

Chapter 1

Defining Dyslexia

This chapter will:

- discuss the purpose of a definition for dyslexia;
- provide some pointers to indicate the current breadth of research in the area of dyslexia;
- examine factors influencing a definition;
- provide examples of definitions; and
- highlight the impact of different perspectives and agendas in developing an operational definition for dyslexia.

It is important to be clear when defining dyslexia. Often definitions can be general, vague and serve little real purpose. They can be misinterpreted and misused. Definitions need to be contextualised so that they are relevant to the teaching and learning context. This chapter will seek to provide some clarification on the use of definitions and highlight the need to consider an operational definition for dyslexia.

DEFINING DYSLEXIA

The question one needs to ask is: do we really need to define dyslexia and can we really encapsulate the features and the feelings that accompany dyslexia in a single statement? This point can be considered when one asks people with dyslexia questions such as ‘what is dyslexia?’ and ‘what does it mean to you?’ As part of the research for this book I asked some children and adults those questions! There was a considerable range of responses. Some of them are shown below:

- ‘A problem transferring my knowledge into written work’
- ‘For me it is frustration at not being able to complete tasks on time’
- ‘Being different from everyone else’
- ‘Wanting to read books but not getting past the first page’
- ‘Having a bad memory and being so disorganised’

‘Feeling different from everyone else’

‘Inconsistency in my work—some days I get it right and other days I get the same thing wrong’

‘I find it difficult to listen to the teacher for more than a few minutes’

The following comment came from a teacher who is dyslexic:

I do not define dyslexia as a bad aspect of my life, I would not be the person I am today if I did not have dyslexia as a part of my genetic and biological makeup. My characteristics of dyslexia have moulded my personality and the experiences and choices I have made in my life, for the good and for the bad. The negative aspects of dyslexia for me is the frustration, confusion and embarrassment I feel when I am involved with tasks which will highlight my difficulties—those which involve memory recall, sequencing, numbers and spelling. I will forget how to do things or misinterpret the instructions, particularly if they were given recently and quickly. The difficulties in being able to remember numbers is real and can cause problems, for example I do not know my parents’, partner’s or children’s telephone numbers. I also find it very difficult to find my way around the alphabet and this affects me on a daily basis. However, it is important to try and keep dyslexia in perspective and see the positive effect it can have on my life. I feel I can empathise with my students and their parents/carers. It helps me to keep working to create accessible teaching resources and approaches; perhaps it feeds my creativity and the speed of ideas, planning and focus which I have. These benefits outweigh the negative aspects because they have enabled me to create effective strategies which help me to carryout the vast majority of tasks and responsibilities I have. Despite the embarrassment dyslexia can and does cause me, I function quite well in this society. But I appreciate that I am fortunate and have opportunities and support which others may not.

Reading through these statements one feels struck by the emotional feelings attached to them—and that is the problem with a definition of dyslexia: it provides a definitive and descriptive response to what for many can be an area of emotional stress and personal conflict. Yet for education and research purposes a definition is necessary—to assist in developing identification and diagnostic criteria and to inform intervention. Definitions can help to provide a label. For many parents a label is necessary as it can help to kick-start the support process. For adults with dyslexia it can help them develop self-knowledge and eventually coping strategies. For teachers it can provide explanations as to why the child may not be responding to the intervention provided. A definition therefore can be an important catalyst in this process. The problem, however, lies in the lack of a universally accepted definition of dyslexia.

There are many different dimensions to dyslexia—dyslexia is not represented by a single entity, or caused by a single gene. Dyslexia is multifaceted and that can explain why a single universally accepted definition has not yet been achieved. It can be argued, however, that there is some agreement on the constellation of factors that can contribute to dyslexia, but controversy surrounds the respective weighting of



these factors. Everatt and Reid (2009) highlight the range of factors that are currently associated with dyslexia:

- Structural and functional brain-related factors (Galaburda and Rosen, 2001; Hynd et al., 1995)
- Genetic factors affecting the developmental migration of magnocells in utero and influencing their subsequent function (Stein, 2008)
- Genetic correlations (Gilger, 2008)
- Procedural timing of sequences in task accomplishment (Fawcett and Nicolson, 2008)
- Processing speed (Wolf and Bowers, 1999)
- Inter-hemisphere transfer (Breznitz, 2008)
- Difficulty in automatising skills (Fawcett and Nicolson, 1992)
- Working memory difficulties (Jeffries and Everatt, 2004)
- Phonological deficit (Snowling, 2000)
- Language features—orthographic transparency (Wimmer, 1993; Share, 2008; Everatt and Elbeheri, 2008)
- Comorbidity between learning disabilities (Bishop and Snowling, 2004; Visser, 2003)
- Literacy achievement levels and the role of IQ in diagnosis (Siegel and Lipka, 2008; Joshi and Aaron, 2008; Wagner, 2008).

These are some of the factors that can influence our understanding of dyslexia, and each can have an impact on how dyslexia is perceived and how assessment and intervention are portrayed.

PURPOSE OF DEFINITIONS

Definitions of dyslexia, particularly those used by education authorities, school districts, voluntary organisations and associations, are abundant and some will be shown here. Often they serve some purpose and it is possible to categorise the type of function they serve:

- *Allocation*—used to allocate resources and develop provision. These would usually focus on discrepancies and provide some discrepancy criteria in order that those who need additional support and special provision could be readily identified.
- *Explanation*—explain to teachers and professionals how they may identify and intervene. These definitions may have a list of statements and characteristics and can merge into operational definitions which provide explanations of the difficulty and how it can impact on practice.
- *Understanding*—help parents and indeed the person with dyslexia understand what it is. It is difficult for a definition to actually do this. Often parents want to know the cause of a difficulty as this helps them more fully understand the extent of the problem and how it might be tackled. It is difficult to do this in a definition.

- *Research*—a research definition can help to provide a discrete and well-defined sample for researchers. This might include set criteria that are easy to measure, such as IQ scores and certain types of discrepancies.
- *Statement definitions*—these are becoming quite common where organisations have their own definition almost as a statement or a mark of status. Increasingly, organisations are seeking to have their own definition of dyslexia. This might be called a statement definition of the organisation, whether voluntary body, parent group or education authority.

HOW SHOULD WE DEFINE DYSLEXIA?

A number of definitions will be shown below—they each have some commonalities but there can also be a difference in the emphasis placed on different characteristics. For example, some will mention neurological factors, others focus on educational characteristics and yet others will make reference to identification criteria.

The definition that has been developed by the author for this book is shown below:

Dyslexia is a processing difference, often characterised by difficulties in literacy acquisition affecting reading, writing and spelling. It can also have an impact on cognitive processes such as memory, speed of processing, time management, co-ordination and automaticity. There may be visual and/or phonological difficulties and there are usually some discrepancies in educational performances.

There will individual differences and individual variation and it is therefore important to consider learning styles and the learning and work context when planning intervention and accommodations.

The main points in this definition are:

- *Processing difference*—this can highlight the differences between individuals and the need to use multi-sensory intervention strategies.
- *Difficulties in literacy acquisition*—without doubt this is one of the key areas as it is usually difficulties with reading that first alert the teacher or the parent. It is important to note that this can be in the form of decoding and encoding and in the production of written output.
- *Cognitive processes*—cognition means learning and processing information and it is this that can be challenging for students with dyslexia. This refers to how information is processed, which affects memory, processing speed, and the ability to retain and transfer information, to utilise prior learning and to develop automaticity. Good teaching can make an impact in relation to cognitive difficulties. First, however, it is necessary to identify the nature of the learning difficulties the child experiences.
- *Discrepancies in educational performances*—this is often one of the most obvious indicators of dyslexia. There can be a difference between the reasoning abilities and the processing performances. This means that students with dyslexia can solve problems and can reason but often they have difficulty in processing the information



and accessing the information to help them solve problems. Discrepancies in different areas of performance can often be noted and often this is very obvious between written and oral work.

- *Individual differences*—it is important to recognise that students with dyslexia are individuals and their individual learning differences need to be respected. Not all students with dyslexia will have the same profile, although they all can meet the criteria for dyslexia.
- *Learning and work context*—some learning and work contexts can highlight the person's dyslexic traits while others can minimise them. For example, if a dyslexic person is attempting to locate information from a library he or she may have difficulty in accessing an index, finding the appropriate book and locating the information in that book. Without guidance this kind of task can be challenging for students with dyslexia. Other tasks such as those that involve some degree of creativity or visual processing may be easier. Getting the task and the environment right for learning is important and highly important for the person with dyslexia.

This type of definition can pave the way for an operational definition. This next step would involve developing some of the points to show the actual characteristics and how these can be acknowledged in the classroom.

DEFINITIONS

What do definitions do?

- Provide some guidance to teachers and researchers.
- Provide information on the nature of reading difficulties.
- Lead to guidance on intervention.
- Develop a general awareness of dyslexia.

Box 1.1 What do definitions do?

But what **might** definitions do?

- Cause confusion because of the variation.
- Generalise a difficulty which in fact can be very individual.
- Mislead the public and practitioners.
- Provide little guidance for assessment or intervention.

Box 1.2 What might definitions do?



Reid-Lyon (1995) suggests that the lack of an appropriate definition has had an impact on research in dyslexia and this has resulted in a reliance on exclusionary criteria and lack of clear selection criteria for the sample being studied. He suggests that a definition must be governed by a theoretical view supported by substantial research and clinical evidence. This should be based on ‘constructs’ that can be measured directly and consistently, and should provide clear indications of how to identify whether a person is dyslexic. The International Dyslexia Association (IDA) definition was developed from this premise.

The International Dyslexia Association (IDA) definition is as follows:

Dyslexia is a specific learning disability that is neurological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede the growth of vocabulary and background knowledge.

Adopted by the Board of Directors: November 12, 2002 www.interdys.org/FactSheets.htm

Box 1.3 IDA definition

Dyslexia is a specific learning difficulty which mainly affects the development of literacy and language related skills. It is likely to be present at birth and to be lifelong in its effects. It is characterised by difficulties with phonological processing, rapid naming, working memory, processing speed, and the automatic development of skills that may not match up to an individual's other cognitive abilities. It tends to be resistant to conventional teaching methods, but its effects can be mitigated by appropriately specific intervention, including the application of information technology and supportive counselling.

www.bdadyslexia.org.uk/whatisdyslexia.html, 2008

Box 1.4 BDA definition

Dyslexia is manifested in a continuum of specific learning difficulties related to the acquisition of basic skills in reading, spelling, and/or writing, such difficulties being unexpected in relation to an individual's other abilities and educational experiences.

Dyslexia can be described at the neurological, cognitive and behavioural levels. It is typically characterised by inefficient information processing, including

continued

difficulties in phonological processing, working memory, rapid naming, and automaticity of basic skills. Difficulties in organisation, sequencing and motor skills may also be present.

(Task Force on Dyslexia, 2001, p. 28)

See also Northern Ireland Task Force Report on Dyslexia: www.deni.gov.uk/dyslexia.pdf.

Box 1.5 Task Force on Dyslexia in the Republic of Ireland definition

Four points seem to emerge from the definitions above:

1. a recognition that dyslexia is developmental;
2. an understanding that the central characteristics relate to literacy;
3. an appreciation that different and special teaching and learning approaches are necessary;
4. an acknowledgement that there can be additional secondary factors associated with dyslexia.

Definitions can differ in how they phrase these points and much of that depends on the purpose of the definition. One of the important points, however, is the need to understand that it is crucial for education authorities to develop an operational definition that can be accessed and understood by teachers and parents.

An operational definition should:

1. provide a statement on dyslexia;
2. indicate precisely the identification criteria;
3. indicate how this criteria will be used, and by whom;
4. describe the kind of challenges the students will experience at different stages of schooling and in different areas of the curriculum;
5. indicate the type of supports that will be necessary;
6. provide pointers to resources, books, programs, approaches and technology that can be appropriate;
7. clearly define the roles of teachers, teaching assistants, management and support/resource teachers in carrying out intervention;
8. indicate the role that parents will/can play in the process of identification and support;
9. discuss the implications for preparing the student formal examinations and the types of additional supports and accommodations that can be made available to the student;
10. discuss the implications of curricular choice and curricular access and show how the school can accommodate the student's learning needs;
11. indicate the different levels of training the staff will require and show how these can be achieved;

12. indicate the long-term post-school study and career opportunities and show how the school will ensure that appropriate support and information are provided to student and parents.

It is feasible that these points can be developed and integrated into a policy for dyslexia. Many of these points can be seen in the Northern Ireland and the Republic of Ireland Task Group and Task Force documents (see www.deni.gov.uk).

Reid et al. (2005) found in a study involving all 32 education authorities in Scotland that almost all had some policy in dyslexia—nine had an explicit detailed policy, eight had a detailed policy in the area of specific learning difficulties that included other syndromes in addition to dyslexia and all the others mentioned dyslexia as part of a more generic policy of teaching and learning, e.g., ‘Support for Learning Policy’, ‘Additional Support Needs Policy’, ‘Inclusive Education Policy’.

But an isolated definition of dyslexia that has not been expanded and contextualised for the learning and teaching context is of minimal value to teachers and perhaps also to parents. Even if education authorities do have a clear definition of dyslexia and have expanded that into an operational policy, there are still barriers that need to be overcome and barriers that can prevent successful implementation.

Crombie (2002a) developed a definition that focuses not on deficits but on accommodations:

Dyslexia is a difficulty with literacy which results in a person requiring a set of accommodations to be made to enable them to demonstrate their abilities. Accommodations can be defined as a set of enabling arrangements that are put in place to ensure that the dyslexic person can demonstrate their strengths and abilities and show attainment (cited in Clark (2003), p. 9).

This type of definition can lead to identifying the barriers to learning in both policy and practice that can have some impact on the need to develop accommodations. The strength of this approach is that it is positive, focuses on teaching and learning and can be set within the classroom context.

BARRIERS TO IMPLEMENTING POLICY

Reid (2004) found that a number of barriers were identified by education authorities that could prevent the policy from being fully implemented. These included:

- concern over numbers of children requiring support;
- the number of requests for additional training;
- reluctance to label too early;
- lack of staff awareness that results in late identification;
- dyslexia is only one of a range of ‘inclusion issues’;
- lack of clarity of views on dyslexia;
- the ‘waiting for an assessment’ approach among some teachers is not helpful—they should be able to use their skills and experiences to intervene appropriately even if an assessment has not been conducted.

This latter point is of crucial importance. Teachers are at the front line and they have some responsibility for identification, and early identification in particular, but they can only do this successfully if they have sufficient training and opportunities to follow this up. This is important, as early identification is usually a key factor in an operational definition and overall policy strategy.

ROSE REVIEW AND DYSLEXIA

The area of dyslexia has been the subject of government investigations and initiatives and these have certainly increased during the past decade. The ministerial statement from the UK government in May 2008 (see follow-up to the Rose Review in the UK (July 2008, www.dcsf.gov.uk/jimroseanddyslexia)) indicated that this is because there is now a significant body of scientific research substantiating the various neurological and cognitive components of dyslexia and that this can indicate that special consideration is needed for intervention. This point has not escaped many of the voluntary and professional organisations on dyslexia which collaborated to provide a joint response to the UK government on the Rose Review. The government response indicated that in order to encourage schools' development of best practice in improving outcomes for children with dyslexia, they had provided funding of around £1m over three years to the 'No to Failure' project which, they indicated, is a 'trailblazing' initiative, and additionally they will be evaluating the impact of specialist training for teachers and specialist tuition for children with dyslexia in some schools in three local authority areas. Additionally, they have provided substantial funding to the British Dyslexia Association and Dyslexia Action to run further Partnership for Literacy pilots and develop resources for parents and teachers. These points will be discussed later in this book in the chapters on assessment and intervention, but it is important to note the response to this statement from the voluntary and professional organisations. They indicated that 'our organisations strongly believe that the country should be implementing a simple system where each school would have one teacher trained as a dyslexia/SpLD specialist who can recognise and support children with dyslexia/SpLD. This expertise is already widely available from dyslexia centres, specialist teachers and a number of independent schools who have for many years been providing effective support for dyslexic children in reading, writing, maths, and concentration. Each review and pilot merely adds to the delay in implementing the solution. They have been getting it right for years. We want to see this in all schools in the public sector'. So although there is now more acceptance of the concept of dyslexia, there is still some disagreement and some anxiety that appropriate assessment and intervention procedures are not in place.

EDUCATION FOR LEARNERS WITH DYSLEXIA

'Education for Learners with Dyslexia' is the title of a report published in Scotland (HMIE, 2008) following a lengthy inspection of provision for dyslexia by Her Majesty's Inspectorate of Education (HMIE). Over the period 2007–2008, the

Inspectorate undertook a broad evaluation of provision for children, young people and adults with dyslexia in Scotland. The investigation identified the range and quality of provision in Scotland across all sectors. The Inspectors visited a number of pre-school centres, primary, secondary, independent and special schools, Scotland's colleges and faculties of education in Scottish universities. The key issues raised in the survey of education authorities included:

- the views held and the description of dyslexia used by education authorities;
- the range of provision, including early intervention schemes, specialist units and resources, and specialist teachers;
- teaching approaches, programmes and technological support used across the authority;
- opportunities for staff to undertake training and professional development related to dyslexia; and
- the number of teaching staff with specialist qualifications.

The investigation found that the majority of education authorities adopted a range of approaches which reflected a shared understanding of the way young people learn. The learning and teaching approaches used by most authorities included:

- metacognitive approaches;
- small group and one-to-one teaching;
- reciprocal teaching;
- scaffolding;
- reading recovery;
- synthetic phonics;
- structured phonics programmes.

The report indicated that parents' involvement in their children's review of progress was a particularly strong point of the current practices. Other areas that were considered strengths included:

- the knowledge and approachability of most support for learning staff in linking with parents and providing appropriate curriculum support; and
- learning strategies which helped students to overcome difficulties independently.

The report, however, recognised that there were a number of areas for development. These included:

- involving parents and young people in setting targets in IEPs;
- delays in obtaining an assessment of children who may have dyslexia;
- delays in providing the right support for children with dyslexia;
- raising awareness among parents of difficulties associated with dyslexia and helpful support strategies.



Staff views about how teacher-education institutions could develop their contribution to preparing teachers to meet the needs of students with dyslexia included more time needing to be spent on teaching students how to teach reading. It was interesting to note that most newly qualified teachers reported that they did not have sufficient awareness of the issues relating to dyslexia or a secure grasp of methodology and strategies that could be used to teach literacy and numeracy skills to all children. It is also interesting to appreciate the view expressed in the report that the lack of consensus across universities about what dyslexia is has to be seen as an area for development. It is crucial that there should be uniformity and consensus in this aspect as it is important that new teachers entering the profession have a uniform and consistent induction to dyslexia irrespective of which teacher education establishment they attended. This situation is not confined to Scotland—the same controversies would apply to other areas in the UK and in the USA. Moats (2008) indicated this clearly when she studied how prepared university professors were to teach areas such as dyslexia and reading. Her results indicated that in some cases they had less knowledge than some of their students.

The Scottish report indicated that a mix of views as to what dyslexia actually is prevailed throughout Scotland. Although the majority of authorities found the British Psychological Society's (BPS, 1999a) view helpful, many schools, colleges and universities held a range of perspectives on dyslexia. The report suggests that such 'a mix of views can cause confusion for newly qualified and practising teachers. Teachers and learners should have updated, accessible and practical advice on dyslexia and its impact on young people including co-occurrence with other additional support needs' (p. 34). The recommendation was that the Inspectorate would work with education authorities and the Scottish government to produce examples of best practice in dealing with dyslexia. This is an excellent approach as it ensures dissemination of good practice. There is no doubt that there are some excellent examples of practice in the UK and elsewhere but these need to be identified and disseminated.

DIFFERENT PERSPECTIVES AND AGENDA

There are also differences within the groups of professional practitioners and researchers. Fawcett (2002) suggests that one of the major tensions in dyslexia research has in fact been the range of potentially conflicting viewpoints. These viewpoints have emerged from 'researchers and practitioners; parents and teachers; teachers and educational psychologists; schools and local education authorities; local education authorities and governments—all have different agendas, and much of the time this forces them into opposition'. It is interesting to note that the working party of the BPS that was convened to provide guidance on assessment for psychologists was not able to settle the controversy, although it did make a number of recommendations which have been followed up by psychological services. Also, the definition indicated by the BPS working party is widely used, although it generated some controversy at the time.

Different perspectives can often become an issue when a new intervention is being advocated and may not have wide appeal. This was the case with the controversy over



the implementation of, and the research studies examining, an exercise programme—The Dore Programme (see Reynolds and Nicolson, 2007). This became an international issue and the debate centred around issues regarding:

- the debate over mainstream versus alternative interventions;
- the use of commercially directed interventions in schools;
- approaches that use the media to generate evidence of success;
- the extent of the scientific background that has helped to generate the new approach;
- the nature of the trials that have been implemented to examine the implementation and the success of the approach;
- the reference of the approach in peer reviewed journals; and
- the availability of the approach to all who might benefit from it.

Some of the points above are encapsulated in the journal issue indicated above and highlight the anxiety parents and teachers can experience over dyslexia and the need and the responsibility for education authorities to provide information and evaluative comment on the approaches in use and to recognise that new and alternative approaches may have something to offer. The point that any new approach must be scientifically validated is essential before any approach can be used in schools. But at the same time it is important that education authorities are open to new approaches, are able to listen to the wishes of parents, and appreciate that the dynamic nature of the field of dyslexia means that new approaches and different perspectives can emerge and that these need to be considered.

POINTS FOR REFLECTION

- What is the value of a definition of dyslexia? What purpose might it serve?
- The importance of an operational definition.
- The barriers in practice that can prevent policy from being fully and effectively implemented.
- How dyslexia might fit into policy and practice for effective teaching and learning.
- What is the role of teacher education in relation to reading and dyslexia? To what extent is this role being fulfilled?
- The issues that can stem from new and sometimes controversial approaches. Why does dyslexia generate the anxiety and the emotional fervour that can be felt in debates on new approaches?
- How can these issues be resolved to the satisfaction of the different groups which may each have different agendas and priorities?