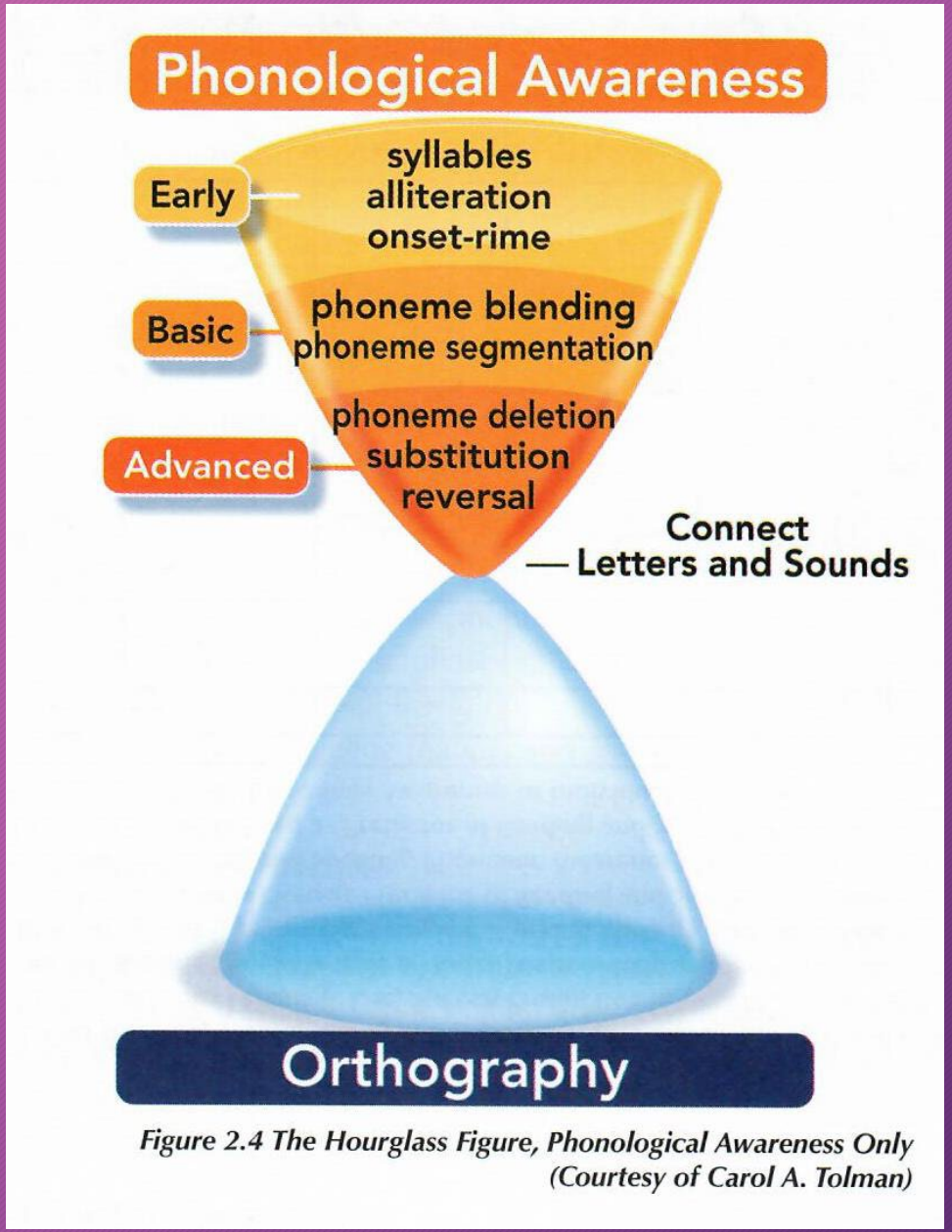


Figure 2.4 The Hourglass Figure, Phonological Awareness Only
(Courtesy of Carol A. Tolman)

Tolman's Hour Glass

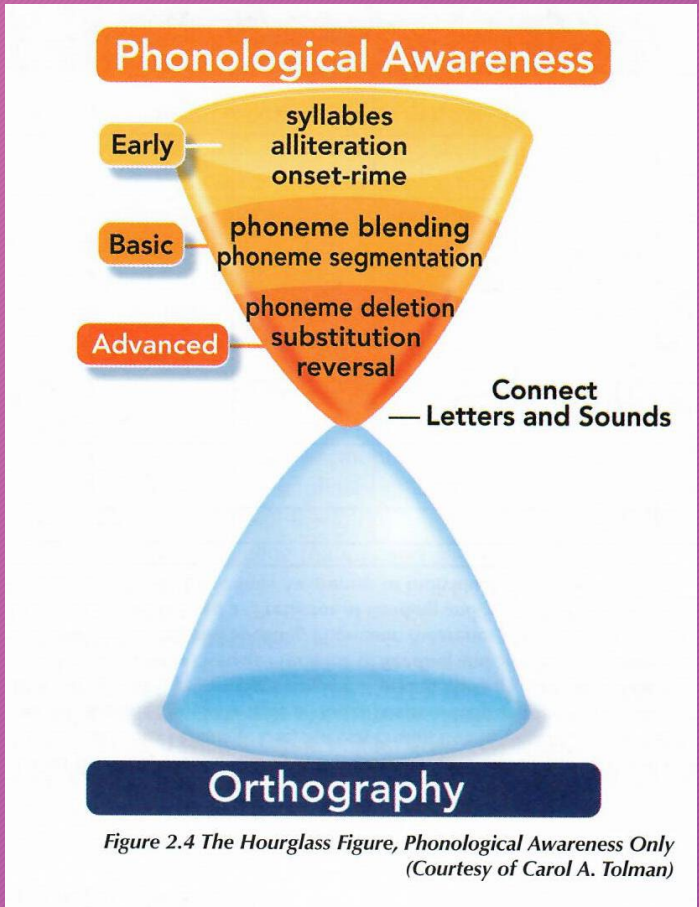


Figure 2.4 The Hourglass Figure, Phonological Awareness Only (Courtesy of Carol A. Tolman)

The Top-Half of the Hourglass

Developmental Continuum of Phonological Skills:

Early: Preschool
1. Syllable segmentation
2. Rhyming
3. Alliteration
4. First-Sound Matching

Basic: Kindergarten & First Grade
1. Phoneme blending
2. Phoneme segmentation

Advanced: First Grade-Fourth Grade
1. Sound deletion
2. Sound substitution
3. Sound reversal

EARLY PHONOLOGICAL SKILLS

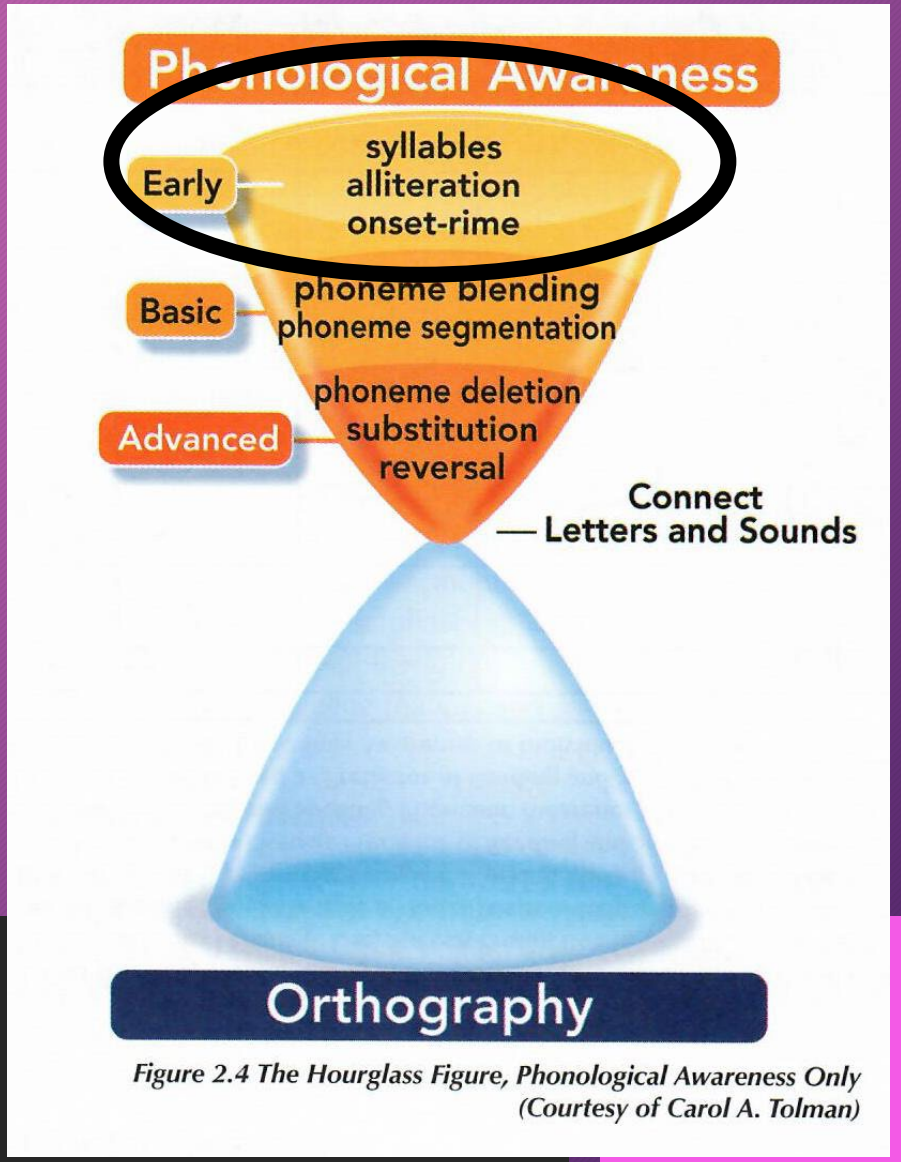


Figure 2.4 The Hourglass Figure, Phonological Awareness Only (Courtesy of Carol A. Tolman)

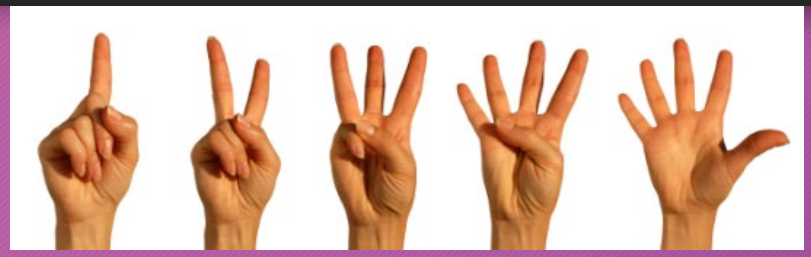
Word-Level Analysis

- Example: I am going to say a sentence. Tell me how many words I say. “The dog was in the yard.”
- Answer: 6!

Syllables

Blending: Silly Caesar (or Mr. Troll) speaks very slowly. What word is he trying to say?

i. Ta-ble
ii. Roll-er-blades
iii. Hos-pi-tal
iv. Fire-truck
v. Tan-ger-ine
vi. Play-ground



Counting: Inside this chest are lots of things with names that you know. When it is your turn, reach in and take something out. Then, tap the syllables as you say the word.

i.	Balloon	2
ii.	Sharpener	3
iii.	Cricket	2
iv.	Stapler	3
v.	Calculator	4
vi.	Candlestick	3
vii.	Eraser	3
viii.	Napkin	2

Deletion-Let's play a game with words. We're going to break some long words into parts and leave a part out. If I say *toothpaste*, and then leave off the tooth, what's left? That's right--paste! Let's try some more.

i. What's baseball without ball?
ii. What's paddleboat without boat?
iii. What's power without -er?
iv. What's butterfly without butter?
v. What's Sunday without day?
vi. What's telephone without tele-?

Alliteration

Say, “Peter Piper picked a peck of pickled peppers.” Now, let’s make a silly sentence with /n/ words. “Neat Nancy…”

Say, “Sally sells seashells by the seashore.” Now, let’s make a silly sentence with /d/ words. “Dainty Dog…”

Rhyming

Do these words rhyme?

i. Cake, Bake YES
ii. Merry, Cherry YES
iii. Dog, Cat NO
iv. Ran, Sam NO

Finish the rhyme

i. Jack and Jill went up the _hill_?
ii. Hickory, Dickory, Dock, the mouse went up the _clock_?
iii. Jack Sprat could eat no fat, his wife could eat no lean.
But, together both, they licked the platter clean?

Rhyme Production--Let's play a game. I'll say three words that rhyme and sound alike at the end. You say one more word that rhymes. It can be a silly word. Let's start: hinky, pinky, slinky, _____.

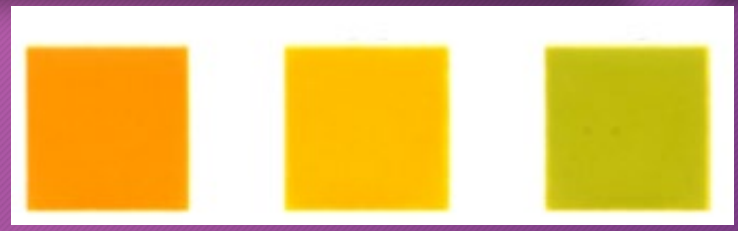
i. Say a word that rhymes with star… BAR, CAR, DAR, LAR, FAR
ii. Say a word that rhymes with dog... FOG, MOG, LOG, FROG, SOG

Rhyming Robot wants to find a match for each of his favorite words. Can you help him?

i. Shake, _Steak_? We have meat, corn, or steak. Which one rhymes?
ii. Dog, _Log_? We have cat, log, and mouse. Which one rhymes?
iii. Phone, _Bone_? We have bone, road, and fridge. Which one rhymes?

Onset-Rimes

Initial Sound Matching--Let's find two partners whose name starts with the same sound as someone else's name. *Timmy* and *Tanya.* What sound begins each of your names? That's right--/t/. Let's think of another name that starts with the /t/ sound.



Division and Manipulation with Squares--Let's say some words in parts. I'll say the whole word. Then you say the whole word and divide it into two parts. Touch a colored square for each part, like this." (Model the technique)

i. C-ar
ii. W-ave
iii. Sh-ip
iv. D-esk
v. P-ie
vi. Fl-at
vii. If this says "d-en," change it to "p-en." Which square needs to change? If this says, "p-en," change it to "p-eck." Which square needs to change?

Phonemic Awareness

- Phoneme: the smallest unit of SOUND
- Phonemic Awareness: the ability to notice, think about, and manipulate individual sounds in spoken words
- Children must understand that words are made up of speech sounds (phonemes)
  - The English language has 44 speech sounds (but only 26 letters)
    - One sound change can make the difference in a word's meaning
    - Ex: /h/ vs. /k/ in "hat" and "cat"

BASIC PHONOLOGICAL SKILLS

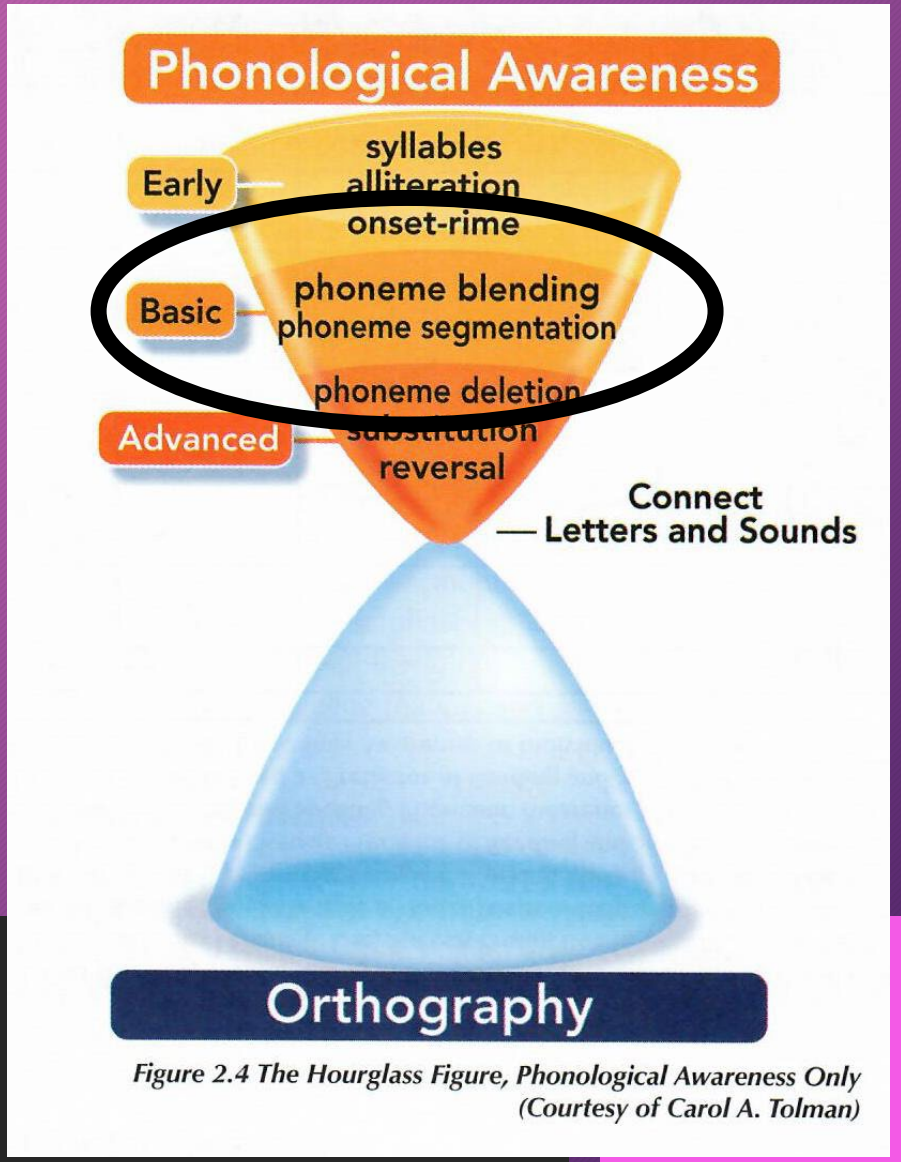


Figure 2.4 The Hourglass Figure, Phonological Awareness Only (Courtesy of Carol A. Tolman)

Phoneme Counting

How many phonemes in the following words:

1. think
2. quiet
3. church
4. foxes
5. fling
6. shout
7. splash
8. guest
9. twine
10. climb
11. jumped

Answers:

1. think 4
2. quiet 5
3. church 3
4. foxes 6
5. fling 4
6. shout 3
7. splash 5
8. guest 4
9. twine 4
10. climb 4
11. jumped 5

Matching & Sound Isolation

What Sound? Say the word after me--Pet. We'll use a chip (or block or colored square) for each sound. "Pet." What's the first sound in pet? What is the last sound in pet? What is the middle sound in Pet?

i. Dog
ii. Cat
iii. Moon
iv. Win
v. Race

Sound Matching--Listen while I say two words. If they end with the same last sound, repeat that sound.

i. Moon, pen (/n/)
ii. Bridge, page (/j/)
iii. Witch, mash (two different sounds--/ch/ and /sh/)
iv. Brick, steak (/k/)

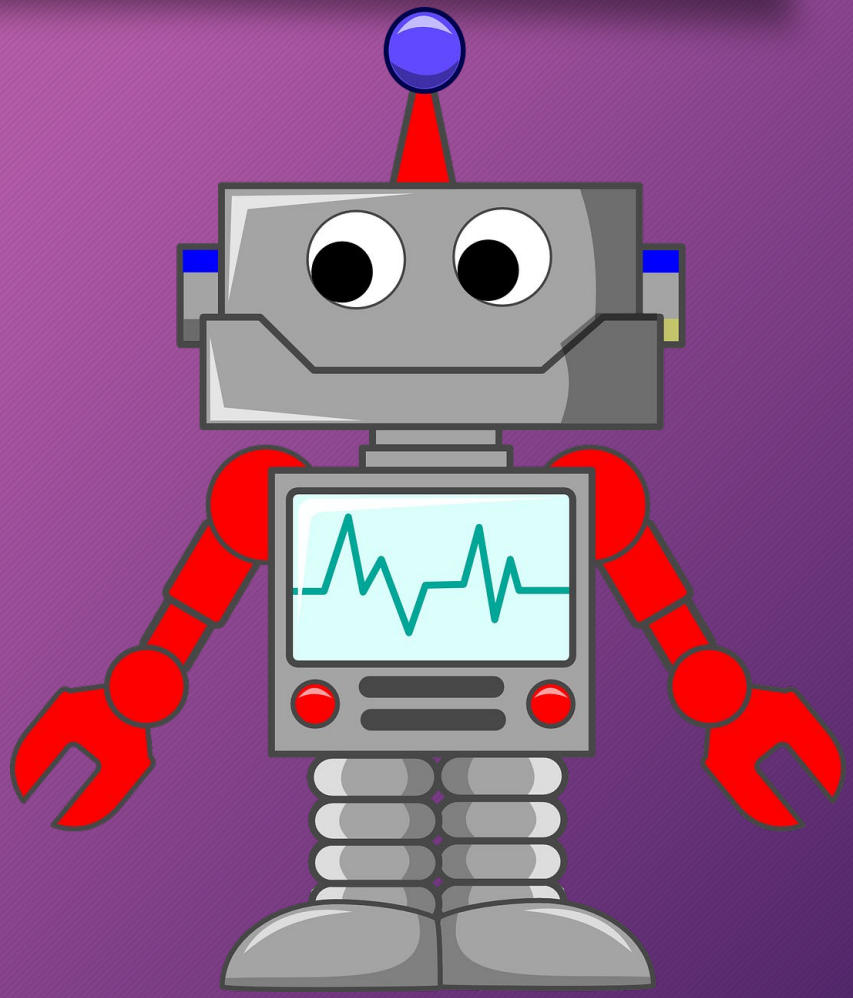
Blending

Blending Phonemes--Listen. The Robot (or Troll) can only say one sound at a time. What's the word?

i. /p/-/ĕ/-/g/
ii. /ch/-/ŏ/-/p/
iii. /sh/-/oo/
iv. /w/-/ē/

Blending Longer Words

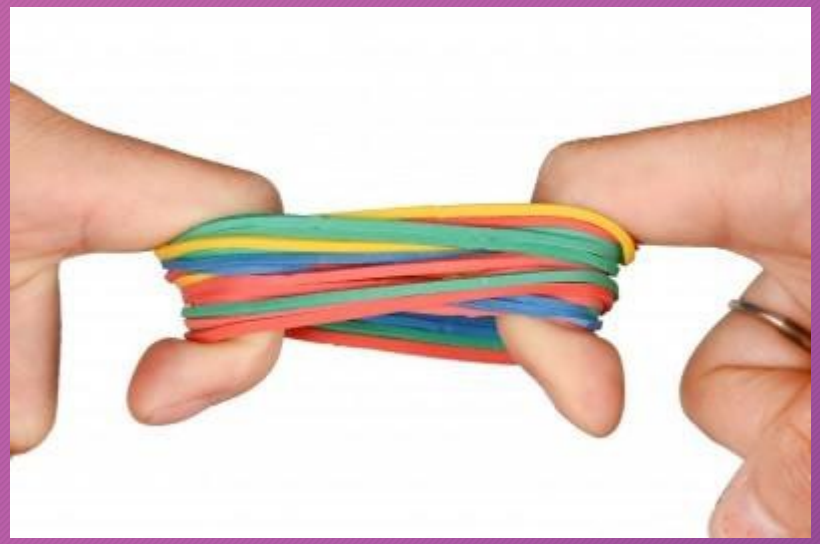
i. /l/ - /ĭ/ - /f/ - /t/ - /ĭ/ - /ng/ (lifting)
ii. /s/ - /l/ - /ă/ - /k/ - /er/ (slacker)
iii. /f/ - /r/ - /ī/ - /t/ - /ĕ/ - /n/ (frighten)



Segmenting

Segmenting Phonemes: Stretch each of these words. How many phonemes in each word? What are they?

i. *branch*
ii. *string*
iii. *speech*
iv. *shrink*
v. *thrash*
vi. *cloud*
vii. *stretch*
viii. *trunk*
ix. *brush*
x. *paste*
xi. *train*
xii. *stamp*
xiii. *plow*



Answers:

i. *branch* (5 — /b/r/a/n/ch/)
ii. *string* (5 — /s/t/r/i/ng). Catch that *ng* digraph?
iii. *speech* (4 — /s/p/E/ch/)
iv. *shrink* (5 — /sh/r/i/ng/k/)
v. *thrash* (4 — /th/r/a/sh/)
vi. *cloud* — 4 (/k/l/ou/d/)
vii. *stretch* — 5 (/s/t/r/e/ch/)
viii. *trunk* — 5 (/t/r/u/ng/k/)
ix. *brush* — 4 (/b/r/u/sh/)
x. *paste* — 4 (/p/A/s/t/)
xi. *train* — 4 (/t/r/A/n/)
xii. *stamp* — 5 (/s/t/a/m/p/)
xiii. *plow* — 3 (/p/l/ou/)

ADVANCED PHONOLOGICAL SKILLS

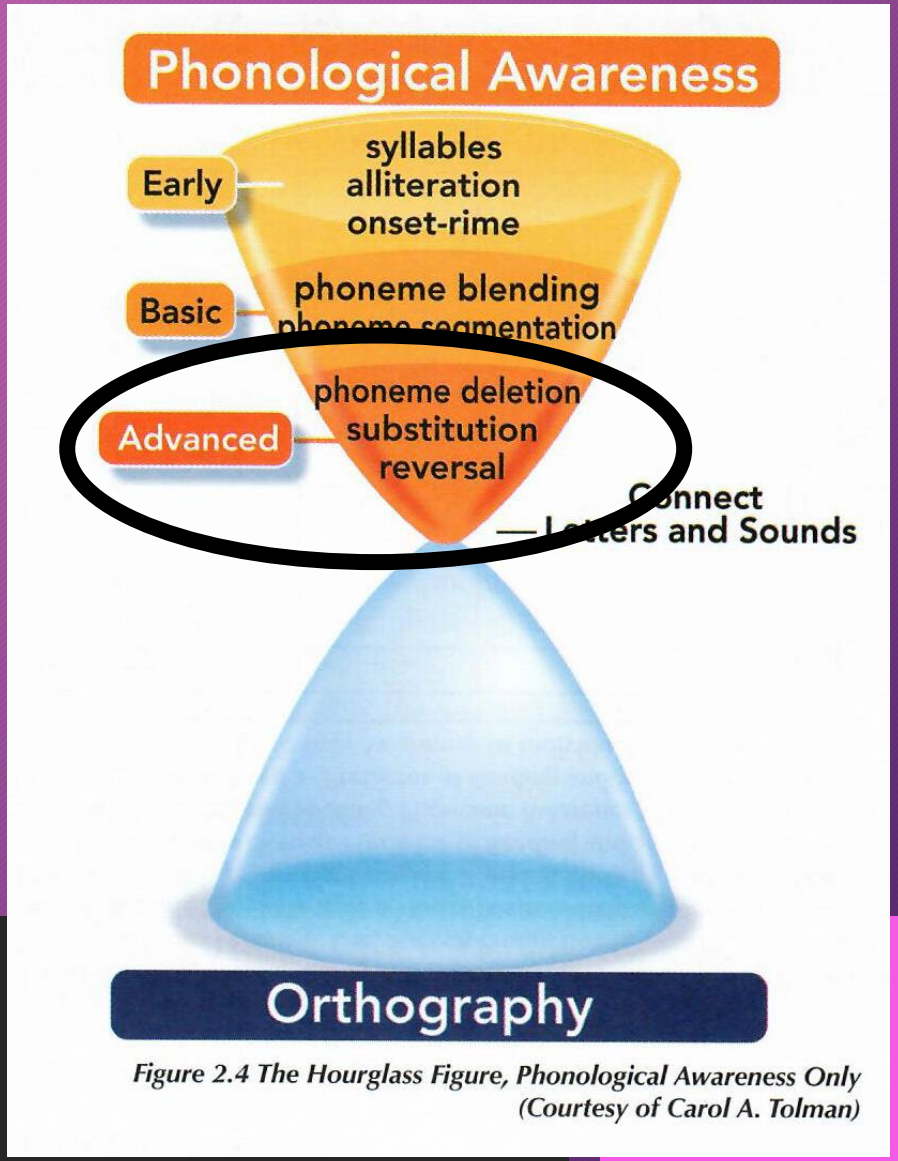


Figure 2.4 The Hourglass Figure, Phonological Awareness Only (Courtesy of Carol A. Tolman)

Sound substitution

Initial and Final Sound Substitution—Let's see if we can make some new words by changing just one sound. If I change the /b/ in bat to /r/, what new word do I have? (rat)

i. Change the /w/ in wag to /t/ (tag)
ii. Change the /p/ in poodle to /n/ (noodle)
iii. Change the /tch/ in witch to /n/ (win)
iv. Change the /s/ in race to /z/ (rays)

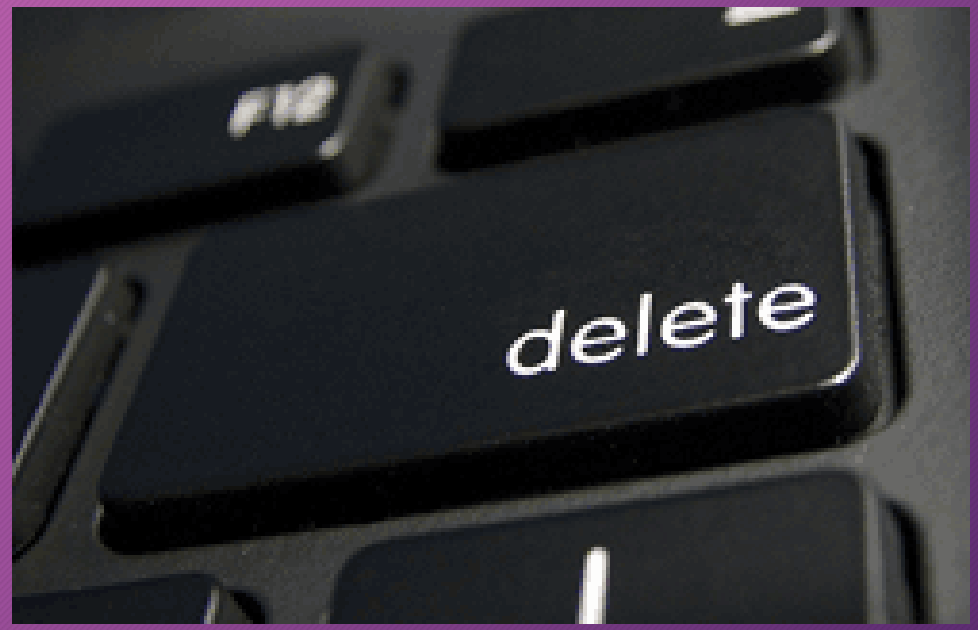
Middle Vowel Substitution (Can use chips or colored square to model the segmentation of the word and then the substitution of the phonemes—show which chip/square is changing)

i. Change moose to mouse. Which sound changes? (/oo/ to /ou/)
ii. Change moon to man. Which sound changes? (/oo/ to /ă/)
iii. Change fawn to fin. Which sound changes? (/aw/ to /ĭ/)
iv. Change soup to sop. Which sound changes? (/oo/ to /ŏ/)

Sound deletion

Sound Deletion: Delete a portion of the word. What is left?

i. Syllable: Say potato without the /pō/
ii. Initial Sound: Say peas without the /p/
iii. Final Sound: Say sheet without the /t/
iv. Initial Blend: Say stop without the /s/
v. Final Blend: Say wild without the /d/



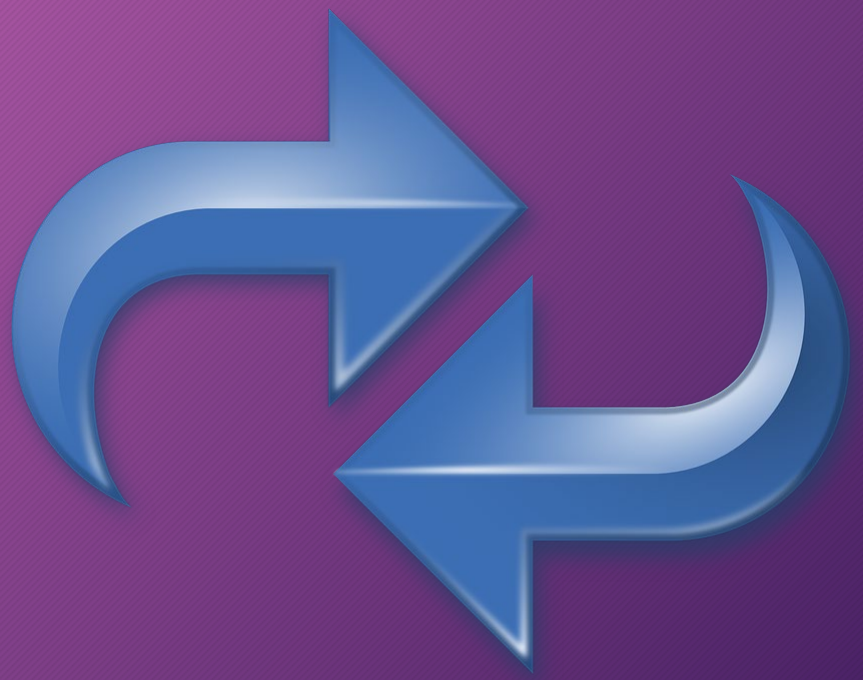
Syllable and Affix Substitution and Deletion

i. Say “photograph.” Change graph to cell. (photocell)
ii. Say “anytime.” Change time to where. (anywhere)
iii. Say “naturalist.” Now drop the -ist. (natural)
iv. Say “intervention.” Now drop -tion. (invent)

Sound reversals

Sound Reversal: switch the first and last sounds

i. Say “fine.” Say the last sound first and the first sound last. (knife)
ii. Say “tube.” Say the last sound first and the first sound last. (boot)
iii. Say “ted.” Say the last sound first and the first sound last. (debt)
iv. Say “safe.” Say the last sound first and the first sound last. (face)
v. Say “park.” Say the last sound first and the first sound last. (carp)
vi. Say “cat.” Say the last sound first and the first sound last. (tack)
vii. Say “slack.” Say the last sound first and the first sound last. (class)
viii. Say “sag.” Say the last sound first and the first sound last. (gas)
ix. Say “much.” Say the last sound first and the first sound last. (chum)
x. Say “peach.” Say the last sound first and the first sound last. (cheap)
xi. Say “keep.” Say the last sound first and the first sound last. (peek)
xii. Say “tea.” Say the last sound first and the first sound last. (eat)
xiii. Say “church.” Say the last sound first and the first sound last. (church)



Awareness → Proficiency

- **Multisensory Stage**: The student can only do the task with external prompts or helps. The student often makes mistakes.
- **Knowledge Stage**: The student can do the task mentally, with no external prompts, but not quickly. He or she may still make mistakes.
- **Automatic Stage**: The student can do a task quickly and with no effort. The student rarely makes a mistake.

-Kilpatrick, D. (2016).

Vocabulary Analysis

- What is in common between these words:
  - Phonological Awareness
  - Phonemic Awareness
  - Phoneme
  - Phonological Processing

I. Phonological Processing
   A. Phonological Awareness
      1. Phonemic Awareness
         a. Phoneme

- PHON- (which means sound)
- Every single one of these words has to do with sound and nothing to do with letters!

Sample Test Question

Question: A kindergarten teacher plans a lesson designed to give students guided practice in learning a phonological awareness skill. Having students participate in which of the following activities best meets the teacher's goal?

A. Asking students to follow along as the teacher moves a finger from left to right while orally reading a line of text in a picture book

B. Having students say the word "airplane" and then asking them to say it again without pronouncing "air"

C. Distributing a set of plastic letters to students and having them use the manipulatives to form decodable words

D. Cutting a student's name card into individual letters and modeling how to put the letters together to form the name

ANSWER

Correct Answer: B

Option (B) is correct. Phonological awareness refers to a student's ability to identify and manipulate units of oral language. The ability to delete a syllable in a spoken word, such as saying "plane" when "air" is deleted from the word "airplane," is an example of a phonological-awareness skill.

Sample Test Question

Which of the following phonemic manipulations is the most complex and is generally developed last by most students?

A. Change the /m/ in “mouse” to /h/.

B. Say “frame.” Say it again without the /r/.

C. What word is made when “bl” and “oom” are combined?

D. Say “doughnut.” Now say it again, but don’t say “dough.”

ANSWER

Correct Answer: B

Option (B) is correct. This is an example of phoneme deletion of a medial letter in a blend, which is generally the last phonological-awareness skill developed. This skill is not typically mastered until around age 9.

Sample Test Question

Place the following oral language milestones in the order in which they are developed, earliest to latest.

A. Responding to simple questions with a “yes” or “no”

B. Using content-related vocabulary correctly during conversations

C. Making an oral presentation that is appropriate for the given audience

D. Answering questions using complete sentences and a variety of sentence structures

ANSWER

Correct Answer: A, D, B, C

Options (A), (D), (B), and (C) are correct. The question is asking about the sequence of oral language development. Children's speech becomes more advanced as they develop and begin answering questions with yes or no and later use complete sentences. As children grow, their content-related vocabulary increases and emerges in conversations.

Sample Test Question

Which of the following statements about the correlation between phonemic awareness and reading development is best supported by research?

A. Students' reading skills advance as students develop greater phonemic awareness.

B. Weak phonemic awareness has virtually no impact on reading skills after the third grade.

C. Students with weak phonemic awareness often acquire strong decoding skills to compensate.

D. Poor reading skills in the later grades are solely the result of weak phonemic awareness in the early grades.

ANSWER

Option (A) is correct.

Phonemic awareness and reading skills are reciprocal in nature. As phonemic awareness develops, reading skills improve. Likewise, a student with poor phonemic awareness is at high risk of becoming a struggling reader.

Sample Test Question

Which of the following is the ability to recognize that words in oral language are made up of a variety of sound units?

A. Alphabetic knowledge

B. Phonological awareness

C. Letter knowledge

D. Print awareness

ANSWER

Correct Answer: B

Option (B) is correct. Phonological awareness is the ability to hear and identify the different sounds in words. Phonological awareness enables a student to grasp the concept that oral language can be broken down in many different ways, such as from sentences into words, from words into syllables, and from syllables into individual sounds.

Sample Test Question

A preschool teacher works with a small group of students in a center and asks them to walk around the room to find and name groups of five objects or pictures that begin with the same sound. Students first find a bat, a ball, a box, a boat, and a bug. Then they identify a chair, a chart, a chain, a chick, and a cherry. Which of the following early literacy concepts is best supported by the instructional activity?

A. Distinguishing letter-sound correspondence in printed words

B. Locating the onset and rime of words commonly used in class

C. Developing phonological awareness by recognizing alliteration

D. Building vocabulary based on items that are accessible in class

ANSWER

Correct Answer: C

Option (C) is correct. Students naming familiar objects that start with the same sound are engaged in an alliteration activity that is preliminary to understanding that sounds are assigned to specific letters of the alphabet.

Sample Test Question

The two best predictors of a beginning reader's future reading success are alphabetic knowledge and the development of:

A. phonics skills

B. reading fluency

C. sight word recognition

D. phonemic awareness

ANSWER

Correct Answer: D

Option (D) is correct. Phonemic awareness is the precursor of the mastery of phonics. Research supports that phonemic awareness, along with alphabetic knowledge, are the two strongest early predictors of future reading success.

Sample Test Question

Which of the following instructional techniques is most effective in teaching students the phonemic awareness skill of segmentation?

A. Having students identify the odd sound in a sequence of three or four spoken words

B. Saying a sequence of individual sounds and asking students to combine them to form a word

C. Asking students to recognize the common sound in a set of three one-syllable words

D. Pronouncing a word and having students position plastic counters in a row to represent each sound

ANSWER

Correct Answer: D

Option (D) is correct. When students are asked to identify the number of individual sounds (phonemes) in a spoken word, they are practicing the phonemic awareness skill of segmentation.

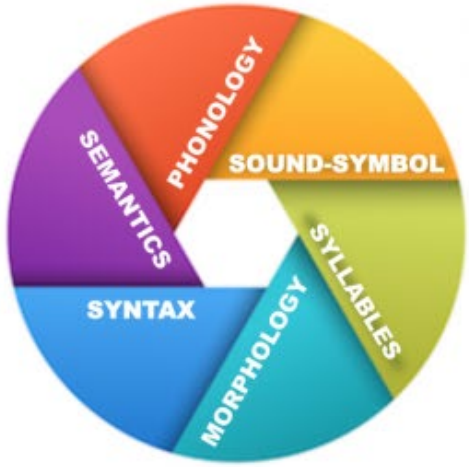
READING INSTRUCTION AND ASSESSMENT

Evidence-Based Literacy Instruction

- Instruction needs to be:
  - Explicit: Fully and clearly defined
    - Students are not left to infer or discover through exploration
    - Information is explained and demystified
  - Systematic:
    - Carried out using step-by-step procedures or routines
    - Having to do with a system: Moving from speech → print
  - Sequential/Cumulative: each skill builds on another
    - Students and Teachers know where they are and where they are going
    - Alignment between grade levels, in reading interventions/special education, and between programs (core, supplemental, intervention)
  - Diagnostic: students skills are assessed in order to provide pointed instruction for each student

Structured literacy

Explicit teaching of systematic word identification and decoding strategies



Evidence-based elements

+

Evidence-based teaching principles

=

Effective reading instruction

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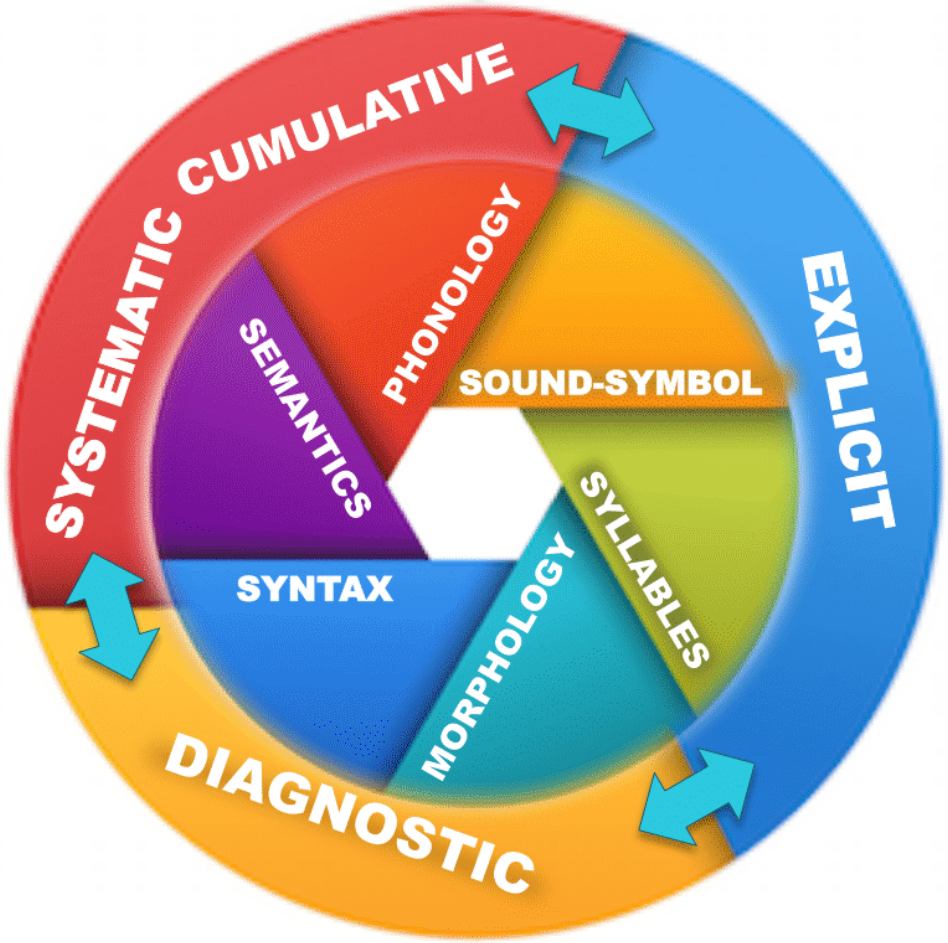
STRUCTURED LITERACY PRIMER

Effective reading instruction for most children incorporates *all* this.

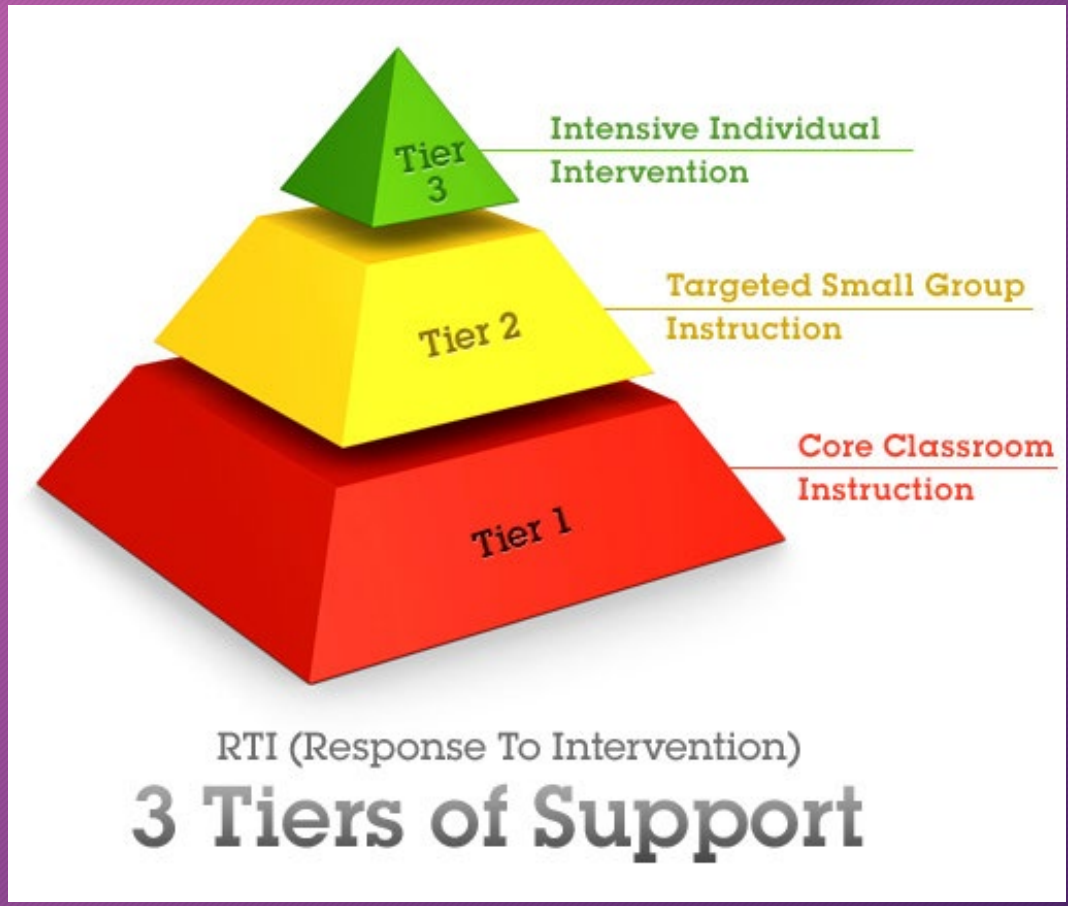


Inner Circle: Elements
Outer Circle: Teaching Principles

Structured Literacy Element	Brief Description
Phonology	learning how to identify and manipulate units of speech, from words to syllables, to individual speech sounds; helps with decoding and spelling
Sound-Symbol Relationships	learning which letters or groups of letters represent speech sounds; helps with decoding and spelling
Syllables	learning the six syllable types of English and how words are divided into syllables; helps students know how to pronounce the vowel in a given syllable and how to decode multisyllable words
Morphology	learning word parts such as prefixes, suffixes, and roots; helps with decoding and with vocabulary development
Syntax	learning about grammar, the order of words, and how they function in sentences; helps students understand language used in sentences
Semantics	learning about the meanings of words and phrases and the relationships among words; helps students to better understand language they hear and read and to become better writers

RTI: Response to Intervention

- Responsiveness to intervention is a type of MTSS.
- It is an education model that promotes early identification of students who may be at risk for learning difficulties.
- It may be one component in the process a school uses to determine whether a student has a specific learning disability, and often involves tiers of increasingly intense levels of services for students.



[Response to Intervention Explanation]

Types of Assessments

1. **Outcome Assessments:** High-stakes, end-of-the-year tests issued by the state (i.e. PARCC, CMAS)
2. **Screening Tests:** Administered to all students, but designed to identify at-risk students *before* they fail (i.e. DIBELS, STAR Reading, Acadience Reading, iReady)
3. **Progress-Monitoring Tests:** Quick and frequent assessments used to check to see if interventions are working (i.e. DIBELS progress monitoring)
4. **Diagnostic Surveys:** Administered to at-risk students to identify whether or not the student has a special need (i.e. Woodcock-Johnson Test of Cognitive Abilities)

Assessment Vocabulary

Standardized reading tests: sample reading performance during a single administration

-Norm-referenced: average scores of a sample in which other tests are compared to; a bell curve

- ✓ Valid: test measures what it is 'supposed to'
- ✓ Reliable: test measures what it is 'supposed to' over time, many administrations, and many groups

-Criterion-referenced: mastery of reading skills are assessed in relation to specific instructional objectives/criterions

- Valid? Reliable?
- Only provides one perspective of children's reading performance

Types of Test Scores:

1) Raw Score: total # of correct items on the test
2) Grade equivalency: performance at level of average student's performance from that grade level
3) Percentile: scores in terms of the percentage of a group the students have scored above (50^{th} percentile = average)
4) Standard Scores: raw score that has been converted to a standard score for comparison purposes
5) Stanines: standard score that has been divided into 9 parts (5 = average)

Sample Test Question

A primary purpose of a criterion-referenced reading benchmark is to:

A. identify a student's level of mastery of a curriculum-based skill as beginning, developing, or proficient

B. compare a student's mastery of a specific skill to that of peers who have previously taken the same assessment

C. evaluate student skill mastery by reporting performance with raw scores, percentile ranking, and grade equivalents

D. set the standards for student skill mastery along with a time frame indicating when the level of mastery should be achieved

ANSWER

Correct Answer: D

Option (D) is correct. A benchmark identifies criteria that are set to show a student has mastered a particular reading skill. Often a time period for assessing the level of skill mastery is established as part of the process of evaluation.

Sample Test Question

Which of the following instructional strategies is best for a first-grade teacher to use with emergent readers?

A. Teaching a minilesson on a specific skill and asking students to complete independent practice of that skill

B. Demonstrating two or three reading objectives in one lesson and facilitating guided practice for each of the objectives

C. Designing a series of lessons with one reading objective and providing modeling, think-alouds, and guided practice of the objective

D. Providing students with time to read independently and helping them select books with proper leveling, content, and interest factors

ANSWER

Correct Answer: C

Option (C) is correct. Students who are emergent readers in first grade are still struggling with concepts of print, phonemic awareness, and decoding. These students need extensive practice with these skills and need targeted instruction in the areas in which they are struggling.

Sample Test Question

A fourth-grade teacher intends to use student performance data to guide lesson planning for small-group reading and remediation of specific skills. Which THREE of the following actions are most appropriate for using the data to inform instruction?

A. Analyzing data prior to adjustment of instructional goals and delivery

B. Analyzing data after the adjustment of instructional goals and delivery

C. Analyzing data to determine summative descriptions of performance

D. Analyzing data to determine formative descriptions of performance

E. Analyzing data to determine norm-referenced descriptions of performance

ANSWER

Correct Answer: A, B, D

Options (A), (B), and (D) are correct. Analyzing data before adjusting instruction is the second part of the cycle of using data to inform instruction. Analyzing data after adjusting instruction is the third part of the cycle of using data to inform instruction. Analyzing data to determine formative descriptions of performance is diagnostic and intended to guide instruction.

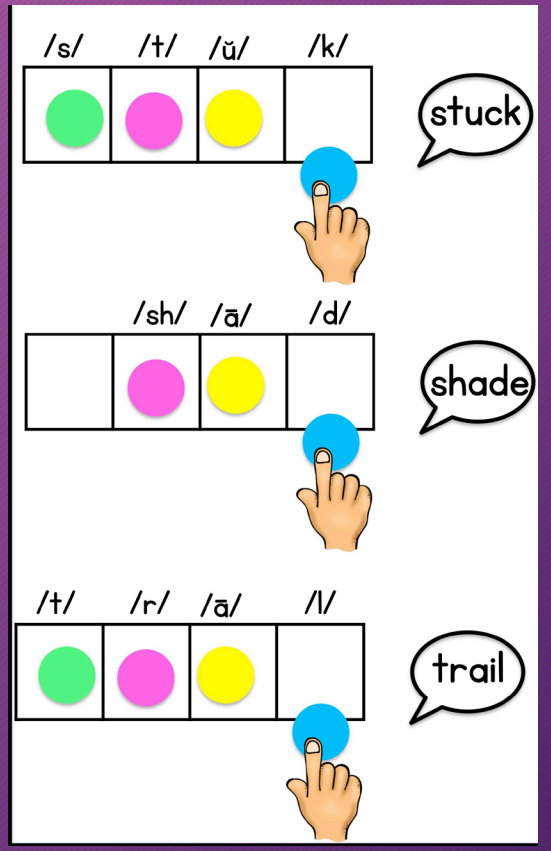
Constructed Response

One of your second-grade students is having a difficult time with some phonological tasks. For instance, when asked what this word is: /k/ /ă/ /n/ /d/ /ē/, he seems to guess. What assessment could you utilize to check on this student's phonological awareness skills and what instructional techniques might you utilize to help this student (Name at least 2). Be thorough!

Possible Answer to Constructed Response

- Screening Assessment: PAST, DIBELS

- Instructional Techniques: Multisensory!
  - Colored blocks or paper squares to represent each sound → push the sounds up when verbalized → use finger for blending
  - Elkonin Boxes
  - Zipper board or Race track
  - Continue to practice previously learned skills



What do you need to know for the test?

- Early Language
  - Developmental sequence of language skills
  - Instructional ideas for young children
  - Vocabulary associated with early language literacy tasks
- Phonological Awareness & Phonemic Awareness
  - Developmental sequence of phonological skills
  - Different phonological tasks, including phonemic awareness tasks
  - Vocabulary associated with phonological awareness & phonemic awareness
- Instruction & Assessment
  - Different types of assessments
  - Instructional tools in literacy
  - Vocabulary associated with structured literacy (and balanced literacy, whole language)
  - Vocabulary associated with assessment