ORTHOGRAPHIC PROCESSING

Reading is a complex skill requiring various mental processes. Although dyslexia has been strongly associated with a deficit in phonological processing (Catts, 1989; Pennington, 1991), reading disabilities may also be linked to problems with orthographic processing (Newby, Recht, & Caldwell, 1993).
ORTHOGRAHPIC PROCESSING

- "the rapid recognition of sight-words"
  (Newby, Recht & Caldwell, 1993, p.73)

- "memory for specific visual/spelling patterns"
  (Barker, Torgensen & Wagner, 1992, p.47)

- "the ability to form, store, and access orthographic representations"
  (Stanovich, West, and Cunningham, 1991, p.220)

- "the ability to access visual-orthographic codes for specific words"
  (Manis, Custodio, and Szeszulski, 1993, p.65)

Ref: Orthographic Processing Abilities of Adolescents with Dyslexia (Hultquist, 1997).
ORTHOGRAPHIC DYSLEXIA

- Deficits in Visual processing of symbols
  - Visual memory for symbols
  - Trouble forming and retrieving word images in memory
  - Leads to major spelling problems
  - Over-reliance on phonology
  - Persistent letter reversals
  - Inaccurate representations of visual patterns in English words
- Poor automaticity or rapid naming deficits

- (Mather (1998) Asoc Prof Special Ed & Rehabilitation, Uni of Arizona)
One fourth-grade boy with an advanced vocabulary and good phonological abilities, spelled the word “again,” four different ways within the same sentence (agene, augene, agine, and augen). Some of the spellings produced by these students are impossible in English and illustrate an insensitivity to recurrent spelling patterns. An eighth-grade student with orthographic dyslexia spelled the word houses as “howssis” and the word exact as “egzakt.” A more complete review of orthographic dyslexia may be found in Roberts & Mather (1997). In summary, severe weaknesses in either phonological or orthographical abilities affect literacy development.
Orthographic knowledge follows a developmental trend

(Hultquist (1997))

Studies of normal readers indicate that orthographic knowledge follows a developmental trend.

With reading experience comes the knowledge that:

• vowels are necessary in words

• that some consonant blends can occur only in certain positions in words,

• the implicit knowledge of what is orthographically legitimate in a particular written language

• the ability to make better use of larger orthographic units than single letters

• increased knowledge of spelling rules
Orthographic processing

The visual aspect of reading and spelling

Most impact on spelling & reading speed

Look at written work for examples of:

• Poor recall of irregular words (eny for any)

• Heavy reliance on spelling by sound (e.g. seshen for session, frend for friend, sirkel for circle)

• Odd letter combinations

• Problems with homophones (meet for meat)

Reading

• Very slow reading speed

• Difficulty with sight words

Australian Normed Tests now available
REMEDIATING ORTHOGRAPHIC PROCESSING DIFFICULTIES

Hultquist (1997). 'Orthographic processing Abilities of Adolescents with Dyslexia'.

Problems in orthographic processing are likely to have most impact on spelling and reading speed.

- The skills are unlikely to be learned by chance.
- Explicit remedial programs are necessary.

Remediation -

Possibilities

1. Explicit teaching of specific orthographic structures

2. Repeated readings - to improve speed at which students process print

3. Increased print exposure - daily reading practice

Other strategies

- Mnemonics - spelling
- 8 Step Multisensory spelling program for irregular words