

UNIVERSITY OF
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Dyslexia and literacy difficulties in multilingual contexts

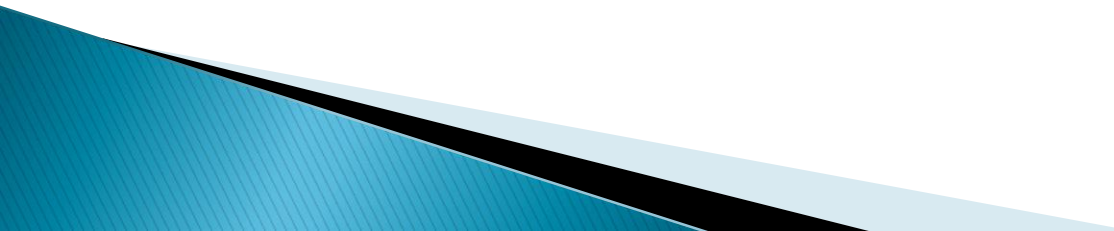
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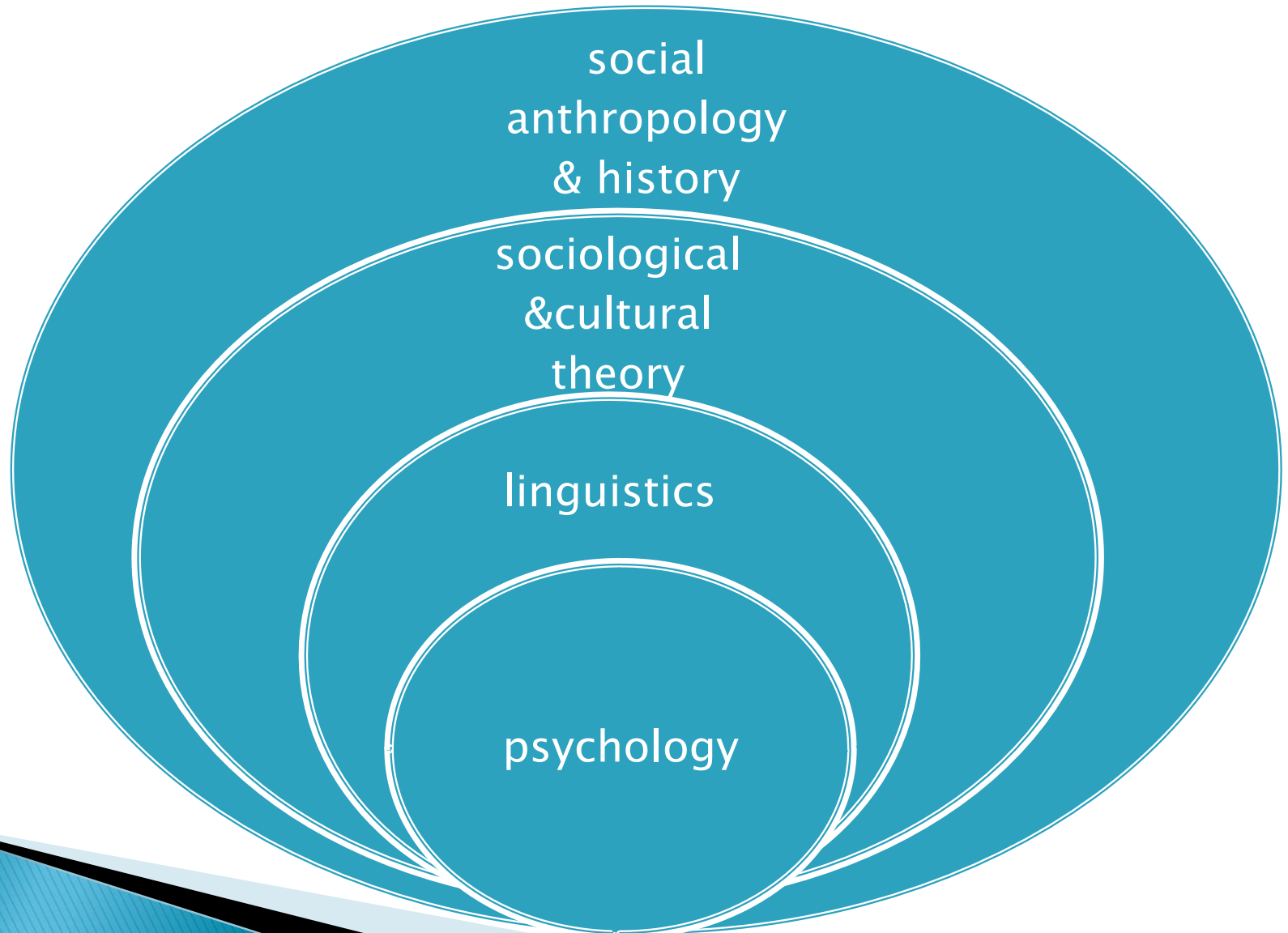
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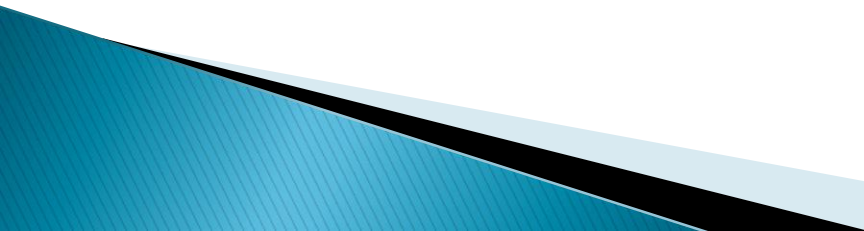
NALDIC conference 19 November 2011

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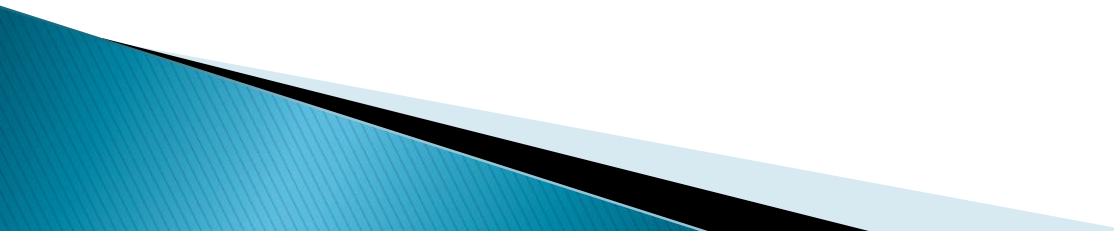
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Dyslexia is a regionalised field of enquiry
(Rassool 2002: 34–35)



- ▶ Educational practice :psychological knowledge of processing language and orthography;
 - ▶ Linguistic knowledge: forms &structures of text;
 - ▶ Socio-cultural knowledge: situated meaning making, activities carried out around literacy and (in)equity of distribution of literacy knowledges,
 - ▶ Critical anthropological knowledges: empowerment and subordination of some languages, literacies and literacy practices, and the impact on agency and identity.
 - ▶ (Rassool 2002, Hornberger 1989, 2000)
- 


Where does the problem lie?

- ▶ Psychologically: in the individual
(deficits biologically, cognitively,
linguistically)
 - ▶ Socio-culturally: ineffective teaching of
literacy skills
 - ▶ Anthropological-socially: education policies
for dominant monolingual language & literacy
 - ▶ Or all of them
- 

Two views of literacy

- ▶ Autonomous technical perspective
- ▶ Socio-cultural and critical anthropological view

Traditional psychological approach constructs literacy as

- ▶ a learnt set of ‘autonomous’ cognitive skills,
 - ▶ a cognitive tool which can be applied to all scripts,
 - ▶ literacy is a homogeneous entity,
 - ▶ not dependent on social, cultural or language context.
-
- ▶ the dominant approach to research on development and difficulties in reading, spelling and writing.
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Research base

- ▶ Pre-literate children who had phonological awareness, showed metalinguistic awareness of speech sounds and syllable formation in words, went on to be more successful readers than their peers who did not have phonological awareness (Bradley and Bryant 1983).
- ▶ This approach has become the basis for policy on literacy teaching in the UK and USA, literacy curricula emphasise the development of phonological awareness to facilitate phoneme-grapheme correspondence skills and orthography skills and knowledge.

Bilingual research base

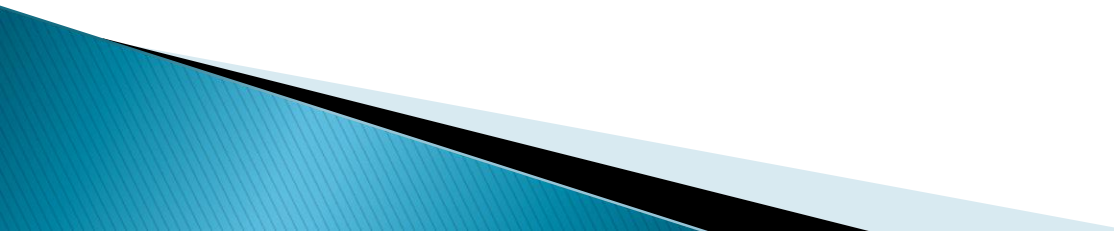
EAL and literacy development

- ▶ Preschool /primary school bilingual children perform similarly to, and often better than, their monolingual peers on pre-literacy and literacy tasks (Bruck & Genesee 1995, Campbell & Sais 1995, Frederickson & Frith 1998)
- ▶ Bilingual languages and literacies are cognitively *interdependent* (Bialystok 2001, Cummins 1984, 2000).
- ▶ Learning and cognitive skills are transferrable across languages and literacies, for example, words and letters with the same orthographic representation across languages are read in either language by young bilingual learners (Durgunoglu et al 1993)

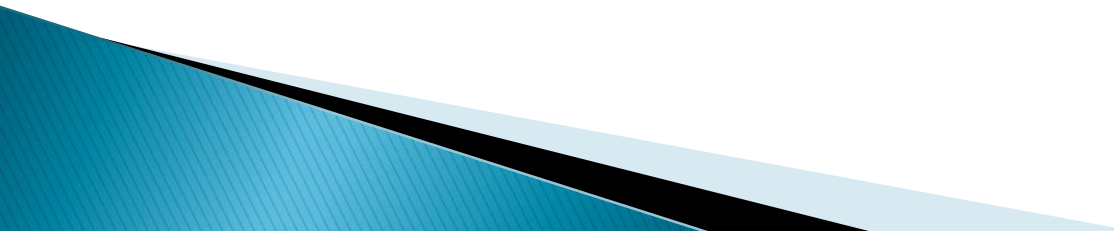
▶ However.....

- ▶ The international study, 'Programme for International Student Assessment' (PISA, OECD 2001), looked at language spoken at home and achievement levels on reading literacy, mathematical literacy & scientific literacy.
- ▶ In the UK, students who did not speak the language of assessment or other national language were nearly twice as likely to be among the lowest 25 per cent of performers in reading skills, than those who spoke the language of the assessment most of the time (OECD 2001, West & Pennel 2003).
- ▶ Similar findings have been identified in the USA. Two major studies have examined reading in schools in the USA (Snow 1998, 2002)
- ▶ In the UK it is an area of increasing interest in policy and practice it remains largely under-researched
 - (Soler, Wearmouth and Reid 2002)

What do these findings suggest?

- ▶ Language proficiency influences learning literacy skills (reading, spelling, writing)
 - Language of assessment influences the measurement of literacy achievement
 - Relationship between EAL language proficiency and literacy in bilingual children is an under-researched area
- 

Dyslexia is a 'flaky' concept

- ▶ What is the difference between 'common or garden' reading difficulties and dyslexia?
 - ▶ Where do difficulties with reading, spelling and writing end and dyslexia begin?
- 

- ▶ *Dyslexia* usually refers to difficulties with print and literacy skills– usually reading and spelling, and writing difficulties may also be involved or identified separately as *dysgraphia*.
- ▶ Dyslexia may include numeracy difficulties or they may be referred to separately as *dyscalculia*.
- ▶ The majority of education psychologists in UK prefer the term *Specific Learning Difficulties* (SpLD), includes a spectrum of needs.
- ▶ In the USA specific learning difficulties in literacy are called *Learning Difficulties* (LD) and contrast with global learning difficulties which are called Mental Retardation (MR)


Associated difficulties

- ▶ Speech & language disabilities (Stackhouse & Wells 1997)
- ▶ higher level difficulties in social language use (Asperger's syndrome)
- ▶ Dyspraxia: motor co-ordination difficulties; fine motor co-ordination difficulties; major handwriting difficulties;
- ▶ Numeracy difficulties –not understanding how the number system or place values work (Simmons & Singleton 2007)
- ▶ Attention Deficit & Hyperactivity Disorder, ADHD
- ▶ low self-esteem and social, emotional and behaviour difficulties (Riddick, Sterling, Farmer & Morgan 1999, Alexander-Passe, 2006).

Language disabilities and dyslexia

- ▶ Difficulties learning grammatical language (Specific language impairment, SLI) and dyslexia are distinct, but
- ▶ potentially co-occurring
- ▶ Speech difficulties may co-occur with dyslexia
- ▶ Difficulties in phonological processing are closely associated with dyslexia
(Catts, Adlof, Hogan and Ellis Weismer 2005).

Two core difficulties:


1. Auditory phonological processing difficulties
 2. Visual orthographic difficulties (print)
 - ▶ Learners experience similar literacy teaching experiences but do not progress as their peers do
 - ▶ Definition of dyslexia excludes discrepancy between verbal and non-verbal IQ
- 

Auditory phonological processing difficulties

- ▶ the *phonological deficit hypothesis* concerns
 - phonological processing and
 - speed of processing language
 - automaticity

(Stanovich and Seigel 1994, Yopp 1992, Snowling 2001)

Phonological awareness: metalinguistic knowledge

- ▶ knowledge in processing phonological information is shown in segmentation skills
 - ▶ segmenting phonological representations of words by syllables & speech sound sequences
 - ▶ does not concern the meaning of words
 - ▶ speed of processing auditory language may also affect spoken class language work
- 

Segmentation tasks

- ▶ Eg Tapping out each syllable
- ▶ Tapping out each sound
- ▶ Separating first / last sound in a single syllable word
- ▶ Changing the first/last sound of the word in a single syllable word
- ▶ Rhyming

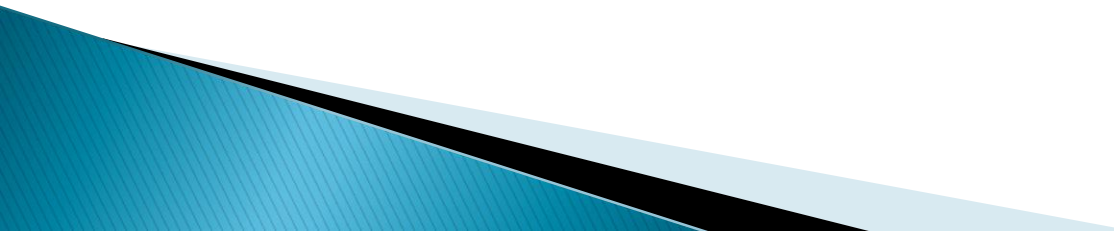
Accessing, retrieving, manipulating the speech sound segments in the word

Multilingual contexts

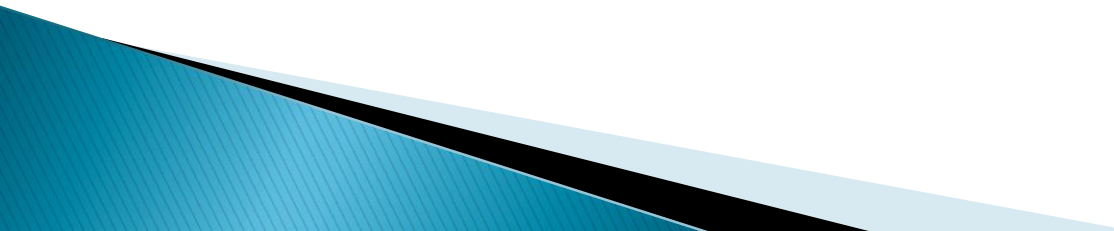
- ▶ non-linguistic cognitive skills are needed for manipulating word level phonemic information
- ▶ phonological processing difficulties are thought not to be language-specific

So information processing difficulties affect the child's skills across languages

- ▶ ‘Learning to read’ and ‘developing phonological awareness’ have a reciprocal relationship
 - ▶ ie each improves the other

 - ▶ EAL learners learning to read in English improve their PA in English
- 

Orthography: problems with print

- ▶ phoneme–grapheme correspondence
 - ▶ The Alphabetic Principle
 matching the speech sound to letter(s)
 - ▶ Most research has been done in English & languages with orthographies
 - ▶ Increasing research done with logographies
- 

Shallow and deep orthographies

Shallow: alphabetic principle
phoneme–grapheme correspondence

- ▶ Deeper orthographies:
additional visual learning demands:
 - (in)consistency in English /f/ is spelt f, ph, gh
 - redundant letters (in English ‘k’ and ‘e’ in knife).
 - English orthography has a strong showing of both these factors (Goswami 1992)

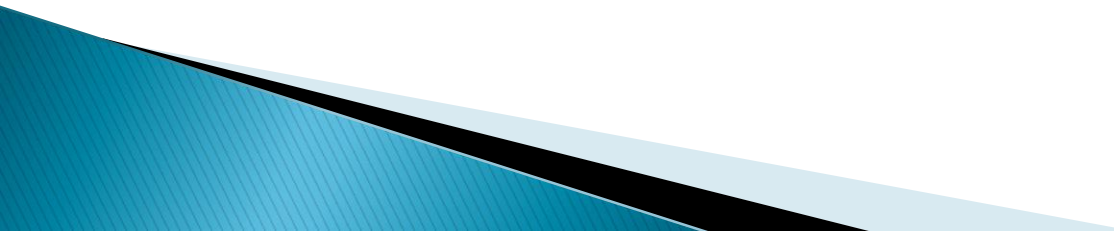
EAL learners take longer to learn:

- ▶ Phoneme – grapheme correspondence and
- ▶ additional visual learning demands

(Cline and Frederickson 1999)

How could this finding be explained?
and improved?

Difficulties in reading comprehension

1. Some learners learn grapheme -phoneme correspondence
 - ▶ But do not understand what has been read
 - ▶ 2 levels of analysis of reading for meaning are analysed in research:
 - ▶ 2. word level meaning,
 - ▶ 3. meaning of language form
- 

1. 'barking at print' (hyperlexia)

'decoding' reading skills develop in advance of sense and meaning making.

A study of 8 year old bilingual EAL learners in the UK explored their understanding of short texts that had been read to them (Nelson 2006).

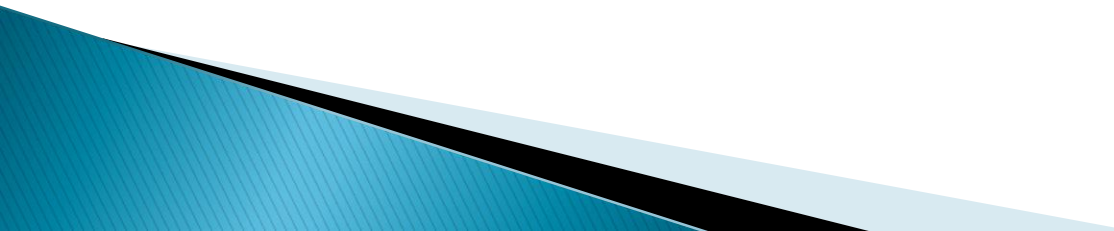
Misunderstood texts <- misunderstanding vocabulary
eg, 'matchstick men' = 'firemen'

2. Word level meaning

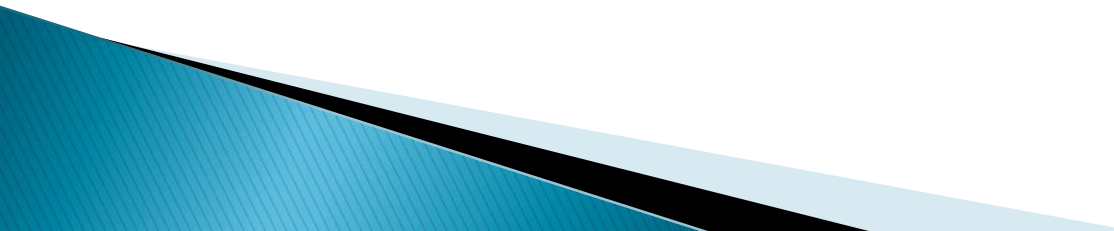
- ▶ Difficulty with polysemy in EAL, suggesting that language and literacy were still limited tools for learning/thinking after 3–4 years of English schooling

(Cummins 1984, Thomas and Collier 1997)

3. meaning of language form

- ▶ Older learners with dyslexia have a substantial sight vocabulary but they decode unfamiliar specialist words
 - ▶ at the expense of making sense and meaning of the wider text, such as the main idea in a paragraph, making predictions, identifying implications or understanding inferences (Goldfus 2001).
- 

Speed of processing print

- ▶ Speed of processing print is recognised as an issue affecting word level reading comprehension (Stringer and Stanovich 2000).
 - ▶ reading new texts for curriculum learning, is a particularly slow, demanding and tiring procedure.
- 

Literacy difficulties in older learners of EAL/FL

- ▶ Learning literacy skills for additional languages can be interpreted as a cause of dyslexia.
- ▶ The joint emergence of dyslexia-type difficulties with late second language learning often leads to *blaming bilingualism* for the difficulties.

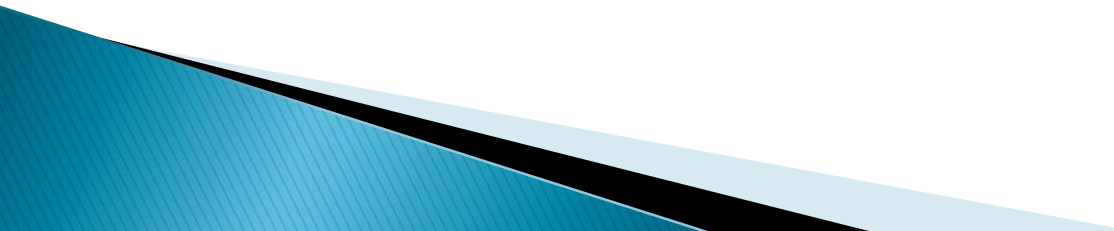
Linguistic Coding Differences Hypothesis

- ▶ Weaknesses in processing L1 also transfer to L2 /FL at all language levels (phonology/orthography, grammar, vocabulary) due to linguistic interdependency between languages for both understanding and expression
- ▶ A hierarchy of vulnerability of processing skills in L2 phonology/orthography processing skills, grammar and syntactic processing skills. Semantic processing skills are least likely to be affected.
- ▶ Strong emotional response through loss of confidence, leading to a negative attitude to L2/EAL/MFL learning. A consequence of identified linguistic processing weakness rather than the initial cause of poor L2/EAL/MFL performance. They need personal & pedagogic support.

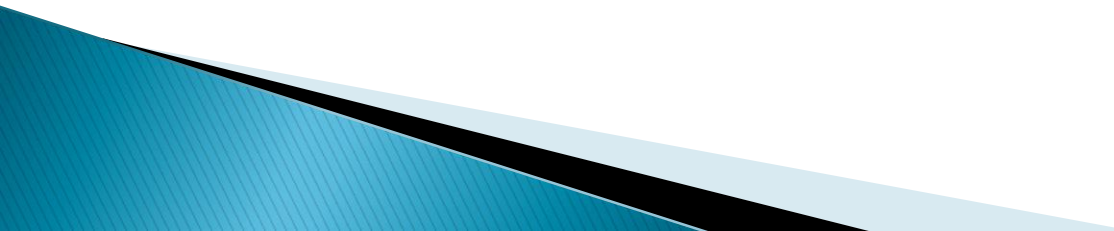
(Ganschow and Sparks 1993)

Assessment

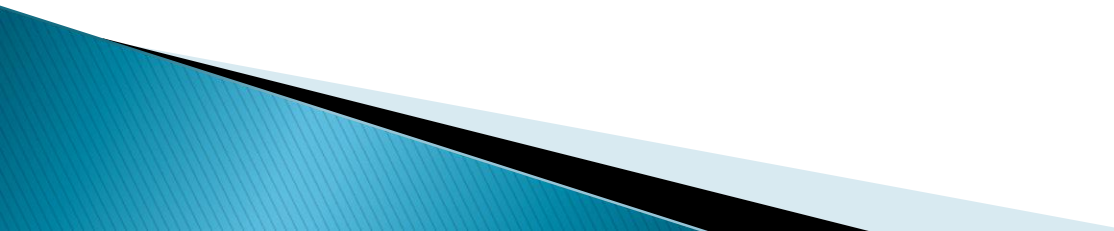
Testing focuses on

- ▶ phonological processing
 - ▶ the Alphabetic Principle
 - ▶ Reading at word level for accuracy and comprehension
 - ▶ Reading at text level for accuracy and comprehension
 - ▶ Spelling and writing at word and text level for accuracy and comprehension
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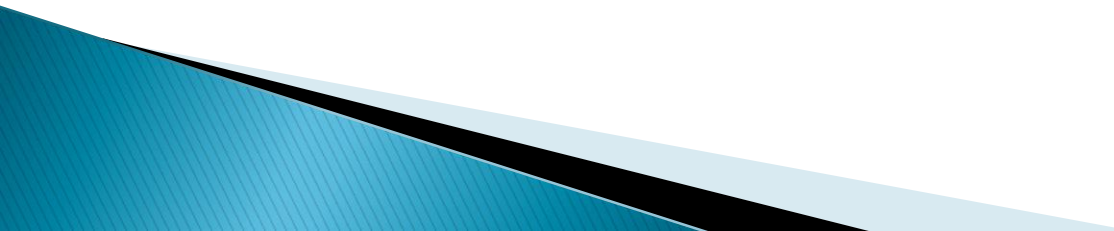
Assessment

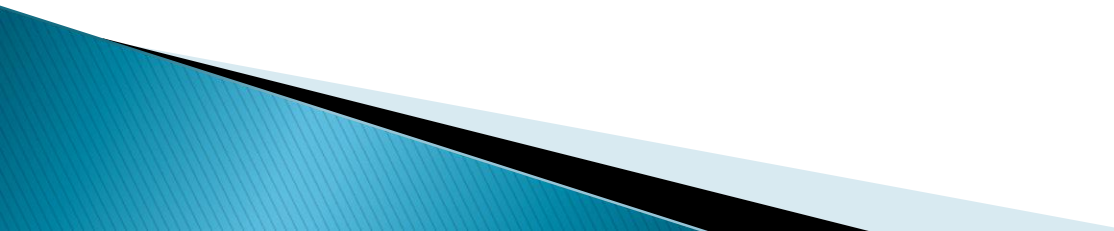
- ▶ To test for dyslexia requires specialist qualifications at different levels
 - ▶ In English only, in England
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Implications for interventions for EAL students

- ▶ Language policy context for education: English
 - ▶ Tendency to conflate bilingual EAL learners with learners with SEN for literacy skills work (Gillborn & Youdell 2000)
 - ▶ Developing multilingual literacy pedagogies is an under-researched area
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Implications for bilingual interventions

- ▶ One approach uses Vygotskian method:
Encourage students to use the language they prefer to develop their understanding and thinking of a text read in English;
Re-read the text in English
Answer questions in English
Write answers in English
- 

- ▶ Another approach uses Vygotskian method:
 - ▶ Building on verbal language skills:
 - ▶ Developing sequencing skills (multisensory)
 - ▶ Using verbal narrative (story telling) skills
 - ▶ Using verbal skills to develop expository language for curriculum work
- 

Implications for bilingual /EAL interventions

- ▶ Build up EAL language skills: eg. polysemy

EAL language skills for curriculum literacy
language focused teaching (morphology),
phonological awareness teaching,
reading and writing pedagogies

Graduated time with texts (effortful
reading/writing)

Personal and pedagogic support

Collaborative work with dyslexia specialist
and SLT for integrated support

Intervention programmes

- ▶ Multisensory programmes (early school years)
- ▶ Eg Cumbrian Intervention programme (Hatcher et al 1994)
- ▶ PhonoGraphix (McGuinness & McGuinness 1998)

Whole School approaches (Dyslexia friendly school)

Materials (eg Word Shark)



Conclusions

- ▶ The main approach to understanding literacy skills is through a cognitive –linguistic view
- ▶ It is the main approach to understanding difficulties learning literacy skills
- ▶ Assessments and interventions are based on this approach
- ▶ English is emphasised although multilingual approaches show languages are interdependent
- ▶ Critical social and cultural approaches offer more possibilities to include multilingual literacies in education
- ▶ Studies for multilingual literacies development is under–researched for difficulties learning literacy skills