

# Dyslexia REVIEW

[www.dyslexiaaction.org.uk](http://www.dyslexiaaction.org.uk) | Autumn/Winter 2011



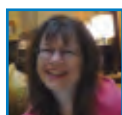
The Journal of The Dyslexia Guild

Volume 22 Number 3

## In this issue:



Reading  
Comprehension



Specific Language  
Impairment



Aptitude Achievement

**Dyslexia  
Action**

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Action**

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## Cover Photo

Lesley Burnett presents to Dyslexia Action Postgraduate students (see feature on Self Esteem page 12)

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# Editorial

**W**elcome to this edition of Dyslexia Review, which contains the keynote articles from our Summer Conference speakers as well as additional features. As autumn closes in around us and moves towards winter, it is often a time for reflection on the good things we have been part of during the year, (and those we need to improve upon of course!) and an opportunity to look forward to new initiatives in the coming year. Our next conference promises to be an equally enjoyable event and will be held in Nottingham in June 2012; diary dates can be found under Membership news. Our new look magazine has received much positive feedback in terms of format and the direction in which we are travelling. We still have much to do and welcome contributions that will help us to excel in the next series. Guild members who are inspired to write up their research or work experiences are most welcome to contribute to the magazine.

In this issue, we hear from those at the cutting edge of research; an important strand of learning that helps to inform our everyday work with those with dyslexia and specific learning difficulties. Dr Kate Cain's article on Reading Comprehension and Dr Chloë Marshall's article on Speech and Language Impairment highlight the excellent research currently being undertaken by our frontline university researchers. There is both practical application and underpinning academic research to draw on in the field of dyslexia and specific learning difficulties and it is good to see this encapsulated in the journal. Dr Steve Chinn bangs the drum for a clearer understanding of Dyscalculia. Lesley Burnett talking about Self Esteem has also proved to be a popular topic in the specialist education field and she provides a thought-provoking piece for readers here. The assessment feature in this issue is provided by Dr Barry Johnson from Dyslexia Action Assessment Services. Barry is a member of the SpLD Assessment Standards Committee, the standard setting body for the sector, which is also helping to shape the direction of assessment good practice.

We are particularly pleased to welcome a guest feature in this issue on The Village project in the USA, which provides an interesting insight and useful contrasting experience to the Dyslexia Action Partnership for Literacy Secondary Project also featured. The autumn harvest is indeed bountiful and I hope all our readers will enjoy it.

**Kathryn Benzine**  
Editor

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**It takes a village**

# Membership News

## Looking forward to 2012

**Jan Seabourne** reports on forthcoming Dyslexia Guild events.

### Summer Conference 2012

Following on from the very successful Summer Conference this year, we have been hard at work to find a venue with a larger capacity that still offers value for money to keep prices as low as possible for delegates. Our next conference will be on **Thursday 28th June** at the University of Nottingham, Jubilee Campus. The conference will contain the usual mixture of key note speakers, seminar sessions plus the opportunity to network over lunch or visit our exhibition area.

**A pre-Conference Dinner** is also being made available to members travelling the day before and staying over on the Wednesday evening. This will provide an additional opportunity for you to meet and network with colleagues. Easily accessed via the M1 or Midland Mainline, Jubilee Campus includes a host of additional facilities as well as free parking and on-site accommodation. If you would like a preview of the facilities, please see: [www.nottinghamconferences.co.uk/jubilee-campus/](http://www.nottinghamconferences.co.uk/jubilee-campus/)

**A CPD training day** will also be offered to members on **Wednesday 27th June**, at the same venue the day before the conference and further details of this event will be made available shortly. We will make all the details about bookings, catering, accommodation and sessions available as soon as we can but remember to save those dates in your diary!

### Membership Rates 2011/12

It is important that the Dyslexia Guild remains a valuable service and we have introduced a new pricing structure from the beginning of September that now includes a discounted rate of £35 for retired members and students. Just contact us if you believe you are eligible for this new rate. Students on Dyslexia Action Postgraduate courses will continue to get free membership for the duration of their course.

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**Exchange Building, Jubilee campus, Nottingham University**

# Dyslexia Action Centre Directory



**Cardiff Centre Staff:** From the left: Fiona Sengpiel, Elizabeth Lloyd-Williams, Chris Lacey, Ann Conway, Ros Williams, Sally Fowler, Diane Evans, Anne Rees, Janet Catrin James, Ann-Marie Coughlan-Allen.

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# Reading Comprehension Development and Difficulties

**Dr Kate Cain**, from Lancaster University Psychology Department provides an insight into the importance of reading comprehension and the difficulties that some learners experience.



**S**uccessful reading skills are essential for full engagement in today's society because, in addition to education and employment, a range of cultural and social activities – such as reading novels and newspapers, email and use of social networking sites - rely on the ability to efficiently and accurately assimilate information from text. An independent and successful reader must develop both adequate word reading and reading comprehension. The focus here is to review current knowledge of reading comprehension development and difficulties.

## What's involved in reading comprehension?

For skilled readers it can be difficult to reflect on the processes involved in reading, because it is a daily activity that typically requires little effort. An analysis of the following three sentence text serves to illustrate some of the key processes involved:

- Molly fetched the glass of juice.
- She tripped on the step.
- Mum fetched the mop.

To understand this text, the reader must retrieve the meaning of each word and combine these into meaningful units: noun phrases, clauses, and sentences. Beyond word decoding, vocabulary retrieval, and sentence understanding, additional processes are critical for successful comprehension.

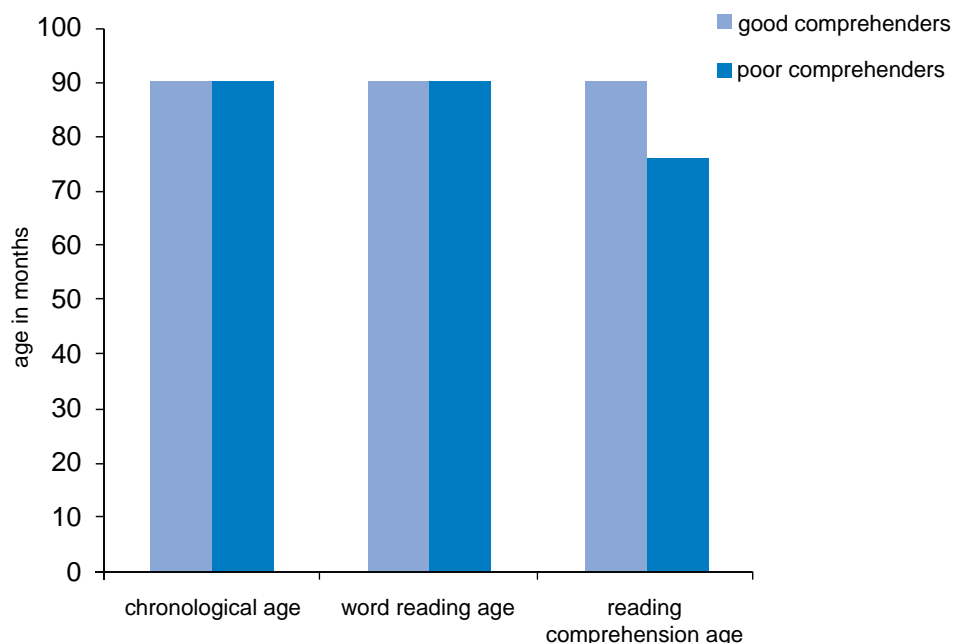
To understand reading comprehension, we must be mindful that reading typically concerns discourse: text that is longer than a single sentence. The sentences in a text are not simply understood and remembered in isolation: their meanings are

integrated. In the example above, the pronoun 'she' in sentence two refers back to Molly in sentence one. Thus, we understand that Molly was the character who tripped on the step. Not all of the links between sentences are explicitly stated or cued by cohesive devices such as pronouns. An example of this is the motivation for Mum's action in the final sentence: why did Mum fetch the mop? In narratives, things happen for a reason. There are clues that help us to make sense of Mum's action: Molly was carrying a glass of juice and she tripped. Thus a plausible inference is that Molly spilled the juice. By engaging in these processes of integration and inference, the skilled comprehender makes sense of the events described and constructs a coherent and accurate representation of the situation described by the text, often referred to as a Mental Model or a Situation Model.

## What does a poor comprehender look like?

Good reading comprehension could not take place without adequate word reading skills. However, good word reading is not sufficient to ensure adequate understanding of a text. Approximately 10% of school-aged children have unexpectedly poor reading comprehension despite developing age-appropriate word reading skill (Cain, 2010; Nation, 2005). Characteristics of good and poor comprehenders are shown in Figure 1. Children with unexpectedly poor reading comprehension experience similar problems with texts that are read aloud to them, thus their comprehension difficulties cannot be attributed to a subtle word reading deficit. Comprehension difficulties are not unique to this population: individuals diagnosed with language and literacy difficulties such as Specific Language Impairment or Dyslexia, may also experience problems comprehending text.

**Figure 1.** Example of good and poor reading comprehender profiles (all ages in months).



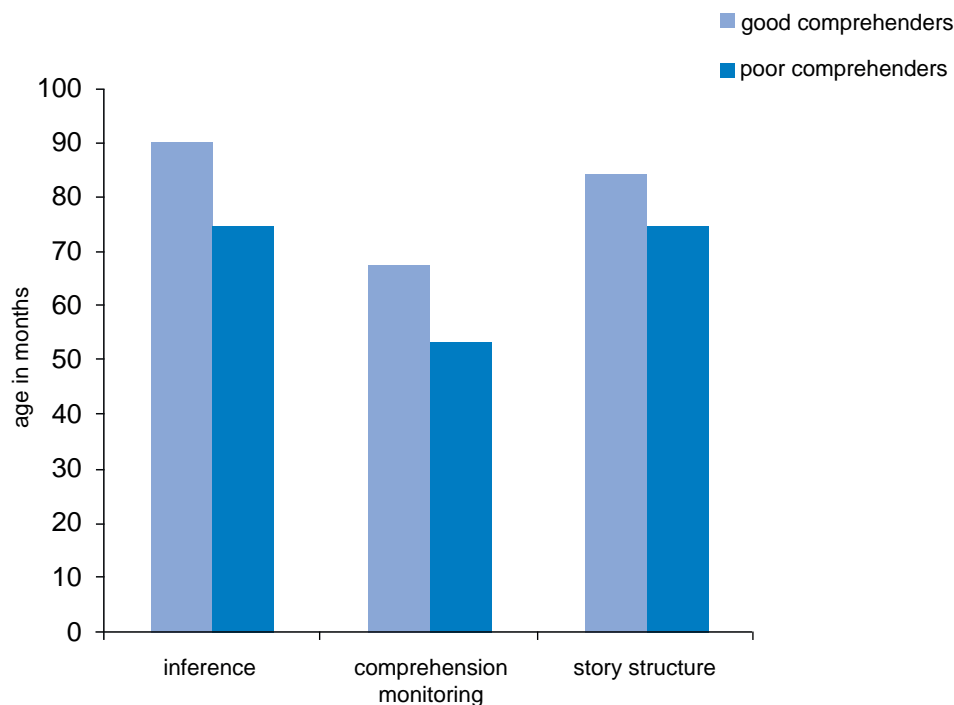
### What aspects of reading does a poor comprehender find hard?

In contrast to our extensive knowledge about word reading and dyslexia, the skills that support successful reading comprehension and the underlying bases for reading comprehension difficulties are less well understood. My colleagues and I have been particularly interested in the skills that help the reader to construct a coherent and accurate representation of a text's meaning.

In addition to the processes of integration and inference described above, skilled comprehenders monitor their understanding as the text unfolds. Thus, they will notice when a miscomprehension occurs – when something does not make sense - for example if they cannot integrate the meaning of a sentence with their representation of the text so far. The skilled comprehender is then able to engage in strategic reading, such as re-reading and/or inference making, to make the events in the text cohere. Skilled comprehenders also use knowledge of text structure to guide their understanding. For narratives, they are aware that there is a beginning, a middle, and an end, and that there are motivations underlying each character's actions (as in the example above). Skilled comprehenders will use this information to structure and support their understanding.

Poor comprehenders do more poorly on experimental measures of these skills: inference and integration and inference, comprehension monitoring, and knowledge and use of text structure, than same-age good comprehenders (Cain & Oakhill, 2006). These differences are illustrated in Figure 2. These three skills are also critical to reading comprehension development between eight and eleven years of age, in addition to vocabulary knowledge and IQ (Oakhill & Cain, in press).

**Figure 2.** Comparisons of good and poor comprehenders on experimental measures of inference, comprehension monitoring, and knowledge and use of story structure. Performance calculated as percent correct. Adapted from data reported in Cain and Oakhill (2006).



### Consequences of poor comprehension

Children with reading comprehension difficulties do not 'spontaneously' recover. In addition, their poor reading comprehension is related to poorer language outcomes. For example, our recent work has shown that poor comprehenders' vocabulary growth between ages eight to eleven does not keep in line with that of good comprehenders (Cain & Oakhill, 2011). This may well be because much new vocabulary is acquired from texts, and poor comprehenders may engage in less reading and may also choose to read less challenging books. In addition, poor comprehenders may lack the inferential skills that support independent vocabulary learning.

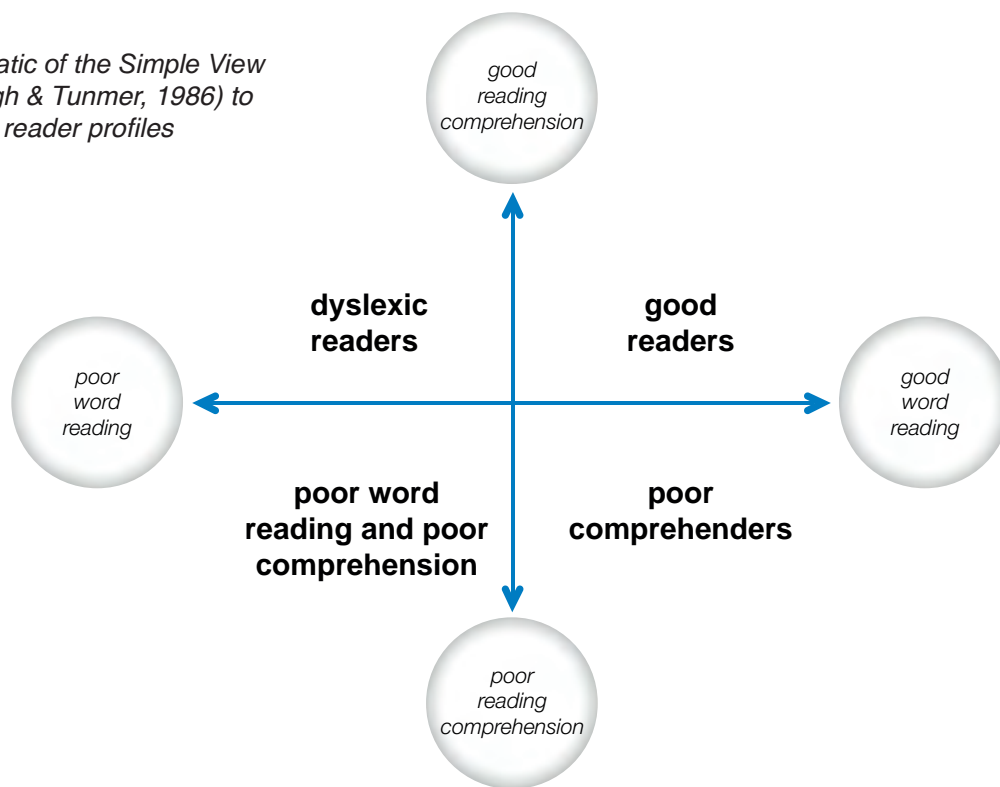
### Implications for assessment, teaching, and intervention

We are now building up a picture of the factors that support the development of successful reading comprehension and the nature of reading comprehension difficulties. This knowledge can inform the

assessment of reading, classroom literacy instruction, and also literacy interventions.

First, the existence of children with unexpectedly poor reading comprehension supports the Simple View of Reading (see Figure 3) and demonstrates the importance of assessing both word reading and reading comprehension to gain a comprehensive profile of a child's literacy ability. Second, just as word reading builds on a foundation of spoken language, so too does reading comprehension. The critical skills that support making sense of discourse – integration and inference, comprehension monitoring, and knowledge and use of text structure - can be fostered through oral language activities such as story telling and shared book reading, before reading instruction begins. Third, given the critical importance of skills that support the processing of discourse, these skills should be included in any comprehensive intervention designed to help children with poor reading comprehension.

**Figure 3.** Schematic of the Simple View of Reading (Gough & Tunmer, 1986) to illustrate different reader profiles



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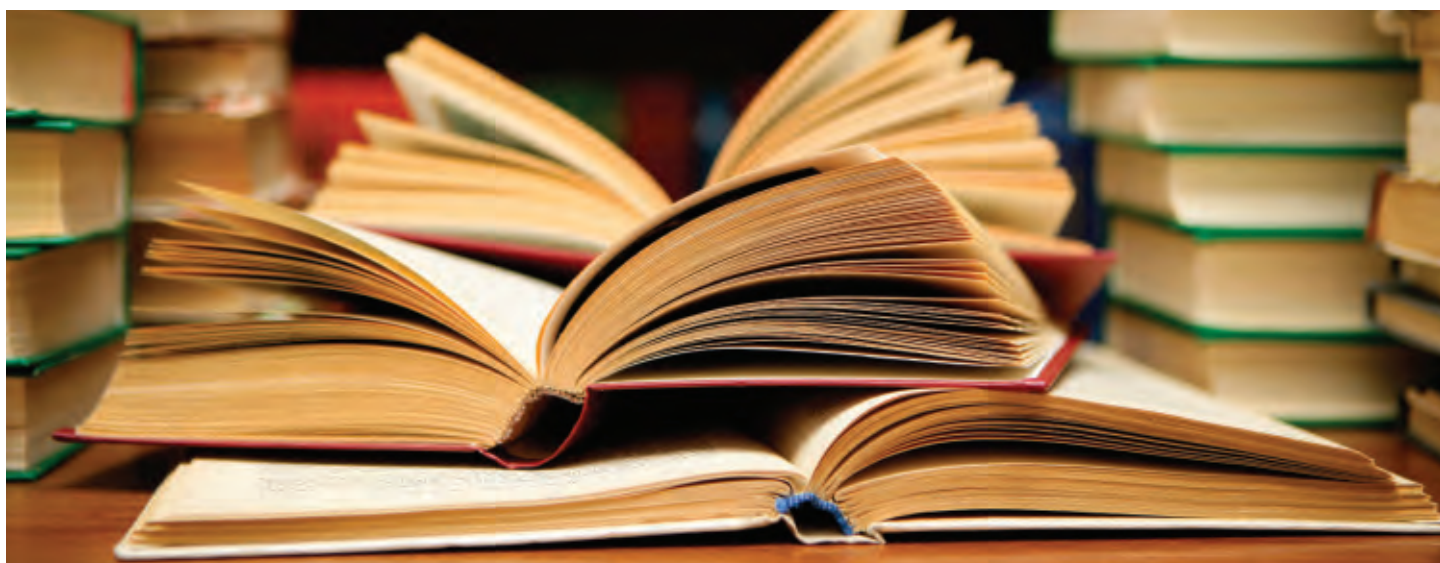
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# Specific Language Impairment and Dyslexia

**Dr Chloë Marshall, Senior Lecturer in Psychology and Human Development at the Institute of Education, reviews the relationship between spoken language difficulties and dyslexia.**



**D**evelopmental dyslexia is identified in children who have significant difficulties with word reading (decoding and recognition) and spelling despite adequate exposure to literacy instruction and no additional developmental disorder that is likely to be the cause of their literacy impairment. Dyslexia is present in approximately 10% of school-aged children, and for many its effects are lifelong. There is mounting awareness of dyslexia and its impact on children's academic achievements and life opportunities. It is certainly much better recognised than ever before among teachers, parents and the general public, and is now extensively researched.

There is a second developmental disorder that is parallel to dyslexia in many ways, except that it affects spoken rather than written language. It occurs in children with normal intelligence, adequate exposure to language, and no additional disability that could account for their language-learning problems (such as cerebral palsy or autism). This disorder is "specific language impairment", frequently abbreviated to SLI. Its prevalence is similar to that of dyslexia, and like dyslexia its impact can last a lifetime. However, SLI is less well known than dyslexia, and not nearly as extensively researched.

Although the exact profile of SLI differs from child to child and changes with age, individuals with SLI share certain characteristics. They are generally late to start talking, and they have particular difficulty acquiring syntax and morphology, i.e. the rules of language (Bishop, 1997). Their language impairment encompasses both understanding and production. The language sample in Figure 1 is from an eight-year-old boy, and illustrates some of the characteristics of the spoken language of children with SLI. Look in particular at the underlined sentences. The subject has been omitted in the sentences "make me sick" and "started to hurting". In "he's like crisps" the expected agreement morpheme -s has been incorrectly added to the subject "he" rather than to the verb "like", while the -s that should have been added to "make" is missing altogether. There is a further morphological error in "started to hurting" – the -ing is ungrammatical in this syntactic context.

**Figure 1.** Sample of a conversation between a boy aged 8;11 who has SLI, and his speech and language therapist.

**SLT:** What does your brother like to eat?  
**CHILD:** Pot noodle and chips.  
**SLT:** And what about you?  
**CHILD:** And he's like crisps.  
**SLT:** He likes crisps. What about you?  
**CHILD:** I just like ice cream, not pot noodle.  
**SLT:** You don't like pot noodle?  
**CHILD:** I think it's disgusting.  
**SLT:** I agree with you!  
**CHILD:** Make me sick. Started to hurting

Many children who have dyslexia also have SLI, and vice versa. The extent of this co-occurrence depends on a number of factors, including the age of the children and the exact criteria that are used for diagnosis. This is not a peculiarity of SLI and dyslexia in English – the two disorders overlap in all other languages that have been investigated, including French, Italian, Dutch, Greek and Chinese.

The implication for specialist literacy and dyslexia teachers is that many of the children that they work with will also have language difficulties. Meanwhile, teachers with children in their class who are receiving speech and language therapy, or who have seen a speech and language therapist in the past, need to be aware that these children might well have difficulties learning to read and spell.

Current explanations for why dyslexia and SLI co-occur involve phonology (Messaoud-Galusi & Marshall, 2010). It is well known that children with dyslexia suffer a triad of phonological impairments, affecting phonological working memory, phonological awareness and verbal processing speed. Researchers have also found dyslexic-type phonological deficits in children with SLI. These findings suggest that phonological impairments might be at least partly responsible for these children's language impairments, just as they play a major role in the reading deficits in dyslexia. One possibility is therefore that dyslexia and SLI both have the same underlying cause and can be conceptualised as different facets of the same disorder. As SLI is usually identified by speech and language therapists

in the preschool years; and because dyslexia is usually diagnosed by a different set of professionals in the school years; their differences might be more superficial than real.

In a major review of the research literature up until the early 2000s, Bishop and Snowling proposed a rather different explanation of the overlap between dyslexia and SLI. In their model, the phonological deficits that underlie both disorders are indeed responsible for the difficulties that children with dyslexia and SLI have with reading and spelling, but additional cognitive deficits are responsible for the language impairment in SLI (Bishop & Snowling, 2004).

Nevertheless, this “additional deficit” model is likely to be an oversimplification. Not all children with SLI have difficulties with word recognition, decoding, or spelling, and yet do

have difficulties understanding what they read. The child whose profile on a set of standardised assessments is presented in Table 1 is a case in point. The child’s difficulties lie not in single word reading, non-word reading, spelling, or phonology, but in reading comprehension and spoken language, and specifically in understanding the meaning of words and in repeating orally presented sentences accurately (a task that requires good grammar, vocabulary and verbal memory). His expressive vocabulary (picture naming) is also weak. His difficulty in reading comprehension is not surprising when we consider the Simple View of Reading (Gough & Tunmer, 1986). Both decoding/ recognition skills at the word level and the comprehension of language are required for extracting meaning from text. A child with language comprehension difficulties is likely to also find reading comprehension challenging.

**Table 1.**

*Standard scores for a boy with SLI aged 12;11, on a variety of literacy, phonology and language tasks. For the sake of simplicity the actual names of the tasks are not given, just what they assess. Each has a mean of 100 and a standard deviation of 15. Cells where scores fall 1.5 standard deviations or more below the mean (i.e.  $\leq 77$ ) can be considered unusually low, and are highlighted in red. Cells where scores fall within one standard deviation of the mean are highlighted in green, and those where scores are between 1 and 1.5 standard deviation below the mean highlighted in orange.*

TASK		STANDARD SCORE
Literacy	single word reading	103
	non-word reading	100
	spelling	100
	comprehension of sentences/ short paragraphs	72
Phonology	rhyme detection	95
	spoonerisms	98
	rapid naming of digits	94
Language	comprehension of sentences (picture-sentence matching)	88
	comprehension of words (picture-word matching)	75
	sentence repetition	65
	naming pictures	83

There is much still to be discovered with respect to what causes SLI and why it co-occurs to such a large extent with dyslexia. In the meantime, there is no doubt that many children with literacy difficulties also have difficulties with spoken language, and vice versa. Specialist literacy/dyslexia teachers, ideally working closely with speech and language therapists, have an important role to play in identifying these children and offering them the support that they need, as early as possible.

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# Dyslexia, self-esteem and motivation

**Lesley Burnett** discusses the need for approaches to dyslexia that move beyond literacy outcomes, to focus on self-esteem and self-efficacy.



**W**hile in recent years there has been a recognition of the importance of the personal well-being of young people through Government initiatives such as 'Every Child Matters' (2003), there has been relatively little research into the social and emotional needs of those who experience dyslexic difficulties. As an experienced teacher of dyslexic learners, I have often witnessed the negative effect of low self-esteem and this has given me a particular interest in this subject. I am in agreement with Riddick (2010) that more scientific and reliable research is needed into how dyslexia and other developmental difficulties affect learners on a personal level.

journey that he has taken to reach where he is today.

The term self-esteem is commonly used to describe feelings of self worth. Every individual has a concept of him/herself that is affected by their view of the perceptions of others and their aspiration to be like them. If there is a mismatch between self-concept (how the individual sees him/herself) and self-image (how the individual would like to be) then low self-esteem can result. For a dyslexic individual in school, this comparison can become a negative force, particularly in a society such as ours where literacy achievement is highly valued.

they should be able to focus more on specific strengths and interests, but their ability to do this will depend on the support that they received in previous years.

So how can we ensure that we support dyslexic learners to develop a positive self-image and be motivated to achieve their full potential? Firstly, we must ensure that learners develop positive self-efficacy, which is the confidence an individual brings to approaching and completing tasks. No matter how good the intervention programme or lesson plan, it will not be effective if the learner does not feel able to understand and complete the tasks set. Fear of failure is powerful and demotivating. This is why it is so important for dyslexic learners to have some control over the learning process through goal setting, self-evaluation and a repertoire of effective study skills. Burden (2008) suggests that dyslexic learners will ask three questions when deciding whether to commit to a task: 'Am I good enough to do this?', 'Do I have the skills I need?' and 'What's in it for me?' Motivation matters.

It is also important that parents and teachers show they have confidence in the dyslexic learner. Lawrence (2006) considers that the key people in a dyslexic person's life- parents, teachers and peers- play a central role in giving them a positive self-image. As Theo Paphitis said, it is so easy for the tag of 'lazy' to become a self-fulfilling prophecy and for the dyslexic learner to give up and take the easy route of 'learned helplessness' as a response to continued failure. Sometimes dyslexic learners will attribute perceived failure to themselves (their dyslexia for instance) or to others, as a means of remaining in control. It is essential that

**“ Being told I was lazy made me work much harder than I had been doing, but I could have gone the other way, given up and made the tag of laziness become a self-fulfilling prophecy...Breakthrough moments, as a dyslexic, are wonderful but the hardship that goes before them can be hard to deal with. ”**

Theo Paphitis,  
entrepreneur and TV celebrity,  
Daily Express, 12.4.2011

This quote will strike a chord with anyone who works with dyslexic learners. Like many other individuals who have spoken about their experiences of growing up with dyslexia, Theo Paphitis focuses on the emotional aspects of the condition and we get a sense of the difficult

Erikson (1959) suggested that our self-concept develops with age and is affected by biological, psychological and cultural influences. A key stage is from 6 to 12 years, when we are not only capable of learning many new skills, but are also most affected by comparisons with peers, which can affect competence and self-esteem. At this stage, development of self-concept depends more on what is done to us than on what we do.

This supports the necessity for early intervention to avoid the vicious circle of literacy failure. Certainly in my experience, if dyslexic difficulties are not being addressed by Year 4 at school, negative self-esteem can result that affects motivation and achievement. Consider the dyslexic Year 5 pupil who tells his teacher that he hates reading and refuses to read aloud. Poor motivation for reading means less practice and reading for pleasure, which in turn negatively affects progress in reading. Once dyslexic learners move into the later years of Secondary School,

teachers and parents are sensitive in helping dyslexic learners develop into independent learners and celebrate achievements, however small. This is not to say that difficulties should be ignored but that a positive approach must be used. For example, saying: 'You've used some great words in this piece of writing, can I help you work on them', is more positive than simply marking spelling errors. While comparison with peers can have a negative effect on self-esteem, it can also be beneficial. Research by Humphrey (2003) has suggested that peer support can be extremely effective if well managed. Successful dyslexic role models, whether teachers, celebrities or peers, can support the development of a positive ideal self.

Finally, it is essential to listen to dyslexic learners, giving them a voice and taking their views into account. This will help raise awareness for both teacher and learner about strengths that can be used to overcome weaknesses. Structured interviews, counselling, mentoring or just a providing a listening ear are all useful for giving dyslexic learners more control over their lives which can improve self-esteem.

In conclusion, to meet the challenges presented by the social and emotional consequences of dyslexia, we need approaches that move beyond literacy outcomes, to focus on self-esteem and self-efficacy. Only through increased understanding of the need for engaging with dyslexic learners on a personal level and the development of effective strategies for doing so, will their motivation and attainment be assured.

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# Aptitude-Achievement Consistency Analysis: an Alternative to the Ability-Attainment Discrepancy Model

**Dr Barry Johnson, Principal Educational Psychologist and Head of Assessment Services for Dyslexia Action.**

**T**he use of ability-attainment discrepancy analysis (comparing cognitive ability and academic attainment levels) continues to be prevalent within the fieldwork practices of psychologists and teachers who assess clients for specific learning difficulties. The reasons for this are probably many but it is important to note that there are contemporary professional guidance directives that either require or encourage psychologists and teachers to provide such analysis as evidence of specific learning difficulties.

For example, the Revised SEN Code of Practice (DfES 2001) states ... *academic attainment is not in itself sufficient for LEAs to conclude that a statutory assessment is or is not necessary. An individual child's attainment must always be understood in the context of ... expectations of the child's performance* (para. 7.39). Also, the DfES SpLD Working Group 2005/ DfES Guidelines state that ... *although a discrepancy between ability and attainment in literacy skills is not a diagnostic criterion... where such discrepancies do exist, they provide further supporting evidence... the effect of SpLD on a student's learning can be evaluated more effectively when underlying ability is taken into account*. Indeed, psychologists and teachers who do not consider the issue of ability-attainment discrepancy in their assessment formats run the risk of their reports for Disabled Students' Allowance (DSA) being rejected. This is because

Student Finance England (SFE) in its advice at [http://www.patoss-dyslexia.org/Special\\_interest\\_6.html](http://www.patoss-dyslexia.org/Special_interest_6.html), [http://practitionersstudentfinanceengland.co.uk/pls/portal/docs/PAGE/PPIPG001/PPIPS001/PPIPS036/PPIPS039/DISABLED%20STUDENTS'%20ALLOWANCES%201112\\_0.DOC](http://practitionersstudentfinanceengland.co.uk/pls/portal/docs/PAGE/PPIPG001/PPIPS001/PPIPS036/PPIPS039/DISABLED%20STUDENTS'%20ALLOWANCES%201112_0.DOC) to key delivery partners states that assessment of dyslexia should contain, in part, ... *evidence of a significant discrepancy between the abilities in reading, writing, spelling and numeracy and the level of those abilities expected of the student in terms of their general intellectual ability (Assessing Eligibility Guidance 2010-1011 Student Finance England)*.

It is therefore understandable that UK fieldwork practices are seemingly not taking into account the significant amount of (mainly USA) research and related opinion that is very critical of ability-attainment discrepancy analysis and where this has led to alternative paradigms being offered as more valid means of assessing and thereby treating specific learning difficulties (Flanagan et al. (2006)). Examples of the latter are the various *Response to Treatment Intervention* programmes that most USA states have now employed.<sup>1</sup>

Notwithstanding these new initiatives, the debate around the claimed failings of ability-attainment discrepancy analysis has stimulated developments to create better models in order to prevent the baby being thrown out with the bathwater. It is therefore useful to keep abreast



of these developments with a view to improving assessment formats and delivery to clients.

The main criticism of ability-attainment discrepancy analysis is that it does not provide close and clear links between assessment and teaching. In addition, it uses arbitrary statistical cut-offs to judge degree of discrepancy and clinical relevance. It is argued that ability-attainment discrepancy analysis tends to reinforce use of tests such as the *Wide Range Intelligence Test* (Glutting J. et al. 2000) which employ out-of date models of intelligence that only provide measures of *G*, *VIQ* or *PIQ*. Lastly, some psychologists and teachers seem to either ignore, or not understand, a number of statistical concepts and procedures in order to perform ability-attainment discrepancy analysis with safety and sufficient validity. This is particularly so when co-normed tests of cognitive ability and attainment are not available and where discrepancy tables are not provided in the relevant test manuals.

Over the last decade or so, there has been increasing interest in, and refinement of, aptitude-achievement

<sup>1</sup> (see <http://idea.ed.gov/explore/view/p/,root,dynamic,QaCorner,8>).

consistency analysis (A-ACA) as an alternative to ability-attainment discrepancy analysis (Flanagan et al. (op.cit.)). The main features of this approach are as follows. Rather than attempt to compare broad measures of intelligence with attainment levels, A-ACA is concerned to focus on aptitudes ('narrow' clusters of abilities) which can be seen as conceptual bridges between broad cognitive abilities and academic skills. The process is to determine the degree to which a weakness in an area of academic achievement is consistent / positively correlates with known related cognitive abilities / aptitudes. In doing so, implications for teaching are better identified.

This has led to test companies investing heavily in the design of attainment and cognitive ability tests that are co-normed and which reflect the contemporary C-H-C model of intelligence (McGrew, K. S. (2005). The C-H-C model of intelligence promotes the view that rather than perceive cognitive abilities and academic attainments as qualitatively different and thus distinct from one another, it is better to perceive them as part of a *continuum* ranging from *broad* to *fine* areas of abilities. A-ACA also requires confirmation of average or above-average levels in ability and attainment areas that are not associated with the identified specific learning difficulties in order to discount general slow learning. It also logically demands that there should be sufficient analysis performed to exclude the impact of any contextual factors that may explain why the client appears to have low attainment levels.

Lastly and importantly, A-ACA requires that for a specific learning difficulty to be confirmed, the competencies within the attainment and related aptitude areas need to be operating below the average range which is operationally defined as less than one standard deviation below the mean. This latter feature reflects the adoption of the concept of a *normative* weakness

as a necessary component of the process of confirming the presence of a specific learning difficulty. What would be the main implications for UK psychologists and teachers who assess clients for specific learning difficulties if A-ACA was to become commonly accepted? Most test companies would be commercially stimulated to provide psychometric tests that were in tandem with C-H-C theory and which provided assessors with a broad range of areas of intellectual and academic functioning. Consistency between narrow areas of ability (aptitudes) and related attainments could be identified. In addition, such tests would prevent assessors having to perform necessary statistical analyses across the scores of separate tests and this would further make them attractive to the purchaser. Understandably, there would be resourcing and training implications for the sole trader or organization dealing with assessments of clients for specific learning difficulties; more so for teachers than psychologists because the latter already have access to tests of cognitive ability that now have reasonably close representation of the C-H-C model of intelligence.

In cases where confirmatory evidence for specific learning difficulties is difficult and where this difficulty is caused by a lack of either co-normed tests or a sufficiently wide base range of reliable tests, then the assessor would probably have to rely heavily on their knowledge of research in the relevant field. This is because they would need to provide the evidence that certain attainment and aptitudes are indeed closely associated in order to conclude an argument that a client does indeed have a specific learning difficulty.

There most certainly would be a significant impact for the assessment of clients with above-average levels of cognitive ability and who report having difficulties with learning. The obvious example is that of the university student who needs to be assessed for Disabled Students'

Allowance. Two practical example scenarios are now given to explain this prediction.

Student A believes that he has slow handwriting and associated difficulties with expressing his thoughts onto paper. However, application of A-ACA within an assessment framework concluded that although his speed of handwriting was indeed below average as defined by A-ACA, there was no evidence of any associated weaknesses in aptitude areas known to be associated with the area of concern. A conclusion of confirming the presence of a specific learning difficulty is therefore not possible. Having a slow handwriting speed does not necessarily mean that a specific learning difficulty is present.

Student B is an intellectually bright student who has relative weaknesses in the areas of spelling and speed of reading. Application of A-ACA within an assessment framework found that the levels of the skills in these attainment areas of concern were at average levels. Notwithstanding the intellectually high level of the student, a diagnosis of specific learning difficulty is not given because of the absence of any normative weakness.

The reader may now be realising that there could be a dramatic shift in her day-to-day practices if A-ACA becomes established as mainstream practice. Most certainly, the Student B type of case would lead to a significant reduction in the number of Higher Education students who were identified as having specific learning difficulties because of the normative weakness requirement. Objections to this could be buffered by counter-claims that claims for evidence of under-achievement often take no account of regression to the mean and standard error of the estimate when making such claims. In other words, too many students are probably being identified as false-positives as a result of normal statistical phenomena and applying 'profile analysis' in primitive/incorrect

ways particularly when the tests used have relatively low reliability coefficients and/or when these tests have relatively low correlation coefficients between them.

The objection that the normative level may be pitched too low for university students can also be challenged when one realises that approximately 20% or so of the late-teenage population now attend university. Gone are the days when one would expect the university population as a whole to have a high intellectual ability level. Also, the concept of normative weakness is now enshrined within UK regulations for assessment of access needs for GCSE and GCE and has been for some years (Joint Council for Qualifications 2011). Thus, equivalent adoption for DSA could be regarded to reflect consistency of practice across these closely related areas. Lastly, DSA needs to be posited within the legal domain with regards to how disability is perceived, measured and resourced, particularly as there are always significant implications for central funding. In the health-care and employment arenas, diagnosis of a disability tends to be only given to a very small proportion of the population – very approximately and in equivalent terms below two, not one, standard deviation below the mean. If DSA is to serve validly the disabled population of clients with specific learning difficulties, then the adoption of A-ACA by assessors could not be deemed to be particularly severe.

Adoption of A-ACA for DSA assessment would, indirectly, promote moderation of borderline and appealed cases in that it would clarify and make more consistent the assessment process as well as provide normative boundaries for decision making. Clearly, as with any framework of assessment, the good assessor would need to continue to adopt an inductive stance and maintain

a hypothesis-testing approach to their engagement with the client in order to identify needs for diagnostic assessment. She would also need to be confident in being able to apply certain statistical procedures such as those taught within the British Psychological Society's CCET Level A courses. There would be some very practical advantages of the adoption of evidence of a normative weakness being required as a necessary criterion for the presence of a specific learning difficulty. Broad screening of attainment levels could be employed quickly and cheaply prior to referral for expensive diagnostic assessment. Some diagnostic assessments would be shortened via adherence to the null-hypothesis approach to assessment if the first tranche of assessments of attainment/ability within the areas of reported concern did not clearly identify standardised scores below one standard deviation below the mean. Also, it is likely that full administration of a test of general intelligence need not be given as a matter of routine.

There is no doubt that the simple ability-attainment discrepancy approach needs to be critically examined in its role as part of contemporary assessment frameworks. USA research and practice is finding that with revision into the A-ACA model it still has a part to play and can be combined with alternative intervention and assessment models such as *Response to Treatment Intervention* (Flanagan op. cit.). UK psychometric test companies and assessors' professional bodies would benefit from considering the strengths and advantages of A-ACA and the implications for service delivery. In doing so, the concept of disability as currently interpreted within the domain of Disabled Students' Allowance would be re-visited and parity with cultural perceptions and resourcing of disability in other domains of living would be helped to be restored.

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**The views expressed in this article are personal and do not reflect Dyslexia Action's operational policies.**

# Dyscalculia and Mathematics Learning Difficulties

**Dr Steve Chinn** is an authoritative writer and speaker on dyslexia, maths and dyscalculia. In this article, he reflects on the problems that many learners face when presented with maths in the school curriculum.

**D**yslexia is a specific learning difficulty that affects English. Dyscalculia is a specific learning difficulty that affects mathematics. Both are significant factors for pupils and students because English and mathematics are the two core subjects in the school curriculum.

There has been an awareness of dyslexia for over 100 years. Over the past forty years there has been extensive research into dyslexia such that our level of understanding of its aetiology, manifestations and educational intervention is reassuring. Our understanding of dyscalculia lags far behind.

It seems that around 5% of the population may be dyscalculic, but if we believe that there is a spectrum of difficulties, as there is with many learning difficulties, then some 25% of the population have difficulties with learning mathematics.

So, there will be some people at a very low level of mathematics skills and understanding who struggle to have any concept of what a number means. This lack of skill with even basic arithmetic will have an enormous impact on their lives. Students can also experience serious consequences with a less severe level of maths difficulty, for example, the person who cannot push a Grade D GCSE up to a Grade C. This may prevent them from obtaining a place at University, even though their A level grades in other subjects are good. People may say that they don't need maths, but they do.

**“ People may say that they don't need maths, but they do. ”**

I believe that the relatively recent research into effective teaching for pupils with dyslexia has influenced mainstream teaching. When Ministers of Education are asked how they will improve reading they have an answer that is soundly researched, 'More phonics'. When it comes to maths they slip back to the Victorian era and say, 'More learning times tables', 'More mental arithmetic' or 'Make it harder'.

There is a problem with these reactions, particularly for students with specific learning difficulties. After 24 years of teaching students with dyslexia and some thirty years studying maths learning difficulties, lecturing and listening to teachers from around the world, I know that those interventions are pretty much as inappropriate as they could be for children and adults with maths learning difficulties. Until that is acknowledged we will continue to have 25% of the population displaying learning difficulties in maths, a situation that has existed for decades.

Currently maths is compulsory until age 16 (but in reality beyond that). It has been suggested that problems could be solved if it was compulsory for all up to 18 years. Let's do the maths.... 5 years to 18 years is 13 years of 40 week long school years. Some 520 weeks are used to teach students maths. Maybe it's not the time that is the problem....

When I ask teachers, across the UK and in many other countries, 'At what age are enough children in a class giving up on maths for you to notice?'; the most frequently occurring answer is 'Seven years old'. I find that depressing and sad. It would be helpful to know why this is so. I also ask teachers what percentage of children at age 10 or 11 years 'do not know their times tables'. I rarely get an answer below 50%. I

find that telling, but not in that knee-jerk reaction way of some traditionalists, 'Well, give them more practice then.' It is far more complicated than that.

**“ When I ask ... 'At what age are enough children in a class giving up on maths for you to notice?'; the most frequently occurring answer is 'Seven years old'. ”**

Maths learning difficulties often occur alongside dyslexia. The prognosis for individual learners is, of course, individual. In some 24 years of working with significantly dyslexic students I have seen many A grades and a high percentage of grades at C and above in maths as the outcome of appropriate teaching.

Memory is a key factor in learning maths. Just how key depends on the way maths is taught. One characteristic that is common for specific learning difficulties (and many other learning difficulties) is poor memories, that is, working memory, short term memory and mathematical long term memory. There are several implications, interactions and consequences here.

I like to link theories of education and other fields of knowledge in the hope that the links will enhance my understanding of each the theories involved in the link. For example, I admire Howard Gardner's theory of multiple intelligences. I think a similar situation applies to long-term memories. So, for example, you may have a great memory for faces, but a really poor one for numbers. Specific learning difficulties

can be linked and seen as, not just 'a difficulty', not just 'an intelligence', not just 'a memory', but as specific strengths and weaknesses.

If maths is largely taught as a matter of memorising facts and procedures, and there is credible evidence to suggest that this has been the case for many years, then students with poor long term mathematical memories will fail.

A poor short-term memory has a pervasive impact on learning. It controls how many items you can hold in your memory for a short time. For example, remembering oral instructions on how to do a calculation or copying information from a board. Working memory is a vital skill for mental arithmetic and mental arithmetic is often advocated as a way to improve maths performance. There would have to be empathetic differentiation applied in the classroom to meet the potential problems that will be created here, problems such as frustration, over-experience of failure and demotivation.

There is a book, 'How People Learn', based on extensive research in the USA. It delivers its main message in three succinct Key Findings. One of them emphasises the importance of using understanding to support memory. In maths we can use that advice, we can interrelate facts and procedures to

help develop concepts. Sadly we tend to patronise learners by merely telling them what to do without explaining why.

Maths starts with counting, in ones. Most parents are comfortable with this level and can help their child. If children stay at that 'counting in ones' stage, then they will not learn the concepts of maths. Tallies are not a developmental strategy.

Then there are the problems created by the introduction of new procedures for doing maths. Every time educators change or tweak a maths procedure, for example, the grid method for multiplication, they disenfranchise many parents.

But old beliefs can be a problem, too. If teachers insist that children have to rote learn facts and retrieve them, *quickly*, from memory, they demotivate many children.

Both these are examples of unforeseen consequences. We should by now have enough understanding of how people learn to make them not unforeseen.

Children have to understand maths in order to succeed. This is not about saying that they have to understand algebra or fractions. That may be the case eventually. What it does mean is that children have to understand maths from the very beginning, for example,

understanding the relationship between 1 and 2, between 1 and 10 and 100, what 'add' and 'divide' really mean. It is our vulnerable learners who need good, conceptual teaching, not just a 'Learn this' approach. The clue is in the label. Maths Learning Difficulties and dyscalculia need appropriate teaching, not just 'good' teaching. They need an appropriate curriculum, not just a curriculum that works for the 75% who get by in maths.

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[www.stevechinn.co.uk](http://www.stevechinn.co.uk)


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# Using “Shape Coding” to teach grammar to children with language impairments



**Dr Susan Ebbels**, the developer of *Shape Coding* explains how it can be used to teach and explain the rules of English.

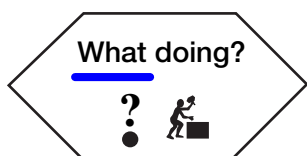
Over one million children and young people in the UK today have some form of speech, language and communication need. For some of these, their difficulties are fairly specific to language, but for many, their language difficulties overlap with other disorders, including dyslexia. Indeed, approximately 50% of children diagnosed with dyslexia have language impairments and vice versa (McArthur et al, 2000). Language impairments affect many areas of language, but particularly the ability to understand and form grammatically correct or complex sentences.

Teachers and others working with school-aged children with language impairments are often looking for ways to explain the rules of English, which make sense to the children, and enable them to improve their understanding or production of English, whether in the written or spoken form. Shape Coding can fulfil this role.

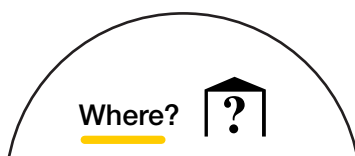
I originally developed the Shape Coding system for working with older children (in Key Stages 2 to 3) with relatively specific language impairments and I have evidence that it can be effective with such children (Ebbels, 2007; Ebbels & van der Lely, 2001; Ebbels et al., 2007; 2011). However, it has also been used successfully with younger children and children with a range of accompanying diagnoses, such as those with hearing impairments (McAleer, 2011) or Autism Spectrum Disorders.

Shape Coding has three main features. It codes parts of speech with colours (by underlining words), phrases with shapes (drawn in black) and verb morphology (such as verb tenses) with arrows. In theory, this should allow for all grammatical features of English to be coded using the system, enabling children with visual strengths to access the structure of English.

The basic shapes are each associated with; 1) a question such as Who / What, What doing, Where and What like / How feel; 2) a colour according to the part of speech which must occur in that phrase and 3) a symbol (Writing with symbols 2000, Widget Software, Cambridge) to represent the questions. Some examples are shown below:



**Verb Phrase**

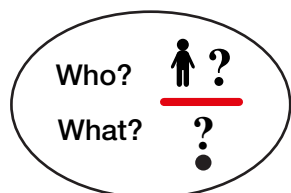


**Prepositional Phrase**

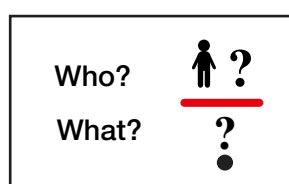


**Adjective Phrase**

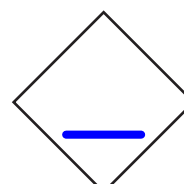
Noun Phrases have two different shapes according to the role they play in the sentence (regardless of whether they are animate or inanimate). The basic rule is that the subject of the sentence appears in an oval, while the object appears in a rectangle (however, phrases keep the same shape if a passive sentence is used, e.g., the boy was pushed by the girl, to show the link between the active and passive sentence). Thus the shapes for Noun Phrases are:



**Noun Phrase: Subject**

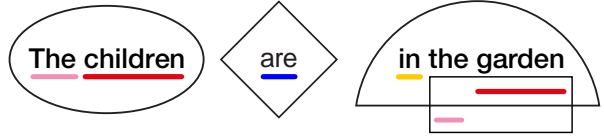
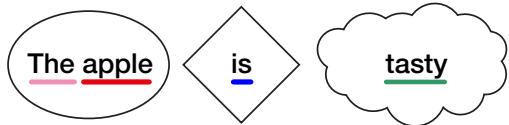
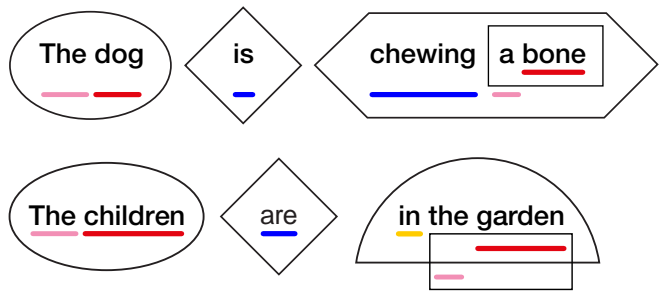
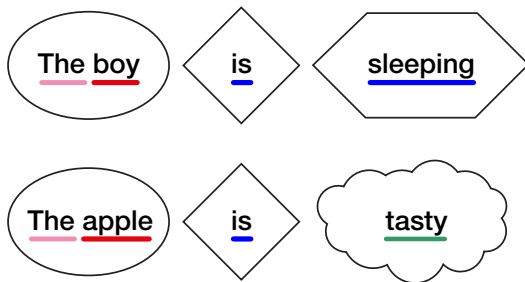


**Noun Phrase: Object**



**Aux or Modal**

An additional shape (a diamond) is used for auxiliary (e.g., *is, were, has*) and modal verbs e.g., *can, will*), so that these can be moved to the front of a sentence to form a question, but these are underlined in the same colour as main verbs<sup>1</sup>. Thus, children can be taught to gradually build up sentences using shape templates such as:



An important feature of the Shape Coding system is that only those shapes, colours and arrows are used which are essential for highlighting the aspect of English that is currently being targeted. Thus, the system can be simplified so that only the important feature is coded. For example, if a teacher wants to highlight whether verbs are in the past or present tense, just the past versus present tense arrows could be placed on the verbs, e.g.:

My dog was fat, but now he is thin

If agreement between the subject and verb is important, double lines can be used for plurals and single lines for singulars, e.g.:

My sister is wearing a skirt. My brothers are wearing trousers

The Shape Coding system can be used to both introduce new rules or sentence structures to the children, or to explain what is wrong when children have made an error. Using the system, they can literally 'see' their mistakes and can see how to correct them. Thus, teachers can gradually increase their ability to self-correct their own work.

A key feature of the Shape Coding system is that it is a tool to be used to teach and explain the rules of English. It is not a programme which should be worked through. It is designed to be flexible and to meet the needs of the individual learner and should be gradually withdrawn as the learner becomes more familiar with a particular rule or structure, to enable independence from the system.

As the Shape Coding system has become more widely used, I have recently set up an online discussion forum to enable professionals to share ideas, questions or resources. New members are always welcome to the Shape Coding Discussion Forum via: <http://groups.yahoo.com/group/shapecoding/>.

A detailed description of how the Shape Coding system works can be found in Ebbels (2007) and a summary was presented at the Dyslexia Guild Summer Conference in June, 2011 (slides available on the conference website).

Links to articles examining the effectiveness of Shape Coding can be found at [www.moorhouseschool.co.uk/research-and-development](http://www.moorhouseschool.co.uk/research-and-development)

More information about Shape Coding can be found at [www.moorhouseschool.co.uk/shape-coding-course](http://www.moorhouseschool.co.uk/shape-coding-course)

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<sup>1</sup> Please note that since the publications in 2007, I have swapped the colours for verbs and prepositions. Thus verbs are now blue and prepositions yellow, but the other way around in the publications. This is because it is usually more important to be able to highlight verbs and yellow did not show up well on whiteboards or paper.

# Partnership for Literacy Secondary

## 2009-10

**Margaret Rooms, Dyslexia Action Head of Educational Development (UofS) reviews Secondary P4L a project based on the use of apprenticeship training and which enables staff in the partner schools to use Dyslexia Action literacy development materials and methods in whole school literacy intervention.**

### Introduction

Dyslexia Action embarked on a new phase for its Partnership for Literacy (P4L) interventions in 2009 by working in eight secondary schools. The content of the intervention was adapted for the secondary age range and we were again fortunate to have funders willing to support our work. This article outlines the aims and processes of the intervention and considers the lessons to be learnt from the exercise.

### What we wanted to achieve

There is a fairly broad consensus in primary schools that pupils with literacy deficits should be given extra support to close the gap. In secondary schools the picture is more complex. For children with very low literacy skills there is broad agreement that intervention of some kind is needed but as you move up the literacy spectrum there are less distinct areas. At what point do the needs of the curriculum, of being in the classroom, override literacy? When do we call a literacy level okay? If this was our own teenage son or daughter would we be satisfied with the same level? We know from Dyslexia Action's own students that schools struggle to provide for these 'mid-literate' students; not strong enough to attain potential yet not weak enough to qualify for support. By providing both an intensive and a 'light touch' model of support we hoped to show schools that they could literally support everyone in the school who could benefit from literacy intervention without having to make a choice between curriculum or literacy. In the Spelling and Writing course we wanted to move on from Units of Sound (UofS) with the aim again of providing support for those who



### P4L teachers in action

often get left out. This being for those students who can read, or perhaps have recently improved their reading but who have not got to grips with writing sentences and paragraphs.

Staff costs are the highest expense in running a school, and we wanted to show that high quality literacy intervention need not be expensive. By making good use of independent work on the computer and teaching in groups, and working with Teaching Assistants (TAs) rather than specialist teachers, intervention for everyone who can benefit should be affordable.

Although the project was evaluated and we wanted to demonstrate success in terms of literacy gains, our primary aim was to leave the school with resources and a team of staff skilled to sustain the intervention. So although the project was measured by literacy gains made by students,

Dyslexia Action's main role was to support the staff.

### Project Overview

The P4L project is based on the use of apprenticeship training to enable staff in the partner school to use Dyslexia Action literacy development materials and methods in **whole school literacy intervention**. As the staff gain confidence in using their new skills, it is expected that they will work with more children in the school, thus increasing the reach of the project and making the whole project **sustainable**. The intervention is especially suited to tackling the literacy needs in secondary schools because it includes:

- A high degree of independent work
- Working in groups – not one to one
- Making use of time outside of the school day
- Using proven intervention resources

## Project Literacy Materials

Dyslexia Action's technology based literacy intervention programme Units of Sound (UofS) formed the basis of the intervention. When students were working at home we provided the program on a self-contained USB memory stick. UofS has a high percentage of independent work making it suitable for group work and can be supported by Teaching Assistants. Further resources were used for the writing groups based on work developed by Walter Bramley<sup>1</sup>.

## The Project Model

A Dyslexia Action specialist teacher would work in the school one day a week for approximately two thirds of a year working with staff in the school on specific literacy intervention targeting year 7 and year 8 students. There are three main elements to the intervention.

1. Two groups of six students each working for one hour on UofS. These groups would use the programme at home as well (or in school but outside of this lesson) once they had progressed sufficiently to be ready for this.

### Total 12 students

**Outcome:** students working independently developing Reading and Spelling skills with weekly support from school staff.

2. UofS using a USB memory stick: Fifteen students to use this programme at home following set up sessions where they are shown what to do. Monitoring in school to be on a 'light touch' basis – such as fifteen minutes every two weeks or a group meeting once a week.

### Total 15 students

**Outcome:** students developing higher reading and spelling skills working independently with minimum disruption to the school timetable and staffing.

3. Writing workshop: One group of six where they are at least two thirds of the way through UofS or at that level for reading. Each group to receive ten weeks of:

- Spelling rules
- Writing exercises
- Verbs and tenses exercises

### Total 6 students

**Outcome:** students able to apply the main spelling rules to their work; able to plan a piece of writing effectively; improved sentence structure and punctuation.

This programme of work should enable the staff in the school to:

- Feel confident they can work on literacy interventions with several groups at a time
- Make good use of time outside of lessons and school where it is difficult to find sufficient withdrawal time in school.

## Evaluation

The Centre for Evaluation and Monitoring (CEM) at the University of Durham evaluated the data independently and this will be reported together with the 2010-11 data. Each intervention group has a parallel comparison group. Allocation to both groups was done on a 'blind' basis by CEM.

## Training and Consultation

Full training was given to all staff participating in the project and any other staff wishing to attend were also welcome. We took the opportunity to invite neighbouring schools, feeder schools and the Local Authority support team to attend the training days as a way of increasing the impact of the project. In addition there were three days of the Dyslexia Action teacher's time available to the school to use as further consultancy. This could be used for additional training but had to be focused on the sustainability of the project.

## Commitment from the School

Commitment from the Senior Management Team is an essential part of the project. If the programme is to become sustainable, enough staff need to be trained and time given for them to attend and participate in all appropriate intervention sessions. Our funding covered the costs for the Dyslexia

Action teacher's time and the literacy resources used in the project including licences. The partner school was expected to fund the time of its own staff to participate in the project and to provide access to computers.

## The Challenges

There are challenges specific to this project and others endemic to working in schools. Those specific to P4L-Secondary were:

- Would the pupils and staff engage with the resources as we hoped?
- Would we be able to work with the technology on this scale?
- Would we be able to convince the schools to adopt a 'light touch' model of intervention?
- Would the school have the capacity to accommodate the project fully?
- Would we have enough contact with parents?
- Would we have sufficient access to students given the complexity of secondary school timetables?
- Would we be able to show measurable results?

## The Partner Schools

We started with two pilot schools in September 2009 which ran through until April 2010. The other six schools started in January 2010 and finished in July. All went through an application process where we considered the needs of the school, the community they serve, their capacity to fulfil the project and their reasons for wanting to partner Dyslexia Action. Schools that were unsuccessful in their applications were invited to attend the resources training day free of charge. We tried to get a range of school, from inner city e.g. Leeds, and semi-rural schools e.g. Tonbridge. Essential to all was to find that commitment to making a difference. The schools ranged in size from 450 to 1500 pupils.

## Identifying the Students

In the primary P4L project, we tested all the pupils from year 2 through to year 5 which was a major operation. In the secondary phase we decided to

<sup>1</sup> Bramley, W. (1993) *Developing Literacy for Study and Work*, Dyslexia Institute (now out of print)

start with looking at the data already held by the school to identify a cohort of about a hundred students with standard scores (SS) in the 70-90 range. Originally we thought we would work just with year 7 and year 8 but it became clear very early on that we would need to include year 9 as well as we would need fifty four students for the UofS work and a further twelve for the Writing Course inclusive of the comparison groups. Initial testing with year 9s showed that not only were there plenty of students there in our target range but they were often relieved to be included as they had seen two successive year 7 cohorts come into the school pushing them further back in the queue and they thought they had missed their chance.

We gave the cohort of a hundred students WRAT4 Reading and Spelling tests and selected fifty four of them. Those with the lower scores were allocated either intervention or comparison for the 'school' groups i.e. the students who will receive a lesson a week throughout the intervention (twenty four per school). Those with the higher scores were put into the 'home' allocation list (thirty per school).

### **Units of Sound intervention: Practical issues**

#### **Technology Takes time**

Working with technology presents its own challenges which are not always predictable and which always take time to resolve. Laptops that lose their charge in the afternoon were a constant irritation for instance. We intended to use USB memory sticks for the home use of UofS (to bridge the home / school divide) and for the students to bring them into school on the P4L day for checking. When students forgot to bring them in, we then had to rely on paper records. School technicians are busy people and were not always available to address issues arising within the lesson. This was at the sharp end of the convergence of the two aims; to produce literacy gains in students and to equip the school with a sustainable

model of literacy intervention. To focus primarily on the results meant that you had to micromanage the technology whereas a more relaxed approach would perhaps be more conducive to achieve sustainability.

#### **Attendance**

Given the students we were working with, it was perhaps inevitable that attendance was sometimes an issue. If the student isn't in school on the P4L day they miss their lesson – although sometimes the TAs tried to make the time up during the week. Sometimes the student was in school but wanted to remain in class due to not wanting to miss something. Because we had two intervention groups it was possible to accommodate this by letting them come to the parallel lesson but not always and time is wasted when a TA has to fetch students from the class. Curriculum staff sometimes found it hard to accept absence from a lesson for literacy. These are all valid concerns and schools struggle to balance them.

#### **Home Group**

The primary aim we had in mind for this group was that after they had been shown how to use the program they would work on it independently and so not have to miss a curriculum lesson every week. Just where this independent work took place was not important as long as it happened. We knew from earlier research into the use of UofS at home that this could be effective (Dyslexia Review Vol 19, No 2) but we also know that not all students are sufficiently self-disciplined to carry it through. Many of the schools addressed this by running after school clubs where the 'home group' could access the school computers and thus UofS. Although the groups were supervised by school staff the students were not supported in their work and so still fulfilled the criteria for the group.

#### **Contact with Parents**

There was provision within the project for three meetings with parents. This was to inform them about the intervention and to solicit their support

for the working at home aspects. Overall the initial contact with parents was disappointing with very few of them attending the events. This is quite a marked contrast with the P4L experience in primary schools where parents were overwhelmingly supportive. Although initially disappointed with this response I take heart from some more positive indicators since. For instance in one school where the initial attendance was very poor we ran a celebration event at the end of the project where many of the parents attended and took the opportunity to thank Dyslexia Action and the school for the support their child had received. This school extended the reach of the intervention the following year and had excellent response from parents when invited to learn more about the work. Although we tried to engage the parents at the beginning of the project, I suspect it was easier to get their interest later once their children were talking about the intervention and some were noticing the results.

### **The Spelling and Writing Course**

#### **Overview**

This ten hour course is an adaptation of some of the material developed by Walter Bramley<sup>2</sup>. It starts at the single sentence level and concludes with planning and writing a timed paragraph. Because of the timing involved in getting the course development finished we made it optional for the schools to participate in this, resulting in six out of the eight taking part. The course is virtually scripted and so once the underlying principles are understood it is easy to deliver. The students are introduced first to a spelling rule and then given practice in using it. Some of these spelling words are then used in a dictation sentence bridging the gap between spelling and writing. Then more of the same spelling words are used in the writing task, which develops in complexity over the ten weeks. Emphasis is placed on checking. The paper based Verbs and Tenses exercises are used to complete the session, or can be used for homework.

<sup>2</sup> Bramley, W. (1993) *Developing Literacy for Study and Work*, Dyslexia Institute (now out of print)

In taking the course into schools we wanted to find out:

- If Teaching Assistants could deliver the course
- If the level of the work was appropriate for secondary schools today
- If the content would fit into one hour slots.

### Could Teaching Assistants deliver the Spelling and Writing course?

The apprenticeship model followed here was for the Dyslexia Action teacher to deliver the whole of the course in the early weeks and for school staff to gradually take over tasks as they felt confident to do so. We encouraged schools to involve the English department as we felt it was a course that could be used by them. Some Teaching Assistants were not confident enough in their own literacy skills to be able to run such a course but others were empowered by it.

### Is the level of the work appropriate for secondary schools today?

I ask this question because the course starts at a very basic writing level for students whose reading is quite good. We found that it challenged the students and that the level was indeed appropriate for this type of student. It certainly wasn't too easy for them.

### Does the content fit into one hour slots?

As anyone who works in a school knows, theory and practice do not always match. It is easy to lose precious minutes at the start of a lesson with latecomers and double booking for instance. Some of the content was challenging to fit into an hour as was the pace of work from week to week. Outside of an evaluated project a school could be much more flexible and perhaps put in a few consolidation weeks to slow down the rate of work. One school (not in the 2009-10 cohort but useful to report here) has deliberately targeted the course at two different groups: one where the pace is fast and they demand a lot whereas the second is gentler and more suited to a slower group.

### The Consultancy Phase

The consultation days allocated at the end of the intervention are used in different ways by the school but a pattern is emerging.

- Going back to setting up: staff often want a revision of setting up the students on UofS because the Dyslexia Action teacher usually did a lot of that to begin with as it was at the start of the intervention and not something you do every week.
- Further UofS training for other staff: schools often want more staff to receive the initial UofS training knowing that they have staff already in the school who can support them later.
- Making fine adjustments: the Dyslexia Action teacher often made adjustments for individual students and staff often want to more about how and when to do such things.
- Introducing the Active Literacy Kit: we deliberately didn't put the Active Literacy Kit (ALK) into the secondary projects because we didn't want the focus to be on the students with the very lowest literacy skills in the school. ALK concentrates on the skills below the level of cvc (cat, fat, mat) reading and spelling. This phase however is a good time to show them this material.
- Planning meetings: the Dyslexia Action teacher is asked to contribute to and comment on the planning for rolling out the intervention in different ways across the school.

### Evaluation

The full evaluation results will be reported in 2012 covering the first 2 years of the project across 18 schools. What we can say for 2009-10 right now is that the school intervention groups made progress in reading that is statistically significant i.e. it cannot be explained by chance alone.

### In Conclusion

We were deliberately ambitious when designing this programme as we know secondary schools face great challenges with literacy and that for many students it is 'the last chance saloon'. We gave the schools an

## Student Profile:

**P was in year 9, Reading and Spelling standard scores in the mid - seventies. Like so many people his age he was reluctant to try a new programme and desperately wanted to be left alone. After a few weeks I tried persuading him to 'have a go'. His response was devastating: 'Why should I believe this will make a difference when nothing else ever has?'**

**But P kept turning up for lessons, sometimes even arriving early when the lesson was after break. Never keen, never enthusiastic he nonetheless recorded 8 SS progress in WRAT Reading and 9 for Spelling. Staff reported he was finding classwork easier. UofS had worked its magic even in these circumstances.**

opportunity to try flexible models of intervention which at the very least have shown that there is always another way of doing things. As for Primary P4L we actually count success when a school comes up with an intervention model of its own. We hope that teachers reading this will be inspired to try some of these things themselves. Dyslexia Action is embarking on P4L Intervention Packages, which are smaller versions of P4L without the demands of evaluation. Whatever we say about schools, teachers, materials or evaluation, in the end it comes down to 'what happens for an individual?'

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# “It takes a village”- a unique reading methods approach in the USA

**Dr Jean Rattigan-Rohr, from Elon University and Dr Ye He from the University of North Carolina Greensboro present their study findings on ‘the village’: pre-service teachers, parents, pupils, professors and the public library working together for students who find reading daunting.**



Dr Jean Rattigan-Rohr

## Abstract

Pre-service teacher in a reading methods class came to realize that knowing what to teach and how to teach when working with students who struggle with reading is not enough to ensure success. This study details a unique reading methods course, which included parents and seventeen students from several Title 1 schools who find reading daunting. In this “village” environment which was held at the public library, all the participants – pre-service teachers, the school of education, parents, tutors, and tutees and the library benefited from the learning experiences.

## Introduction

Reading scores for children in high poverty schools continue to lag significantly behind their middle class peers in more affluent school districts (Borman & Rachuba, 2001). Many of these children struggle with dyslexia, a reading difficulty that is neurobiological in origin (Vellutino et al., 1996). Not surprisingly, reading difficulties in high-poverty schools contribute to overall academic difficulties for the children who populate them, resulting in an ever widening achievement gap. This ubiquitous achievement gap seems intractable despite governmental and nongovernmental efforts to eliminate it (Borman & Rachuba, 2001). Generally, interventions aimed at improving the academic skills of children with dyslexia and other reading struggles focus primarily on the instructional knowledge of the teacher (Bos et al., 2001); (Cunningham et al., 2004), at the exclusion of parents and caregivers.

We believe this practice of excluding parents desperately needs to be re-examined. As we have seen in our own practice, parents and caregivers can play significant roles in helping to improve their own children’s reading skills (McAllister et al., 2005); (Epstein, 2001). It is critical, therefore, to enhance the parents and school relationship to provide better support for struggling readers beyond classroom settings (Darling & Westberg, 2004); (Fullan, 2001).

Another important player in the social reconstruction of the relationship between parents and schools is Schools of Education who are responsible for preparing teachers. Pre-service teachers tend to take a dim view of the level of involvement of parents (Compton-Lilly, 2008); (Nieto, 1996); (Purcell-Gates, 1996) and generally do not feel that they are prepared to involve such parents in their classrooms (Hiatt-Michael, 2001). They also struggle to implement the theories and knowledge they learn in teacher education courses into the actual reading instruction with students, especially struggling readers. As teacher educators, we know this view of parents, and the perceived lack of preparedness must be addressed.

In this study, we described a unique tutoring project implemented as part of the required reading curriculum for a group of elementary general education pre-service teachers who must be prepared to teach all the children in their charge; those identified as having “special reading needs” and those who are not. With active involvement of pre-

service teachers, struggling readers and their parents in the project, all participants benefited from the learning experiences.

## Theoretical Framework

In education programs, reading instruction geared at struggling readers generally highlights pre-service teachers’ knowledge of how to teach reading. Much has been written about what teachers need to know in order to be effective. More specifically, (Hammerness et al., 2005) wondered if “particular bits of knowledge can necessarily help teachers simultaneously think about all of their areas of concern” (Kennedy, 2006, p. 208). However, from our work with pre-service teachers and from their own reflection and self-analysis, their knowledge of how to teach reading, whether declarative or procedural, is not enough.

Knowing what to teach and how to teach when a child struggles with reading requires moving theory into practice (praxis). Such praxis in education programs are typically focused on interaction between struggling readers and pre-service teachers, which neglects the critical stakeholders in this process: parents. In the tutoring program described in this study, we intend to create a “village” where pre-service teachers can interact with not only university instructors and reading supervisors, but also parents and classroom teachers to work collaboratively in enhancing the reading levels of the struggling readers.

In order to effectively work with struggling readers from various cultural and linguistic backgrounds, pre-service teachers need to be prepared to adopt culturally responsive



Dr Ye He

teaching practices and obtain knowledge of teaching beyond content, pedagogy and content pedagogy to work with both the students and their families (Gay 2000); (Ladson-Billings, 1994); (Villegas & Lucas 2002). Studies from Epstein, (2002) revealed that parents are not only extremely interested in being involved in their children's education they also welcome any opportunity to do so. Pre-service teachers and novice teachers, however, report a lack of preparedness to include parents in their teaching practices. Goodlad & Lovitt, (1993), for example, posit that novice and pre-service teachers are often quite intimidated by parents and generally do not know how to include them in children's educational efforts

The consideration for parental involvement and interactions among tutees, parents tutors and pre-service teachers provide the foundation in the design of the tutoring project that intentionally moved beyond knowledge alone and to bring reading theory into practice.

### Project Context

This project takes place within a reading methods course titled Teaching Struggling Readers. The course is taught in two phases - phase I covers reading theory, while phase II addresses praxis. Over a fifteen week semester course, there are six weeks of instruction in Phase I, where pre-service teachers learn about the 5 essential components of reading (phonemic awareness,

phonics, vocabulary, fluency and comprehension); how to successfully teach each component; how to assess student's reading levels and weaknesses using diagnostic tools such as Running Record. Additionally, as Fang (2008) suggests, teacher candidates are taught to look beyond these five components and examine the complexities associated with reading expository texts.

Phase II starts during week 8 and involves seven supervised two-hour tutoring sessions in a local library. Tutees are drawn from four Title 1 schools in grades 3 and 4<sup>2</sup>. These grades are selected because they are the early testing grades in our state. Each tutoring session is supervised by the university professor, who teaches the reading class and reading supervisors. On the first day of the tutoring, teacher candidates conduct a Slosson Oral Reading Test (SORT) – a quick screening test to determine student's reading levels, assess progress and to determine if students need further diagnostic assessment.

### Methodology

The following questions guided our study:

- What is the impact of this project on student literacy development?
- How does this project influence pre-service teachers' perception of literacy instruction and family involvement?
- How does this project affect parents' understanding of literacy and their involvement in student literacy development?

Both quantitative and qualitative data were collected from students, teachers, and parents involved in the project. To identify the impact of the project on both the students' academic development and their motivation for reading, we collected students' pre and post reading motivation inventory and SORT scores. From pre-service teachers, we collected the pre/post attitude surveys and their tutoring reflections. In addition, we collected evaluation feedback from parents to examine the impact of the project from parents' perspective. Finally, teacher educators involved in the tutoring project also took field notes as they observed the

tutoring sessions. Descriptive statistics were used to document the trends observed in the quantitative data, and paired sample t-test was conducted to compare pre and post responses. Qualitative data was analysed using constant comparative analysis (Glaser & Strauss, 1967) and major themes and patterns are highlighted to substantiate the quantitative findings.

### Preliminary Findings

The impact of the tutoring project on students was measured by both the motivation survey and the result of the Slosson Oral Reading Test. Based on the pre and post student motivation survey, we noted that students rated themselves highest ( $M > 3.5$ ) on: item 3 ("Reading is important for lots of things I want to learn now and later when I grow up."), and item 8 ("I feel like I belong in this tutoring. Everybody works hard with me."), and item 9 ("My tutor accepts me as a reader and helps me improve."). The lowest ratings ( $M < 2$ ) were found regarding item 7 ("I read because I can see what books say about people who are like me."), and item 10 ("After I read I can explain what the book says."). No significant difference was observed between students' pre and post motivation survey responses. However, over half of the participants ( $N > 9$ ) increased their ratings on item 1 ("I can read even the biggest word if I try.") and item 4 ("Even if reading is hard I can learn to do it."); item 7 ("I read because I can see what books say about people who are like me."), and item 10 ("After I read I can explain what the book says.").

Based on the pre-attitude survey responses, pre-service teachers rated the highest on item 2 ("Parents are mostly responsible for their children's struggles with reading"-reverse coding) indicating that they see children's struggles with reading not only as parents' responsibilities. They rated the lowest on item 3 ("Schools are at a major disadvantage in teaching students to read if children do not see reading valued by their parents."-reverse coding), with 76% (thirteen out of seventeen) teachers agreed or strongly agreed with the statement and four teachers indicated neutral. The pre and post

<sup>1</sup> Title 1 funds: The U.S. Department of Education provides supplementary funding to local school districts to meet the needs of at-risk and low-income students. (Ed.)

<sup>2</sup> Pre-school years in the USA. (Ed.)



**Natalie Sayag working in the “Village Project” with her tutee, Hannah**

survey response comparison, illustrated pre-service teachers’ development in their attitude towards parents and working with struggling readers. Based on the paired sample t-test results, statistical significant differences were noted on items 1, 4, 6, 7, and 8 ( $\alpha < .05$ ).

Pre-service teachers’ reflections demonstrated their growth in their understanding of readers, the reading instruction, and themselves as teachers. Eleven out of seventeen teachers (65%) commented on their developed understanding of readers, especially in terms of the “different factors that affect a child’s ability to read”, and “how to identify the correct stage” of reading. Comparing their reflection on their understanding of reading before and after the tutoring experience; fourteen pre-service teachers (82%) revealed that they may know what the elements of reading instruction are before tutoring and have “designed activities for struggling readers without knowing what they were struggling with”. However, it is the tutoring experiences that allowed them to learn how to “analyse and identify the problem, and think of a way to address it”; and learn “what works and what does not” in their own reading instruction. It was evident in their reflections that the tutoring experience facilitated pre-service teachers’ growth from simple declarative knowledge of what reading instruction should include to procedure understanding of how to work with struggling readers. Finally, pre-service teachers also reported the growing confidence and self-efficacy they gained through this experience as reading

teachers.

At the end of the project, parents provided feedback through both survey and open-ended responses. All parents strongly agreed that the pre-service teachers are respectful through the tutoring project (item 3), they would participate in the project again (item 9), and recommend it for other parents (item 10). Even though fifteen out of seventeen parents (88%) reported they practice the reading activities at home (item 8), twelve of them chose Agree rather than Strongly Agree.

### Discussions

The results from this study provided insight into the importance of creating opportunities for pre-service teachers to work closely with parents and with students who are struggling with reading. The pre-service teachers under consideration came to realize that if they are to truly understand how to teach children to read they must move beyond their content knowledge, reading theories, and pedagogical knowledge to a space where they are forced to work closely with children who find reading daunting. They must also collaborate with others in the “village.” These others can be classroom teachers, parents, librarians and teacher educators.

By the conclusion of the course, pre-service teachers shifted their perspectives about their own preparedness to involve such parents in their teaching practices. As they worked collaboratively with parents, pre-service teachers began to notice the human stories that emerged. They began to understand the students’ backgrounds

and realities. Pre-service teachers’ journal reflections offered insights into important aspects of teaching and learning they came to learn from parents, students and about themselves. Overtime, the horizontal and vertical levels of learning began to intersect. It is our belief that it was at this intersection that the pre-service teachers in this Teaching Struggling Readers course gained the most knowledge. That is; it was at the intersection that they had the opportunities to stretch themselves and work through the fears and uncertainties they encountered. They also had the opportunity to learn from parents, ask questions of parents and, as the research suggests, address their own anxieties about having to deal with parents, especially those whose children struggle. In addition, they had the opportunity to witness firsthand the power of the triangulation of teacher, student, and parent.

In her reflections concerning her growth after working with her tutee and his parents, one pre-service teacher summed it up this way:

To explain my growth, I would like to use the analogy of making a pizza. Before this semester, I only acquired the toppings I need to create a pizza; now I have learned how to create the whole pizza. I had many pieces of knowledge about literacy; I knew basic characteristics about different terms and concepts. I knew all about the phonological structure of words, phonemic awareness and all that. It was as if I had a lot of different toppings, such as pepperoni, sausage, and green peppers. I could easily pick out each of the toppings that I had in front of me. All of my pieces of knowledge were separate and distinct. I did not have something to put the toppings on and bring all the toppings together. This semester, I have gained not only the knowledge, but the necessary ingredients to create the entire pizza...everything has come together and created a solid understanding of what teaching reading really entails.

### Conclusion

We are asking a new generation of teachers to ensure all the children in our classrooms learn to read proficiently. This new generation of teachers must leave our teacher education programs knowing more than their content knowledge, and considerably more than pedagogical

knowledge. We are requiring that our new teachers become innovative in so many ways as they try to reach students who, after years of reading interventions continue to struggle in school. We are suggesting a fresh new look at involving parents in this effort as we encourage pre-service and novice teachers to ally themselves with parents in the education of children. We know parents are more than willing to seek assistance and work with their children when given an opportunity to do so. We see them at the doorsteps of our practice week after week. Thanks to a grant from the Oak Foundation, an International Philanthropic Organization based in Geneva, Switzerland, we have been able to extend the "Village" project. Now parents are telling each other about the work; as a result, week after week there is a stream of parents showing up at the library, with children in tow.

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**Tutor Drew Yee and her tutee discuss book choices at the book buy**

# Book Reviews



Reid, G. (2nd Ed. 2011). *Dyslexia, A Complete Guide for Parents and Those Who Help Them*. Wiley-Blackwell. ISBN 978-0-470-97373-8 RPR: £16.99 pbk

Gavin Reid

**Reviewed by: Sylvia Fairclough, Dyslexia Action Postgraduate Tutor.**

One of the key changes in this second edition of Gavin Reid's book is the extension of the title to include not only parents, but also 'those who help them'.

The opening chapters, describe what is meant by the term dyslexia, (pointing to a communality of definition amongst English speaking nations) and explore some of the theoretical underpinnings of an understanding of dyslexia, and associated interventions. The author continues by looking at the assessment process; the acquisition of reading skills; co-occurring learning difficulties, and

offers some general pointers for parents negotiating these hurdles.

The book itself is easy to navigate: chapters are effectively summarised and well sign-posted, the index is comprehensive, and there is a useful glossary. However, the text itself is less accessible and, not I suspect in the comfort zone of most of the original target audience - parents of dyslexic learners. I know few people who would not be put off by phrases such as 'culturally responsive pedagogies...' (p. 207). Furthermore, most parents of learners with dyslexia, in the UK at least, do not have the degree of choice implied by the suggestion that they should ask to see a

school's performance indicators (p.149) or professional development programme (p.148), before committing to a school.

However, this book could be a useful first port of call for a professional wishing to become familiar with the issues faced by parents of a learner with dyslexia, or for a confident, articulate parent.

Attitudes and policies towards the assessment of, and support for, learners with dyslexia vary enormously - between teachers, schools, and local authorities; Gavin Reid's book offers the reader a glimpse of a gold standard, which, sadly, many parents will still not find, even in this post-Rose Review environment.

**Developing Language and Literacy: Effective Intervention in the Early Years** by Carroll, Julia M., Bowyer-Crane, Claudine, Duff, Fiona J., Hulme, Charles, & Snowling, Margaret J., (2011). Chichester : Wiley-Blackwell. ISBN 978-0-4707-1185-9 RPR: £29.99 pbk.



**Reviewed by: Jane Haysom, Specialist Teacher.**

The foreword to this book was written by Sir Jim Rose, who writes that: "the book skilfully distils the findings of robust research and clearly sets out the implications of those findings for professional practice. It is a major contribution to the work of teachers and teaching assistants, and those who train them". The authors are an internationally recognised team, mostly with links to the department of Psychology at York University, led by Professor Margaret Snowling.

This is a clear and concise book which can be used by a wide variety of readers – those needing a general overview of current research and best practice, and those looking for detailed specific information on how children learn to read, potential difficulties and how to overcome them. It supports a wide range

of professionals - specialist teachers, those studying for a professional qualification, psychologists, Headteachers, SENCOs, classroom teachers and support staff. Many references for further study are included. Although a description of a research project, the book is very clearly laid out for the reader to access, with numerous tables and figures clearly illustrating main points. A summary of each chapter and glossary are also provided.

The book describes a longitudinal study of young pupils, funded by the Nuffield Foundation. The research aimed to develop two programmes of intervention for children who enter school with poor language development. These programmes were designed to promote either phonological language skills or oral language skills. Teaching assistants were trained to deliver the programmes, with progress monitored at various stages. Both programmes and the whole project were subsequently evaluated. The

theoretical basis of the programmes is outlined, and detailed information on the content of the support offered is given.

A summary of the support staff training is given, and there is sufficient material here for the interested reader to replicate some or all of the programmes used. Both programmes are evaluated, and additional information is provided on how to adapt the programmes for children with different needs - for example, those who respond poorly to intervention, and pupils with Down's Syndrome.

The book also helps teachers to develop an understanding of the intervention and research process as a whole, supporting colleagues who may wish to design and monitor their own small-scale projects. In summary, this book provides excellent value for money, and through a wide readership will play a major part in helping to overcome difficulties faced by children who struggle to learn to read.

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