

# Overview of Orthography

How does the learner process the language in order to fluently read & spell?



By Jennie Roberts, M. Ed



# Orthography

Orthography

*correct*      *writing*

the conventional spelling system of our  
language

or

"how we write our language"

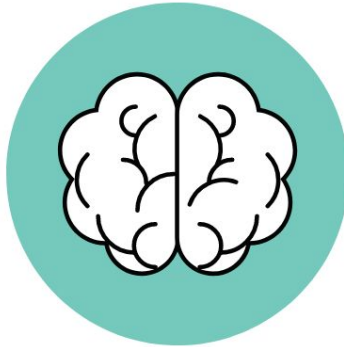


# Orthography

how we write our language

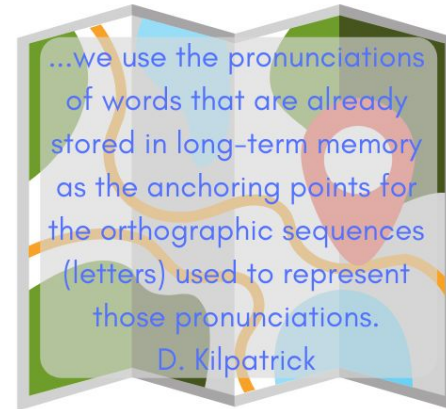
## orthographic processing

the ability to understand and recognize written conventions (includes spelling patterns)



## orthographic mapping

the process we use to store words in our long-term memory (D. Kilpatrick)





# Orthography

## Orthographic Processing

Student is writing a story and wants to write the word "fudge".

Student must then recall that /j/ is spelled with the trigraph "-dge" at the end of the word following a short vowel sound.

Student must segment the phonemes or sounds in fudge to /f/ /u/ /j/









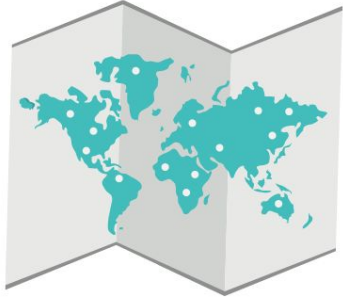
# Orthography

## Orthographic Processing

a student with adequate development:



-  visualizes letter symbols in their mind to support spelling
-  is able to easily learn sight words with repeated exposure
-  recognizes and anticipates predictable spelling patterns
-  regularly map or anchor words in their brain's storage
-  does not struggle with letter reversals
-  recognizes words and their variations: beauty & beautiful



# Orthography

## Orthographic Mapping

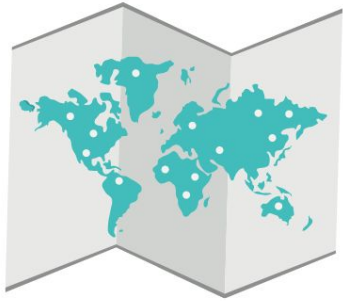
the process we use to  
**store words in our  
long-term memory**

In order to anchor or  
map the word,  
students must access  
their phonological  
memory to **match the  
sounds to the print** in  
front of them.

"Think of phonic  
decoding as going  
from **text to brain**  
and orthographic  
mapping going from  
**brain to text.**"

David Kilpatrick



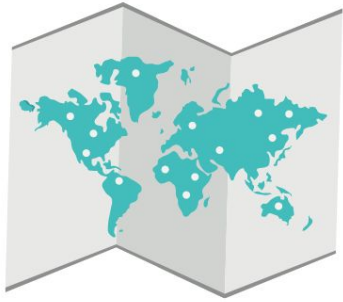


# Orthography

## Orthographic Mapping



Rarely do students need to pause to decode their name, regardless of complexity, as this word has been anchored & stored to their brain's long term memory.



# Orthography

## Orthographic Mapping



Orthographic mapping is the process of **storing** and **anchoring** words in one's long term memory, which leads to **automaticity** when reading.



# Orthography

Where does this fit into the simple & complex view of reading?

## Simple View of Reading

Word Recognition

+

Language Comprehension

=

Skilled Reading

Gough & Tunmer, 1986

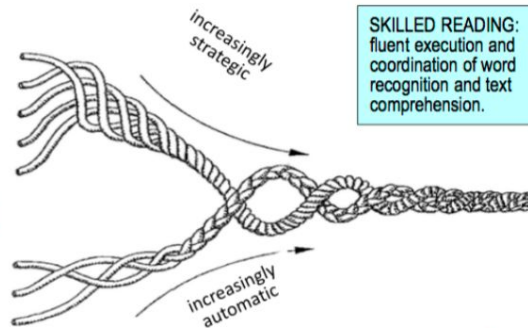
## Scarborough's Reading Rope (2001)

### LANGUAGE COMPREHENSION

- Background Knowledge
- Vocabulary Knowledge
- Language Structures
- Verbal Reasoning
- Literacy Knowledge

### WORD RECOGNITION

- Phonological Awareness
- Decoding (and Spelling)
- Sight Recognition



Reading is a multifaceted skill, gradually acquired over years of instruction and practice.

Scarborough, 2001

# Orthography

These 2 imperative processes work together to help the brain process the language with automaticity, which in turn contributes to the development of skilled reading.

## Simple View of Reading

Word Recognition  
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Skilled Reading

Gough & Tunmer, 1986

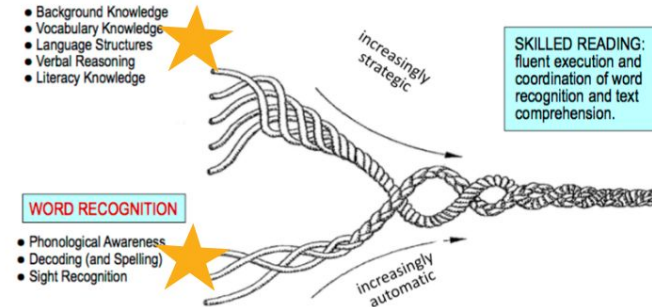
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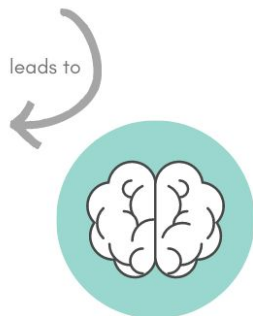
# In Summary

orthographic processing

automatic  
**retrieval** of written  
conventions when  
**writing**



leads to



orthographic mapping

automatic  
**recognition** of words  
when **reading**



leads to

# Instructional Implications

orthographic processing

orthographic mapping

Both of these key processing systems must be adequately developed in young readers in order for them to gain fluency in both reading & spelling. Deficits should be identified as soon as possible and remediated using research & evidence based multisensory interventions.



# Instructional Strategies

## orthographic processing

Simultaneous Oral Spelling  
Auditory Drill  
Tagging Sounds  
Explicit PA Work  
Elkonin Boxes  
Sequentially teaching spelling patterns



## orthographic mapping

Visual drill with phonogram cards  
Decodable Texts  
Repetition with patterns  
Direct instruction with :

- blending
- syllable types
- syllabication
- decoding/word attack
- sight word recognition



# Sources & Citations

Gough, P. and Tunmer, W. (1986). Simple View of Reading (SVR), Decoding, reading, and reading disability. Remedial and Special Education, 7, 6–10.

Kilpatrick, David A; Essentials of Assessing, Preventing, and Overcoming Reading Difficulties, 2015, Hoboken, New Jersey: Wiley.

Scarborough, H. S. (2001). Reading Rope. Connecting early language and literacy to later reading (dis)abilities: Evidence, theory, and practice. In S. Neuman & D. Dickinson (Eds.), Handbook for research in early literacy (pp. 97–110). New York, NY: Guilford Press.