

Helping Children with Reading Difficulties: Some Things We Have Learned So Far

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- Sixteen per cent of children struggle to learn to read to some extent, and five per cent of children have

significant, severe and persistent problems.

- Poor reading is associated with an increased risk of school dropout, attempted suicide, incarceration, anxiety, depression and low self-concept.

Poor readers display different reading behaviours

- Poor readers are highly heterogeneous; that is, they do not all display the same type of reading impairment.
- Some poor readers have a specific problem with learning to read new words accurately by applying the regular mappings between letters and sounds, that is, poor phonological recoding or decoding.
- Other poor readers have a particular difficulty with learning to read new words accurately that do not follow the regular mappings between letters and sounds, that is, poor sight word reading or poor visual word recognition.
- Some poor readers have accurate phonological recoding and visual word recognition but struggle to read words fluently.
- Some poor readers have intact phonological recoding and visual word recognition and reading fluency, but struggle to understand the meaning of what they read.
- Most poor readers have various combinations of these problems.

Reading behaviours have different 'proximal' causes

- A proximal cause of a reading behaviour can be defined as a component of the cognitive system that directly and immediately produces that reading behaviour.
- Most reading behaviours will have more than one proximal cause.
- There are several theoretical and computational models of reading, which vary in some respects, but all include

cognitive components that represent

1. the ability to recognise letters, letter clusters and written words;
2. the ability to recognise and produce speech sounds and spoken words;
3. the ability to access stored knowledge about the meanings of words and
4. links between these various components.

Reading behaviours have different 'distal' causes

- A distal cause has a distant, that is, an indirect or delayed, impact on a reading behaviour.
- Distal causes reflect the fact that reading is a taught skill that unfolds over time and through development.
- It depends upon a range of more cognitive abilities, such as memory, attention and language skills.
- Thus, there can be different causal pathways to the same impairment of the reading system.

Poor readers have concurrent problems with their cognition and emotional health

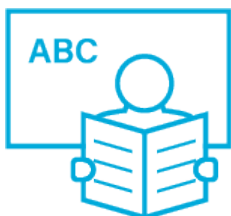
- Many poor readers (but not all) have comorbidities in terms of other aspects of their cognition and emotional health.
- A significant proportion of poor readers have impairments in their spoken language.
- Poor readers also have atypically high rates of attention deficit disorder.
- Poor readers, as a group, have higher levels of anxiety and lower self-concepts than typical readers.
- Comorbidities of poor reading might be categorised according to whether they represent the potential proximal or distal impairment of poor reading – or possibly both.
- The proximal and distal schema can prove useful in clarifying the causal chain of events linking a reading

behaviour to a potential cause.

- The proximal and distal schema can also be useful in clarifying reciprocal or circular relationships between comorbidities of poor reading and reading behaviours.

Proximal intervention is more effective than distal intervention

- Randomised controlled trials (RCTs) are the gold standard method for assessing a treatment of any kind. Unfortunately, few interventions for reading difficulties have been tested with an RCT.
- Intervention can be divided into 'proximal interventions', which focus training on the proximal causes of a reading behaviour that are proposed to be part of the cognitive system for reading, and 'distal interventions', which focus on the distal causes of a reading behaviour.
- Only phonics training, which focuses on improving a proximal cause of poor reading (i.e. letter-sound mappings), has been shown to produce a statistically reliable effect.
- The 'closer' the intervention is to an impaired reading behaviour, the more likely it is to be effective.



Translating what we know (thus far) into evidence-based practice

- First, the fact that poor readers vary in the nature of their reading behaviours suggests that the first step in

identifying an effective intervention for a poor reader is to assess different aspects of reading.

- Second, the fact that poor readers' reading behaviours can have different proximal causes suggests that the next step is to test them for the potential proximal causes of their poor reading behaviours.
- Third, the fact that poor readers vary in the degree to which they experience comorbid cognitive and emotional impairments suggests that it would be useful to assess poor readers for their spoken language abilities, attention, anxiety, depression and self-concept, at the very least.
- Once a poor reader's reading behaviours, proximal impairments and comorbid cognitive and emotional health problems have been identified, it should be possible to design an intervention that is a good match to their needs.