

SYDNEY INSTITUTE



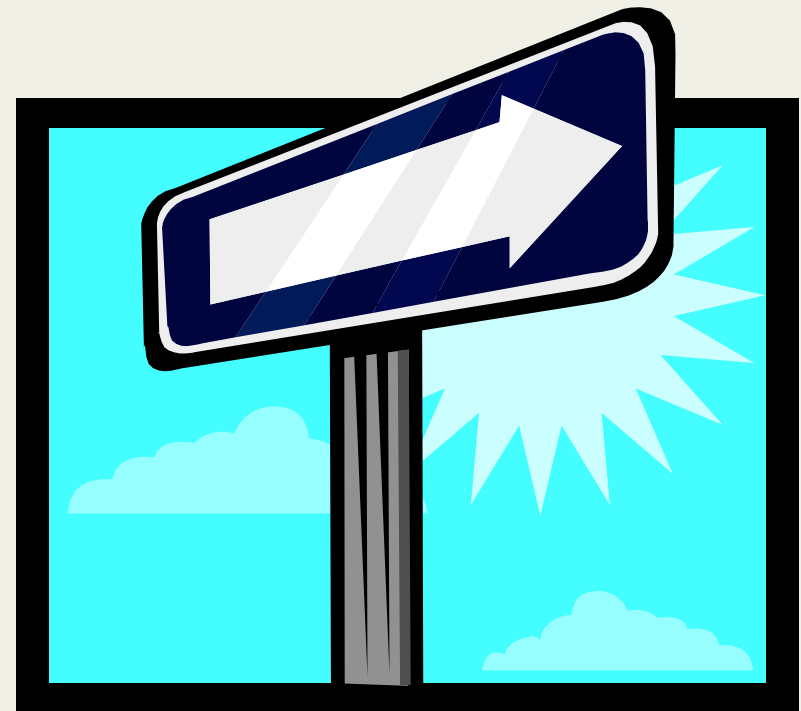
Ambition in Action

Reading through Spelling  
Kerry Mitchell & Susan Johnston

[www.sit.nsw.edu.au](http://www.sit.nsw.edu.au)

Design Centre Enmore / Eora / Petersham / Randwick / St George / Sutherland / Ultimo

Teaching specific and sequential decoding and encoding as an essential core to literacy programs.



# Learning Outcomes

## You will be able to:

- identify the key findings of neuroscience in relation to the reading process
- explore an example of age appropriate teaching strategies that demonstrate best practice in spelling and reading instruction

# Dyslexia

*is a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities*

*These difficulties typically result from a deficit in the **phonological component** of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction*

(Lyon, Shaywitz, & Shaywitz, 2003)

# Reading

is not a natural process ...

it requires explicit and systematic teaching

(Lyon, 2009)

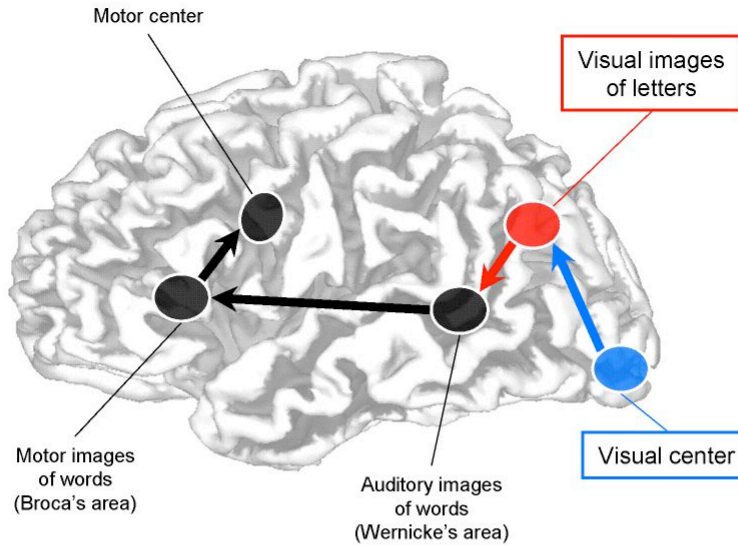
*The greatest potential barrier to significant and lasting improvements in student's literacy levels is some teachers' lack of knowledge of how (children) actually learn to read*

(Response of LDA to Draft Australian Curriculum .... 2010)

So ....

how do we learn to read?

### The old neurological model of reading (After Déjerine, 1892; Geschwind, 1965)



### A modern vision of the cortical networks for reading

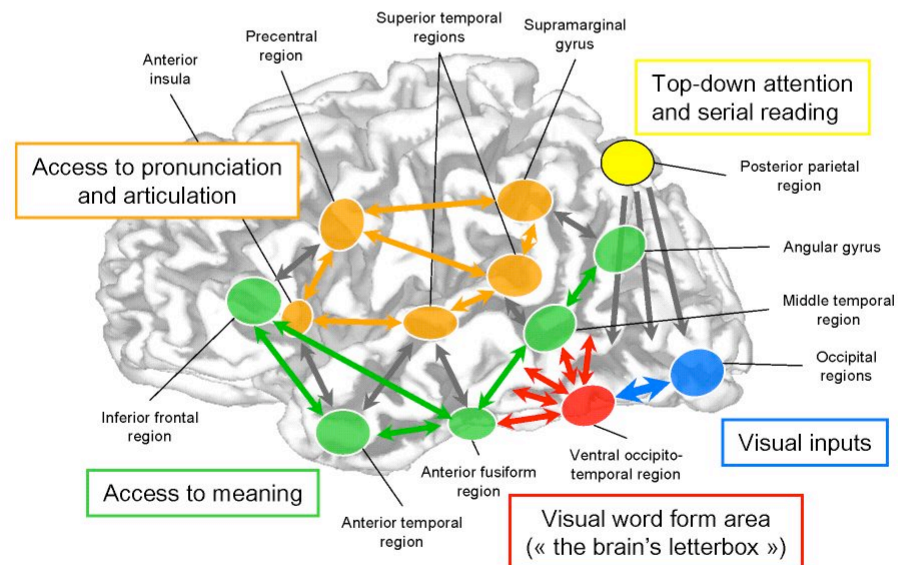
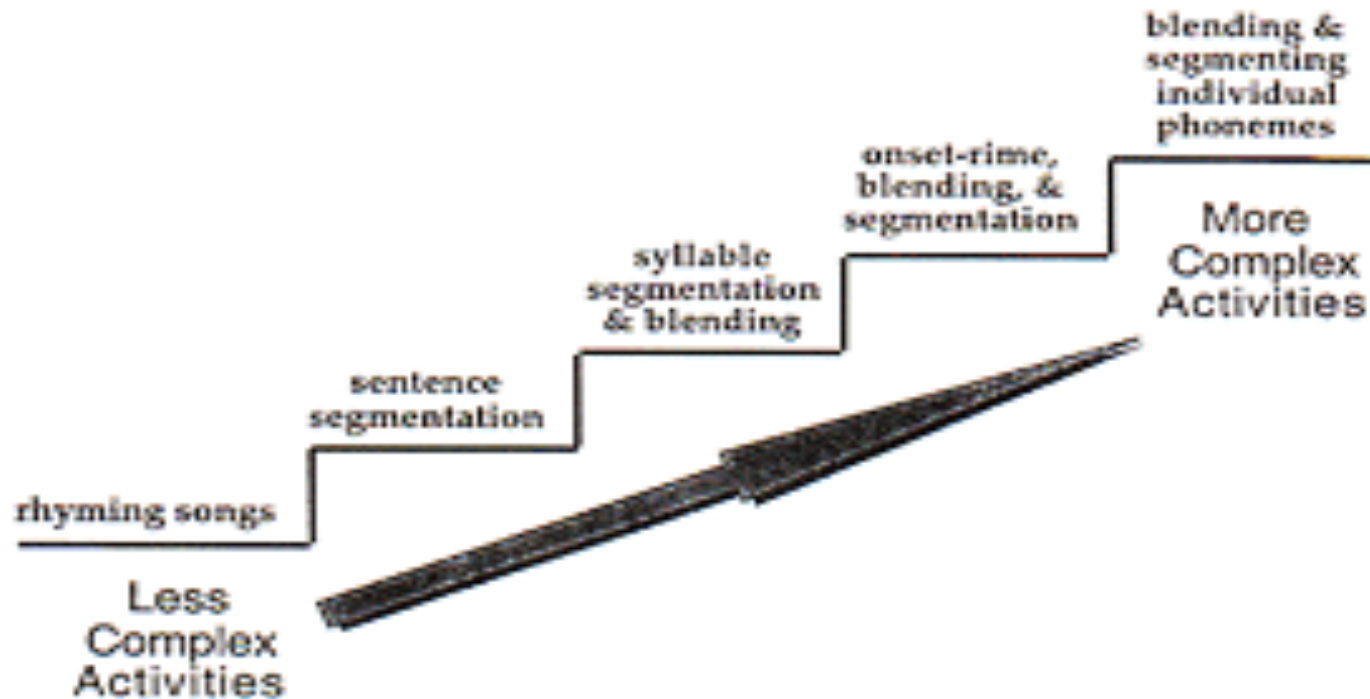


Figure 2.2. The classical neurological model of reading (top) is now replaced by a parallel and “bushy” model (bottom). The left occipito-temporal “letterbox” identifies the visual form of letter strings. It then distributes this invariant visual information to numerous regions, spread over the left hemisphere, that encode word meaning, sound pattern, and articulation. All the regions in green and orange are not specific to reading; they primarily

# Three stages of reading

- logographic or pictorial stage
- phonological stage
- orthographic stage

# The reading process: Phonological awareness



**Figure 1.** *A continuum of complexity of phonological awareness activities.*

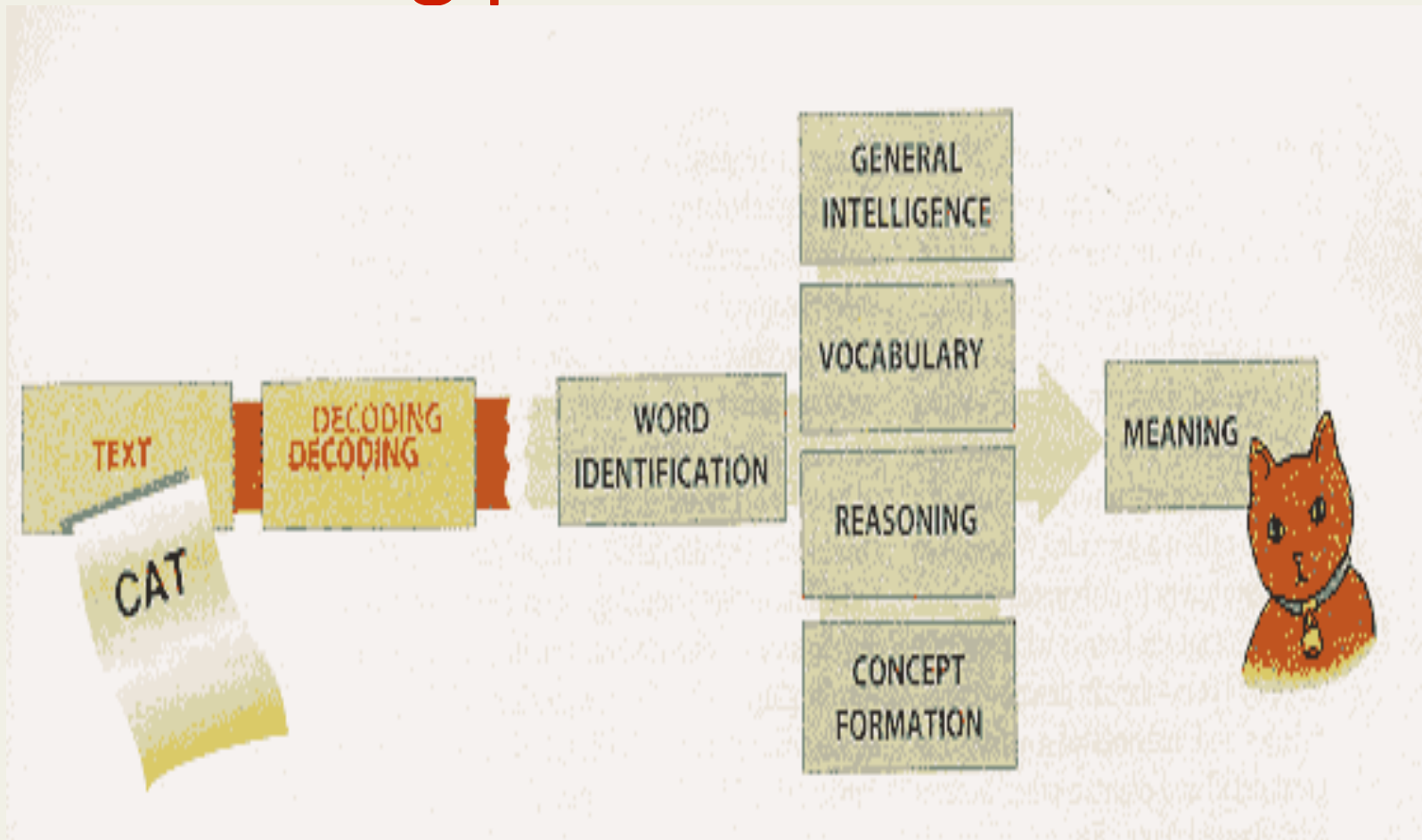
[http://www.ldonline.org/ld\\_indepth/reading/chard\\_phono\\_awareness.html](http://www.ldonline.org/ld_indepth/reading/chard_phono_awareness.html)

# Parallel systems

## Competent readers use parallel systems

- phonological route; words are very regular, rare or novel
- lexical route; words that are frequent or pronunciation is exceptional

# The reading process



<http://childdevelopmentinfo.com/learning/brain.shtml>

## In poor readers

- the substitution of synonyms when reading (*painter* for *artist*) may indicate poor phonological processing
- inability to read irregular words may indicate poor lexical processing

So .....

- the conversion of letters into sounds is the key stage in reading acquisition (Dehaene, 2009)
- teaching effort should initially focus on the grasp of the alphabetic principle

## Research based instruction ....

**must** enable the learner to identify:

- speech sounds in words
- graphemes for phonemes
- spelling patterns and ending rules
- morphemes and how they are represented
- history of the English language

(Moats, 2009)

# Reading through spelling

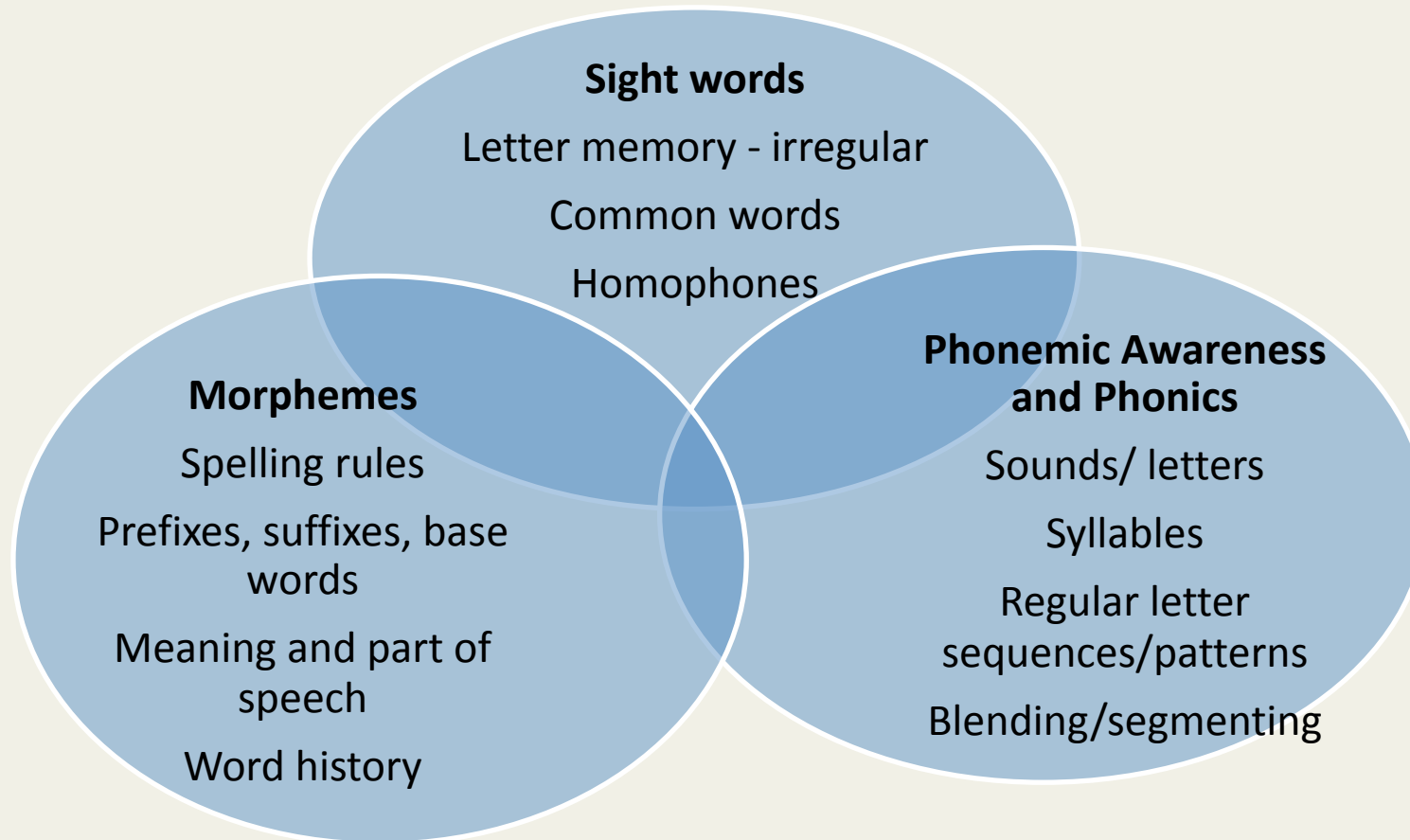
- *Spelling requires awareness of phonemes, syllables and morphemes as well as specialized memory for letter sequence (Moats, 2006)*
- Spelling and reading build and rely on the same mental representation of a word
- Knowing the spelling of a word makes the representation of it sturdy and accessible for fluent reading

# Effective instruction strategies

## Must be:

- explicit
- repetitive: at least 40 repetitions
- sequential: easiest to hardest/more complex
- within the learners current knowledge of graphemes and phonemes
- multisensory

# Fluency/ Automaticity



# Phonemic Awareness

Spoken words and syllables are made up of a sequence of sounds

**Phonemic awareness is :**

- the awareness of sounds in spoken words
- the ability to manipulate those sounds
- an essential precursor to spelling and reading

# Effective instruction activities

## Verbal/oral activities

- syllabification
- segmentation
- blending
- substitution
- additions

*The most pedagogically sound method of phoneme awareness training is one that eventually makes explicit the complete letter to-sound mappings in segmented words*  
(Griffith and Olson, 1992)

# Phoneme to grapheme: phonics

## Sounds are regular:

- 50% words – regular sound/ letter correspondence
- 37% words – one irregular letter pattern
- 4% words – totally unreliable

“Spelling” International Dyslexia Assoc, 2008

## Useful resources

- [engagemenow.wikispaces.com](http://engagemenow.wikispaces.com)

## Useful reading

- LDA of Minnesota – Net News
- Ldonline
- Reading Rockets.org
- Adlit.org

## References

- *How Spelling supports reading : and why it is more regular and predictable than you think*

Louisa Moats, American Educator, 2006

- *Spelling* International Dyslexia Association, 2008
- *Practice makes Permanent*

Kerry Hempenstall 2006, July 17 Education News, The Age

- *The Reading Brain*

Dehaene,

- *Phonics and Spelling through Phoneme-Grapheme Mapping*

Kathryn E Grace, Sopris West Educational Services, 2007