

## Multilingualism and Dyslexia

There are many concerns for the trainee classroom teacher, and dyslexia in the multilingual population is usually not high up on the priority list. It is often perceived as being too difficult to identify and provide support for these children. But this need not be the case. This article will attempt to show that the issues are not as complicated as many claim, and that it is easy to provide some level of support in the mainstream classroom.

To do this, we shall ask a simple question.

*The European Dyslexia Association claim that up to 10% of the population is dyslexia. So if there are 900 Somali children in primary school in Ealing, where are the 90 dyslexic Somali children?*

To address this provocative question, we can break it down into a series of issues that need to be addressed. If we can answer these questions, we can also answer all those related to the identification and support of dyslexic students of all cultural and language backgrounds. But to provide a realistic context, let us start with some case studies.

### Case studies

Rajendra was born in Leicester, UK, talks Gujarati (an Indian language) at home and in the playground. However, he is showing difficulty learning English literacy skills compared to his (Gujarati speaking) peers. An assessment suggested he had a difficulty with phonological awareness, i.e. he did poor in rhyming and alliteration tasks.

Jose moved from Mexico to the UK at the age of 9 and has been living in the UK for some two years. He showed no literacy difficulties in Spanish, his mother language, but compared to others in a similar situation he was struggling with English literacy. In particular, Jose was using letter-to-sound conversion rules based on those learnt in Spanish. Given the relatively regular form of the Spanish orthography, these rules supported learning of Spanish literacy but were failing him in English.

A third example is Sai, now aged 15, who was born in Hong Kong and speaks Chinese (Cantonese) as his first language. He went to England aged 11, and, although in a top English school for four years, his spelling and reading failed to improve sufficiently to ensure his academic progress. He had full English language support, but his reading and writing did not appear to be advancing as quickly as other first language Chinese speakers. The concern was that he may be dyslexic.

These three cases offer us a chance to identify and address the main questions, which are:

- 1) What is dyslexia?
- 2) Is the percentage quoted by the EDA correct?
- 3) Does the claim hold true outside European languages?
- 4) How do you identify and support a dyslexic Somali child in a school in England?

### What is dyslexia?

Despite years of research, mostly in the English language, there is still no consensus on the definition of dyslexia. However, there is a current dominant view (see for example Stanovich, 1988) which argues that the cause of the educational difficulties faced by dyslexics at least in the English language centre around core difficulties in phonological skills and word decoding skills that may be related to deficits in processing novel letter string (eg, Rack et al, 1992). However, cross linguistic studies (eg, Smythe and Everatt, 2000) and research in languages other than English (eg, Wimmer, 1993; Ho and Lai, 1999) suggest that this may be insufficient to identify the cause of literacy difficulties in children in diverse language contexts.

To provide a focal point for discussion, the following symptom based definition (rather than a more controversial causal definition) that encompasses the main points will be used:

*Dyslexia is a difficulty in the acquisition of reading, writing and spelling that is neurological in origin.*

This captures the full spirit of the definitions of the Health Council of the Netherlands (see Gersons-Wolfensberger and Ruijsenaar 1997) British Psychological Society (1999) and the International Dyslexia Association (2006). It also works well in all languages. Central to the definition of dyslexia is the term "difficulty in the acquisition". In UK, the assessor (usually an educational psychologist, though a well trained teacher or SENCO could carry out much of the testing if appropriately trained) bases their evaluation on the assumption that the monolingual child has had an opportunity to go through an education system that provides the background necessary for the acquisition of reading, writing and spelling, i.e. an appropriate phonics based and related teaching, as described in the National Literacy Strategy. However, with the multilingual child who is new to UK education, such assumptions cannot be made, irrespective of their apparent literacy skills and years spent learning English.

But the key question is do you need a label to support these individuals? The label is (usually) irrelevant since no additional support will be provided. But we know that if the child does not have the fundamental phonics skills they

will have problems with literacy acquisition. If a child is dyslexic and has difficulty in phonological analysis, then you provide the teaching to help them improve those skills. If you do not know if they are dyslexic, but you do know they have a difficulty with phonological analysis, it is that skill you teach them. So it is the specific difficulties that are important, and not the label. Furthermore, the resources can be the same, as can the method of instruction. What differs is the rate of acquisition. (This is not to deny the need for appropriate teacher training.)

### **Is the percentage quoted by the EDA correct?**

There are many different claims as to the percentage of individuals who are dyslexic. Many governments will accept that as many as 10% of the population may have a specific learning difficulty called dyslexia. Many do not address it, some put it under “intellectual disabilities”, while others have more important issues to address. Twenty years ago the claims were for 4% of the population being severely dyslexic. Many organisations claimed it to be higher in order to increase the attention it is given and thereby to increase funding. But even at 4%, this means at least one child in every classroom. And 4% of the 900 Somalis still gives us 36 dyslexic Somali primary school children to find!

### **Does the claim hold true outside European languages?**

Put another way, is there dyslexia in every language, from English to Chinese, via all the languages and scripts in between? The answer is yes, and simple to demonstrate. Most people are happy to accept that in any classroom in England there will be some children who have difficulty in acquiring reading and writing skills. This is normal neurological variation, and in the same way that individual variation means that because we know how tall somebody is, we are not sure of their shoe or glove size, so the different parts of the brain grow slightly independently due to a variety of factors including genetics (and the learning environment). These small variations are enough to have an impact on literacy acquisition, and cause problems that may in some cases be referred to as dyslexia. These biological and neurological variations are universal, and provided we accept that, we can accept that there are dyslexics in every country and every language.

The corollary of this is that it is possible to be (notionally) dyslexic in one language but not another, sometimes referred to as differential dyslexia (Smythe and Everatt, 2002). That is, the dyslexia may not have a major impact in the acquisition of the first language, but may cause significant problems in the second language. This idea of “differential dyslexia” has been reported in a number of studies. For example, Klein and Lee (1972) showed that while most children in their cohort learned both English and Chinese with no problem with either language, some had trouble with Chinese, but not with English, whereas others had difficulties with English and not Chinese. Further examples include a study of a child (Wydell and Butterworth, 1999) who was said to be dyslexic in English (first language) but not in Japanese, and Miller-Guron and Lundberg (2000) reported on individuals who could learn to read and write in English relatively better than in Swedish, even though Swedish was their first language. These results are not a function of language exposure but the way that dyslexia manifests itself in different languages, demonstrating that a given underlying weakness may cause difficulties in one language but not another. However, it is important to remember that other dyslexia traits (see any dyslexia checklist – for example on the website of the British Dyslexia Association [www.bdadyslexia.org.uk](http://www.bdadyslexia.org.uk)) will appear no matter what the language since the underlying cognitive deficits, e.g. memory, impact not only upon the literacy skills but across the board.

### **How do you identify and support a dyslexic Somali child in a school in England?**

Cline and Shamsi (2000) noted four key questions to ask when assessing a child. These are:

- 1) What is the purpose of the assessment?
- 2) What information is required for that purpose?
- 3) What methods will provide that information?
- 4) How will the results be interpreted and used?

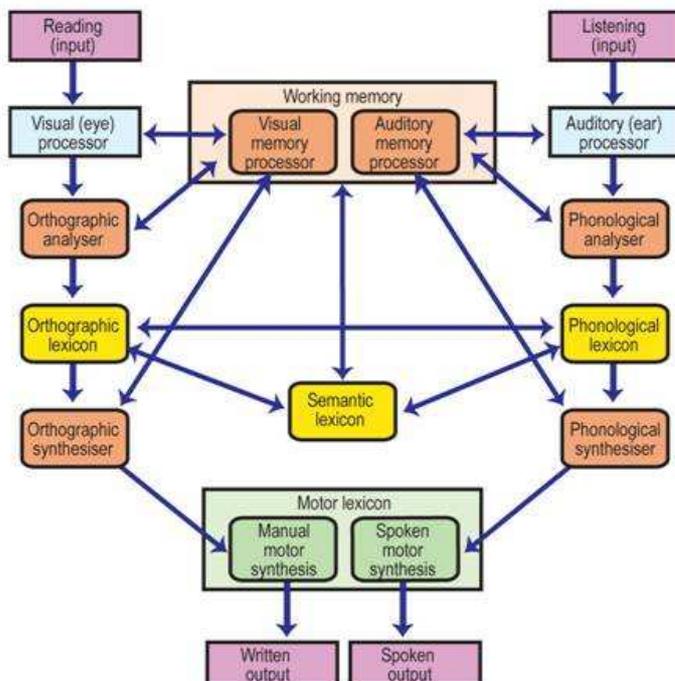
This may be answered in this context as follows:

- 1) To understand why the child is failing to advance.
- 2) Identification of key cognitive deficits that may impede literacy development
- 3) Tests that assess cognitive skills important for literacy acquisition, in particular phonological awareness and phonics skills
- 4) To develop the Individual Education Plan.

Much of the teaching of multilingual dyslexics is about the need to return to basics, identifying what can and cannot be done by the pupil, and working on the areas that will raise literacy skills, based on a firm foundation. There are many resources one can turn to for references, materials and training for helping dyslexic individuals, and the support of the multilingual individual is not so very different from helping the monolingual individual, and therefore this will not be discussed here. The focus here will be on the discussion of how to understand why the child is failing to advance.

These difficulties behind failing to advance in literacy skills are easy to understand if you refer to a good model of the acquisition of reading, such as that presented in Figure 1 (Smythe, 2005). This provides a basis for assessment of cognitive skills, abilities, strengths and weaknesses, and consequently is also a guide to intervention and support.

Figure 1 – A model of reading



The model can be seen as consisting of four main areas:

- 1) Phonological system
- 2) Orthographic (or writing) system
- 3) Memory systems
- 4) Output

Frequently it is the deficit in phonological skills that is at the centre of the difficulties, at least in the early stages. There is considerable evidence in the research literature that shows these skills are not a function of age, but are a consequence of learning to read. For example, Morais et al (1986) demonstrated that illiterate adults do not automatically acquire phonological skills over time. Instead the act of reading supports the development of phonological skills as much as phonological skills supports the development of reading skills. However, there are different types of phonological skills, and their relative importance will be different in each language. For example, in English rhyming skills (i.e. using sound based analogies for word endings) appear to be important in literacy development in English, but less important in Hungarian (Gyarmathy and Smythe, 2000). Consequently both the non-dyslexic and dyslexic Hungarian child have poor rhyming skills. But the Hungarian child does require other skills. To illustrate the complexity of cognitive demands, consider the Hungarian for at 'risk of dyslexia' is "diszlexiaveszélyezetttség". An individual will need not only an understanding of grapheme-phoneme correspondence rules but also cognitive resources in the areas of phonological short term memory, auditory perception and phonological discrimination to spell this word correctly. Fortunately for the Hungarian child, a good knowledge of underlying morphemes and grammar makes the task less difficulty than it may seem at first.

The difficulties of a child who is expected to learn to read in a language different from their first language may be affected by the age of first hearing and using the language (Pinker, 1996). and consequently some spelling errors may be attributable to the failure to perceive certain sounds. Examples of this are the Spanish child's difficulty in hearing the difference between /p/ and /b/ (eg, differentiating 'nib' and 'nip'), the Japanese speaker's difficulty with confusing the sound of /l/ and /r/ (eg, 'lap' and 'rap' confusions), and the problems that someone speaking Gujerati may have with distinguishing /f/ and /v/ in spoken language ('van' and 'fan', for example).

Therefore, as the model suggests, the EAL student may need to be explicitly taught the phonological skills required in English in order to develop good English literacy skills. Learning a language that uses many of the same skills may ease the learning process, but it may still be important to ensure that the phonological analysis system works effectively at the appropriate level (e.g. syllabification and rhyming) and the phonological lexicon (or sound based word bank) is appropriately filled with the sounds (e.g. syllables, phonemes and rhymes) that are relevant to the English language.

The orthographic system is usually less problematic since the visual analysis and synthesis skills are more automatic, with millions of years of evolution to help where survival is at least partly dependent on being able to analyse and synthesis what is seen. All that is required is to adapt the analysis to the specifics of a written language system. But that is not to ignore the necessity to test skills, to teach, to practice, and to reinforce writing skills. Even if the first language uses a Latin script, while the orthographic system may be effective at the single letter level, in the English language we also use larger orthographic units (and the respective connections to the phonological system) when reading quickly and when attempting to read new words and these skills may need further development. (Consider for example, how you would pronounce the word “pight” – we use orthographic analysis to identify the unit “-ight” and its respective sound.)

Memory is necessary for many aspects of language learning, and is not a skill that is acquired. However, structured, sequential multisensory language teaching can assist in the process of learning, making the memory demands smaller, and learning easier. The skill of the teacher is to match the demands of the language learning to the limitation of the individual, developing personalised strategies to overcome memory deficits in any one area.

Finally the output system needs skills to be acquired and practiced in the English language, whether it is handwriting, keyboard based or spoken components. Considerable emphasis should be placed on clear articulation at all the different levels, from saying aloud the syllables, to synthesising words and word segments (e.g. p-ight).

This is not to suggest that the model is the answer to all aspects, but it does provide a clear understanding of the principle underlying cognitive components, their relationships, and how each is important in teaching English to the EAL student, whether or not they are dyslexic.

Finally, teaching materials for helping the dyslexic individual can also be used with the multilingual dyslexic child if used with due care and attention to their language and educational background (for example of suitable materials see Reid, 1996; Pollock and Waller, 1996). The specifics of what to teach, what resources to use and how to teach will be dependant upon the understanding of the difficulties of the individual, and the development of an appropriate Individual Education Plan. But while much of the necessary support can be given by the mainstream classroom teacher the need for specialist knowledge should not be ignored. Full support is dependent upon their clear understanding of the difficulties, and the knowledge of the teacher of how to teach these individuals. As Lyon et al (2001) noted “What is clear is that teachers must be provided the critical academic content, pedagogical principles, and knowledge of learner characteristics that they need in order to impart systematic and informed instruction to their students.” (p280-281).

## Conclusions

To put this all into context, let us revisit the case studies:

The problem for Rajendra was the difficulty with phonological skills. This was easily overcome by some additional support in areas such as rhyming, phoneme identification, and some support on correct pronunciation. His rapid progress clearly indicated he was not dyslexic, as his problems were due to a lack of practice and not “a difficulty in the acquisition”.

The full assessment for Jose showed that his over-reliance on sound-letter conversion rules was due to an underlying weakness in phonological and orthographic processing rather than was due to a difficulty in changing to a new learnt strategy. Continuous monitoring suggested he had a “difficulty in the acquisition” of these new skills, and that his difficulties were consistent with somebody who is dyslexic. His difficulties were not identified while learning Spanish literacy skills since the deficits areas (e.g. rhyming and orthographic analysis) are not required until much later in the Spanish language.

An assessment of the cognitive abilities and level of attainment of Sai showed that he had failed to develop adequate phonological skills. This manifested itself as a difficulty in decoding new words and his ability to spell by analogy (eg spelling “hink” using its similarity to “link”) was poor. However, when two of his peers (i.e. pupils of the same age and similar language learning background) were also tested, they had very similar results in the tests that look at the abilities and skills with respect to phonics (e.g. non-word reading and non-word spelling). Put another way, if there was no other information available, many would have suggested all of them were dyslexic. However, the problem arises because they came from Hong Kong where teaching of English is less than optimal, and rote learning of spelling still plays a major role. Fundamental principles of phonics are largely ignored, limiting the opportunity for them to advance with their English peers. Their school in England had assumed that since these pupils had apparently been immersed in an English language learning environment for at least six years, they must have been taught the principles in the same way they are taught in the UK. The recommendation was to put all three through a phonics course starting from basics and carefully monitor their advancement. Improvement was rapid in all cases, but due to additional memory difficulties, Sai had “a difficulty in acquisition” that suggested he was dyslexic.

These cases highlights the need to not only look at the skills but also consider the speed to acquire skills in order to differentiate between a lack of exposure and “a difficulty in the acquisition”.

Of course there are many more questions that could be asked, such as working with parents, best resources etc. But the intention here is to show that with a good understanding of the issues, the mainstream classroom teacher can

offer valuable support and teaching. However, even if you do not have access to a full assessment of underlying skills, it does not mean you cannot attempt to identify at least some of the difficulties of the multilingual child. Based on extensive research, Geva and Woolley produced a checklist (cited in Smythe and Everatt, 2004) of Do's and Dont's for those assessing these multilingual children, highlighting the issues that need to be considered.

Do .....

- assess as many of the areas known to be related to dyslexia as possible
- assess in English and the home language where possible
- monitor progress and learning over time
- look beyond oral language proficiency
- provide direct instruction in reading skills
- provide language enrichment opportunities
- consider the transfer of specific skills from the first language

Do not .....

- wait or delay assessment until oral language proficiency has reached an "appropriate" level
- assume that word recognition and word attack skills are unimportant
- assume persistent language and reading difficulties will "catch up" if ignored
- seek to establish a discrepancy in order to justify a label of reading disability
- assume that persistent difficulties across-the-board merely reflect "negative" transfer from the first language
- use test norms based on the child's first language

All this clearly show that there is plenty that can be done for the dyslexic child with any language background, including the Somali child in Ealing.

#### Note

An overview of dyslexia in a number of languages (Portuguese, German, Greek, Hungarian, Polish and Romanian) as well as details of contacts in many countries can be found at <http://www.wdnf.info/international.php>

#### Contributing Author

Dr Ian Smythe

Dr Ian Smythe looked at cognitive difficulties in those with difficulties in reading and writing in English, Chinese, Hungarian, Portuguese, Russian, Spanish and Welsh for his PhD. His more recent work on both multilingualism and dyslexia has involved working with governments, NGOs and researchers in diverse backgrounds; for example, resource development for teaching both English (to dyslexics and non-dyslexics) and Chinese, as well as providing teacher training in Hong Kong funded by the government of Hong Kong SAR. His current international projects involve development of resources (including computer based) for identification and support of literacy difficulties in over 15 languages. For further details, please contact Ian Smythe on [ian.smythe@ukonline.co.uk](mailto:ian.smythe@ukonline.co.uk)

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