

Reading, writing & spelling

Early experiences

- Conventions of print
- Purpose/function of print
- Phonological awareness & grapheme-phoneme associations

How printed words map onto speech

- Major types of writing systems
 - Alphabetic
 - Modified Alphabetic
 - Syllabic
 - Logographic
- Sources of difficulty in alphabetic systems
 - Abstract nature of phonemes
 - Lack of 1-1 mapping

Lack of 1-1 mapping

- Shallow orthography
 - Italian, Finnish, Spanish, Serbo-Croatian
- Deep orthography
 - English
- Economy at expense of complexity

“Exception” words

- | | | | |
|---------|----------|----------|-------------|
| • the | • your | • come | • Mrs. |
| • said | • into | • oh | • great |
| • you | • mother | • some | • door |
| • was | • very | • their | • thought |
| • they | • could | • where | • something |
| • one | • know | • two | • only |
| • are | • bear | • again | • water |
| • what | • Mr. | • want | • through |
| • have | • would | • other | • once |
| • there | • who | • find | • another |
| • were | • put | • father | • give |

“Exception” words

- | | | | |
|-------------|------------|------------|------------|
| • heard | • woman | • does | • many |
| • nothing | • young | • poor | • friends |
| • been | • together | • soup | • tired |
| • walked | • front | • four | • anything |
| • always | • people | • work | • course |
| • eyes | • sure | • dinosaur | • most |
| • dinosaurs | • wanted | • should | • pretty |
| • everyone | • gone | • enough | • bought |
| • any | • coming | • laughed | • doing |
| • behind | • walk | • clothes | • almost |
| | | • someone | • giant |

“Exception” words

- watched
- today
- pulled
- whole
- straigh
- beautiful
- kind
- police
- world
- love
- walrus
- friend
- caught
- climbed
- honey
- mind
- sorry
- watch
- says
- word
- live
- shoes
- sometimes
- floor
- talk
- brother
- idea
- carry
- picture
- guess
- sign
- worm
- piece
- others
- answer
- anyone
- loved
- mama
- done
- comes
- also
- toward

Access routes in visual word recognition

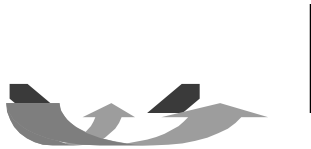


Image from Tim Curran

Bottom-up & top-down processes

- Bottom-up processing
 - Stimuli are dealt with; little influence of higher-level knowledge
- Top-down processing
 - Uptake of information is guided by prior expectations/knowledge.
- Eye tracking studies/eye fixations & saccades

Reading approaches

- Whole language approach
- Phonics
- Whole word (look-say)



Image from Tim Curran

Ehri & Wilce, 1985

- Taught children to read either PHONETIC vs. VISUALLY distinctive spellings
 - JRF = GIRAFFE
 - x_E^S_T = DIAPER
- Prereaders:
 - **VISUAL > PHONETIC**
- Novice readers:
 - **PHONETIC > VISUAL**

An alternative view...

- Different types of relationships between spellings and spoken forms of words exist in English.
 - Letter sounds: b - a - t = “bat”
 - Letter names: OK = “okay”
 - Arbitrary pairs: “lb” = “pound”

Letter names

- Children do better at learning letter-sound correspondences with letters that contain the relevant sound in their name.
 - “Y” /wai/ - doesn’t contain sound
 - “B” /bi/ - does contain sound
- Treiman, Weatherston & Berch (1994)

Letter names

- Initial sound in name
 - b, c, d, g, j, k, p, t, y, z
- Final sound in name
 - f, l, m, n, r, s, x
- Sound not in name
 - h, w, q, y
- Children are equivalent at naming these letters, but not at coming up with or learning the sounds
 - Treiman et al 1998

Alphabetic vs. logographic

- Children do better at spelling words like “beet” than “bait”
- Reading task:
 - Name: BT = beet
 - Sound: BT = bait
 - Visual: ʌT = ham



Alphabetic vs. logographic

BN = BEAN **BN** = BONE **B_N** = LOAF

Prereaders: **NAME > SOUND** and **VISUAL**

Novice readers: **NAME > SOUND**, and **SOUND > VISUAL**

TL = TELL **TL** = TALL **T_L** = SIZE

Prereaders: **NAME = SOUND = VISUAL**

Novice readers: **NAME = SOUND**,

both **NAME** and **SOUND > VISUAL**

From Bowman & Treiman

Phonemic awareness

- Children's knowledge of the internal sound structure of spoken words
 - The idea that words are composed of sounds

Phonological awareness tasks

- Phoneme Deletion
- Word to Word Matching
- Blending
- Phoneme Segmentation
- Phoneme Counting
- Rhyming

Stages of phonological awareness

- Sentences are made up of words
- Words can rhyme (cat - mat)
- Words can begin with the same sound (cat-car)
- Words can end with the same sound (cat - mitt)
- Words can have the same medial sound(s) (can - bat)
- Words can be broken down into syllables
- Words can be broken down into onsets and rimes
 - For “stripe”, onset = /str/; rime = /ip/
- Words can be broken down into individual phonemes
- Sounds can be deleted from words to make new word
- Ability to blend sounds to make words
- Ability to segment words into constituent sounds

Parallel vs. Serial

<i>Fixation point</i>	+	+	+
<i>Stimulus display</i>	word	d	orwd
<i>Response choices</i>	d	d	d
	k	k	k

- Word superiority effect

Early “writing”

- Writing is different from drawing, even before children know letters
- But writing is initially viewed as a semantic representation.

One's own name and spelling

- Children learn the letters in their own name first
- These letters tend to intrude into spellings of other words

Dyslexia

- Acquired vs. Developmental
- Causes of dyslexia
- Types of dyslexia

Letter recognition

- Template view

Glory may be fleeting, but obscurity is forever.
Glory may be fleeting, but obscurity is forever.
Glory may be fleeting, but obscurity is forever.
Glory may be fleeting, but obscurity is forever.
Glory may be fleeting, but obscurity is forever.
Glory may be fleeting, but obscurity is forever.
GLORY MAY BE FLEETING, BUT OBSCURITY IS FOREVER.

- Analysis by features

ODUGQR
 QC DUGO
 COOGRD
 OUGCDR
 URDGQO
 GRUQDO
 DUZGRD
 UCGROD
 DQRCGU
 QDOCGU
 CGUROQ
 OCDURO
 UOCGQD
 RGQCOU
 GRUDQO
 GODUCQ
 QCURDO
 DUCOQG
 CGRDQU
 UDRCOQ
 GQCORU
 GOQUCD
 GDQUOC
 URDCGO
 GODROC

Evidence for features

- It is harder to find a particular letter if its embedded among other letters with similar features

IVMXEW
 EWMIX
 EXWMVI
 IXEMWV
 VXWEMI
 MXVEWI
 XWVMEI
 MWXVIE
 VIMEXW
 EXVWIM
 VWMIEX
 VMWIEX
 XWVMEI
 WXVEMI
 XMEWIV
 MXIVEW
 VEWMIX
 EMVXWI
 IVWMEX
 IEVMWX
 WVZMX
 XEMIWV
 WXIMEV
 EMWIVX
 IVEMXW

Feature change vs. object change

Feature change vs. object change
