

ORTHOGRAPHIC MAPPING: BEYOND THE ALPHABETIC STAGE OF READING

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Stages of Reading: Comparison of Theories

Author	Chall (1983)	Frith (1985)	Ehri (1998, 1999, 2002)
Number of Developmental Stages	5	3	4
Pre-reading	Stage 0: letters/book exposure	Logographic	Pre-alphabetic
Early Reading	memory and contextual guessing		Partial Alphabetic
Decoding	Stage 1: decoding, attending to letters/sounds	Alphabetic	Full Alphabetic
Fluent Reading	Stage 2: fluency, consolidation	Orthographic	Consolidated Alphabetic, Automaticity

~Ehri 2005

Orthography

2 Greek combining forms

orthos

straight, correct

graph

written symbol

Orthography/Orthographic: Multiple Uses of Terms

- ❖ Correct spelling of written words
- ❖ Writing system for a particular language
- ❖ Conventional spelling patterns (spelling rules)
- ❖ Awareness of common patterns in words that are consistent across words, but may not have 1-1 correspondence for letters to sounds (-igh, -ough, -alk)

Orthographic Mapping: Definitions

The mental process we use to store words for immediate, effortless, retrieval. It requires **phoneme proficiency** and **letter-sound proficiency**, as well as the ability to unconsciously or consciously make connections between the oral sound in spoken words and the letters in written words. ~Kilpatrick, 2016.

The process by which children move from decoding alphabetically to reading via the fluent recognition of individual words. ~Castles, Nation 2006.

Visual Memory Task?

Do we recognize words because they are stored in visual memory?

Research Evidence:

How does orthographic mapping work?

Mental/oral “filing system”

- ❖ Allows us to access words that have been stored
- ❖ Words in this file must be meaningful
- ❖ Associate string of phonemes in word with letter order of word
- ❖ Words with meaningful relationship are anchored into permanent memory

The Brain and Orthographic Mapping

Occurs in the fusiform gyrus region

- ❖ Faces, places and shapes are stored on both left and right hemispheres
- ❖ Words are stored in left hemisphere only – also known as the Word Form area

Orthographic Stage of Reading

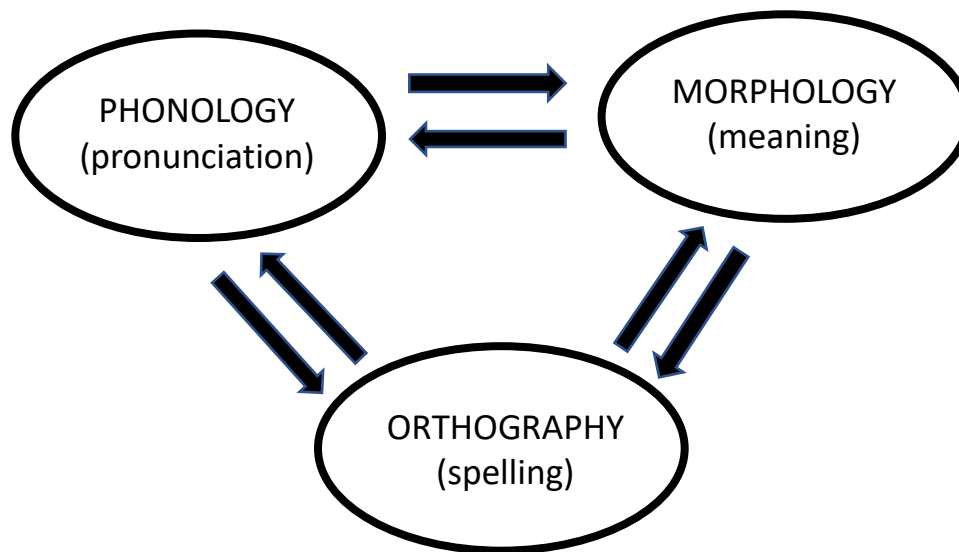
Advanced stage of reading development

- ❖ Development beyond the alphabetic stage
- ❖ Development of internal representations of words
- ❖ Recognition of words quickly and accurately
- ❖ Automatic
- ❖ Unconscious task

At any particular point in time a child may be reading some words slowly with reliance on the alphabetic decoding while reading other words effortlessly.

Predictors of Skills

- ❖ Alphabetic and Phonological Skills
- ❖ Orthographic Processing Skills
- ❖ Print Exposure
- ❖ Semantic Knowledge



All work together to allow immediate access to words.

Skills Needed

- ❖ Phonological Awareness
- ❖ Letter/Sound Skills
- ❖ Word Study

Instruction

Must include effective instruction in phonological awareness along with letter-sound correspondence.

How to Teach

- ❖ Incorporate reading materials appropriate to the level at which the student can phonologically and orthographically deal with words.
- ❖ Teach phonological awareness sequentially alongside letter/sound correspondence instruction.
- ❖ Teach word structure sequentially
- ❖ Incorporate “word families”, “look-alike” words and nonsense words into reading lists.
- ❖ Read aloud to students.

Word Families

- ❖ Words to read focus on *rime units*
- ❖ *Rime Unit* = part of the syllable containing the vowel and consonant/(s) following the vowel
- ❖ Only the first sound in each word changes
- ❖ Approach can be used with most syllable types
- ❖ Rime units should follow OG sequence

Developing Word Family Lessons

Letters/Sounds introduced: a, b, s, m, t, c

★	ab	sab	mab	tab	*cab	*bab
★	am	sam	mam	*tam	*cam	*bam
★	at	sat	mat	*tat	*cat	*bat
★	ac	sac	mac	*tac	*cac	*bac

*Indicates stopped initial sound; students beginning to learn to blend may have difficulty with a stopped sound at beginning.

Continuant sounds are easier.

as is avoided because the s often has a /z/ sound when making a word.

** After consonant r is introduced, it is never placed at the end of a word until Vowel R syllable is introduced.

Letters/Sounds and concepts introduced:

Short and long vowels, digraphs, consonants

New syllable type = Silent-e

★	ake	sake	make	lake	take	bake	rake
★	ide	side	tide	ride	fide	wide	bide
★	ede	bede	fede	sede	lede	need	wede
★	ute	cute	mute	lute	nute	rute	bute

**When using nonsense words or parts of words be sure the student knows that some will not be real words.

Letters/Sounds and concepts introduced:

Short and long vowels, digraphs, consonants

New syllable type = Vowel R

★	ar	car	tar	mar	bar	far	char
★	or	for	cor	bor	mor	nor	lor
★	er	her	mer	ber	ler	cher	ter
★	irt	shirt	blirt	skirt	dirt	lirt	chirt
★	urt	hurt	spurt	murt	curt	burt	blurt

Suggested Activities for Developing Orthographic Mapping

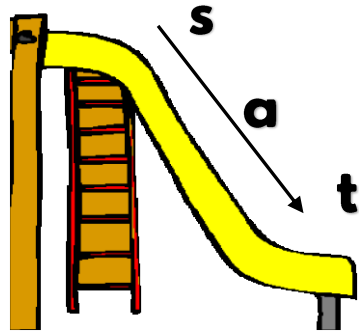
Phonological Awareness – oral activities only; no printed letters or words

- ❖ On-set Rime practice with pictures and Elkonin boxes
- ❖ On-set Rime practice using lists of words presented orally
- ❖ Phonemic Chaining with colored chips representing sounds

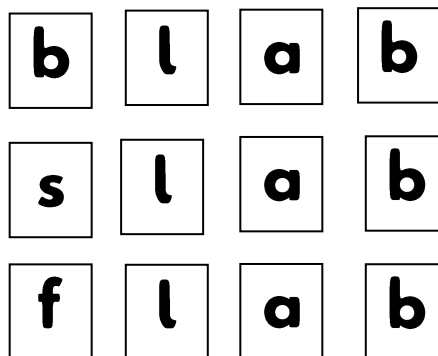
Word Reading Activities

Phonemic Awareness – Using letter cards and word cards

- ❖ Blend sounds on slide



- ❖ Blending drill with letters, phono cards, or Flip Book
 - Set up letter cards so that only one sound at a time is changed.
 - As student reads word change a card.
 - Read set multiple times for fluency.



- ❖ Words/syllables on index cards
 - Pay “Splat” – hit word with swatter while reading word/syllable
 - Read Words/syllables on floor while stepping on them – Stepping Stones, Monster Feet, Hop Scotch
 - Tic-Tac-Toe, Bingo Games, “I Have... Do You Have?”
 - Card Flip – lay word cards face down on table. Student flips cards over one at a time and reads word.

- ❖ Up and Down the Ladder
 - Lay word cards on table in ascending row resembling a ladder.
 - Student uses small animal erasers or game pieces to climb up and down word cards as they read them.

- ❖ Twister Game
 - Place words on mat from Twister game. Words can be on sticky notes or placed in adhesive pockets.
 - Student uses spinner with colors to match circles on mat or use a game die with different colors on sides. Student spins or rolls to determine which word list to read.

- ❖ Roll the Dice
 - Attach word cards to large foam die or cube; or write words on dry erase cube.
 - Student rolls die and reads word.

- ❖ Ball Toss
 - Attach words to soccer ball or beach ball.
 - Throw ball back and forth.
 - Student reads word shown on top.

Connected Text

Provide phrases and sentences for students to read in addition to word lists.

Link Words to Spelling

- ❖ Pair reading with spelling
- ❖ Student isolates sounds in words to spell
 - Tap to isolate sounds
 - Use magnetic letters
 - Write words on paper
- ❖ Connected text
 - Dictate phrases and sentences for student to write
 - Have student read back all spelling

Sources

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