Supporting EAL learners with dyslexia

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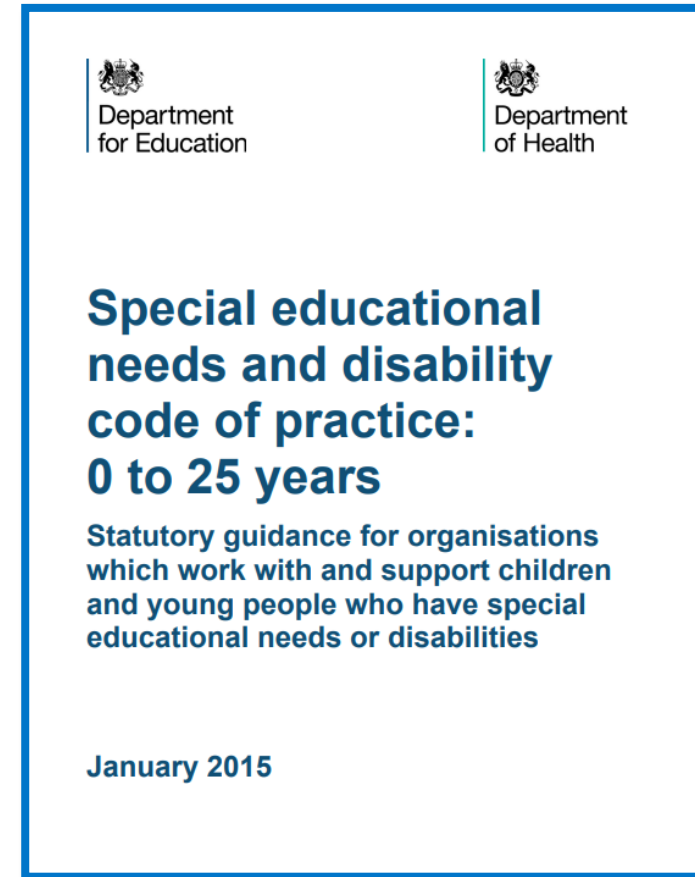LITERACY SPECIALISTS · TEACHERS · ASSESSORS

Questions to address

- What does the **research** say about dyslexia in different languages?

- How can we **support** EAL learners with dyslexic difficulties?

- How can we **assess** EAL learners at risk of dyslexia?

English as an Additional Language

SEN Code of Practice (2015):

- 'Identifying and assessing SEN for children whose first language is not English requires **particular care**.'

- 'Look carefully at **all aspects** of a child's learning and development'.

- 'Difficulties related solely to learning English as an additional language are not SEN'.

- 'Where a child has a significantly greater difficulty in learning than their peers, or a disability…requires special educational provision, the setting should make that provision.'

- Dyslexia tends to be **under-identified** in multilingual learners (Kelly and Phillps, 2012).

Department for Education

Department of Health

Special educational needs and disability code of practice: 0 to 25 years

Statutory guidance for organisations which work with and support children and young people who have special educational needs or disabilities

January 2015
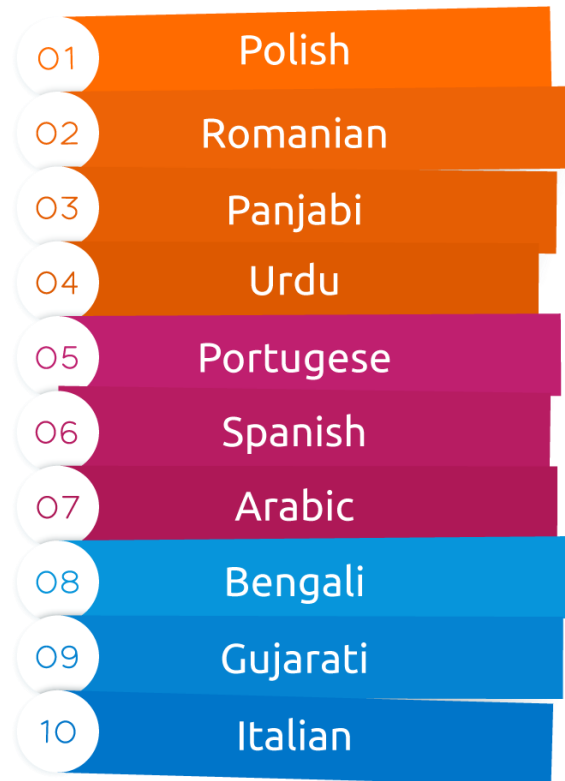
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English as an Additional Language

Learners who first language is not English and can include:

- Learners born in another country who learned to speak another language and who have come to the UK **without prior knowledge of English**.

- Learners born in the UK and live in households where **no/little English is spoken** at home.

- Learners who are **bilingual or multilingual** at home – both English and another language/s are used on a regular basis.

Kelly and Phillips (2012)

Context: What are the most common languages spoken across the UK?

- 20.2% of pupils have a first language other than English (Office for National Statistics, 2023).

01	Polish
02	Romanian
03	Panjabi
04	Urdu
05	Portugese
06	Spanish
07	Arabic
08	Bengali
09	Gujarati
10	Italian

Source: Office for National Statistics – Census 2021

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What does the research say about dyslexia in different languages?

Impact of multilingualism: Learning L2

- Most children learning a second language **do not** encounter difficulties (Muter, 2021)

- However, L2 learners can experience a '**literacy skills lag**' compared to monolingual peers

- 'Basic Interpersonal Communication Skills' (BICS) – **2 years**

- 'Cognitive and Academic Language Proficiency' (CALP) – **5-7 years** (Cummins, 2008)
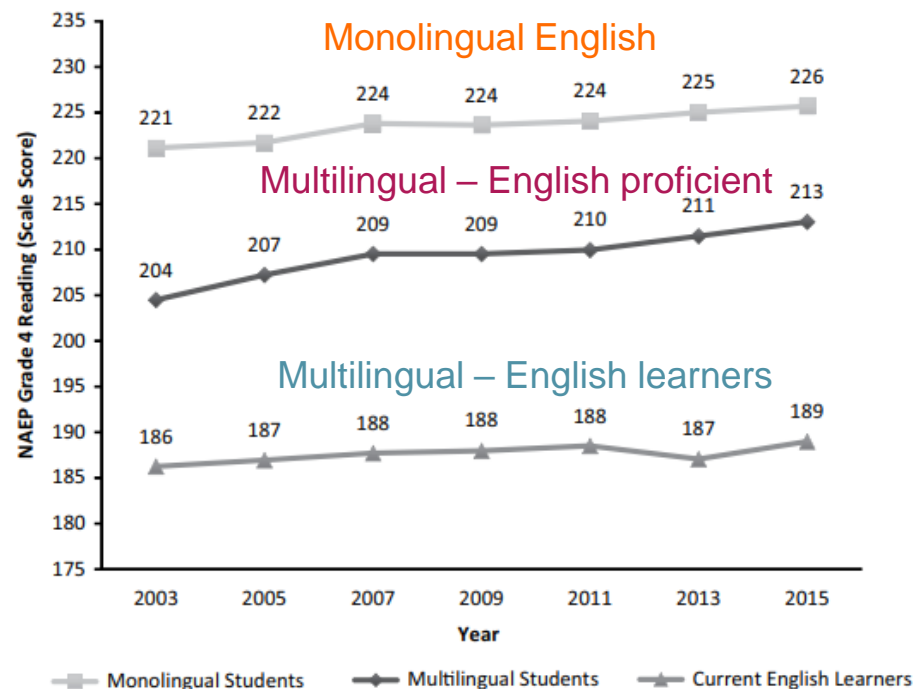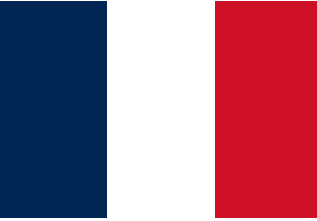

Source: Kieffer and Thompson (2018)

Definition of dyslexia (BDA, 2010)

- Dyslexia is a learning difficulty that primarily affects the skills involved in accurate and fluent **word reading** and **spelling**.

- Characteristic features of dyslexia are difficulties in **phonological awareness**, **verbal memory** and **verbal processing speed**.

- A good indication of the severity and **persistence** of dyslexic difficulties can be gained by examining how the individual responds or has responded to well-founded intervention.

- The British Dyslexia Association (BDA) acknowledges the **visual** and **auditory processing difficulties** that some individuals with dyslexia can experience.

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International definitions of dyslexia

	A **persistent** problem with learning and **accurately** and/or **fluently** applying **reading** and/or **spelling** at **word level**'. (BALANS, National Parentsassociation Balans)
	It is a specific and significant impairment of **reading** (dyslexia) and/or **writing** and **spelling** (dysorthography). (FFDys, French Federation of Dys)

	The altered neurobiological processes of people with dyslexia also affect some cognitive areas and precursor skills: • **Working memory** • **Phonological awareness** • **Rapid naming** (BVL, German Dyslexia and Dyskalkulia Association)
	It can be caused by a combination of difficulties in **phonological processing**, **working memory**, **rapid recall** and sequencing as well as automatization of basic skills. (Hellenic Dyslexia Association)

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Prevalence

|	
🇬🇧	**10%** (British Dyslexia Association)
eda european dyslexia association	**9-12%** (European Dyslexia Association)
🇪🇸	**3-6%**, rising to **11.8%** if spelling difficulties are included (Soriano-Ferrer & Morte-Soriano, 2016)
🇸🇬	**10%** (Dyslexia Association of Singapore)
🇮🇳	**10-15%** (Dyslexia Association of India)

'**Misconception** that dyslexia is virtually non-existent in easy phonetic orthographies such as Spanish and Finnish' (Caravolas, 2008)

'There are dyslexics in **every country** and **every language**' (Smythe, 2006)

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Depth/transparency of a language
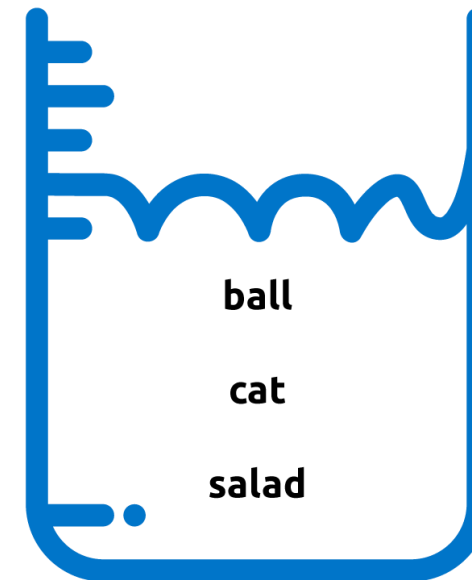
The transparency of a language refers to mapping of letters and sounds (phonology) (Devonshire, Morris and Fluck ,2012)

Shallow orthography

Ball

Katze

Salat
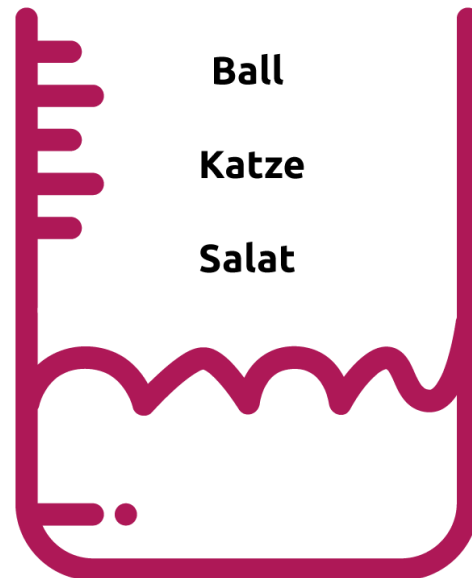
e.g. Italian and Finnish
Almost **one-to-one** relationship
between sounds and letters

Deep orthography

ball

cat

salad

e.g. English
One-to-many relationship
between sounds and letters

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Depth/transparency of a language

		Orthographic depth				
		Shallow				**Deep**
Syllabic structure	Simple	Finnish Turkish Hungarian	Greek Italian Spanish	Portuguese	French	
	Complex	Czech Hebrew	German Norwegian Icelandic	Dutch Swedish	Danish	English

Based on Mortimore et al (2012)

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Areas of processing affected by dyslexia

Cognitive profiles: phonological awareness

- Dyslexic individuals in many languages experience phonological difficulties although to **differing degrees** depending on the transparency of the language (Brunswick, 2012).

- In transparent orthographies, phonological awareness may be a less important and **time limited** skill in the acquisition of literacy (Caravolas, 2008).

- Research is **mixed**, e.g. with some studies reporting that PA difficulties resolve in German-speaking (Wimmer et al, 2000) and Dutch-speaking (Wesseling & Reitsma, 2000) dyslexic children by **second grade**, whereas other studies have reported PA difficulties continuing into **sixth grade** (Landrel et al, 1997; Brunswick, 2012).

- The **benefits of predictable** letter-sound correspondences and phonics instruction may enable dyslexic children to '**overcome**' early phonological difficulties and develop adequate phonological awareness in transparent languages (Brunswick, 2012; Caravolas, 2008).

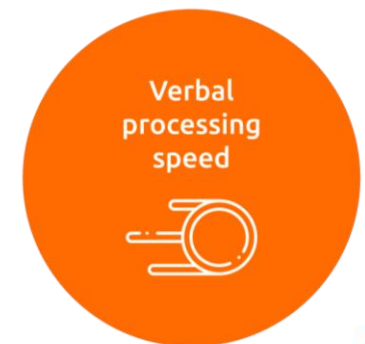# Cognitive profiles: verbal memory and verbal processing speed

Verbal memory

- Research into the role of verbal short-term memory in the profiles of dyslexic individuals has produced more **unanimous** results across alphabetic orthographies (Caravolas, 2008).

- Children with dyslexia experience **persistent difficulties** across languages, including French (Sprenger-Charolles et al 2000), German (Schneider et al, 2000) and Czech (Caravolas, 2008).
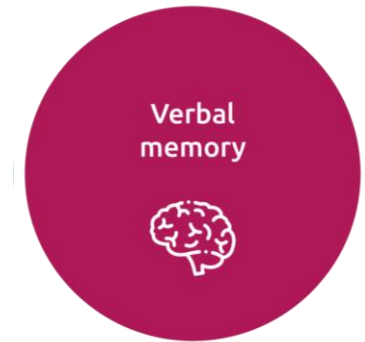
Verbal processing speed

- Research has found that dyslexic individuals are **typically slow** on RAN tasks **across languages**, including transparent orthographies (Caravolas, 2008).

- May be one of the **best predictors** of dyslexia across languages (Mortimore et al, 2012).

- May play a **larger role** than phonological processing in the development of skilled reading for dyslexic learners in **transparent orthographies** (Ziegler & Goswami, 2005).

Cognitive profiles: dyslexia across languages

Universals

Phonological awareness

- Consistent feature of dyslexia
- May play less of a role in dyslexic difficulties in transparent languages

Verbal memory

- Difficulty in the vast majority of populations with dyslexia

Verbal processing speed

- One of the best indicators of dyslexia across languages

Particulars

Prosody

- Prosodic impairment in Spanish dylexia (Cuetos, Martínez and Suárez, 2018)
- Important role in the linguistic system of Spanish (Prieto & Roseano, 2018)

Orthographic awareness

- Difficulties have been regarded as a crucial symptom of dyslexia in Polish (Krasowicz-Kupis, 2008)
- Polish is a semi-transparent orthography with relatively high orthographic consistency (Łockiewicz and Jaskulska, 2019)

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Literacy profiles: word reading accuracy

		Shallow				Deep
Syllabic structure	Simple	Finnish Turkish Hungarian	Greek Italian Spanish	Portuguese	French	
				25% error rate		
	Complex	Czech Hebrew	German Norwegian Icelandic	Dutch Swedish	Danish	English
				6% error rate		50-70% error rate

Orthographic depth

Based on Mortimore et al (2012) and Caravolas (2008)

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Literacy profiles: nonword reading accuracy

		Orthographic depth				
		Shallow				**Deep**
Syllabic structure	Simple	Finnish Turkish Hungarian	Greek Italian Spanish	Portuguese	French	
	Complex	Czech Hebrew	(German) Norwegian Icelandic	Dutch Swedish	Danish	(English)

23% error rate   73% error rate

Based on Mortimore et al (2012) and Brunswick (2012)

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Literacy profiles: reading fluency

- Dyslexia as a **word-level** literacy difficulty may be less evident in transparent orthographies (Mortimore et al, 2012).

- Some dyslexic individuals may only manifest difficulties with **fluency and comprehension** that are linked to issues with **speed** (Mortimore et al, 2012).

- Comparison of German dyslexic and non-dyslexic children of the same age (Brunswick 2012):

  - Dyslexic children took 1.5–6 times as long to read long words

  - E.g. '*Strassenbahnhaltestelle*'
    - **Non-dyslexic: 2-4 seconds**
    - **Dyslexic: 39 seconds**
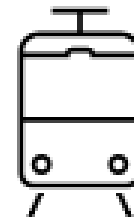
Literacy profiles: spelling

- Spelling is **harder** than reading in most alphabetic orthographies.

- **Asymmetry** between GPC and PGC in most European orthographies, e.g. French is less complex than English for reading, but as inconsistent for spelling (Caravolas, 2008).

- Individuals with dyslexia have **consistent difficulties** with spelling across orthographies (Mortimore et al, 2012).

- **Milder** difficulties in transparent languages (Mortimore et al, 2012).

- **RAN** difficulties may impede phoneme-grapheme association (Mortimore et al, 2012).

- Errors with the **orthographic representation** of conventional spelling patterns and rules may be more apparent in transparent orthographies (Caravolas, 2008).

Literacy profiles: dyslexia across languages

Universals

Word reading accuracy

- Milder difficulties in more transparent orthographies

Nonword reading accuracy

- Decrease compared to word reading accuracy

Reading fluency

- Serious and pervasive difficulties

Spelling

- Consistent feature across alphabetic orthographies

- Orthographic errors may be more evident

Particulars

Word reading accuracy

- Persistent difficulties in English

Logographic: Chinese script

- Chinese is a morphosyllabic writing system - a character represents both a **syllable** and a **morpheme**.

- The majority (80-90%) of characters are **compound** characters – with each component comprising **semantic** (meaning based) and **phonetic** radicals.

- Logographic systems make more demands on **visual processing and memory** and lower demands on phonological skills (Mortimore et al, 2012).

銅

'copper'

金　同

'metal'　'same'

Source: Chung (2017)

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Logographic: Chinese script and dyslexia

- The characteristics of dyslexia in Chinese tend to '**differ slightly**' in some aspects from alphabetic languages (Chung, 2017).

- **Cognitive skills** of phonological processing, verbal memory and verbal processing speed, in addition to visual perceptual skills = areas of assessment for dyslexia in Chinese-speaking learners (Hong Kong Education Bureau).

- **Manifestation** of dyslexia in Chinese-speakers = difficulty **visually distinguishing** characters, **retaining** character information and understanding the pronunciation information provided by **phonetic radicals** (Chung, 2017; Brunswick, 2012).

'I really want to put pen to paper, but honestly I don't remember how the strokes are arranged and combined.'
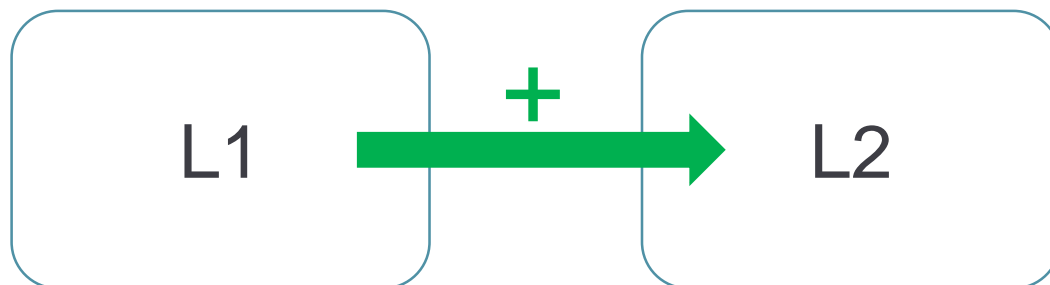
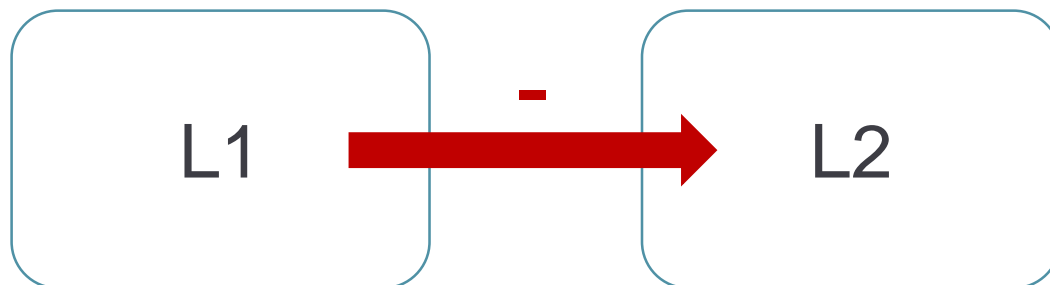*'The Chinese character is forgotten in a flash. It makes me feel very puzzled.'*

Source: 'The Chosen One'

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Learning English as L2: transfer effect

Positive transfer effect

Negative transfer effect

Schneider (2009); Muter (2021)

Learning English as L2

- Phonological awareness may be of **secondary importance** when learning transparent and logographic orthographies and cause dyslexics in these languages relatively few problems.

- However, the **phonological demands of English** may prove **too complex** for EAL dyslexic learners (Mortimore, Hutchings and Northcote, 2012).

- Phonological awareness difficulties that were less functionally relevant in the context of transparent and logographic orthographies may become **vulnerable** when learning English.

- Bilingual learners at risk of dyslexia are likely to have **considerable difficulty** acquiring the complex orthography of English (Mortimore et al, 2012).

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# Teaching support for EAL learners with dyslexic difficulties

Implications for support: Tiered approach

# Universal: Multisensory teaching

- Presenting information in different forms using a VAK (Visual, Auditory, Kinaesthetic) approach.

- Neurodiverse learners can have difficulty receiving information using the auditory modality (Teaching for Neurodiversity, 2017).

- Therefore, it is fundamental that they also receive teaching through stronger modalities, which are usually visual and kinaesthetic (Reid, 2013).

- Advantageous for multilingual learners as auditory language is not the primary mode of learning (Everatt, Reid and Elbeheri, 2013).

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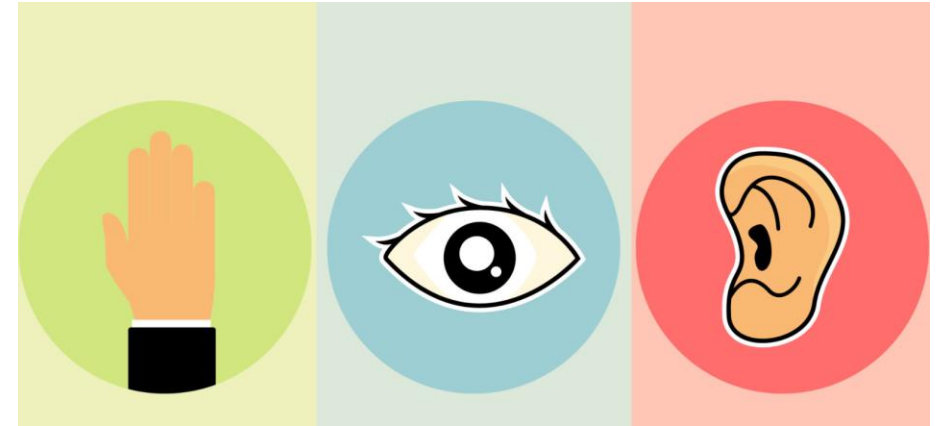
Universal: Multisensory teaching

Visual: Talk 4 Writing
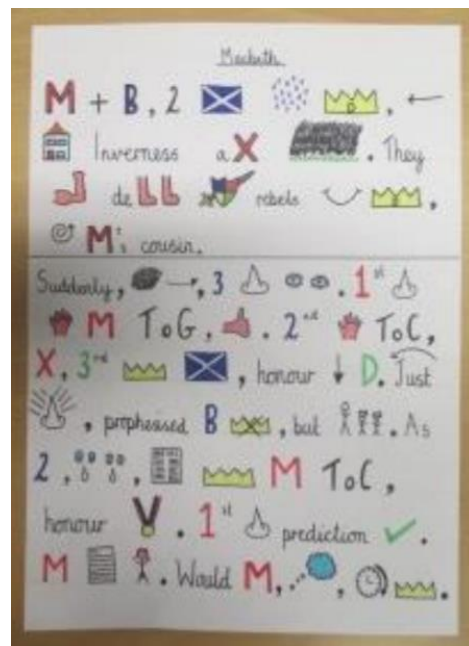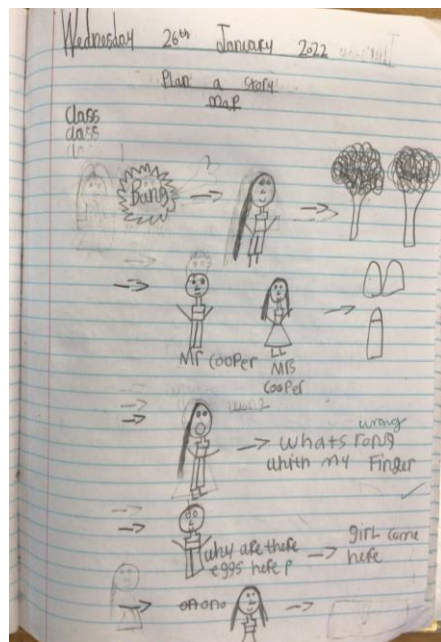
Kinaesthetic: manipulatives

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Wednesday

Main Teaching:

Children can discuss and recap with their talk partners and then share with the class. ==Think, pair, share==.

==Recap the skill that we are learning this week==. Sentence demarcation. Commas, full stop, exclamation mark, apostrophes and question mark. What will we be writing this week?

Today we will be planning our sequel to TMF to be written tomorrow. ==Do children remember when we created a story map for the Magic Porridge Pot? What do they remember of the story map?== How do we create a story map? Show children examples of story maps for other books on LYNX.
==Watch video TfW Story Map – can chn== ==pick up any tips on how to make a story map?==

Share ==WAGOLL== with the class.

Model a story map for shared write that will be written tomorrow. ==VAK== Get children's ideas. Use the ==visual hexagon== that they created with ideas on Monday. ==Have chn talk through their VH with their partners==.

==VISUAL==
==AUDITORY==
==KINESTHETIC==

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Universal: Explicit vocabulary teaching

- Research into factors underpinning cross-linguistic literacy acquisition highlights the **development of vocabulary in L2** (Mortimore et al, 2012).

- Possible that **underachievement in L2 literacy** may be linked to low levels of language fluency, particularly related to vocabulary and comprehension (Hutchinson et al, 2003).

- Increase in oral language can **enhance phonological systems** and **reading comprehension** (Mortimore et al, 2012).

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Universal: Tier 2 vocabulary
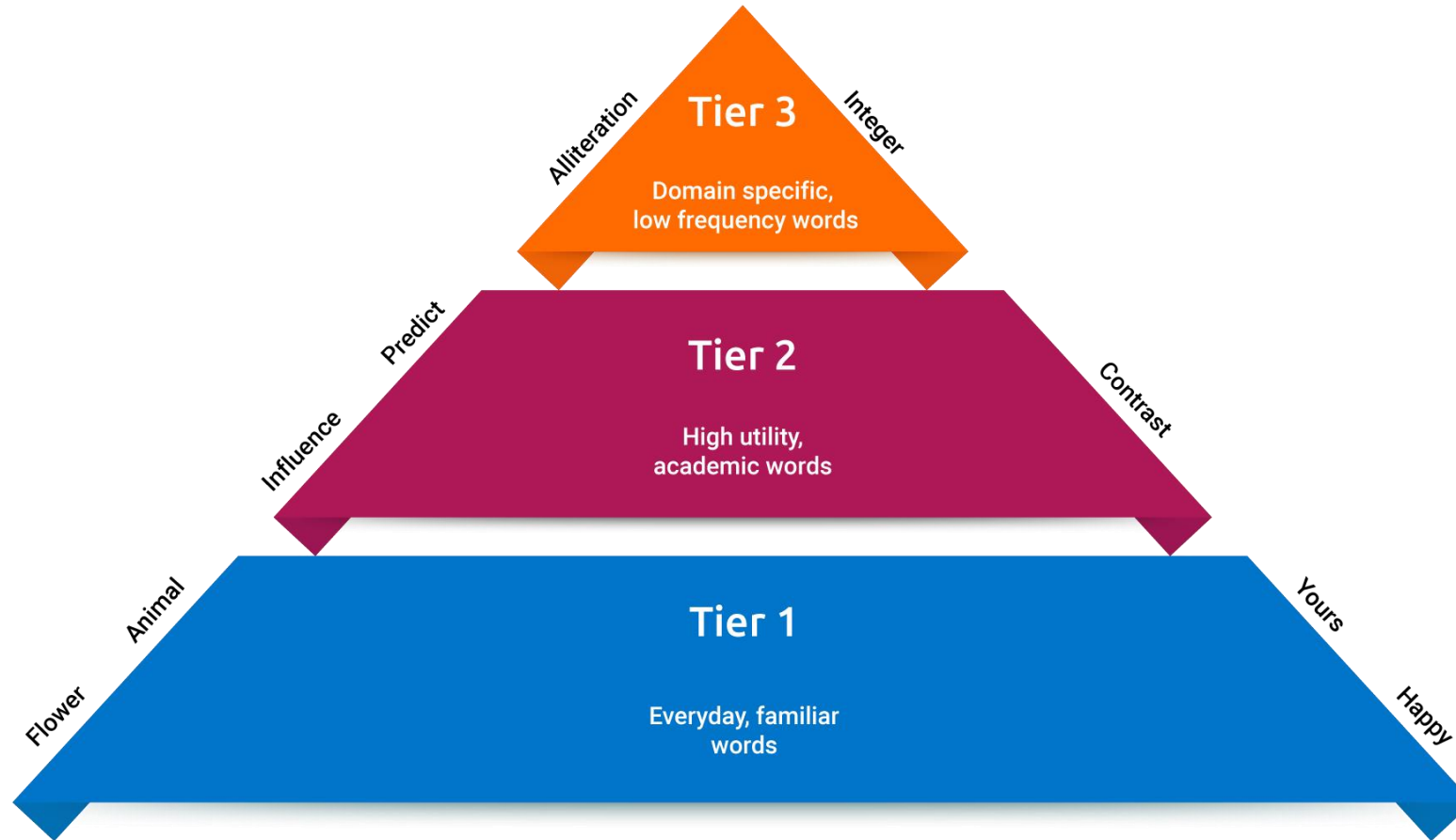
Based on the work of Isabel Beck

The value of tier 2 words

'In a rainforest, there are lots of trees and it is wet.'

'A rainforest is an area of dense forest that depends on precipitation to develop. Trees grow very tall because they have to compete with other plants for sunlight.

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Selecting tier 2 words

The servants would never comment on this strange occurrence [finding the kitchen clean even though none of them were seen doing the cleaning], each servant hoping the other had tended to the chores. Never would they mention the loud noises they'd hear emerging from the kitchen in the in middle of the night. Nor would they admit to pulling the covers under their chins as they listened to the sound of haunting laughter that drifted down the halls to their bedrooms each night. In reality, they knew there was a more sinister reason behind their good fortune.

Kohnke (2001)

Selecting tier 2 words

Teaching tier 2 words

Introducing: Bag of Words

- Provide a selection of tier 2 words from a text **before** sharing the whole text with the class.

- In pairs/groups, students read the words and **match** them to a definition.

- Make **predictions** about the text they are about to read.

Applying: Sentence Strips

- Provide a sentence strip integrating a tier 2 word.

- Students use this to communicate **verbally** with a partner.

- Teacher gives **instructional feedback** on how language is being used.

> In contrast to _____,
> _____ is _____.

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Targeted: reading support

Choral reading

- Shared reading can be beneficial for EAL learners at risk of dyslexia (Kelly and Phillips, 2012).

- Strengthens reading **fluency** and **sight word** recognition skills.

- Characterised by students reading aloud in **unison**.

- Start with the teacher reading aloud and then all students reading the passage/story aloud as a group.

- Access to a **model** of fluent reading.
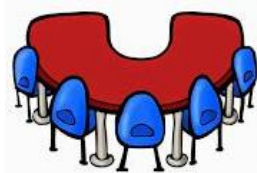
Reading comprehension strategies

- Focusing on reading comprehension strategies and developing learner's awareness of their own reading skills (Mortimore, Hutchings & Northcote, 2012).

Pre-reading	**Prediction:** Present **image** related to the text.
During reading	**Self-monitoring:** Who? When? What? Where?
Post-reading	**Review prediction:** Was your prediction right? Why/ why not?

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Specialist: 1-1 intervention

Phonological awareness training

- Found to be one of the most **powerful** components of successful intervention for dyslexic learners (Everatt et al, 2013).

- **Auditory games** – tapping out words in sentences, matching syllable cards, rhyming games, changing sounds within spoken words (e.g. 'change the /p/ in 'pig' to /b/ - what do you get?).
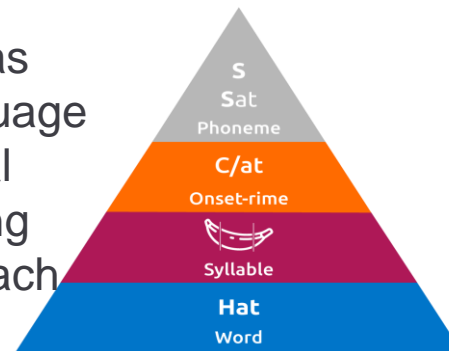
- Systematic teaching of **L2 phonemes** based on learner's error patterns (Mortimore, Hutchings & Northcote, 2012).

- Bilingual learners diagnosed as dyslexic in a transparent language may have severe phonological deficits – phonological teaching may not be the optimal approach (Smythe & Everatt, 2004).

Paired reading

- Successful strategy for bilingual dyslexic learners (Mortimore et al, 2012).

- Teacher is the **pointer** and the student reads the words.

- Teacher can **'fade'** in and out when the learner falters/ makes an error.

- In **L1** with proficient bilingual partner (Mortimore, Hutchings & Northcote, 2012).
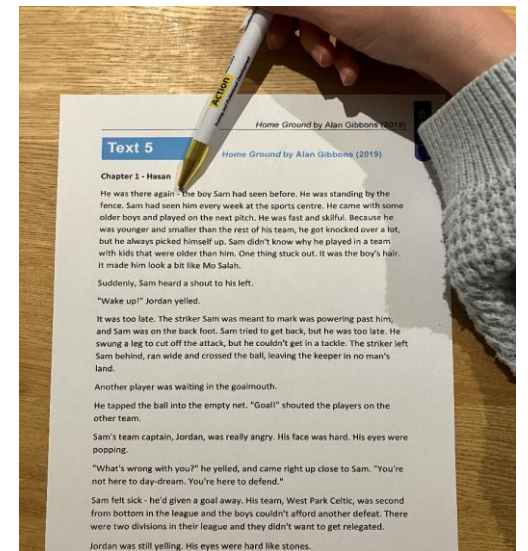
Assessing EAL learners at risk of dyslexia

Implications for assessment: checklist

1. Did the child have **difficulty** acquiring language in their **mother tongue**?

2. Has the child had **sufficient opportunity** to develop language and literacy skills in their second language?

3. To what extent is the L2 learner's development **typical** in relation to an **appropriate reference group** (e.g. other children with the same mother tongue)?

Muter (2021)

Types of assessment

Screening for literacy difficulties

- EAL students identified by teachers as struggling with literacy.

- Complete:
  - One or two **phonological awareness** tests (e.g. Blending and Phoneme Elision from CTOPP2)
  - **Letter knowledge** test

- Students who perform poorly are monitored and/or receive **targeted** small group support.

(Muter, 2021)

Exam arrangements

- Students who may need test/exam concessions, e.g**. extra time.**

- Compare:
  - **Free writing** speed by completing two pieces of writing – one in English and one in L1 (e.g. DASH)
  - **Rapid naming** – ask the student to name in English and L1 (e.g. CTOPP)

- Results in L1 cannot be used as standard scores.

(Castiglione, 2021)

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Full Diagnostic Assessment: Background

- Background has a **heightened role** in EAL assessment.

- Compile a linguistic profile, including:
    - **Exposure** to different languages at different **ages/stages**, e.g.
        - **Less than 7 years exposure** – impact on syntax, vocabulary and comprehension
        - **First exposure after 7 years old** – impact on phonology and pronunciation
    - Frequent geographical **relocation**
    - Opportunities for family **reinforcement** of languages spoken

SASC (2019)

Are the difficulties you experience in your first or dominant language the same as your difficulties in English?

A **rating scale** can be helpful:

For example:

How would you rate your abilities? (1-5)

1= very good….5 = very poor)

	Language 1	Language 2	Language 3	Language 4
Reading				
Writing				
Spelling				
Listening and understanding				
Oral fluency				

Have you learned any other language beside English, as a foreign or additional language?

Did you have any difficulties learning this additional language?

Have you ever had an assessment for dyslexia/dyspraxia in another language i.e. not in English (usually the first language)?

What was the outcome?   Do you have a copy of the assessment?

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Full Diagnostic Assessment: Tests

- Measures of cognitive processing (e.g. phonological awareness, verbal memory and processing speed) may be **less susceptible** to linguistic and cultural influences than tests of literacy attainment (SASC, 2019).

- Reliability and validity of test performance:

PHAB2
- Validity study comparing performance with EAL and monolingual learners.
- Little differences in responses to subtests.
- May be used as a valid and reliable measure of phonological skills, irrespective of L1.

WRIT
- L2 learners may struggle with a verbal reasoning test owing to English vocabulary knowledge.
- Non-verbal reasoning tests may be unfamiliar in some cultural contexts.
- Indicate vocabulary knowledge and visual/spatial skills rather than 'learning ability' (Kelly & Phillips, 2012).

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Full Diagnostic Assessment: Influence of L1

Characteristics of dyslexia	Possible EAL factors
Reversals (e.g. letters, words) Directionality (e.g. tracking difficulties when reading)	• L1 script may be read right to left (e.g. **Urdu**).
Omissions of parts of words	• Endings could be missed due to L1 interference (e.g. glottal stop in **Chinese**).
Vowel confusion	• No written form of a short vowel (e.g. **Arabic**). • **Polish** distinguishes 8 vowels (no diphthongs) whereas English distinguishes 22.
Consonant confusion (e.g. voiced/unvoiced)	• Many Asian languages do not have voiced/unvoiced consonants (e.g. /p/ and /b/ are both voiced and not distinguished by sound in **Panjabi**). • Final voiced consonant may be devoiced by **Polish** speakers (e.g. 'bet' for 'bed').

Sources: Kelly and Phillips (2012); British Council (2014)

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Full Diagnostic Assessment: Influence of L1

This project and its actions were made possible due to co-financing by the European Fund for the Integration of Third-Country Nationals

BRITISH COUNCIL

EAL Nexus resource

Language information

Polish

What may be new, unusual or difficult for Polish speakers when learning English

Phonology

The phonology of Polish is significantly different to the phonology of English. Therefore native speakers of Polish may have the following problems when acquiring English:

- The penultimate syllable of Polish words carries the stress, Polish learners of English might apply this rule to English and mispronounce words. They also tend to find stress-shifts in words like political and politics, politician difficult.
- Not being used to linking consonants to vowels in a sequence of words, Polish speakers tend to speak English in a more staccato way, pausing after each word.

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Full Diagnostic Assessment: Converging evidence

- Sufficient **converging evidence** for SpLD, as opposed to difficulties only with **literacy**.
- Impact of dyslexia on test performance **outweighs** the impact of linguistic and cultural factors.

Key 'risk' factors	Key 'confounding' factors
• A history of difficulties in first language(s). • Additional support during school / a previous assessment. • Family history of similar difficulties. • Slow / inaccurate reading, spelling and /or writing. • In logographic languages e.g. Chinese/Japanese, difficulty learning the phonology of these languages and/or particular difficulty remembering the pictorial scripts. • Significant underlying difficulties in auditory and /or visual processing speed, phonological awareness and / or 'working' memory. • More than seven years' exposure to English but persistent difficulties.	• English not learned until age 5+. • Less than 7 years learning English. • A very complex linguistic history. • Disrupted education / poverty / refugee experience. • No or limited recognition of SpLDs in the student's home country. • Very high levels of family/tutorial support. • Most errors on literacy tests (e.g. reading accuracy, spelling accuracy, writing fluency and accuracy) attributable to L1 'interference'. • Preference for science/maths subjects over humanities subjects. • Cultural issues in test administration.

SASC (2019)

To conclude…

- Research has found that there is a common set of cognitive processing difficulties that underpin dyslexic across languages, but the behavioural manifestations may differ.

- Ways to support L2 learners with literacy difficulties/dyslexia:

  - Universal: multisensory teaching, tier 2 words

  - Targeted: choral reading, reading strategies

  - Specialist: phonological awareness training, paired reading

- Approaches to assessment for L2 learners (at risk of dyslexia):

  - Consider multilingual checklist

  - Screening: phonological awareness, letter knowledge

  - Exam arrangements: free writing, possibly rapid naming

  - Full Diagnostic assessment: background information, test reliability and validity, influence of L1, converging evidence

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