Summary of research findings on deaf children’s literacy

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Deaf children’s reading skills

- Deaf children typically experience difficulties with reading (e.g. Conrad, 1979; Kyle & Harris, 2010; 2011; Lederberg et al. 2013; Qi & Mitchell, 2011; Wauters et al, 2006)

- Severity in reading delay increases with age (Allen, 1986; Kyle & Harris, 2010)

- Good deaf readers do exist, so poor reading is NOT an inevitable outcome
Simple model of reading

Decoding + Comprehension

Reading

Gough & Tunmer 1986
What is important for word decoding in hearing children?

- Need to learn the relationships between letters and sounds “crack the code”
- Phonological skills - children with better awareness of how words are broken down into sounds tend to learn to read more easily and are better readers
What is important for word decoding in deaf children?

■ Need to “crack the code”
■ Phonological skills: deaf children with better awareness of how words are broken down into sounds tend to learn to read more easily and are better readers

■ The role of phonological skills in deaf reading is controversial (see Mayberry et al, 2011 for a meta analysis)

■ But growing acceptance that deaf children need access to phonological information/sound based structures
Predictors of word reading in ORAL deaf children
(Herman, Roy & Kyle, 2014; submitted)

- Only 52% of 79 deaf 10-11 year olds orally educated were reading age-appropriately (standard score (SS) between 85 and 115).

Vocabulary

Phonological skills

Phoneme deletion: “hedgehog” “start”

Spoonerisms:
“king john – jing kohn”
Predictors of word reading in SIGNING deaf children (Herman, Roy & Kyle, 2016; in preparation)

- Only 22% of 51 deaf 10-11 year olds orally educated were reading age-appropriately (standard score (SS) between 85 and 115).

Vocabulary

Phonological skills

deaf-friendly adapted phonological tests

Tocs - Speechreading

matching nonwords to pictures “bois”

Kyle et al. (2013; 2016)
Current longitudinal predictors of word reading in deaf children (Harris, Terlektsi & Kyle, 2017)

- Same beginning reading skills as 10 years ago but improved rate of progress

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<tr>
<th></th>
<th>T1 (Baseline)</th>
<th>T2</th>
<th>T3</th>
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<tr>
<td>Age</td>
<td>5-7 years</td>
<td>6-8 years</td>
<td>7-9 years</td>
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Speechreading T1
English vocabulary T1
Word reading ability T3
What about reading comprehension in deaf children?
Reading comprehension in deaf children: relationship with word reading

- Deaf children typically have even poorer reading comprehension.

- In our research, oral and signing deaf children with below average reading all had poor word decoding skills and poor reading comprehension.

- In the research literature, reading comprehension difficulties in deaf children are often attributed to poor word reading.

- Why? Because slow, inaccurate, or inefficient word reading leaves fewer cognitive resources for processing text for meaning.
Reading comprehension and vocabulary in deaf children

- This is unlike hearing children with poor reading comprehension, who generally have age appropriate word reading.

- Vocabulary knowledge is strongly correlated with word recognition and reading in hearing and deaf children.

- Deaf children’s vocabulary is typically smaller than hearing children.
Current longitudinal predictors of reading comprehension in deaf children (Harris, Terlektsi & Kyle, 2017)

T1 (Baseline)
5-7 years

T2
6-8 years

T3
7-9 years

English vocabulary T1

Reading comprehension T3
Reading comprehension and broader language skills

- As well as vocabulary, sentence level language skills (e.g. grammar and syntax) are important.
- In addition, readers must make sense of information stated *implicitly*, i.e. make inferences.
- *Local cohesion - Making links between information provided,*
  - e.g. Tom loved his new pet. The puppy was very playful. *Inference: the new pet was the puppy,* or
- *Global coherence - Making use of external information,*
  - e.g. The children paddled and built sandcastles *Inference: the setting is the beach*.
Reading comprehension in deaf children
(Kyle & Cain, 2015)

- Reading comprehension and inferencing skills in 47 10-11 year old deaf children

- Deaf children had poorer reading comprehension than hearing children matched for word reading ability

- Deaf children were able to make both local cohesion and global coherence inferences, but they were significantly poorer than CA and word RA matched hearing controls.

- Deaf children were remarkably similar in performance to hearing poor comprehenders
Conclusions

- Despite many technological advances and changes in educational practice, recent research with deaf children shows widespread underachievement.

- Deaf children with better vocabulary, phonological skills and speechreading made more progress in reading.

- Crucial role of language underpinning reading in all studies.

- Deaf children have problems with vocabulary and syntax and also struggle with inferencing skills.

- Poor literacy is not inevitable so need to provide ongoing support to develop key skills.
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References


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