1 The history of dyslexia

Introduction

The word *dyslexia* is only one of many terms that have been used over the years to describe children with literacy difficulties. As recently as the twentieth century some authors were expressing reservations over using the word dyslexia to describe this group. Even when the word dyslexia began to come into general use, many authors continued to have reservations. For instance, for some, the word dyslexia was considered to be synonymous with the term ‘specific learning difficulty’ (Rutter and Yule, 1975), while for others the term ‘specific developmental dyslexia’ (Pumphrey, 1996) was preferred.

It was not until the publication of the government document, *The Code of Practice* (Department for Education and Employment, 1994) that dyslexia was given official recognition. Even though this official document seemed at last to be giving official recognition to the existence of dyslexia, the relevant phrase in the document continued to reflect some reluctance to accept dyslexia as distinct from other learning difficulties. The document referred to ‘specific learning difficulties (for example dyslexia)’. This statement probably reflected the continued reservations held at that time by several educationalists regarding the concept of dyslexia. Prior to the issue of this document, the phrases ‘specific learning difficulty’ or ‘specific developmental dyslexia’ seemed to figure more prominently in the literature to describe this group of children. Although dyslexia is accepted today as an official category of specific learning difficulty, there is a debate continuing among some educationalists over whether any kind of label is necessary to describe this category of children with learning difficulties.
The concept of dyslexia has a short history. The term dyslexia did not come into general use until the late twentieth century. Even when it became accepted that a discrete group of children with persistent literacy difficulties existed, it was some time before the word ‘dyslexia’ was accepted as a word to describe them.

Prior to the 1900s the topics of childhood, child development and how children learn were still the subject of much theorizing, without the advantage of today’s empirical research methods. A plethora of terms was used to describe the problem, such as *word blindness*, or *stereosymbolia*. As most children’s learning difficulties were at that time considered medical problems, the words used usually originated from medicine. The medical profession played the dominant role in the area of learning difficulties during those early days.

The first educationalist to investigate individual differences in children’s academic abilities was Sir Francis Galton (1869). Apart from the pioneering work of Galton, neither psychology, nor the teaching profession, was making significant contributions at that time to the study of the causes of childhood learning difficulties.

Before the twentieth century, children who had literacy difficulties were considered to have medical problems, or were constitutionally limited or poorly motivated. Just how these views could have held prominence is difficult to appreciate today in the light of subsequent knowledge of child development and how children learn. The scientific study of child development had not yet fully emerged and educational psychology was in its infancy. Research journals were few in number, so even if scientific studies had taken place, there were few avenues for the dissemination of results.

The situation today, in the twenty-first century, is radically different from those early years. The development of scientific methods has allowed investigations into learning difficulties that were not previously possible. More importantly, scientific evidence for the existence of the specific learning difficulty termed ‘dyslexia’ is now well established. Although it had long been accepted that there is a discrete group of children who have literacy difficulties despite appropriate learning opportunities, the use of the word ‘dyslexia’ to describe this group is of relatively recent origin.

The different terms that have been used over the years, together with some of the significant developments in the short history of the concept, are outlined in this chapter.
Early medical perspectives

Societal interest in people with reading difficulties probably began in 1878 with Adolph Kussmaul, a German neurologist. He had a special interest in adults with reading problems who also had neurological impairment. He noticed that several of his patients could not read properly and regularly used words in the wrong order. He introduced the term ‘word blindness’ to describe their difficulties. The phrase, word blindness, then began to be used regularly in the medical journals to describe adults and children who had difficulty learning to read. This phrase also conveyed the fact that these patients were neurologically impaired.

In 1887, a German ophthalmologist, Rudolf Berlin, was the first to use the word ‘dyslexia’ in place of word blindness. However, the term of dyslexia did not come into common usage in the literature until the following century. Before then word blindness was more commonly used to describe this group of adults and children with reading problems.

The next milestone in the history of dyslexia appeared in 1891 with a report in The Lancet medical journal by Dr Dejerne. This report described a patient who had suffered a brain injury after having been hit on the head with a crowbar. The patient had lost several language functions, including the ability to read. A medical hypothesis then emerged that concluded that those who had difficulty reading had probably suffered a brain injury.

Following Dejerne’s report in The Lancet, further accounts began to appear in other medical journals, also reporting patients who had suffered head injuries and subsequently lost the ability to read and, in one case the ability to speak. As a result, the view that persistent reading and language difficulties always owed their origin to particular brain dysfunctions began to be generally accepted. Dejerne’s work appeared to reinforce the conclusions of Kussmaul that reading difficulties were associated with underlying neurological impairments. The fact that this conclusion was merely a hypothesis and not based on any valid research was not considered. It was generally accepted at that time that difficulties in learning were rightly the province of the medical profession. Consistent with the medical model of learning that dominated that period, children who had reading difficulties were considered to have a neurological impairment. Again, these
theories were held in the days before the existence of psychology as a science.

The medical view of reading difficulties continued into 1900. At that time, Dr James Hinshelwood, a Scottish eye surgeon, published an account of a patient who had reading difficulties and also a congenital defect in the brain related to eyesight. From this evidence he concluded that the cause of reading difficulties was a malfunction of eyesight as a result of a brain defect. Dr Hinshelwood’s work reinforced the use of the term word blindness and this phrase persisted throughout the early twentieth century.

A plethora of terms followed in the 1900s beginning with the term strephosymbolia. This term was introduced in 1925 by Dr Orton, an American neurologist of some significance. He was probably the first to recognize that children with reading difficulties often reversed letters. This phenomenon he called strephosymbolia. He also introduced the term developmental alexia to describe these children with reading difficulties. There were now three different terms in existence, all used to describe this learning difficulty. The problem of children with reading difficulties continued to be in the sphere of medicine.

It was not until the mid-1930s that the term dyslexia began to more commonly appear in the literature. The word dyslexia is of Greek origin and combines ‘dys’, meaning an absence, and ‘lexia’, meaning language. So, literally, the word dyslexia means an absence of language. Learning difficulties, especially dyslexia, were now beginning to be viewed primarily as educational problems. There followed a proliferation of publications of new teaching methods to help children with dyslexia. Despite these initiatives being written by educationalists, the medical profession continued to oversee the identification and placement in special schools of children with learning difficulties. This medical initiative persisted throughout the main part of the twentieth century.

Transition from a medical to an educational perspective

It was not until the mid-twentieth century that children with specific literacy difficulties began to be no longer considered to be under the jurisdiction of medicine. Educational and psychological research began to accumulate at this time, broadening understanding and refining concepts of child development. This increased knowledge base helped to redefine the origins of childhood learning difficulties and
how best to manage these difficulties. Childhood learning difficulties were now more commonly recognized as being within the province of education. Even where occasionally a child’s learning difficulties were diagnosed as being of a medical origin, it was agreed that the primary management of the problem was best conducted within an educational environment.

General psychology had initially helped to broaden the perspective on childhood learning difficulties. Educational psychology was now emerging as a specific branch of general psychology, further enhancing the educational perspective on learning difficulties. The significant research into the origins of learning difficulties was beginning to be carried out in the twentieth century within an educational context.

Up to the early and late twentieth century, school medical officers had been conducting the assessment of children with learning difficulties using intelligence tests devised by psychologists. It was not until the 1970s that medicine relinquished its role in that sphere and the assignment of intelligence testing was given to the educational psychologists. It was the Warnock Report (1978) enquiry into children with special educational needs that stimulated the change in the role of the school medical officer. Thereafter, it became inappropriate for these medical officers to be responsible for intelligence testing and also for the administrative categorization of children with learning difficulties.

The development of specific educational programmes

Prior to the twentieth century many children with learning difficulties were often considered to be unteachable. Historically, this can be seen in the two medical classifications of children at that time as being educationally subnormal and severely subnormal. The phrase ‘uneducable’ was sometimes used to describe children with severe learning difficulties. They were often considered to be unable to profit from education. It was not until the beginning of the twentieth century that this situation changed. As knowledge of how children learn began to accumulate, it was recognized that children previously considered to be uneducable could in fact learn, albeit at their own pace. New teaching strategies were devised and the input of educationalists began to take a more prominent role in the management of childhood learning difficulties.
Notable in this quest for new learning strategies was the work of Anna Gillingham and Bessie Stillman (1936) who published the first teaching method devised specifically to help children with reading difficulties, including those children with dyslexia. Their approach advocated a multi-sensory method based on the analysis of language. A phonic-based visual, auditory and kinaesthetic approach to the teaching of reading provided the basis of this method. Children would be asked first to say a word aloud. Then they were shown how to write the word, then how to listen to the word and, finally, they would be asked to model the word using modelling clay. The publication of their method led eventually to the modern work on the phonological aspects of reading. This method is still in use today in schools and is perhaps better know as the Gillingham–Stillman method.

Even though educationalists were seen to be taking the initiative with methods of teaching children with learning difficulties, the topic of dyslexia was still considered mainly to be the province of the medical profession. This was exemplified by the contribution of a neurologist, Dr Orton, who collaborated with the educationalists, Gillingham and Stillman, in the publication of their teaching manual.

In 1968, a more controversial method of teaching children with learning difficulties was introduced by Doman and Delacato in the USA and began to receive international attention. Although not devised specifically for dyslexic children, it is significant in the history of dyslexia as it was based on the contemporary hypothesis that deficits in the neurology of the brain are often associated with dyslexia. As such, it was probably the forerunner of several similar teaching strategies devised for dyslexic children. Since then there have been other teaching methods published that were also based on possible neurological deficits.

The Doman–Delacato method, known as ‘patterning’, was based on the hypothesis that ‘learning-disabled children’ had missed out on some of the normal neurological developmental stages. These authors asserted that these stages are the evolutionary steps that the entire human species has gone through over the generations of human development. Failure to pass through any one of these stages in an individual would result in problems in physical mobility leading to problems in language and communication.

The Doman–Delacato treatment consisted of a series of physical exercises that included motor activities such as crawling, balancing and stretching limbs. The aim was to replicate the neurological stages
of development that these children were thought to have missed. The activities were to take place daily, for seven days a week and to continue for at least 12 months. They believed that at the end of the process children achieved normal hemispherical dominance and what they termed ‘full neurological organization’.

Unfortunately, this innovative approach was heavily criticized following investigations by a team of medical and health specialist research workers. These investigators were unanimous in rejecting Doman and Delacato’s claims for improvements in literacy skills. The work was criticized for its lack of proper theory, unsatisfactory treatment and lack of valid research. Despite the criticisms, the authors set up the Philadelphia Institute for the Achievement of Human Potential and have since established branches in many countries around the world. Not unnaturally, many parents have been attracted to the programme despite its apparent lack of scientific credibility. The Doman–Delacato method not only has a place in the history of dyslexia as the forerunner of other physical exercise-based programmes for children with learning difficulties through a structured programme of physical activities, but also because of its theoretical base. Doman and Delacato’s original claim that abnormalities in the cerebellum might be responsible for learning difficulties has since achieved empirical support (Nicolson and Fawcett, 1995). Further methods for helping children with learning difficulties, also based on the theory that these children had neurological deficits, have since been established by Dennison (1981) in the USA and Dore (2006) in the UK. These teaching programmes both claim that learning difficulties can be remedied through physical activities that can develop ‘neural pathways’ in the brain. As with Doman and Delacato, Dennison and Dore have established centres throughout the world staffed by people trained to operate their programmes. The programmes are currently expanding their influence and more details concerning them are provided in Chapter 5 of this book.

The growth of independent institutions for dyslexia support

A significant event in the history of dyslexia occurred in 1963 when the Invalid Children’s Aid Association (ICAA) established the Word Blind Centre for Dyslexic Children in London. Its main aim was to
provide a centre for the teaching of dyslexic children although some research was also conducted. The ICAA was one of the first institutions to conduct research into the causes of dyslexia (Naidoo, 1972). The research at the Word Blind Centre provided the stimulus for further investigations into dyslexia by others who followed. One example of this is the work of Snowling (1995) into the significance of phonological processing and dyslexia.

A much-needed publicity boost for dyslexic children occurred in 1967 with the establishment in the USA of the Orton Dyslexia Society. This organization was mainly responsible for the subsequent increase in public and political attention given to the needs of dyslexic children in the USA. The Society's influence gradually extended beyond the USA, so that in 1997 it changed its name to the more appropriate title *International Dyslexia Association*, a title it holds today.

The above private institutions were the forerunners of other institutions established specifically for the purpose of support, research and teaching of dyslexic children. Today, there are literally thousands of such institutions, including university departments, spread throughout the world. There are too many to list individually; all are concerned with promoting, catering for and investigating the needs of people with dyslexia. The *British Dyslexia Association* and *Dyslexia Action* (formerly the *Dyslexia Institute*) have been particularly prominent in the UK in their promotion of the needs of dyslexic children as well as in the training of specialist teachers.

**Dyslexia as a difference rather than a deficit**

Dyslexia had always been researched as a deficit with research into various cognitive weaknesses and neurological deficits. However, in the early 1980s, a new notion began to emerge that seemed to be about to revolutionize the thinking on dyslexia. This notion was that dyslexia might be a *difference* and not a *deficit* after all.

The view that dyslexia might be a different way of learning probably began with the work of Gardner (1983) with his theory of multiple intelligences. Gardner took the view that intelligence was expressed in several different ways; linguistic ability being only one of them. According to Gardner's theory, we should not expect all children to be competent in linguistic skills. Gardner’s theory of multiple intelligences is discussed more fully in Chapter 6 of this book.
The work of Galaburda (1989) with adults gave further support to the view proposed by Gardner. It was while performing autopsies that Galaburda noticed that there was a superior development of the right hemisphere in those who had been diagnosed as dyslexic. The right hemisphere is the part of the brain that was said to be concerned more with creativity and visual processing. The corollary to this was that dyslexic people were likely to be more creative and to use a more visual approach to learning. As the right hemisphere often seemed to be larger than the left hemisphere in dyslexic people, Galaburda proffered the view that perhaps dyslexia was a normal variation of the development of the brain and not necessarily a disorder.

The hypothesis that dyslexia is a different way of learning and not necessarily a deficit gained further publicity at this time with authors such as Silverman (2002) and Freed (1997). Silverman and Freed demonstrated how dyslexic children made excellent progress in literacy skills with programmes specifically designed to develop the facility that began to be termed ‘visual spatial thinking’.

The notion that dyslexia was a different way of learning was supported by West (1997). West proffered the view that dyslexic children were ‘visual thinkers’ and additionally showed unusual creativity, as had been suggested by Gardner (1983). More recently, Stahl (2002) highlighted the fact that most dyslexic children tend to use a more visual learning style.

An altogether different view of dyslexia was being taken around this time by Solity (1996). Rather than entering the debate on whether dyslexia was either a deficit or a difference, Solity took the views that children with literacy difficulties had probably been deprived of appropriate learning experiences. He suggested that it was unprofitable to consider the causes of literacy difficulties within children. The origins of their difficulties were more likely to be found outside the children, in the children’s environment. According to Solity, it was children’s disadvantaged social environment and paucity of language experiences that resulted in literacy difficulties. Accordingly, there did not appear to be any reason why appropriate learning experiences, with children mediating their own learning, should not remediate their problems. This view received some support from the work of Kavale and Forness (1996) who found in a meta-study of 152 students with learning difficulties that 75 per cent of them had social skill deficits. Although this was a plausible theory, it is difficult to reconcile this view of dyslexia as being solely a result of social and language
deprivation when considering the conclusions of recent research into the neurology of the brain. However, the Solity research has served to remind us that whatever the origins of dyslexia, or indeed whether dyslexia is a difference or a deficit, children with learning difficulties still require expert teaching.

**Current perspectives**

The topic of dyslexia seems now to have come full circle from its early beginnings when dyslexia used to be regarded wholly as a medical problem. Today, the medical profession, educationalists and psychologists are all collaborating in a search for the origins and treatment of dyslexia. One example of the results of this collaboration is the research that has taken place establishing the relationship between the neurology of the brain and dyslexia.

In recent times there have been dramatic developments in the use of technology to enhance the study of dyslexia. New technology has allowed research to focus on specific parts of the brain that are activated in learning so that it is now possible to localize different brain functions and to observe the extent of their differences in activation. This development came about with the invention of functional magnetic resonance imaging (fMRI) and also the positron emission tomography (PET). These machines have provided research workers with techniques that have increased our knowledge of brain functioning in general.

In contrast to former times, most of the research into dyslexia is now being conducted within the spheres of psychology and education. It is doubtful whether the study of dyslexia will ever return to the early days when it was considered to be wholly in the sphere of medicine. Whatever the future research discoveries regarding the biological and neurological origins of dyslexia, it is almost certain that the help offered to children with dyslexia will continue to be in the educational sphere.

**Summary**

This chapter traced the significant milestones in the history of the concept of dyslexia from its beginnings in the nineteenth century
to the present time. The concept of dyslexia used to be considered a pathological condition that was wholly within the province of the medical profession. As research progressed, other terms began to be used to describe children with specific learning difficulties. It was not until the twentieth century that the term dyslexia came into general usage. Moreover, it was not until the mid-twentieth century, with the development of educational psychology, that dyslexia began to be accepted as an educational problem. This period coincided with a rise in the development of particular educational programmes designed for the remediation of learning difficulties, including dyslexia. Also notable at this time were the rise of various private organizations dedicated to the promotion of the needs of dyslexic children. The British Dyslexia Association and Dyslexia Action in the UK have been particularly prominent, not only in promoting the needs of dyslexic children, but also in the training of teachers and assessors of dyslexic children.

Although today dyslexia is generally accepted as an official category of learning difficulty, there are some authors who continue to question its usefulness as a concept. There are also those authors who accept the term dyslexia but assert that dyslexia is not a deficit but rather a difference of learning style and so a different way of functioning. This controversial view continues to be debated.

Today, in the twenty-first century, dyslexia is officially recognized and has become a topic of research for both medicine and education. The professions of medicine and psychology are seen now collaborating in significant research into the origins and management of dyslexia. Although medicine continues to play a prominent role in this research, showing that the causes of dyslexia lie within biology and neurology, its treatment will most certainly continue to be in the field of education.