Using Cued Speech to develop Literacy

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In reviewing a range of studies, Stanovich (1993) states that one of the most well-established conclusions in the behavioural sciences is the importance of teaching the alphabetic principle for the facilitation of early reading.
Phonological awareness at the level of the phoneme (phoneme awareness) and letter sound knowledge measured at the onset of literacy instruction, seem to be reliable predictors of reading and spelling for typically developing children in languages with alphabetic orthographies (Caravolas et al., 2012).
For hearing and deaf children:

Phonology is not SUFFICIENT to learn to read but it is ESSENTIAL.
matching phonemes to graphemes

awareness of phonemic contrasts

accurate perception of differences between phonemes

auditory cues

lipreading cues
Many groups of phonemes share the same place of articulation.

Examples:

/p/, /b/, /m/

/t/, /d/, /s/, /n/, /z/, /n/.
So potentially, for deaf children relying on lipreading, a system that increases the power of lipreading to identify phonemes will aid the development of speech perception and literacy.

THAT is the AIM of CUED SPEECH – to be an AID to LIPREADING.
How does CS aid lipreading?

- For detailed information see: www.cuedspeech.org.uk

Cueing involves the use of handshapes and hand positions to disambiguate lip patterns that look similar.
Handshapes for Consonants

/t/, /m/, /f/  
/d/, /p/, /ʒ/
Positions for Vowels

/ʊ/, /ɪ/, /æ/

/a/, /ə/, /ɜ/, and “neutral”
To cue words, put the consonant handshape in the position of the vowel that follows.
Many studies have shown that deaf children whose parents have used CS from 2 years old have superior skills in phonological awareness and literacy skills. Often this involves phonological awareness and literacy skills that are age-appropriate or advanced.

Examples:

- Bouton et al, 2011
- Charlier and Leybaert, 2000
- Colin et al, 2013
- Crain and LaSasso, 2010
- Rees and Bladel, 2013
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Cued Speech

- Lip reading aid (not ‘another language’)
- Manually encodes the phonology of many spoken languages
- Families and educators cue FOR deaf children – only while they need it.
- Over 60 languages and dialects can be ‘cued’.

Arabic  Danish
Bengali  Dutch
Cantonese  Swedish
Catalan  Finnish
Czech  French
German  Polish
Greek  Italian
Russian  Japanese
Hebrew  Hungarian
Hindi  Urdu
Rose Report Model - Literacy achieved in box ‘A’ when both areas of skill achieved, good language comprehension and good word recognition.

- **GOOD**
  - Language Comprehension

- **POOR**
  - Word Recognition

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- **POOR**
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- **C**
- **D**
- **A**
- **B**
How does this impact the children?

1. expressive language
2. reading
3. writing
3. Writing

• Writing from signed words
Total Communication Model

‘Clearly differentiate *Language* from *Mode*’

**ENGLISH**

<table>
<thead>
<tr>
<th>A (Auditory)</th>
<th>V (Visual)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implants</td>
<td>(Spoken English)</td>
</tr>
<tr>
<td>Signing System (SSE)*</td>
<td></td>
</tr>
<tr>
<td>Hearing Aids</td>
<td>Cueing</td>
</tr>
<tr>
<td>Phonak etc</td>
<td>(Written English)</td>
</tr>
<tr>
<td></td>
<td>Print</td>
</tr>
</tbody>
</table>

*Signing System: Using certain signs to support certain words when *speaking English* (integrity of English is maintained).*

**NATURAL BSL***

<table>
<thead>
<tr>
<th>V (Visual)</th>
<th>V (Visual)</th>
</tr>
</thead>
</table>

*Natural BSL: Sign language as used by two Deaf adults talking to each other (integrity of BSL maintained).*

Connie Mayer TOTD
Example of results

6 students (5 with additional learning difficulties) 18 – 28 hours of exposure to Cued English over 9 month period.

Results included:

*Phonetic Awareness improved by 2 years and 3 months overall* and the average Phonetic Awareness Age improved by 44 months (*one subject made a 6 year 5 month leap in 9 months*).

*Literacy improved by 6 months*, with reading 3 by months and spelling by 6 months.

*Lip-reading improved by 66%*

*Lip-pattern production improved by 40.1%*

*Throughout... it was reported that the pupils’ confidence and attitude towards the English language had improved. As the pupils developed their knowledge of the Cued Speech system, their English skills improved in correlation...those with the most Cued Speech exposure developed the most.*
Writing from Cued words

- Cloz
- Fish
- Wal
- Csad, Csab
Writing from Cued Words and THRASS

Cloud

Whale

Sad

Crab
THRASS chart

( Teaching Handwriting, Reading and Spelling Skills)
Single Word Analysis Skills through ‘GRIDS’

1. Identify Consonant and Vowel phonemes within a word.
2. Identify CV blends within a word.
3. **Identify which letters correspond to which phoneme.**
4. **Understand the concept of one letter, two letter, three letter and four letter spelling choices for a single phoneme.**
5. Understand the concept of ‘one sound but many possible ways to spell it’.
6. Identify the number of syllables in a word.
7. **Synthesise** - break a whole word into parts.
8. **Blend** - build a whole word from parts.
9. Memorise and use ‘mental map’ of the THRASS chart.
10. Memorise the common spelling choices for phonemes.
11. Recognise and use IPA.
12. Write and read Cue Script.
13. Cue individual phonemes.
14. Cue read individual phonemes.
15. Use appropriate lip-patterns for individual phonemes.
16. Use appropriate lip-patterns for CV blends (develop natural speech pattern).
17. Cue CV blends.
18. Cue read CV blends.
19. Cue whole words – from cue script and from memory.
20. Cue read words.
21. Read written words.
22. Expand single words into sentences.
<table>
<thead>
<tr>
<th>WORD:</th>
<th>morning</th>
<th>How many letters?</th>
<th>How many sounds?</th>
<th>How many syllables?</th>
</tr>
</thead>
<tbody>
<tr>
<td>THRASS KEY WORDS</td>
<td>mouse</td>
<td>fork</td>
<td>net</td>
<td>tin</td>
</tr>
<tr>
<td>LETTERS</td>
<td>m</td>
<td>or</td>
<td>n</td>
<td>i</td>
</tr>
<tr>
<td>IPA</td>
<td>/m/</td>
<td>/ɔː/</td>
<td>/n/</td>
<td>/i/</td>
</tr>
<tr>
<td>CUED SOUNDS</td>
<td>L</td>
<td>M</td>
<td>L</td>
<td>T</td>
</tr>
<tr>
<td>CUED WORD</td>
<td>L</td>
<td>M</td>
<td>L</td>
<td>T</td>
</tr>
<tr>
<td>SENTENCE</td>
<td>I walked to school this morning.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Example of results

<table>
<thead>
<tr>
<th></th>
<th>Reading High Frequency Words Test</th>
<th>Reading High Frequency Words Test</th>
<th>PM Benchmarking Reading Assessment</th>
<th>PM Benchmarking Reading Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>3/45</td>
<td>52/195</td>
<td>Failed to score</td>
<td>90% at level 6</td>
</tr>
<tr>
<td>Student 2</td>
<td>6/45</td>
<td>52/195</td>
<td>36% at level 2</td>
<td>92% at level 3</td>
</tr>
<tr>
<td>Student 3</td>
<td>6/45</td>
<td>58/195</td>
<td>80% at level 2</td>
<td>87% at level 6</td>
</tr>
<tr>
<td>Student 4</td>
<td>11/45</td>
<td>53/195</td>
<td>83% at level 2</td>
<td>92% at level 3</td>
</tr>
</tbody>
</table>

(20 to 50 minutes a week exposure for 7 months, phonics and single word focus only.)
REFERENCES


