

Developmental Dyslexia & Phonics Tuition: Going Beyond ‘Synthetic Phonics’

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Learning to Read: Interpreting speech when it is 'written down'



Dyslexia =
Systematic
difficulties
in speech
processing

*Children with dyslexia need tuition in phonics
that is **informed by** their speech processing difficulties*

Predicting Reading Across Languages: Core Role of Speech Processing

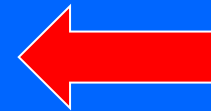
Brain
Language



Phonology

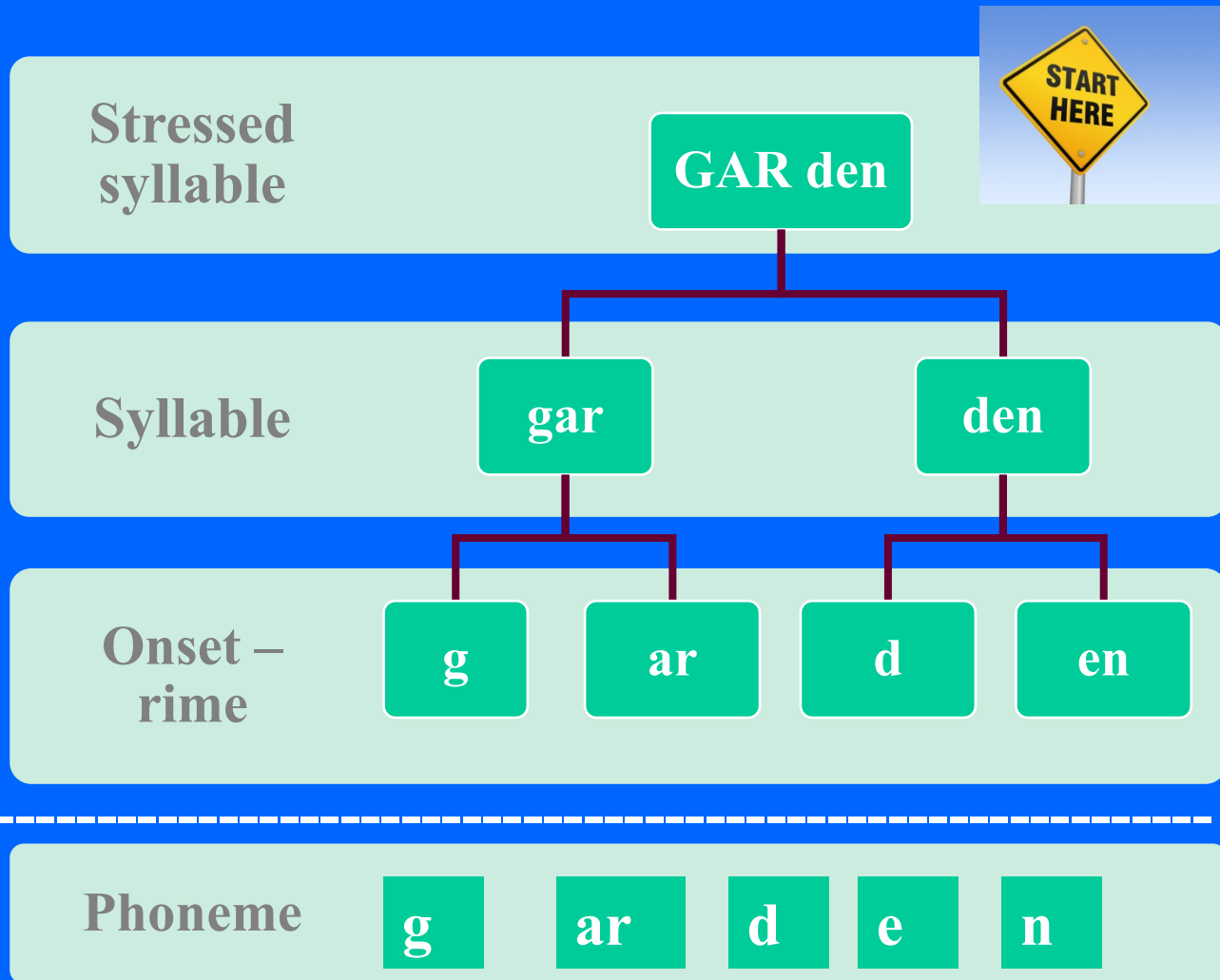


Reading



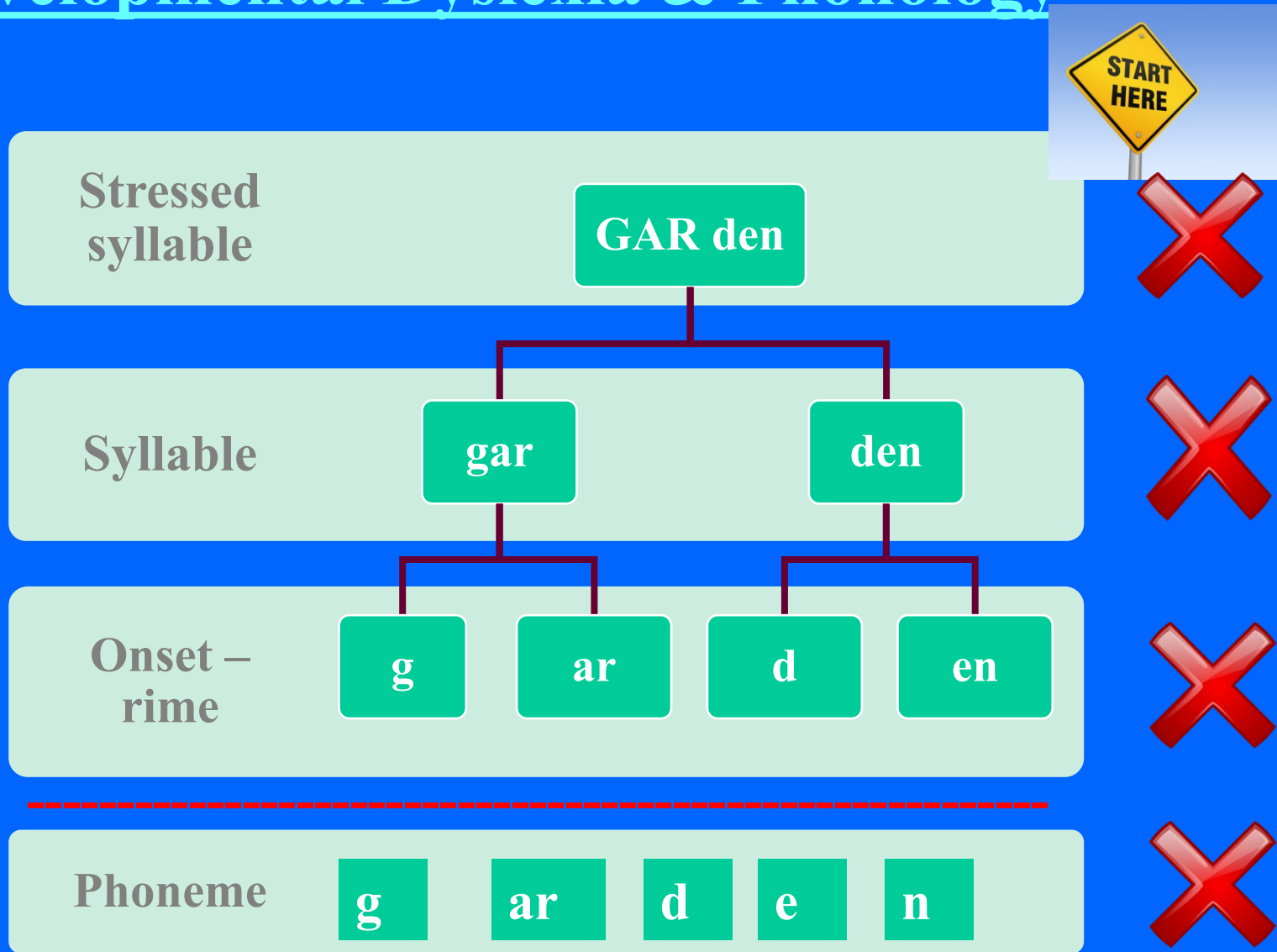
sound
structure
of speech

Developmental Linguistic Hierarchy: Found Across Languages



Phonemes
learned via
letters =>
Age 5 UK
Age 7 Finland

Developmental Dyslexia & Phonology



*Listening difficulties at early levels = harder to learn phonemes from letters
Need direct teaching at all levels*

Basic Unit of Speech Processing: The Syllable

Divide at vowel for onset-rime

Onsets and rimes = phonemes in most languages

#Problem 1 for dyslexics = not for English phonology

Italian

English

matita

pencil

word

ma ti ta

pen cil

syllable

m a t i t a

p e n c i l

onset/rime

(SAME)

m a t i t a

p e n s i l

phoneme

English Spelling Ambiguities Amplify Learning Problems: Orthographic patterns need to be taught and learned

Languages vary in the degree to which letters have a 1:1 mapping
to phonemes (transparency): EU research project 2003

Greek

Finnish

German

Italian

Spanish

Swedish

Dutch

Icelandic

Norwegian

French

Portuguese

Danish

English

#Problem 2 for English dyslexics:

Spelling ambiguity not only reduces 1:1 letter-phoneme links, increasing the difficulty of learning phonemes, it makes creating accurate spellings hard

E.g., 'a'

German

English

Hand

hand

Ball

ball

Garten

garden

Onset-rime level helps spelling consistency, supporting orthographic sequence learning

E.g., 'a'

'a' call, wall, ball ..

'a' **car, star, bar ..**

'a' day, may, say ..

'a' **raw, saw, paw ..**

'a' calm, palm, balm ..

'a' **salt, malt, halt ..**

'a' cake, lake, make ..

'a' **care, bare, dare ..**

Developmental Dyslexia and Phonics Tuition

#problem 1: onsets/rimes can contain many phonemes

Solution 1: give explicit tuition in syllabification and segmenting onset/rimes into phonemes

#problem 2: spelling ambiguity of English

Solution 2: permit forms of phonic tuition that exploit other spelling consistencies, like onset-rime consistency

Rhyme-based
phonics

Rhythm-based
phonics

Broad range
of methods



[@graphogame](https://twitter.com/graphogame)



<http://facebook.com/graphogame>



**EU scientist-led game to help dyslexia
Now in >20 languages**

**English Game = GraphoGame Rime
Validation RCT by EEF in 2018**

Teaches letter-sound correspondences via onset/rime

RCT by Education Endowment Foundation 2018

GG Rime *as effective* as classroom teaching for children who failed Phonics Check in Yr 1

Subsequent Analyses of RCT data:

-Particularly helps children in schools OFSTED rated as ‘requiring improvement’

-Particularly helps boys and those with IEPs

-Helps children irrespective of vocabulary and IQ

English is an “Outlier” in the World’s Languages:
=> Children need more than ‘Synthetic Phonics’

English poses a particularly difficult learning
(and teaching) problem

Children with dyslexia have poor speech processing

prosody and rhythm X

syllabification X

onset-rime X

- *Direct teaching at other linguistic levels is required*
- Need to expand criteria for approving phonics programmes beyond “synthetic” and “phoneme” otherwise will disadvantage DYS children