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Overview of research findings on word decoding in deaf children

Putting Research into Practice Workshop

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Developing decoding skills in hearing children

- 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

- How are hearing children taught to decode?
 - Phonics



Developing decoding skills in deaf children

- What is important for word decoding in **deaf** children?
 - Need to learn the relationships between letters and sounds “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)
 - But growing acceptance that deaf children need access to phonological information/sound based structures

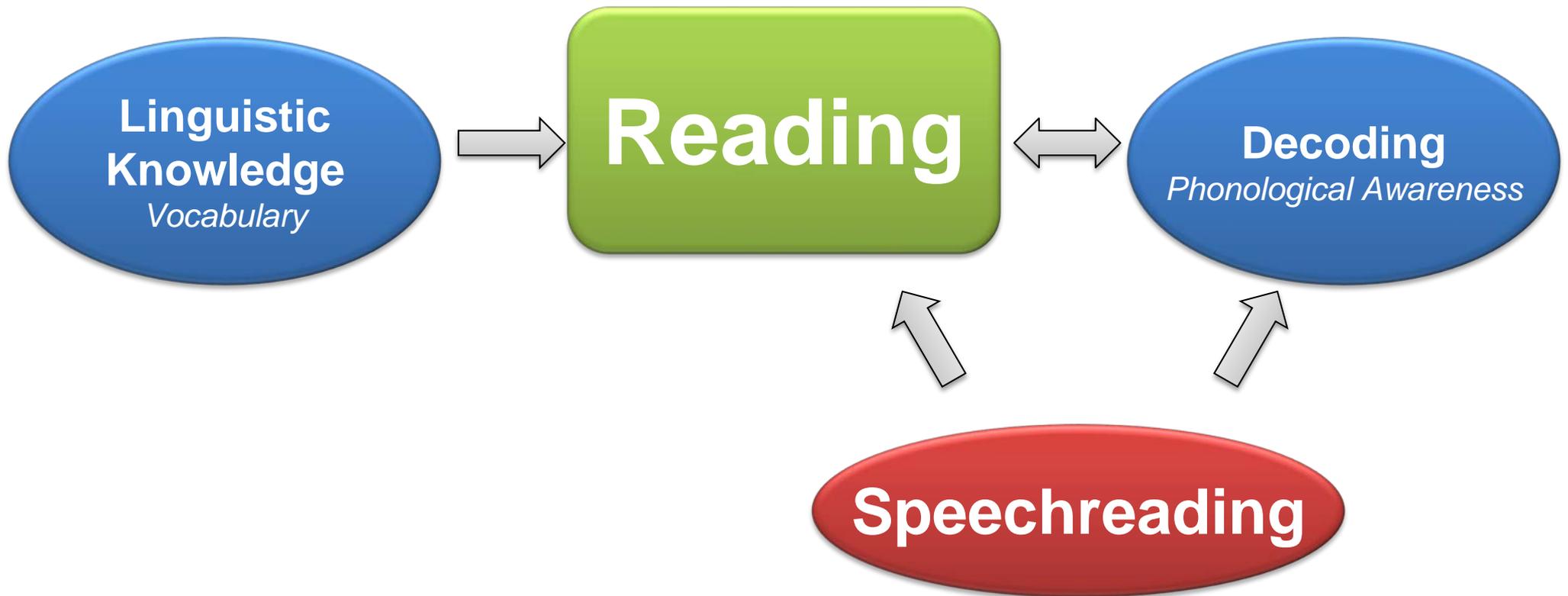


Phonological skills in deaf children

- In my longitudinal studies (with BSL/TC/Oral children), deaf children with better speechreading and vocabulary skills made more progress in reading (Kyle & Harris, 2010; 2011)
- Speechreading strong correlate of reading and phonological awareness (Kyle & Harris, 2010; Kyle et al, 2016)
- In our studies with oral deaf children, phonological awareness (PA) was strongest predictor of reading ability (Herman, Roy & Kyle, 2014)
- Two routes to developing phonological awareness in deaf children:
 - Amplification of residual hearing based upon auditory speech
 - Access visual component of speech through speechreading to develop phonological skills



Simple model of reading adapted for deaf children (Kyle, 2015)





Research on teaching decoding to deaf children

- Little research on teaching conventional phonics to deaf children
 - Foundations for Literacy programme in US – significant effects on phonological awareness, alphabetic knowledge, and vocabulary for DHH pre-school children (*e.g. Lederberg et al, 2014*)
- Focus has been on utilising the visual component of speech sounds to teach phonological skills
- Two systems represent the phonemes of English language manually:
 - Visual Phonics
 - Cued Speech
- Visual Phonics was designed to visually represent phonemes in spoken language providing visual and kinaesthetic information
 - a tool for conveying the phonemic information rather than a communication method



Research findings with Visual Phonics

- Evidence base for Visual Phonics comes from US studies
- Trezek and colleagues report promising results
 - Beginning deaf readers (5-7 yrs) made 4 months progress in reading and 9 months in nonword reading over 12 months (*Trezek & Wang, 2006*)
 - Beginning readers (5-8 yrs) showed large effects of visual phonics training over a year in TC settings training (*Trezek et al, 2007*)
 - Larger sample (127 deaf 7-19 yrs) enrolled in ASL classrooms showed large effects on identifying phonemes in isolation, phoneme blending, and word reading (*Trezek & Hancock, 2013*)
- Narr (2008) found ASL and SSE deaf children above chance on phonological awareness task after Visual Phonics training
- Methodological concerns over lack of control group and small samples



Research findings on teachers' view of visual phonics? Narr & Cawthon (2011)

- Majority of teachers used visual phonics for all reading related tasks
- Why use visual phonics?
 - 95% thought it led to improvements in phonological awareness
 - 93% thought it led to improvements in decoding
 - 71% thought it led to improvements in vocabulary
 - 64% reading comprehension and 87% student engagement
 - 83% thought easy to use as instructional tool

“It helps my students learn decoding skills and improve with word recognition. It is a tool that can be incorporated with an existing literacy curriculum.”

“Making sounds visible, allowing DHH children to see what hearing children hear”



Last thoughts...

- Research suggests that Visual Phonics could be effective in teaching literacy and literacy-related skills such as phonological awareness
- Teachers are very enthusiastic and anecdotal evidence is strong
- We need to get a solid research base evidence for Visual Phonics in the UK



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