DYSLEXIA DECODED

What it is, what it isn't, and what you can do about it

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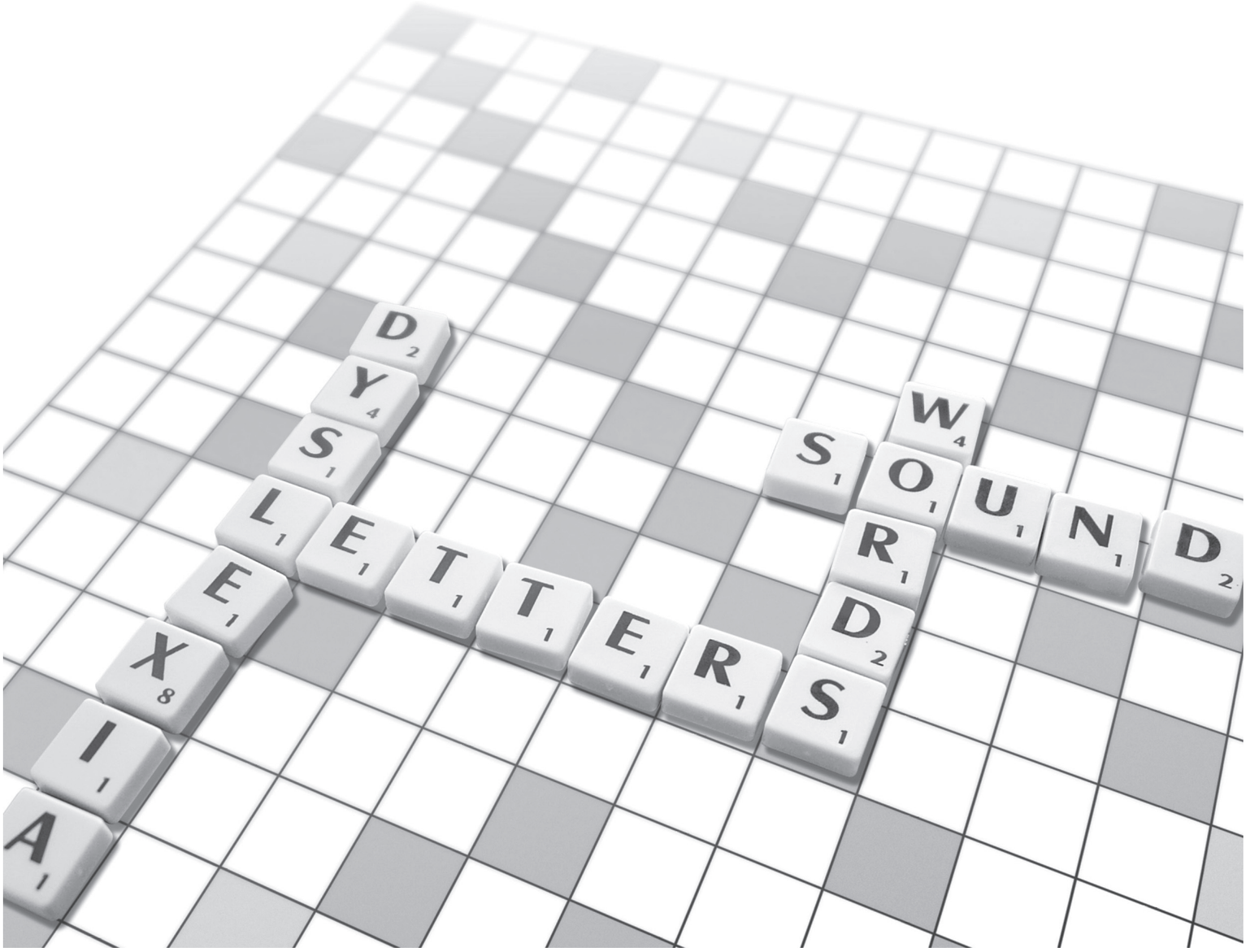
CHAPTER 1

Introduction



INTRODUCTION

This book attempts to provide tutors with answers to questions that they often raise. Questions like:

- What is dyslexia?
- How do I assess my students for dyslexia?
- How does dyslexia affect the life of adults?
- How do I go about teaching dyslexics to read and write more effectively?
- How can I cater for dyslexics in my course?
- Are there ways I can make the workplace more dyslexia friendly?

So what is dyslexia? The simple answer is that it is an unexpected difficulty with reading and writing. Many famous people such as Richard Branson, founder of Virgin Airlines, and Kerry Packer, who was once Australia's richest man have it. There is a long list of such people but what is dyslexia exactly? Researchers still do not have the complete answer to this question—but we do have some practical ideas. In this book we show that it is not "dumb" to have dyslexia. Many bright and successful people experience reading and spelling difficulties so it is not about whether students are bright or dumb. Scientists and neuroscientists are still working on the deep causes of dyslexia but the aim of this book is to explain the up-front causes and effects of dyslexia, how to spot it and what to do about it. Along the way we explain what dyslexia is not, how to avoid the neurobabble and other so-called explanations of dyslexia, with the aim of coming to a balanced and practical understanding.

WHAT IS DYSLEXIA LIKE?

In November 1896 the *British Medical Journal* published what experts consider to be the first reference to dyslexia (Shaywitz, 1996). B. Pringle Morgan, a British general practitioner, refers to Percy F., a 14-year-old boy who "has always been a bright and intelligent boy, quick at games, and in no way inferior to others of his age. His great difficulty has been—and is now—his inability to learn to read" (Morgan, 1896, p. 1378). Morgan continues, "The greatest efforts have been made to teach him to read, but in spite of this laborious and persistent training, he can only with difficulty spell out words of one syllable." Well over a century later the Percys can still be found in classrooms. The Percys are also in the workplace, and among our neighbours, friends, fathers, mothers, sons, daughters, aunts, uncles, nieces and nephews. In spite of the greatest efforts in the 21st century there are still adults with dyslexia who experience difficulty reading and writing.

Today, compared to 1896, we are literally surrounded by print. From billboards, to brochures, to cell phones, smartphones, digital tablets, computers, newspapers, magazines and course material that is required reading for the 400,000 plus students who are enrolled in one of New Zealand's 8 universities, 3 wānanga, 22 polytechnics, and over 700 private training establishments (PTEs) registered with the New Zealand Qualification Authority (NZQA). (http://www.educationcounts.govt.nz/statistics). In the workplace there are forms to complete, manuals and documents to read and so on. It is impossible to escape from print. When we visit a doctor, medical specialist or dentist for the first time we are asked to complete a form. This requires both reading and writing. Print surrounds us at the supermarket, at restaurants and in malls. Print is everywhere.

Consider the impact on your daily life if you could not read billboards, brochures, your smartphone, digital tablet or even this book. What if every line of print looked like this?

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Would you feel frustrated? Isolated? Disadvantaged? Or perhaps you are able to read and write but it is slow and painstaking. Imagine what your school days would have been like if you were unable to read the material that your classmates could read in spite of receiving specialist tuition. Imagine if your teacher called out your name in front of your mates, for you to go to Reading Recovery or some other remedial programme. Imagine if your classmates teased you, or called you dumb, because of your difficulty with reading and writing. What's more, imagine if when you were called to go to remedial reading, it was at a time when you were engaged in the subject you enjoyed and excelled in, e.g., science, mathematics or art.

AN OVERVIEW OF THE BOOK

Chapter 1 is this brief introduction. Dyslexia is not a new challenge facing parents, educators and dyslexics themselves. The first reference to it was in 1896!

In Chapter 2 dyslexia is defined. The differences between dyslexia and other types of reading difficulties are explained. This chapter also dispels myths associated with dyslexia.

Chapter 3 focuses on assessing dyslexia. It outlines a number of screening steps tutors can follow to determine whether the student or worker has dyslexia. Assessment to gain official help such as a reader-writer usually requires a specialist report from a psychologist, but tutors can use various assessment measures to screen for possible dyslexia. The value of doing this is that they can give the tutor a clear direction as to what teaching strategies are needed. The chapter explains how to do these assessments.

Chapter 4 looks at how dyslexia affects the life of adults. It begins with a discussion about the rough road many adults with dyslexia have travelled during their school years. Many adults were called dumb and stupid by their classmates. Teachers told

them to try harder. The chapter explains that for some adults with dyslexia the reading and writing challenges they faced in school have become lifelong issues. Dyslexia does not necessarily disappear with age. The chapter focuses on how its long-term effects impact on dyslexics' education, work and home lives.

Chapter 5 focuses on teaching dyslexics to read more effectively. There is considerable research to show that teaching reading and learning to read is complex. And it is particularly challenging for educators in the adult sector teaching students with dyslexia who have had years of not-so-positive reading and educational experiences. The chapter presents an overview of the English language. It discusses decoding, vocabulary and reading comprehension strategies that good readers use and offers practical ideas for improving the reading skills of dyslexics.

Chapter 6 is about how to teach dyslexics to write effectively. Students with dyslexia often have interesting ideas, but have issues with organising them. We explain some strategies to stop this happening. Students with dyslexia know what they want to write but cannot get it down on paper because of their poor spelling. One day computers will fix all their spelling mistakes but not yet. In the meantime, we have to teach these students to use practical strategies to write something that is readable even if not perfect. They will not become good spellers by buying a quick-fix computer app or package. They need to understand how English spelling works. We explain many strategies that will help get rid of simple mistakes.

Chapter 7 explains how private training establishments (PTEs) and other tertiary providers can screen for students with dyslexia, their approaches for teaching adults with dyslexia and how they cater for dyslexics in their courses. The chapter has a summary of responses from a survey of New Zealand PTEs showing that nine out of 10 respondents have students with dyslexia and that eight out of 10 want more information about dyslexia. The chapter also illustrates what it is like to be an adult student with dyslexia by describing two adults. The first is Ryan, a young male, who is studying towards a Bachelor of Science degree. The second is Ann, an older female, whose reading and writing difficulties have plagued her in school, at polytechnic, university and even when making a routine trip to the supermarket.

Chapter 8 shows how the workplace can be stressful for all employees but especially for the adult with dyslexia, whose self-esteem may be very fragile after years of struggling at school. The chapter reports that only a small number of adults willingly disclose they are dyslexic—most try to hide or deny that they have difficulties because they do not want to be found out. The chapter discusses ways employers can make the workplace dyslexic friendly.

SUMMARY

In 2007, dyslexia was officially recognised by the Ministry of Education in New Zealand. Yet in today's world dyslexia is largely ignored by society. Dyslexics often bear the brunt of jokes. Dyslexia remains mysterious to many people yet it is blindingly obvious once you have some understanding of it. The aim of this book is to demystify dyslexia and to show that there are many practical things we can do about it, which is a lot better than putting our heads in the sand and thinking it is too hard.

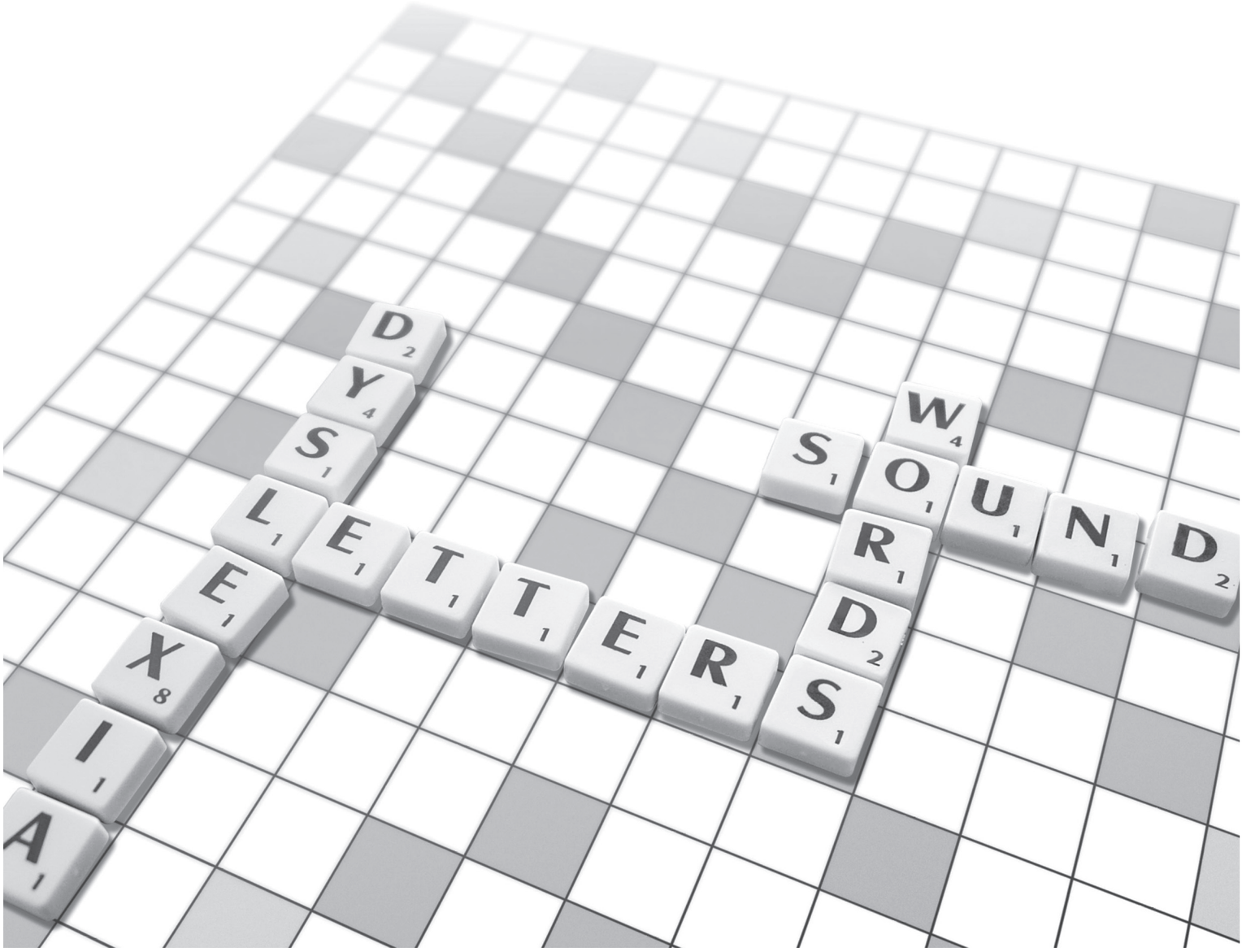
The information in this book is aimed at adult educators and employers. It will complement the resource that is available from the Ministry of Education's website called *About Dyslexia* (Ministry of Education, 2008).

We have written the book with the aim of helping adults who may have dyslexia but we have also been mindful that many adults have other reading difficulties as well and have built in ideas and strategies to help educators who are dealing with a wide range of reading and writing difficulties.

This book is an up-to-date resource about adults and dyslexia. The authors are experienced university teachers and researchers with expertise in literacy. In putting the book together, we consulted with other university researchers, and with vocational and literacy tutors and educators in PTEs, wānanga and polytechnics. We have spent time with New Zealand adults with dyslexia. We have listened to their stories. We have taught students with dyslexia, of all ages, to read. In the end, though, the book is our take on dyslexia and what it means, based on our understanding of the research and our experience. Not everyone will agree with our point of view. We have not taken on board everything, and we have left out what we think is science fiction. Our main goal has been to write a useful and practical resource for educators and employers.

CHAPTER 2

What is dyslexia?



CHAPTER 2 – KEY MESSAGES

1. We all have dyslexia to some extent, ranging from annoying spelling mistakes to mispronouncing an unfamiliar word when we read it. Dyslexia is a spectrum of reading and spelling difficulties from a little bit of difficulty to a lot. The take home message is that it is not the end of the world. It is more like a cold in that it is a pain and you cannot take a pill for it but you can still do your job and some people with dyslexia have even become billionaires!

2. Dyslexia is not a myth. It means that you are a capable person but you lack reading and writing skills for the work you need to do. What work is that? There is an excellent BBC website called Skillswise that shows videos of the kinds of reading writing and math needed in a range of jobs. The nice thing is that you do not have to be a rocket scientist. You can learn these skills.

3. Defining dyslexia is important because there are different kinds of reading problems. The message to take home is that dyslexia is usually about having trouble with decoding and spelling.

4. There are amazing "cures" out there for dyslexia but they are often lacking in research. We can fix dyslexia with good teaching.

5. There are myths about dyslexia. The facts are that dyslexia is not just a male thing, it is not a life sentence, it is not just a white, middle class thing, and we can diagnose it quite early.

WHAT IS DYSLEXIA?

In this chapter, we define dyslexia, and explain the difference between dyslexia and other kinds of reading and writing difficulties. We also discuss some misconceptions about dyslexia. We provide an adult dyslexia checklist along with an explanation of how to use it (see Figure 2.1).

Figure 2.1 Adult dyslexia checklist

Strengths
Good language skills
Can understand the text material if you read it aloud to them
Can produce good writing if someone writes and spells the words for them
Uses compensatory strategies, e.g., "I learned strategies and tricks on how to overcome my difficulties"
Weak points
Can read and spell but it is effortful and slow, and makes mistakes
Spelling and pronouncing long words are big issues
Slow at reading and writing
Other factors
Struggled with reading and writing all through school—a persistent problem for them, e.g., "I had a difficult time in school"
Quality instruction at school but did not respond very well
Extra tuition at school but did not respond very well
No visual or hearing difficulties
Not dyslexia
Dyslexia does not mean you are dumb
It does not mean you are poor at mathematics
It does not mean you have a different learning style
It does not mean you are clumsy or out of balance
It does not mean you need brain gym
It does not mean you need tinted glasses or coloured overlays
It is not just a boy problem
It will not go away with time

To many people dyslexia means having problems with spelling or reading. While there is much truth in this everyday definition, it is too broad. Why have a special name called dyslexia if it just means problems with reading or spelling or both? It is hard to distinguish between the regular poor reader or speller and someone with dyslexia. Here is an example of a scenario of possible dyslexia (Every Child a Chance Trust, 2009, p. 9):

> Adam was brought up on a troubled local authority housing estate with endemically high unemployment levels. Neither his parents, paternal grandfather, nor uncles were in work while he was at school. There were no books at home and opportunities for language development were restricted. His parents wanted the best for him, but did not see education as particularly important. Both his mother and father had had negative experiences of school themselves, and were alternately anxious and aggressive when in contact with their children's teachers. Adam's father had significant literacy difficulties and had recently been assessed as dyslexic by the local Job Centre.
>
> Adam attended nursery class and started 'big school' with enthusiasm when he was just four. He tried hard, but by the end of his second year he had made almost no progress with reading. He found the fine motor movements involved in handwriting very difficult and began to dislike writing, as his work looked so messy. By the time he was seven he was well behind his peers and had come to feel, as had his parents before him, that school was not a place where he could succeed.
>
> Over the course of the next few years he became increasingly disaffected. He had help in a group with his reading, saw an educational psychologist and was diagnosed as dyslexic. By the end of his primary years he had made some progress but was still well behind his peers.
>
> At secondary school he had further help from the school's special needs department. He was placed in lower sets, attended poorly and was not entered for examinations. He left school at 16 with no prospects of employment or training.

The above description of Adam has some characteristics of dyslexia:

- It is persistent and does not go away.
- It might have a genetic basis (the boy's father was classified as dyslexic).
- It is a boy problem (though many researchers dispute this).

But at the same time it could be a description of a poor reader who does not have dyslexia in that modern definitions exclude quite a lot of characteristics. For example, the above scenario says that he comes from a disadvantaged home with no books, that he had possible emotional problems (he was disaffected) and had restricted language experience. This would exclude a diagnosis of dyslexia in that the causes

of the difficulties may be environmental or emotional. This exclusionary aspect of the diagnosis of dyslexia has led to much debate about whether or not dyslexia is a middle-class problem and privileges certain parts of society.

IS DYSLEXIA ITSELF A MYTH?

This concern about exclusion has led some researchers to argue that dyslexia is a myth promulgated by those who have an economic advantage and can afford to pay for a diagnosis of dyslexia to get extra resources from the educational system. They say it is a term bandied about but mainly applies to students who are white, middle class and male. Support for this view comes from a recent study by Riddell (2009) showing that school students receiving special support in Scotland for dyslexia were three times more likely to be boys than girls. The researcher found that at one end of the spectrum, four times as many boys than girls from low-income backgrounds had behaviour problems. On the other hand, "at the other end of the spectrum compared with girls and pupils from socially disadvantaged backgrounds, boys from more socially advantaged backgrounds … are likely to be identified as having dyslexia, subsequently benefiting disproportionately from additional support in higher education" (Riddell, 2009, p. 292). The researcher argued that the dyslexia label was benefiting mainly pupils who were male and middle class, and saw this as a strategy used by the "sharp elbowed middle class" (p. 292) to get an advantage for their children who were not doing so well at school.

The argument is that dyslexia is not special. It is just a common old reading difficulty. The reason for making this argument is that students with dyslexia are given the same reading instruction as other poor readers—so there is nothing special about dyslexia in terms of treatment. Support for this view came from a television programme that screened in England in 2004 called *The Dyslexia Myth*. Elliott (2005) described the negative public reaction to it. In the programme he argued that dyslexia was a label to describe a range of reading difficulties that existed and that it was not helpful to have a special name like dyslexia to describe these difficulties since they were the same as those of any other poor reader. He argued that dyslexia was a social construct, not a real disability. In response, Tresman and Snowling (2005) argued that dyslexia does exist because it describes a special set of conditions that makes the problems of these students more difficult to remediate than for other students.

There is obviously truth in the saying that dyslexia is a middle-class phenomenon in that it describes unexpected reading and spelling difficulties in students who have had good teaching, come from advantaged homes, do not have conduct or physical issues such as hearing difficulty and so on. On the other hand, dyslexia is not a myth because it privileges one social group—the middle classes. It is clearly not fair for one group to get privileges that other social classes do not but this is an argument about social justice and access to education and is a separate issue from whether or not dyslexia exists. The social justice argument applies to education across many areas, not just this one. It can be argued that the education system is biased toward privileging the middle classes in general, and not just when it comes to dyslexia. In the case of

dyslexia, it is better to ask whether there is some scientific way to explain the existence of dyslexia. Are all reading problems the same or not? What is the evidence? In this chapter we want to argue that there are different kinds of reading difficulties and that dyslexia is one of them.

DEFINING DYSLEXIA

We will argue that there is a something called dyslexia. Later in the chapter we will use the simple view of reading (Gough & Tunmer, 1986) and also the Ministry of Education definition (2008) to argue that dyslexia is one of three different kinds of reading difficulty. We argue that dyslexia involves average or better listening comprehension but considerable difficulty with the written code, i.e., the way our writing system recodes spoken sounds into written form, as revealed by slow and effortful reading and by difficulties with spelling. In this part of the chapter, though, we will approach the definition of dyslexia in terms of saying what it is and what it is not.

Dyslexia is an unexpected difficulty with reading. It is the kind of reading difficulty students have when there is nothing else that is problematic for them except that they have not learned the code, i.e., how to read and spell words. They have good language ability, have been taught well, and are not second language learners. It is a dilemma because there is some impairment in their ability to read words that has stopped them from learning to read and write. Dyslexia is resistant to tuition. It sometimes takes years and years for dyslexics to become better readers and writers. On the other hand, there is a plus side to dyslexia in that usually these students are good with words. They have average or better oral language comprehension and this is a strength that can help them throughout life.

The essential aspect of dyslexia is that the student's reading is "effortful and slow" and not fluent (Shaywitz, Morris & Shaywitz, 2008, p. 453). Why is this? The reason seems to be that they are treating English words as though they are visual shapes to remember as a whole when they should be using phonological recoding rules to turn letters into sounds and then into words. Why are they not doing this? The reason is a phonological weakness, i.e., difficulty in breaking spoken words into their component sounds, or phonemes ("phon" in Greek means sound). What is an example of this? If you ask the dyslexic adult to take the /t/ out of /stand/ and say what is left (the answer is/sand/) they will struggle to tell you. Even the three sounds in /boil/ might be hard—they may say /b-oil/ and be unable break it down more than that.

How does this skill of breaking up words phonologically make a difference to reading? It makes a difference because if students can break spoken words into sounds, then they can make links between writing and speech based on sound, not the look of the word. For example, we all know—if we watch movies like *Casino Royale*—that the numbers 007 stand for James Bond. To remember what 007 stands for you have to remember the three numbers but what if we wrote James Bond as kbnft cpoe? In this case, the code represents each letter in Bond's name with the letter just after it. If you know this rule, you can break the code and link up the letters to the sounds in his

name. Every skilled reader has made this breakthrough in understanding that English writing is a phonological code—we relate printed letters to sounds in spoken words.

Many studies have shown that it is hard for the dyslexic reader to hear small sound differences inside a word, and this makes it hard to take advantage of the English code system. The skilled reader, in contrast, knows how to segment words into their sounds and how to recode letters into sounds, which we call phonological recoding. Skill in phonological recoding is the mark of the skilled reader and distinguishes the good reader from the poor. It takes a while to get on top of this code, years in fact, but then it becomes very easy, almost automatic, so that reading takes hardly any mental energy at all. It becomes like other skills, e.g., playing a piano or swimming, where those who are skilful do these tasks easily and quickly.

DEFINITION: WHAT DYSLEXIA IS

The most specific definition we have of dyslexia, based on recent research, is that it has four parts (Tunmer & Greaney, 2010, p. 239):

> (a) persistent literacy learning difficulties (b) in otherwise typically developing children (c) despite exposure to high quality, evidence-based literacy instruction and intervention, (d) due to an impairment in the phonological processing skills required to learn to read and write
>
> In defining dyslexia in this manner, we are not suggesting that children diagnosed as having dyslexia cannot make progress in learning to read. Rather, our claim is that these children require more intensive instruction of longer duration.

The above definition is consistent with the New Zealand Ministry of Education's definition of dyslexia. This definition is broader but has the same key elements. The Ministry of Education definition is below (see also the government website, www://literacyonline.tki.org.nz):

> Dyslexia is a spectrum of specific learning difficulties and is evident when accurate and/or fluent reading and writing skills, particularly phonological awareness, develop incompletely or with great difficulty. This may include difficulties with one or more of reading, writing, spelling, numeracy, or musical notation. These difficulties are persistent despite access to learning opportunities that are effective and appropriate for most other children.
>
> People with dyslexia can be found across the achievement spectrum and sometimes have a number of associated secondary characteristics which may also need to be addressed, such as difficulties with auditory and/or visual perception; planning and organising; short-term memory; motor skills or social interaction.
>
> People with dyslexia often develop compensatory strategies and these can disguise their difficulties. People with dyslexia can also develop compensatory strengths which can provide an opportunity to further advance their learning.

> Early identification followed by a systematic and sustained process of highly individualised, skilled teaching primarily focused on written language, with specialist support, is critical to enable learners to participate in the full range of social, academic, and other learning opportunities across all areas of the curriculum.

The Tunmer and Greaney (2010) definition explains how dyslexia is different to other kinds of reading difficulties. We will unpack their definition and explain each of the four components.

1. "Persistent literacy learning difficulties"

Persistent difficulty in learning to read means that even with devoted instruction from their teacher, the pupil gets worse and worse in reading compared to their classmates. The student starts school much like everyone else but struggles to learn the basics of how to decode words. As a result, by the end of the school year the rest of the class surges ahead and leaves this pupil behind. The gap steadily widens as the months and years pass.

This widening of the gap is due to Matthew effects, i.e., rich-get-richer and poor-get-poorer effects in literacy (Stanovich, 2000). Good readers get better and poor readers get worse in comparison with good readers. The difference in word reading skills between someone with dyslexia and other students may be quite small when they start school but, over time, the experience of failure in learning to read and write leads them to engage in less reading, to show less interest in it and to have a low sense of being capable of success, which in combination cause the gap between a pupil with dyslexia and their normally developing peers to get wider and wider.

The difficulties seem persistent to the teacher observer because, as the years of school go by, the pupil gets better at reading but is actually getting worse in that they are not progressing as much as other pupils and never catch up.

2. "in otherwise normally developing children"

This phrase refers to criteria that are often taken into account when deciding if a pupil has dyslexia or not. This part of the definition refers to the what-dyslexia-is-not aspect, i.e., the exclusionary factors that rule out dyslexia. Exclusionary factors may be responsible for learning difficulties in general, not just reading and writing.

Other possible causes of literacy difficulties that are not normal can rule out dyslexia and may relate to language. For example, if oral language has not developed to the same extent as for normally developing pupils, this rules out dyslexia. A defining characteristic of dyslexia is that the pupil has normal or better oral language comprehension.

Other factors that rule out dyslexia include severe emotional problems, conduct problems, attention problems like attention deficit disorder (ADD) or hyperactivity as in attention deficit hyperactivity disorder (ADHD). Other exclusionary factors are neurological such as pupils with autism spectrum disorder. In theory, it may be that these conditions could co-exist with dyslexia but in terms of our definition they are seen as the most direct causes of the learning problems these pupils have rather

than dyslexia. Other factors relate to physical impairments such as visual or hearing impairment, e.g., glue ear difficulties would have a negative effect on language development and, in turn, reading. Other exclusionary factors include home background, such as coming from an economically and educationally disadvantaged home environment lacking in literate cultural capital that come from social class or cultural difference in home literacy environment, e.g., books in the home, (Tunmer & Nicholson, 2011).

All these exclusionary factors can lead to learning difficulties across the curriculum subjects, including reading and writing. To establish dyslexia you need to rule out these other possible causes.

3. "despite exposure to high-quality evidence-based instruction and intervention"

Researchers have found that students who appear to have dyslexia are actually instructionally disabled in that they did not receive high-quality instruction. When researchers have provided struggling readers with high-quality remedial instruction, the numbers of apparently disabled readers drops significantly (Gresham & Vellutino, 2010). In other words, many students who display symptoms of dyslexia may not be in this category because they respond quickly to appropriate instruction, suggesting that apparently they did not get adequate teaching in the first place.

In recent years, the response to intervention model has become commonly used to find out whether students with reading and writing difficulties respond to high-quality instruction (Glover & Vaughn, 2010). In tier one of the model, students receive high-quality classroom teaching. Tier two of the model involves small-group literacy instruction for those who do not respond to tier one. Many students, with this more intensive level of instruction, will improve their literacy skills. Tier three of the model is for those who did not respond to tier two. In tier three, the instruction is one-to-one.

Researchers now think that although 25 per cent of students may struggle with reading and writing on initial assessment, this percentage will reduce to a much smaller figure, like 10 per cent, if they receive high-quality classroom instruction. The 10 per cent will reduce to 2 per cent with quality small-group instruction, so that one-to-one instruction will only be necessary for a very small number of students, i.e., the lowest 2 per cent.

4. "due to problems with phonological processing"

A major part of a definition of dyslexia involves ruling out factors that do not cause dyslexia. What factors do we rule in? Tunmer and Greaney (2010) and the International Dyslexia Association agree that the literacy-learning difficulties of students with dyslexia are due to a deficit in phonological processing (Catts & Kamhi, 2005). There are many possible explanations for dyslexia but most of them have not survived scientific scrutiny, especially visual processing problems. Students with dyslexia appear to have these problems in that they sometimes reverse letters, words, and numbers—

but these are normal mistakes made by beginner readers. They are a result of reading difficulties, not a cause.

Two stumbling blocks are phonemic awareness and phonological recoding, i.e., sounding out words. Students with dyslexia often struggle with phonemic awareness which in turn slows their ability to master the code, i.e., to learn phonological recoding. Their efforts to decode words are inaccurate, and even if accurate, are slow and effortful. In contrast, fluent decoding involves high levels of accuracy and automaticity that come from many years of practice in decoding words. Phonemic awareness is the ability to decompose spoken words into their constituent phonemes. Phonemes are the smallest distinctive units of sound in speech (English has about 40 phonemes). For example, *through* has three phonemes, /th-r-oo/. Phonemic awareness is a skill that the student can learn independently of reading instruction, through oral language training, and by learning letter-sound correspondences. As we discuss in Chapters 5 and 6, this skill must be learnt. It is necessary for decoding. If students cannot break a spoken word into phonemes, they will struggle to link phonemes to the letters and words that represent them. Phonemic awareness is necessary but not sufficient to learn to read. Many older students have phonemic awareness but they are still poor readers. They have not moved to the next level of skill in decoding written words. In contrast, the skilful decoder, through extensive reading practice, has reached a level of automaticity where very little mental effort is required to read words. The phonological recoding of words has gone from small grain size (letter to sound recoding) though to large grain size where the spellings of words and their pronunciations are amalgamated into memory as sight words (Ehri, 2005) and, as a result, word reading is much less effortful. They read accurately and with speed, and do this with hardly any mental effort. As we explain in Chapter 5 many dyslexic students desperately need tuition in phonemic awareness and phonological recoding.

To summarise so far, we have focused on phonological dyslexia, i.e., difficulty in acquiring skills of phonological decoding. There is also evidence for surface dyslexia which involves skill in decoding but difficulty in recognising irregularly spelt words that are not easily sounded out, e.g., *laughter* (Coltheart et al., 1993). Phonological dyslexia is, however, by far the most common type of dyslexia (Roberts, Christo, & Shefelbine, 2011).

COMPUTATIONAL AND NEUROSCIENTIFIC STUDIES

Researchers using neuroimaging have found that when reading text, skilled readers activate areas of the brain that involve linking of phonological and visual (orthographic) information (called the word form area) but readers with dyslexia do not do this. They activate different areas of the brain (Shaywitz, 2003; Roberts, Christo, & Shefelbine, 2011). On a positive note, intervention studies that teach phonological recoding to students with dyslexia result in brain activation that is like that of normal readers (Simos, Fletcher, Bergman, Breier, Foorman, Castillo, et al., 2002). This supports the concept of brain plasticity, that students with dyslexia are not locked into ineffective ways of reading, and that effective instruction can change the way the brain processes written text.

THE SIMPLE VIEW OF READING

To understand reading difficulties, it is helpful to have a model in our heads about the basic anatomy of reading. Then, when someone asks us why a student cannot read, we can consult the model and we will know what to look for. When it comes to diagnosing reading problems, there are often all kinds of explanations about why difficulties happen. Explanations can vary from problems with diet to the wrong colour of the paper in books to dull and unimaginative teaching. There are all sorts of reasons but we have to distinguish between what might be the direct cause of a reading problem and what might be a consequence of not being able to read. Our preference is to work from a simple model of reading and reading disabilities. That means we can go to the core of the problem.

The simple view of reading (Gough & Tunmer, 1986; Ministry of Education, 2008) argues that the decoding part of reading is one part of reading, and oral language comprehension is the other part.

The reason for separating out decoding is that oral language comprehension—made up of vocabulary knowledge, grammatical knowledge, and discourse comprehension—is there for nearly everyone, for both readers and non-readers alike. Just about everyone can talk. It's part of being human. In contrast, not everyone learns to read, and there are still many millions of people across the globe who are able to talk but are unable to read. For example, consider talking books. The book is already decoded. All the listener has to do is operate their oral language comprehension in order to understand it. Thus, a very simple anatomy of the reading process would say that reading consists of just two parts—the ability to decode written language, and the ability to comprehend spoken language.

The simple view of reading (Gough & Tunmer, 1986) explains that reading difficulties are due to problems with either decoding or listening comprehension. The simple view is able to categorise different kinds of reading difficulties (see Table 2.1).

Table 2.1 The simple view of reading

	Poor oral language comprehension	**Good oral language comprehension**
Good decoding	Specific reading comprehension difficulties	No reading difficulties
Poor decoding	Mixed problems	Dyslexia

Foss (1988) described the Gough and Tunmer (1986) simple view of the anatomy of reading as "one of the boldest approaches to the theory of reading" (p. 334). Why? As Foss put it, the simple view "conjectures that what is unique to reading is simply the decoding of words. Thus, one cannot be a good decoder, a good listener, and a poor reader" (pp. 334–335). Since publication of the simple view, many researchers have tested its predictions and it has become the most widely cited theoretical model of reading in the literature with well over 300 citations.

THE THREE CATEGORIES OF READING DIFFICULTY

The simple view explains that reading difficulty will be due to weaknesses in decoding, in oral language comprehension, or both. The student with dyslexia can understand a text when someone reads it aloud but struggles to decode the words. The student with a specific comprehension deficit can decode the words in the text but is unable to understand. The mixed problems poor reader has both kinds of difficulties—unable to decode and unable to understand.

INTERVENTIONS FOR EACH CATEGORY OF READING DIFFICULTY

The value of the simple view is that it predicts what interventions we need for each category of reading difficulty.

Dyslexic poor readers have weaknesses in phonological recoding. This means that they struggle with word reading skills. They have difficulties with phonemic segmentation, with letter-sound correspondences and are unable to develop an in-depth store of sight words in memory, i.e., words whose spellings, pronunciations, and meanings are stored in exact form in memory. They need an intervention that focuses on building their decoding skills.

Students with a specific comprehension deficit have good decoding skills but do not understand. They have weaknesses in oral language comprehension. To build these skills requires intervention that targets the different components of language comprehension: vocabulary, grammar and discourse comprehension. Studies of these students show that they do not understand the meaning whether they read the text or have it read aloud to them. The concepts are unfamiliar to them. They lack the background knowledge to understand and make inferences to get meaning. Reading comprehension is constrained by oral language comprehension. We can only read as well as we listen. To raise this oral language glass ceiling most researchers suggest that the pupil engage in more extensive reading. Probably, they have not engaged in reading of books and they have experienced negative Matthew effects. To improve their reading the teacher needs to motivate them to read more. Activities that build their vocabulary can also build their oral language skills.

Mixed-problems readers (sometimes called a mixed-reading disability) have weaknesses in both decoding and oral language comprehension. They lack the oral language skills of the dyslexic poor reader and they lack the decoding skills of the specific comprehension deficit poor reader. To tackle their issues, teachers have to provide activities that build both decoding skills and oral language. It makes sense that they will need double the help of the other two categories of poor reader because they have double the weaknesses.

MISCONCEPTIONS ABOUT DYSLEXIA

There are many different views of dyslexia and many interventions to help them but many of these have no supporting scientific evidence. Some of these ideas fit with

personal experience, e.g., that boys are more likely to have dyslexia but the research does not support this. Some treatments for dyslexia seem to work but they probably are placebo effects, i.e., they work but not for the reasons given. In the case of dyslexia, for example, giving the adult some special exercises to do or a special diet might help, but not for those reasons. The real reason is that the intervention makes the student feel more confident and it is this confidence that encourages them to try to read.

DYSLEXIA AND INTELLIGENCE

In the past, dyslexia was defined with the discrepancy formula—a formula based on a major difference between intelligence level and reading achievement.

The problem with this definition is that it can exclude students who may have scored well on intelligence tests at younger ages but over time, and with lack of reading experience, their intelligence test scores have changed because intelligence tests rely partly on being good at reading. In this way, the discrepancy formula discriminated against some students whose intelligence scores were lower than they would have been when they first started schooling.

In recent times, however, researchers have concluded that intelligence is only weakly related to reading achievement. Intelligence scores do not predict reading development very well. Instead, other factors are better predictors of success in reading (Gresham & Vellutino, 2010). Another count against the discrepancy formula is that the components of reading that poor readers struggle with, e.g., phonological recoding, are the same whether they score highly on intelligence tests or do not score highly.

These days, researchers are more interested in a response-to-intervention way of determining dyslexia (Gresham & Vellutino, 2010). Students may appear to have dyslexia but in fact have somehow slipped through the cracks of schooling and not been taught to read properly. This is not dyslexia. They are not reading disabled. They are instructionally disabled. With quality-classroom or small-group reading instruction, they will succeed. Most researchers have now gone away from intelligence as a predictor because there are other factors that define dyslexia more accurately, i.e., poor scores in decoding but average or better scores in listening comprehension.

DYSLEXIC STUDENTS HAVE DIFFERENT LEARNING STYLES

The idea of learning styles is much believed in the general workplace and in education. For example, a recent survey found that 82 per cent of graduate teacher trainees about to enter secondary school teaching thought that teaching pupils in their preferred learning style could improve their learning (Howard-Jones, 2011; Howard-Jones, Franey, Mashmoushi, & Liao, 2009;) but there is little evidence to support this idea. Corballis (2011, p. 224) summarised the research on learning styles in this way:

> Of course those with good verbal skills may well gravitate towards careers in journalism, law, or (heaven help them) academia, while those with good visual skills may well become artists, architects, or professional tennis players. What is unclear from the literature is whether the learning of any

> accomplishment, be it algebra, art, or critical writing, can be tuned to people's different aptitudes. The evidence remains stubbornly negative.

It might be that there are different learning styles but there is no clear evidence that this is the case. The argument that dyslexics are visual learners and do not respond to auditory approaches like phonics seems to go against all the research evidence (Tunmer & Greaney, 2010). It does not make sense to say that dyslexics learn to read in a different way from other poor readers because the evidence is that they benefit from the same instruction—especially that which focuses on phonological recoding skills—such as instruction in phonics (Shaywitz, et al., 2008).

What makes sense is that we all benefit from exposure to different ways of learning. Visual ways of showing information are helpful. There is truth in the saying that a picture is worth a thousand words, and most would agree that a diagram can often make a complex idea easier to understand. Auditory ways of learning are also helpful. A movie or documentary can make ideas come to life in a new way. On the other hand, most people also enjoy learning by reading text. They like to read books. They like to read the newspaper. A positive result of all the talk about learning styles is that teachers nowadays use a combination of these approaches, and that is a good thing, but to label a person as being only a visual learner or some other kind of learner, and that dyslexics can only learn visually, seems very limiting.

DYSLEXIA IS A BOY PROBLEM

A common belief is that reading difficulties are mostly or exclusively a boy problem. In most schools remedial reading classes are filled with boys. This suggests that reading problems are common to boys but when independent researchers compare samples of students with reading difficulties with those identified by schools they find that schools have a bias toward selecting more boys than girls. It seems that boys are worse behaved than girls and this leads schools to focus on their reading problems. In contrast, girls tend to be better behaved and they do not get the same focus in school even though many of them struggle to read (Prochnow, Tunmer, Chapman & Greaney, 2001; Shaywitz, et al., 2008).

DYSLEXIA TAKES TIME TO SHOW ITSELF

Another misunderstanding is that it takes years for dyslexia to show up. This is because when pupils first start school almost all are in the same boat—they cannot read. It takes a while for discrepancies to show up. This is the wait-to-fail model (Shaywitz et al., 2008) but there is quite a lot of research now to show that we can tell which students are likely to be at risk and we can help them very early.

DYSLEXIA WILL GO AWAY OVER TIME

Another misunderstanding about reading and dyslexia is that it is developmental and that the difficulties will go away as students get older but this is not the case. Data indicate that reading difficulties are persistent and the gap between good and poor readers does not close over time (Shaywitz et al., 2008).

DYSLEXIA IS A VISUAL PROCESSING PROBLEM

Another misunderstanding is that dyslexia is associated with reversals of letters and words, e.g., seeing *was* as *saw*, or *b* as *d*. There a number of jokes in the workplace that reflect this belief, e.g., "Workers of the world, untie" but researchers have found that the tendency to reverse words and letters is no greater in dyslexics than in other poor readers. It is a characteristic of learning to read. It is a result of not being able to read, not a cause of it. There is little evidence to support programmes that focus on visual processing as a cure for dyslexia (Vellutino, Fletcher, Snowling, & Scanlon, 2004).

DYSLEXIA IS A BALANCE PROBLEM—BRAIN GYM

Another myth is space dyslexia, the belief that dyslexia is associated with balance problems like those experienced by astronauts where they experienced balance difficulties and dizziness when put in an environment where they were weightless and there was no gravity (Stephenson, 2009).

This misunderstanding about balance is common. A survey of teacher graduates found that 68 per cent thought that coordination exercises would improve the working of the brain. Even more strangely, 20 per cent thought that their brain would shrink if they drank less than six to eight glasses of water a day (Howard-Jones, 2011).

The idea behind exercise training is that the disorientation that astronauts feel in a gravity-free environment is similar to dyslexia where letters and words get jumbled. The thinking is that physical exercises will help dyslexia. Most researchers do not support this idea. In one study, researchers came up with a positive result for balance exercises but the publication of the study caused uproar in the research community because of the research design. The researchers accepted that their results could have been due to a placebo effect but they have not backed down on their position that the exercise training works (see the critique by Bishop, 2007, and a letter to the editor by Reynolds & Nicolson, 2008). We think that tutors are better advised to work directly on the learning needs of students with dyslexia rather than try ideas like this, that are a long way from our understanding of the immediate causes of dyslexia, which are problems with decoding and spelling.

DYSLEXIA IS HELPED WITH COLOURED OVERLAYS

Some researchers have found that dyslexic students complain of visual distortions when reading and that this improves with use of coloured paper or coloured overlays or coloured lenses. It is a controversial idea. Northway (2003) asked children who had been diagnosed as having dyslexia to answer questions like "Do the words flicker or wobble?" or "Does the print appear fuzzy?". Students who said they had these experiences were given texts to read to assess their rate of reading with overlays or without overlays. Of the students who persisted in using the overlays for several months, six out of 10 improved in speed of reading, but the improvement was only small. It may be that the improvement was a placebo effect. Other studies critical of coloured overlays are Ritchie, Della Salla and McIntosh (2011) and Handler and Fierson (2010).

DYSLEXIC ADULTS HAVE PROBLEMS WITH NUMBERS

Research does not show any marked difference in basic mathematics between adults with dyslexia and those without. Their issues are with language rather than numbers (Gobel & Snowling, 2010).

SUMMARY

The paradox of dyslexia is that these students often think they are dumb but they are not. Students with dyslexia typically have average or better language comprehension, i.e., good higher order skills but are not good at decoding or spelling words, i.e., lower order skills.

In addition, a diagnosis of dyslexia has to rule out other possible causes such as ineffective teaching, low socioeconomic status, conditions such as ADHD and autism spectrum, visual and hearing problems, and emotional and behaviour problems. For example, if the student has had poor teaching, then the reading difficulty might be due to this, and it is not dyslexia. The student may simply need more and better instruction. The student with dyslexia is likely, throughout their schooling, to have had good instruction and extra tuition as well, but still has not responded to this instruction. Dyslexia refers to persistent reading and spelling problems. The solution is to give intensive tuition targeted at phonological recoding and spelling, lots of reading practice and to continue to build language comprehension.

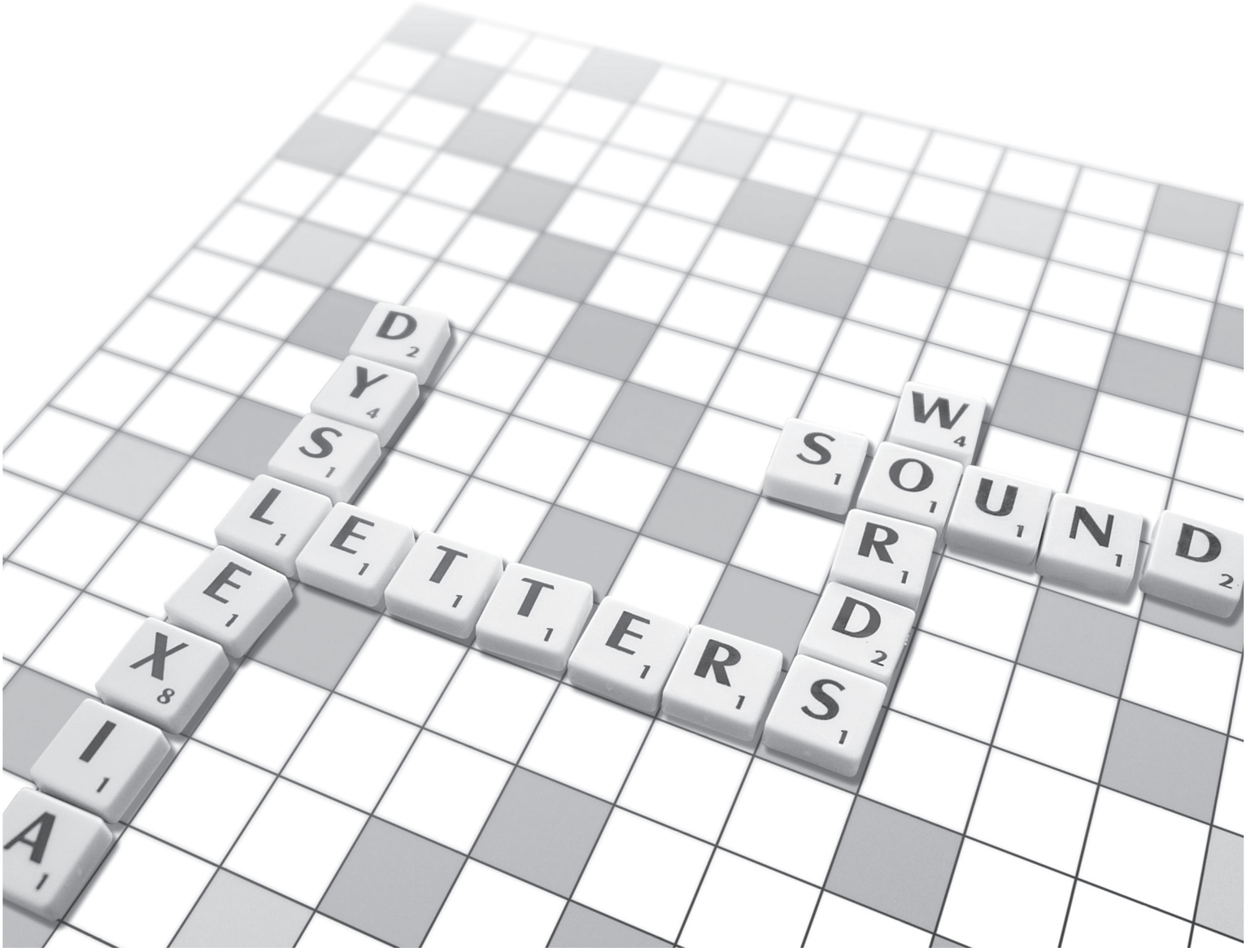
The dyslexic student with reading and writing difficulties can often understand very well text material when it is read aloud to them. Their strength is language—this is their creative side. On the other hand, years of not reading will have caused them to slip back in their natural language skills. The wise teacher will keep moving them forward in oral language skill by making sure they do lots of reading and giving them access to more complex language through DVDs and talking books that stretch their language, and by teaching them text structure skills to organise their writing.

Their weak side is decoding and spelling. The teacher has to focus on teaching these skills in a structured way to break the code for reading and spelling as suggested in Chapters 5 and 6 and be sure to encourage students to do lots of reading at the right difficulty level so that they start to glue these words into memory as sight words. Dyslexic students are good at talking and can often talk their way out of reading books, whether it be reading books in class or reading books at work and at home. The teacher and the workplace need to be smarter than they are to make sure they do the extensive reading they need.

There is a wide range of scientifically unsupported beliefs and treatments for dyslexia. They may work, but for the wrong reasons—like a placebo effect. The mind can convince itself of just about anything. It is better to target the areas that do have research support. We have suggested that the tutor focus on decoding and spelling while at the same time not neglecting language comprehension.

CHAPTER 3

Assessing for dyslexia



CHAPTER 3 – KEY MESSAGES

1. You can assess dyslexia but really, many adults with dyslexia have already figured it out. They will be bright and bubbly but when it comes to reading and writing, they struggle.

2. Adults with dyslexia are often not sure about their skills. They tend to think they are worse than they are. An assessment will show that they already have many literacy skills and it will point out what they still need to learn.

3. Assessment is not magic. You do not need brain scans. We simply need to assess language skills, and reading and writing skills.

4. The chapter covers tests that will assess dyslexia. There are many tests out there. They are often ridiculous. We recommend that you only assess reading comprehension, listening comprehension, and decoding.

ASSESSING FOR DYSLEXIA

This chapter focuses on assessing dyslexia and finding out essential information to use in planning suitable teaching programmes for adult dyslexics. First, the chapter explains the process of learning to read. Second, it discusses the definition of dyslexia, which is normally that dyslexics have good listening skills but severe difficulties with decoding words. Third, there is an explanation of the steps to go through in deciding if the student has dyslexia. Fourth, there is an explanation of the different diagnostic tests you can use to find out what the adult student needs to work on. Finally, the chapter ends with a list of possible resources the tutor can use to assess dyslexia.

The assessments in this chapter are closely linked to the assessments described in the Tertiary Education Commission (TEC) books for adult literacy learners: *Learning Progressions for Adult Literacy* (Tertiary Education Commission, 2008a), *Starting Points: Supporting the Learning Progressions for Adult Literacy* (Tertiary Education Commission, 2008d) and *Starting Points: Assessment Guide* (Tertiary Education Commission, 2010). Diagnostic examples in this chapter, as they apply to dyslexia, are also explained in *Starting Points: Assessment Guide* (Tertiary Education Commission, 2010), which is an important resource for tutors. http://www.tec.govt.nz/Documents/Publications/learning-progressions-starting-points-assessment-guide.pdf

SCENARIO

What might you say if you have a student in your class who comes up to you and tells you they have dyslexia? Here are some possible things that you might want to discuss …

Student: I've got dyslexia.

Tutor: How do you know?

Student: I can't read or spell.

Tutor: That is not necessarily dyslexia—a lot of adults have trouble reading and spelling.

Student: I read letters and words backwards.

Tutor: We all mix up letters and words sometimes.

Student: I hate reading and writing.

Tutor: A lot of adults hate reading and writing, even if they are good at it.

Student: I've got no qualifications.

Tutor: You're not the only one—Bill Gates dropped out of Harvard without finishing his degree.

Student: I can't get a job.

Tutor: There aren't many jobs out there these days, even if you have a PhD.

Student: My friends and parents think I am dumb.

Tutor: That is your perception. Dumb means not able to speak and you are doing quite well at that.

Student: I give up. You're the expert. You tell me what I've got.

Tutor: You've possibly got low self-esteem and you are negative when it comes to promoting yourself. To find out if you have dyslexia, we will need to assess you. I can't tell by looking at you, and I can't tell anything definite from what you have said already. Would you like me to do some assessments?

ASSESSMENT FOR DYSLEXIA

The popular opinion about adults with dyslexia is that they are easy to spot because they read and spell words backwards and they have problems with reading and writing. There is some truth in this but it is not very exact. As we discussed in Chapter 2, when we described the simple view of reading, there are many misunderstandings about dyslexia, and there are also different kinds of reading difficulties—dyslexia is just one of them. Adults with dyslexia have specific difficulties and tutors need to pinpoint these and focus on the areas needing help.

Adults with dyslexia will have average or better language skills. When you are teaching them you can get a sense of this if they understand the topic when you explain it to them orally but have difficulty when it comes to reading and writing. Students with dyslexia are on a spectrum from mild to major difficulties in reading and spelling (see Figure 3.1). Some will have difficulty reading and spelling more complex words while others will have difficulty even with very short words. For example, some may find health terms like *osteoporosis* or *allergic* difficult to read and spell while others will struggle even with simple terms like flu and pill.

Figure 3.1 Spectrum from mild to major difficulties in reading and spelling

Mild	Reading and Spelling Difficulties	Major
Longer and more complex words like "melatonin" and "superstructure"		Simple words like "fat" and "block"

Why does the student with dyslexia read and spell words inaccurately and slowly? As explained in Chapter 2, the reasons may go way back to their time in school when they did not understand that reading and spelling involves cracking the code of English writing. The tutor needs to assess these understandings to assess their ability to crack the code.

STEPS TO DECIDE IF A STUDENT HAS DYSLEXIA

The steps are described in Figure 3.2. The first step is to find out if the student really does have reading comprehension difficulties. Sometimes students think they are worse than they really are. If there are no difficulties, then the student does not have dyslexia and assessment can stop. The second step is to check if the student has average or better language (listening) comprehension. If there are no difficulties with listening comprehension, and yet the student has difficulty with reading comprehension, then the cause must be with decoding, so move to the third step, to find out what aspects of decoding are giving difficulty.

Figure 3.2 Steps to decide if a student has dyslexia

STEP 1 – READING COMPREHENSION	STEP 2 – LISTENING COMPREHENSION	STEP 3 – DECODING SKILLS
Does the student have below average reading comprehension? If yes, move to next step	Does the student have above average listening comprehension? If yes, then move to next step	Does the student have difficulties with reading words aloud? (this is decoding) If yes, then it seems likely that the student has dyslexia
Testing: Use the TEC Literacy and Numeracy for Adults Assessment Tool – Reading Comprehension	**Testing:** TEC Literacy and Numeracy for Adults Assessment Tool – Vocabulary (listening)	**Testing:** Use the TEC adult literacy diagnostic tools explained in this chapter
Or, use an alternative reading comprehension assessment – see appendix	Other assessments of language comprehension are listed in the appendix	Other assessments of decoding are listed in the appendix

Note: If you suspect the student is below or at Step 1 of the decoding progression they should not complete Step 1 in Figure 3.2. Move to Step 2 in Figure 3.2.

INTERPRETING THE RESULTS OF THE TESTS

A rule of thumb for suspecting dyslexia is if the student scores at average level or better on a test of listening comprehension (or receptive vocabulary) and below average on a test of reading comprehension. But, in addition, they need to score poorly on a test of decoding skills. It is important to assess students on all three types of tests. This is because the student may actually have skills in decoding but may have lacked motivation to do the reading comprehension test. The tutor needs to assess all three areas. Sometimes a student will be weak in reading comprehension, average in listening comprehension, and average in decoding skills. In this case, there may be some other explanation such as low motivation or perhaps a lack of skill in strategic reading (see Chapter 5 for more discussion of the "High 5!" reading comprehension strategies).

The student may have below-average listening skills when assessed, but may still have dyslexia. As we explained in Chapter 2, it is difficult to be sure in the case of adults because they have had many years of unsuccessful reading and lack of practice and this may have had negative effects on their language comprehension in general. A rule of thumb is that if the student seems to have adequate language comprehension in your personal interactions with them and is not learning English as a new language give them the same kind of instruction you would give to a student who meets the definition of dyslexia. This may seem inconsistent with the definition of dyslexia but it may be that they would have fitted the definition in earlier years but their language comprehension has slipped backwards due to lack of reading practice. If they do have mixed problems they may still fit the definition of dyslexia in the sense that they once had very good language comprehension. They now have mixed problems of decoding and language and the tutor will need to think of ways to increase the amount of reading that is done. Reading practice makes their decoding skills more secure and makes them more automatic and fast in decoding, and it also improves vocabulary and general knowledge. All these are essential for reading comprehension.

LEARNING TO READ

To learn to read well, learners need four kinds of knowledge

1. Awareness of letters and their order in words, that words can be decomposed into letters and that the left-to-right order of letters in words is important.
2. Awareness of phonemes, where the reader knows that spoken words can be dismantled into their constituent phonemes, e.g., to know that "clutch" has 4 phonemes, /k-l-u-tch/
3. Decoding intent where the reader is aware that the minimal differences between words, such as "bats" and "cats" is really important in that "b" and "c" each have a different sound – this is the start of learning the links between print and speech
4. Data, that is, many examples of words in print matched up with their spoken equivalents so the reader can study how the printed form maps to the spoken form. For example, an audio-taped book will give pairings of the printed word with its spoken equivalent. Reading aloud and getting feedback on whether you are right or not also is a way of getting these "data".

Knowledge 1

Recognise the names and sounds of letters of the alphabet. Adults with dyslexia may not know some tricky letter-sound patterns, e.g., x stands for two sounds /ks/ and so does the letter q—it stands for /kw/. They may still have trouble with reversible letters like b, d and p.

Knowledge 2

Awareness of phonemes, that is, being aware we speak in phonemes. Phonemes are the smallest distinctive sounds in the language. English has between 42–46 phonemes, such as /k/, /b/, /a/, and so on. It is important that the learner knows they create words when they speak by lining up in a sequence a series of small, distinctive sound units called phonemes.

Knowledge 3

Decoding intent – to learn to read, the tutor needs to explain that words in print are made of letters, and the letters stand for phonemes. As they start to work out the letter-sound correspondences, students begin to crack the code.

Knowledge 4

Data – reading the print forms and getting feedback as to what they "say" in spoken form. This means that as the adult reads text, they will need feedback about their attempts to read words in print. They need someone to listen to their reading and tell them when they misread a word. Another way is to read while listening, perhaps an audiotaped book or by reading themselves, as long as the material is at the right level, not too easy or hard, so that they can read with meaning and very few mistakes. In this way, the student learns to read by reading.

Once the student has discovered how to crack the code, reading practice is very important to consolidate decoding skills and to build speed and fluency. Exposure to print and positive learning trials through reading many words correctly helps to build accuracy in decoding, speed of decoding (or, fluency), and builds accurate sight word knowledge in memory. Chapter 5 will explain this process in more detail and give teaching suggestions.

DIAGNOSTIC ASSESSMENT OF DECODING SKILLS

The National Centre of Literacy and Numeracy for Adults (NCLANA) has a number of video clips showing how to do diagnostic assessments. These are available at:
http://literacyandnumeracyforadults.com/

Step 1. Phonemic awareness

First, adult readers need phonemic awareness and we can assess this with a test of phonemic awareness (see the sample test items below and the video link at the end of this section).

Phonemic awareness is awareness that spoken words consist of small, distinctive sounds. It has only been in recent times that we have had a better understanding of why this can be difficult for the beginner. The problem is that when we say a word like bag the information about the /b/, the /a/, and the /g/ transmits in parallel so that the word seems like just one sound to the ear when in fact it is three sounds. The sounds, which we call phonemes, overlap one another when we say the word so that we do not hear them clearly. You can test this for yourself by trying to say the /b/ in /bag/ on its own. You just cannot do it.

This is why it is hard to hear the individual phonemes unless we give the student clear examples and stretch out the word, as in */s-u-n/*. In this example, you can hear the sounds clearly. The skill of breaking down spoken words into their phonemes is an unnatural thing to learn for a beginner. It only matters for reading and spelling. Students can learn to do it (see Chapter 5) but it takes some learning. It has to be a language game without any reading of the words themselves. The learner has to listen to the sounds.

Adults can show lack of understanding of the phonemes in words when asked to do more complicated listening tasks such as "What is left if we take the /t/ sound out of *stand*?" (answer = *sand*). Even good readers can be fooled when we show the words in print (e.g., *box*, *boil*). Some words have more sounds than letters (like *box*) or more letters than sounds (like *boil*) and this can confuse the good reader into thinking there are three sounds in *box* (there are four) and four sounds in *boil* (there are three). As an assessor, keep this in mind. Adults with dyslexia may think there are more phonemes in a word because they think of the spelling of the word and not its sounds.

Phonemic awareness seems to be learned in stages. First, the learner shows understanding that sentences are made of words, e.g., they can count the words in "Pop goes the weasel" (four words). Second, the learner understands that words are made up of syllables. Many words have one syllable, e.g., *rain* but many others have more than one syllable, e.g., *rain-bow*. They show understanding of this by being able to tell you the number of syllables in longer words. Third, they can show they understand how to break a syllable into its onset (beginning sound) and rime (the rest of the syllable) as in *r-ug*. Finally, they can show understanding that a syllable is made of phonemes e.g., they can identify the three phonemes in rug (r-u-g).

To assess these phonological awareness skills, use the measures in *Starting Points: Assessment Guide* (Tertiary Education Commission, 2010, pp. 44–45). Some examples from the guide are below:

1. Syllable awareness—how many syllables in? (say aloud to student)

cat	me	bro/ken	com/pu/ter
home	fly	pic/ture	as/tro/naut
bring	ute	Hol/den	cal/en/dar

2. Onset-rime awareness—which word does not rhyme? (say aloud)

fit	sit	*hot*	bit
cake	*rock*	lake	brake

3. Phonemic awareness (say aloud to student)

a) Blending—"What word am I saying slowly – *f-i-sh (the word is "fish")*

b) Segmenting—"What four sounds can you hear in *help*?" (answer = h-e-l-p)

http://literacyandnumeracyforadults.com/Professional-Development/Professional-development-modules/Professional-Learning-Reading-learning-modules/Module-1-Identifying-strengths-and-learning-needs/Section-c/5.-Assessing-syllable-awareness

There are other resources you can use to assess phonemic awareness that use similar tasks such as the Gough-Kastler-Roper Test of Phonemic Awareness (Nicholson, 2005, 2006).

Step 2. Letter identification skill

Second, beginner learners need to be really skilful at identifying the names and sounds of the letters of the alphabet. An example of an assessment is below, from *Starting Points: Assessment Guide* (Tertiary Education Commission, 2010). Adults need to be skilful at giving the names and sounds of the letters. The tutor also can assess the student's ability to write the letters when they are given just the names of sounds. Another useful exercise is for the adult learner to say the names and sounds of the letters as quickly as possible. Letter naming speed of at least one letter per second is a useful guide to fluency with alphabet identification. Here is an example of a section of an alphabet identification test. See the *Starting Points: Assessment Guide* (Tertiary Education Commission, 2010, p. 48) and the video link below for the full test.

a	f	k	p	w	z
b	h	o	j	u	
c	y	l	q	m	
d	n	s	x	i	
e	g	r	v	t	

http://literacyandnumeracyforadults.com/Professional-Development/Professional-development-modules/Professional-Learning-Reading-learning-modules/Module-1-Identifying-strengths-and-learning-needs/Section-d/6.-Letter-identification

Step 3. Understanding how the code works

The third step in cracking the code is understanding that letters in print represent the phonemes of speech, that printed words are phonemes written down, so that if students can link the correct phoneme to each letter they will be able to read and spell the printed word. Once the learner understands the alphabetic principle, you will see it in their reading and spelling. For example, they may read *rain* as "ran" or *believe* as "belive". That is, they are reading phonemically. In spelling, they will show the same behaviour, in that they will spell words the way they sound, e.g., "wurry" for *worry*, "cercale" for *circle*, "minit" for *minute*, "desishin" for *decision* or "opperchoondy" for *opportunity*. The learner who has grasped the alphabetic principle for reading should be able to read made-up words with regular spellings, using their letter-sound knowledge.

A way to check whether the student understands the alphabetic principle is to use a test of ability to read alien words. These are words that follow the rules of English spelling but are not real English words. The Bryant Test of Basic Decoding Skills does this (see Nicholson, 2006; *Starting Points: Assessment Guide*, Tertiary Education Commission, 2010, pp. 50–53). This test presents words that follow the letter-sound rules of English and the tutor can explain to the adult learner that these are not real words and they have to sound them out. Here are some examples:

List A	List B	List C
maz	phune	cosnuv
nuv	blor	sanwixable
wix	troob	defev

The first column of words tests simple rules that combine a consonant-vowel- and consonant, e.g., "maz". The second list tests more complicated patterns such as the Greek spelling of the /f/ sound and the silent e rule as in "phune". The second list also tests words that have the vowel plus "r" pattern as in "blor" and vowel digraphs with words like "troob". The last column tests more complex patterns with more than one syllable and with prefixes and suffixes, such as "defev". Instructions for giving the test are on the TEC video available at the link below:

http://literacyandnumeracyforadults.com/Professional-Development/Professional-development-modules/Professional-Learning-Reading-learning-modules/Module-1-Identifying-strengths-and-learning-needs/Section-d/7.-Assessing-decoding-using-non-words

The nice thing about the test is that it gives the tutor an indication of what kinds of word patterns are difficult for the learner. Then the tutoring can focus on these patterns. Chapter 5 explains these patterns in more detail and gives ideas for teaching (see also Figure 3.3 below). For example, the learner may say "muz" instead of maz, which indicates difficulty with simple spellings of 3-letter words. Or the learner may say "pun" instead of phune, which indicates they may need help with "ph" words like "phone" and with the silent e rule for reading words like "bake". If the learner says "dev" instead of defev, this

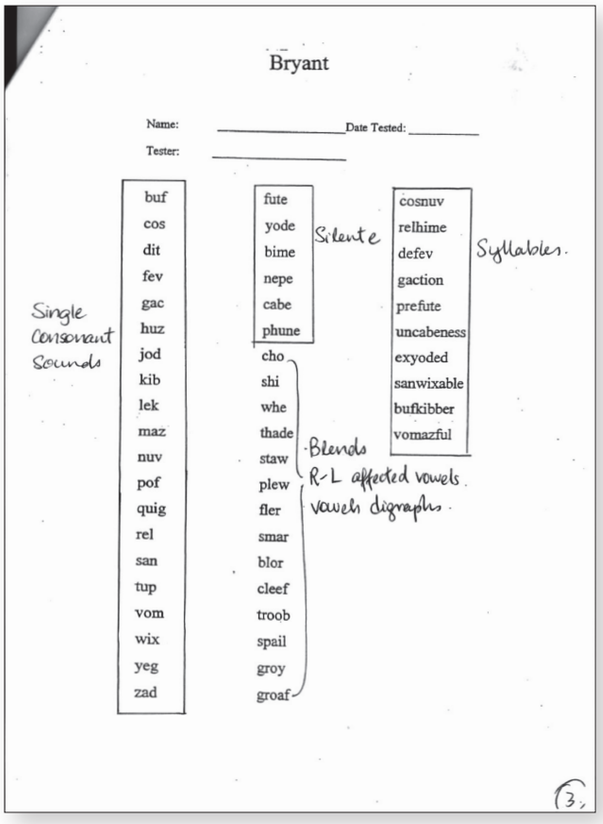
might indicate the need to show how to break words into syllables, or into their prefixes and suffixes, as in words like "detach".

The bracketed areas in Figure 3.3 show some of the main decoding skills: consonant-vowel-consonant, silent *e* rule, consonant and vowel digraphs, r-affected vowels, and multisyllable words.

ASSESSING READING PROGRESS AS A RESULT OF INSTRUCTION

The adult student with dyslexia, once decoding skills are in place, can begin to build not just fluency but vocabulary and general knowledge through reading. The real measure of whether reading instruction is successful for this student will be an improvement in their reading comprehension. This can be assessed with the (TEC) *Literacy and Numeracy for Adults Assessment Tool*. It was developed for New Zealand adults by the New Zealand (NZCER) and Australian (ACER) Councils for Educational Research. The *Literacy and Numeracy for Adults Assessment Tool* assesses reading comprehension as well as receptive vocabulary knowledge. Receptive vocabulary is

Figure 3.3 The Bryant Test of Basic Decoding Skills


Bryant

Name: _____ Date Tested: _____

Tester: _____

Single Consonant Sounds

buf
cos
dit
fev
gac
huz
jod
kib
lek
maz
nuv
pof
quig
rel
san
tup
vom
wix
yeg
zad

Silent e

fute
yode
bime
nepe
cabe
phune

Syllables.

cosnuv
relhime
defev
gaction
prefute
uncabeness
exyoded
sanwixable
bufkibber
vomazful

cho
shi
whe
thade
staw
plew
fler
smar
blor
cleef
troob
spail
groy
groaf

Blends
R-L affected vowels
vowels digraphs

3.

Source : (Bryant, 1975 ; Nicholson, 2006)

students' understanding of vocabulary spoken to them. Results are in three categories: emerging, expanding, or extended. The *Starting Points: Assessment Guide* (Tertiary Education Commission, 2010) also has suggestions for informal assessment of reading comprehension, e.g., by asking the student to read aloud from texts like the Collections series, and asking them questions to assess their understanding of what they have read. Other assessments of reading comprehension are in the Appendix.

SUMMARY

When you assess, be sure to focus on the positive. Assessment is not about deficit thinking. It is about assessing strengths. Remember that the student with dyslexia may have problems with spelling and pronouncing words when reading them but they can be very gifted in terms of language and ideas. Look for these strengths while you are assessing.

This chapter has explained the steps to take to decide if the student has dyslexia. We did this by explaining that the student with dyslexia is likely to have good oral language skills but is weak in ability to crack the code. The chapter has provided some ideas for gathering diagnostic data to find out what exactly is confusing the dyslexic student in decoding.

APPENDIX

Assessment resources and where to find them

1. Reading comprehension assessments

- Tertiary Education Commission (TEC) *Literacy and Numeracy for Adults Assessment Tool* is a New Zealand assessment of reading comprehension. http://literacyandnumeracyforadults.com
- The Wide Range Ability Test (WRAT) is a United States test that assesses reading comprehension up to the adult level. It uses sentences where the adult reads the sentences and answer questions about them. It is available from NZCER.
- PROBE 2 is a New Zealand test that assesses reading comprehension (Parkin & Parkin, 2011). PROBE 2 has 20 levels and is suitable for adults reading up to Step 4–5 of the Literacy Progressions. It is available from Triune Initiatives Ltd., Upper Hutt, NZ.
- Supplementary Test of Achievement in Reading (acronym is STAR) is a New Zealand test that is available from NZCER. It is a nice test to use up to Year 9 level. It has a time limit so it is quick to administer. It works for the individual or for a large group. It has five subtests. First, there is a test of decoding skill. Second, there is a test of sentence comprehension. Third, there is a test of paragraph comprehension. Fourth, there is a test of vocabulary. Fifth, there is a test of the use of language, as in advertising. It gives results in stanines, which divides the level of reading skill into nine levels.

– The York Assessment of Reading Comprehension (YARC) has been normed for the United Kingdom and Australia. Its coverage is up to high school level. It gives a reading age for accuracy, rate, and comprehension. A nice feature is that you can enter the scores for the test on their website and it will produce a report for you. http://www.yarcsupport.co.uk/

2. Listening comprehension and vocabulary assessments

– Tertiary Education Commission (TEC) *Literacy and Numeracy for Adults Assessment Tool* assesses oral vocabulary understanding. http://literacyandnumeracyforadults.com
– The Progressive Achievement Test of Listening Comprehension is a New Zealand test available from NZCER. Its coverage stops at junior secondary level but it will give an indication of listening comprehension ability. It is suitable for one person or for a group. The test has a time limit. A nice feature is that it has its own audiotapes so the examiner does not have to read the texts aloud to the students.
– British Peabody Picture Vocabulary Test (BPVT) is a test of listening vocabulary available from NZCER. Its coverage is up to adult level. The nice feature of the test is that it takes only about 15 minutes. It is for the individual, on a one-to-one basis. The student looks at four pictures on the page and has to point to the picture that best resembles the meaning of the word.
– PROBE 2 (refer to above section on reading comprehension assessments) can be used to measure listening comprehension. Instead of the student reading the passage, the tutor reads the passage to the student. The tutor then asks the student the comprehension questions.

3. Decoding assessments

These measures will indicate if the student is decoding below average for their age:

- Burt Word Reading Test assesses up to the 12-year-old level. This is a nice test to use if the adult with dyslexia is not decoding at a very high level. The test is easy to use and gives a reading age. It is also a New Zealand test.
- WRAT assesses word recognition up to adult level.
- YARC assesses up to high school level. It gives a measure of reading accuracy and speed.

These assessments are all available from the New Zealand (NZCER) and Australian (ACER) Councils for Educational Research.

4. Diagnostic language and reading assessments

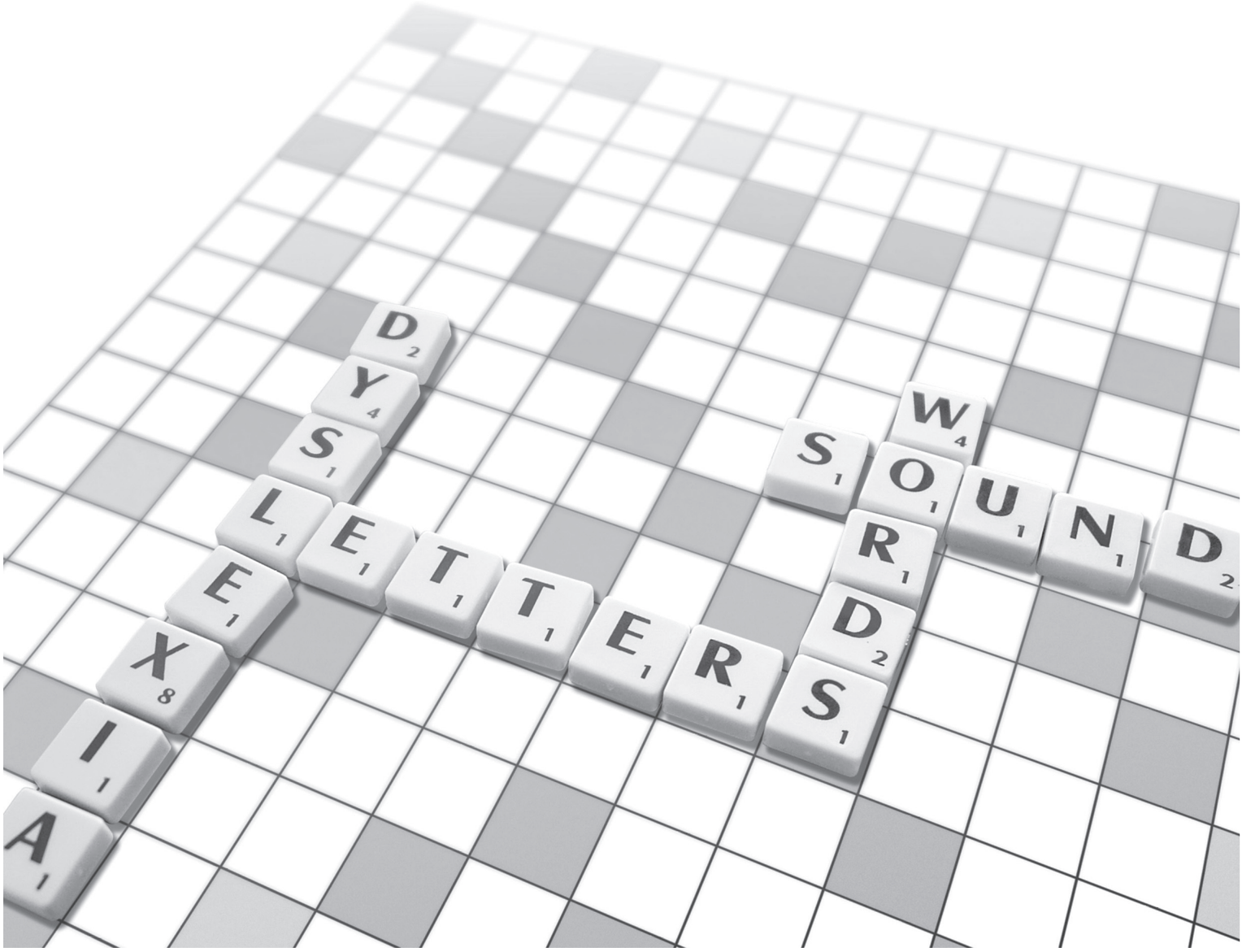
The diagnostic tests below will assess some of the understandings we talked about earlier in the chapter. The alphabet test will check knowledge of letters of the alphabet. The phonemic awareness test checks ability to blend, segment, delete, and substitute phonemes in spoken words. The Bryant Test of Basic Decoding Skills is an invaluable

tool for finding out which letter-sound correspondences the student needs help with and which ones the student already knows well. The Martin and Pratt test is similar except that it has the advantage of norms so you can get percentiles, standard scores and reading ages up to a 17-year-old level.

- Alphabet test (Nicholson, 2006).
- Gough-Kastler-Roper (GKR) Test of Phonemic Awareness (Nicholson, 2005, 2006).
- Bryant Test of Basic Decoding Skills is available in *Starting Points: Assessment Guide* (Tertiary Education Commission, 2010) and in Nicholson (2006).
- Martin and Pratt Non-word Reading Test. Available from NZCER.

CHAPTER 4

How dyslexia affects the lives of adults



CHAPTER 4 – KEY MESSAGES

1. Adults with dyslexia are often afraid to say anything about it because the real world is very harsh. They are stigmatised just because they cannot read and spell some words. It is amazing how paranoid we are about correct reading and writing. The title of a recent letter to the editor in a nursing magazine was, "One spelling mistake and dreams of a nursing career may be shattered". How ridiculous that we can be so strict.

2. There are three reactions to dyslexia – candid, where you admit it, closet, where you hide it, and confused, when you struggle but do not know why. The awful reality is that most adults with dyslexia are "closet".

3. Stories of individuals with dyslexia show that they are amazing people with determination and resilience who strive and make it to the very top, despite society's negative attitudes.

4. Next time you make a hurtful remark about poor spelling, be careful – it might be that your CEO has dyslexia and will not appreciate it!

HOW DYSLEXIA AFFECTS THE LIVES OF ADULTS

There are many successful adults with dyslexia in our society. They had difficulties at school but made the best of it and succeeded in life. An example of a celebrity who has dyslexia is Henry Winkler (or, for the older adults reading this book, Fonzie or The Fonz from the United States television series *Happy Days* that aired from 1974 to 1984). The Fonz had less than positive childhood experiences: "I was told I was stupid and I believed it" (A conversation with Henry Winkler, 2010, p. 3). His parents called him "dummer Hund," German for "dumb dog":

> My father could speak 11 languages and do math in his head. He was confounded that I was in the bottom three per cent academically in this country. He always pushed me to concentrate, because if I concentrated I would *get it*. If I sat at my desk long enough, I would *get it*. (A conversation with Henry Winkler, 2010, p. 3)

Despite his efforts, Winkler didn't get it. He struggled throughout school. Winkler's father, a successful New York businessman, wanted his son Henry to follow in his footsteps (Featured, fantastic authors, 2010). Winkler said he tried hard as a student, "I sharpened every pencil in my drawer. I tried to be organized. I tried to do the work. I wanted to be like everyone else in the school" (A conversation with Henry Winkler, 2010, p. 3). But Henry was not like everyone else in his school. His reading and writing skills were well below grade level.

Robert Frank (Frank & Livingston, 2002, p. 1), psychologist, college professor, and author of *The Secret Life of the Dyslexic Child,* writes, "As a child, I was called dumb. I was called lazy. And that was just by some of the teachers. You can imagine the names that the kids in the school yard added to that list." Frank continues, "I recalled the terror I felt as a child when my turn to read approached and the embarrassment I inevitably felt as I stumbled slowly over the words, often missing the main point of what I read" (p. 9).

Jackie Stewart, Scottish racing driver, is dyslexic. He writes, "You will never understand what it feels like to be dyslexic. No matter how long you have worked in this area, no matter if your own children are dyslexic, you will never understand what it feels to be humiliated your entire childhood and taught every day to believe that you will never succeed at anything" (Wolf, 2007, pp. 165–66).

Adults bring their childhood experiences into adulthood, both positive and not so positive. Winkler and Frank were called dumb by their parents or their teacher. Frank was called lazy at school. We can only imagine what Frank's classmates called him. When students were told to get into groups for a social studies or science project, did Frank's classmates invite him to join? Frank would have probably been one of the last to be selected. The teacher, in time, would have placed him in a group. Being called dumb and lazy, feeling isolated and totally frustrated that he could not access easily the reading material he should have been able to read, would have long-term emotional consequences. The put-downs Frank (and probably Winkler) would have endured for over a decade would have long-term negative impacts.

Tanner (2009) reported in her study that student peers were direct in their comments using terms such as dumb and stupid. Teachers were not so open. Rather, they tended to use body language or indirect negative comments such as "try harder" (Tanner, 2009, p. 793).

While some children are misunderstood by their teachers and parents, called lazy or dumb or told to try harder, other children are simply ignored. An adult with dyslexia states:

> I was always a very well-behaved child. I was very quiet and no one took any notice, no one noticed me, so I was happily glossed over and ignored, which made everyone's lives except mine somewhat easier ... Home was sanctuary ... But by the end of junior school even when I was at home, the time between then and when you started thinking 'God, it's going to be tomorrow soon' sort of creeps up until eventually you are thinking it almost all the time. And then you've got nothing, because even the things you enjoy are spoilt.

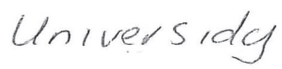
The above cases help the reader paint a picture of some of the less-than-positive experiences children with dyslexia have at school. Dyslexics react in different ways to the failure they are experiencing. Edwards (1994) explains that a dyslexic with a more introvert personality would tend to remain quiet and stay in the background, e.g., "I was always a well-behaved child". In contrast, a dyslexic with a more extrovert personality might react in the opposite way by attracting attention, becoming aggressive, being argumentative or a troublemaker. Their main objective would be to detract attention from their real frustration or problem, i.e., their difficulty with reading and writing.

Did the school system fail these children? Some would argue "yes" (Fitzgibbon & O'Connor, 2002). Good literacy skills, including good reading and writing skills, are a prerequisite to success in school but the instructional approach in New Zealand schools does not cater for children with dyslexia (Tunmer et al., 2008). In fact, it was not until 2007 that the Ministry of Education formally acknowledged dyslexia. In 2008 the Ministry of Education produced a resource on dyslexia for teachers, and while this was a positive move, there is still a great deal of work to be done to raise awareness and

educate pre- and inservice teachers about teaching dyslexics to read and write as well as how best to cater for them in the classroom.

MISCONCEPTIONS ABOUT DYSLEXIA

Dyslexics are also encumbered by the myths of dyslexia. One myth is that dyslexia means low intelligence. For example, poor spelling can be associated with low intelligence and social status. Many dyslexics experience spelling difficulties. As put by Graves (1994, p. 255), "Spelling does matter. It matters far more than we in the profession realise. Spelling, probably more than any other aspect in the school curriculum, is used to mark social status …" What would be your reaction if you received a handwritten letter from a university student with the following error?



Or an assignment with the following spelling errors: "Classrooms are ill equipt to beable ... Or though reading is ..."? These spelling examples may or may not belong to a dyslexic but our reaction to them is the same. Rightly or wrongly, teachers' judgements of students' work can be influenced by poor spelling.

Another myth is that being at the bottom of the class is associated with low intelligence (Fitzgibbon & O'Connor, 2002; Shaywitz, 2003). Being top of the class, winning the physics prize or acing an exam is typically associated with high intelligence. Failing a spelling test, yet again, coming bottom in the class, being in the bottom class sitting the physics test for the third time because of reading and writing difficulties suggest low intelligence to the lay person, the peers of dyslexics and even the dyslexics themselves.

Another myth of dyslexia is that the inability to read is associated with intelligence but many students with dyslexia are high achievers. Sally Shaywitz (1996, 2003) presents a case study of a medical student, Gregory, with dyslexia. Gregory was "extremely bright, understood the most difficult concepts" (Shaywitz, 2003, p. 153). Shaywitz (2003) also refers to the A student Brandon Rogers. Brandon was a philosophy major who had always done well in school. Brandon writes, "If I didn't get something I would study it and study it until I finally did. If it meant staying up much (or even most) of the night, I would put in whatever work was necessary to do well" (Shaywitz, 2003, p. 153). Brandon, at the time, was not aware he was dyslexic. In fact, he thought that dyslexia was "one of those meaningless terms thrown around, and seen as an excuse for people who don't like to work hard" (Shaywitz, 2003, p. 153).

Being called dumb by parents, teachers or peers can have far-reaching emotional consequences. It is also a source of embarrassment. Because of this there is a tendency for dyslexics to keep their difficulty to themselves (Fitzgibbon & O'Connor, 2002; Tanner, 2009).

THE LIFE OF THE ADULT WITH DYSLEXIA

Let's now turn to life after school for dyslexics, i.e., life for the adult with dyslexia. There is little debate in the literature that adults with dyslexia face additional challenges compared to adults who are not dyslexic. But it is not all doom and gloom. In addition to the not-so-positive consequences of dyslexia there are many strengths that adults with dyslexia can and do develop. We will be focusing on both positive and not-so-positive effects in this chapter.

Dr Linda Tessler, clinical psychologist, writes about her lifelong struggle with dyslexia. Tessler (2008, p. 241) refers to the "rough road" many dyslexics travel on. Throughout her life she has been told what she could not do or be. For example, Tessler (2008, p. 241) was told she could not "be a messenger in elementary [primary] school because I [she] couldn't read"; that she "wasn't college [university] material"; that "I couldn't get my master's degree because I couldn't write well enough".

Tanner's (2009) qualitative study involved 70 adults, from 17 to 70+ years, who were participating in a Technical and Further Education (TAFE) course that was designed for adults with dyslexia. Participants were either diagnosed by an educational psychologist or were evaluated and screened by a dyslexia specialist. TAFE is considered Australia's leading vocational education and training provider. Participants were asked a number of questions in order to determine whether they were a candid, closet or confused dyslexic (see Table 4.1).

Table 4.1 Number of adults who identified as candid, closet or confused dyslexic

CATEGORIES OF DYSLEXICS	CATEGORIES DEFINED	NUMBER (N=70)	PERCENTAGE
Candid	"Willingly discloses and acknowledges his dyslexia to themselves and others" (Nosek, 1997, p. 7)	5	7
Closet	"Conceals his dyslexia from himself through denial and from others out of shame and fear" (Nosek, 1997, p. 7)	48	69
Confused	"Doesn't know he is dyslexic and struggles through school and life unaware of what causes his trouble with words" (Nosek, 1997, p. 7)	12	17
Non-committal		5	7

Source: Tanner (2009)

Tanner's (2009) findings suggest that only a small minority of adults—7 per cent in her study—disclose that they are dyslexic. The majority, or 86 per cent, of participants in this study either concealed their dyslexia or were not aware of the cause of their reading difficulties. It is important to note that at the time of her study was conducted in Australia there was no recognition of dyslexia. Once people have an understanding of dyslexia—as in England—the results would most likely be different. Nosek (1997) and Tanner (2009) also explain that the categories are not permanent. For example, closet dyslexics could become candid dyslexics if they felt safe to disclose their dyslexia.

McNulty's (2003) research focused on the life stories of twelve adults who were diagnosed with dyslexia before the age of 14. Eleven participants lived in the United States and one in Canada. The twelve participants had completed high school and eight were university graduates. At the time of the study the eight men and four women were aged from 25 to 45 with the average age between 33 and 34 years. McNulty explains that the participants, at first, were happy to be interviewed for the study as they wanted to tell their story. This enthusiasm waned when they read their transcript. Participants felt self-conscious as they felt their stories were not expressed particularly well.

The same study found that with some participants their differences began to appear before starting school. They felt emotional concern that "something's different about me" or "something's wrong with me" (McNulty, 2003, p. 371). However, by the time each participant had been at school for several years they all "encountered unexplained difficulties and failures that called into question their sense of intelligence and motivation" (McNulty, 2003, p. 371. Their problems were also misunderstood. For many, their early school experiences were nightmarish, traumatic and they felt what McNulty (2003), Shaywitz (2003) and Tanner (2009) have described as intense, very intense, feelings of shame and humiliation. Reading aloud, reports McNulty, was the one shared experience that they associated trauma with.

Bob, who is now a commodities trader, describes his reading aloud experience in a church-run Sunday School (McNulty, 2003, p. 371):

> That was another place everybody had to read, you know, passages out of the Bible. This teacher I had. I had the same teacher from first grade all the way to eighth grade. This guy knew I couldn't read and every fricking week he'd make me try to read. I don't know if you've experienced this, but you don't how humiliating this is, to try to reading something … you can't read. It's a paragraph this big and it takes you 10 minutes, with him 'helping out' to read the thing. It would take 10 minutes to read the paragraph. And the kids were all chuckling and laughing. I would get hot. And I remember my cheeks would be burning on fire. And I'd get to the point where I couldn't even concentrate. I couldn't read anymore. It was so humiliating, so degrading to me.

Another example is from one of our own students, Ryan, an 18-year-old school leaver who gained university entrance in 2011 and is presently studying towards a Bachelor of Science. Ryan explained that he did not like the practice of round-robin reading, where students each read a section of text, aloud. Ryan states, "Never do round-robin reading. My hands would start shaking when my turn was close."

Assessment for dyslexia adds another layer of anxiety and confirmation that "something's wrong with me" (McNulty, 2003, p. 371). High school experiences added a further layer of complexity as well as anxiety for the participants. Being placed in special classes or moved to a school that catered for their learning needs confirmed that they were different. Feelings of loneliness and shame continued throughout schooling. On the positive side, some dyslexics reported that assessment gave a sense of relief as they now understood why they experienced difficulties with reading and writing. On the negative side, some dyslexics do not understand why assessments are necessary (Tanner, 2009). As one dyslexic put it, "I went through so many tests—for what purpose—a label? And what good did it do—nothing—couldn't they just see I was struggling—why couldn't they just help me to read and write?" (Tanner, 2009, p. 792). For some dyslexics, an assessment resulting in a label was of little use as dyslexia was either not understood or did not exist. Instead it was an excuse for laziness. Rack (1997, p. 67) argues that fear is "foremost in the minds of many adults facing a dyslexia assessment" as many dyslexics live in fear "that they will be found not to be dyslexic, but 'stupid'—why else would they be experiencing difficulties which others around them seem not to have?".

Challenges and conflicts followed students with dyslexia into the workplace. In one study (McNulty, 2003), many continued to experience self-doubt and worry about keeping their current job or worried about future job prospects. One participant states, "You know, I'm worried. I think that's always going … especially after my first two jobs, I'm always going to worry in the back of my mind, 'Am I going to be fired?'" (McNulty, 2003, p. 374). Another participant shared their constant internal conflict:

> Well, you start out feeling, you know, if I can pull this one off, I am running a legitimate business but, you know, it's like, if I can get this, then people will see that I'm okay. They won't really think I'm stupid. They won't think I'm insignificant in some way, shape or form. So there's this struggle that you're trying to say, 'Hey, I'm okay.' (McNulty, 2003, p. 374)

Macdonald (2009) surveyed 77 adults with dyslexia. Regardless of their social class, participants constructed their life histories around educational challenges and failures. Many blamed the education system for a lack of diagnosis and for not meeting their educational needs. Eleven of the participants who attended special classes felt their placement caused an increased anxiety as they felt like outsiders within their own school. One participant became so disillusioned with school he became very cheeky:

> You know it was like take the emphasis off me and put it on to being naughty. You know, it stopped, people asking me questions … Anything that you shouldn't be doing I was doing, because I couldn't do the work that they wanted me to do. So I just sat there, disrupting the class all the time …. I thought well [school] it's pointless here. That's why I gave up. (Macdonald, 2009, p. 355)

HOME LIFE AND FAMILY

Home and family life for adults with dyslexia varies. Much depends upon whether the adult falls into the candid, closet or confused categories of dyslexia (Nosek, 1997).

Dyslexic adults who are open about their dyslexia, able to talk to about it with family members who have an understanding of dyslexia, are in a better position to receive support and be supported.

Tanner (2009) reported that the adults in her study with school-age children with dyslexia wanted to do everything they could to support their children. For some this meant sourcing extra tuition or changing schools. When Tessler's (2008) son was diagnosed as dyslexic she cried. Tessler (2008, p. 28) writes, "I was sick to my stomach that my oldest son would have to go through the same struggles I went through. I wanted to make the reality go away." She moved her son to a smaller school that was able to cater specifically for his needs.

Shopping presents its unique set of challenges for dyslexic adults. Tanner (2009) and others (Wolf, 2007) write about their frustration trying to read labels, including the label on a medicine bottle. Or the set of instructions on the cake mix or pasta snack.

Some dyslexics report that having a supportive spouse, partner or family members to help "pick up the pieces" made a huge difference (Tanner, 2009, p. 794) and they found this support paramount to their ongoing wellbeing. Receiving financial support from partners and parents, particularly when establishing a business was also acknowledged as being not only financially beneficial but also provided encouragement to carry on.

TERTIARY EDUCATION

While there are success stories of academic adults with dyslexia, and they do make great reading, many dyslexics do not experience this success. Linda Tessler (2008), author of *One Word at a Time,* has a PhD and is a clinical psychologist. Robert Frank (see Frank & Livingston, 2002), author of The *Secret Life of the Dyslexic Child,* also has a PhD. Frank is an educational psychologist and assistant professor at Oakton Community College. Henry Winkler is an actor, children's author and a university graduate who attended the Yale School of Drama. Linda Tessler, Robert Frank and Henry Winkler (or the Fonz) are excellent examples of academic success stories of adults with dyslexia. But the reality is that Linda Tessler was not diagnosed with dyslexia until she was

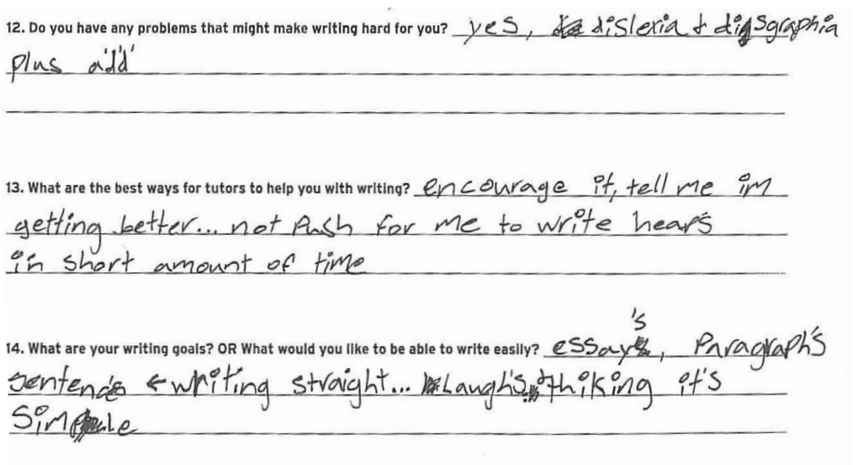
32. At the age of 32 her word accuracy and fluency were that of a 9-year-old. Tessler (2008) also experienced humiliation in front of her classmates, and cutting remarks by her teachers. Yet, in time, and with great difficulty she completed a MEd and PhD. The beginning of this chapter discussed some of Winkler's childhood experiences.

These three cases are not typical of adults with dyslexia. A longitudinal study involving approximately 600 boys with dyslexia carried between 1940 and 1977 found that even with excellent schooling and support dyslexics "are more likely to achieve less than their parents and peers with similar socioeconomic means and levels of intelligence" (McNulty, 2003, p. 363). While the study is dated, McNulty (2003, p. 363) claims that the findings, even today, are "sobering" and depict the "potential negative impact of the disorder [dyslexia] on academic and vocational achievement even under optimal circumstances".

What about the less-than-optimal circumstances? What about the ordinary high-income or low-income dyslexic who attended schools where their literacy challenges were never identified, or a dyslexic who left school with no formal qualifications?

In 2010 the following student was enrolled in a course delivered by a PTE in New Zealand. He was in his early twenties. He has some great ideas yet his writing does not reflect his ideas adequately. This is because the he has spelling difficulties and is experiencing difficulty putting his thoughts onto paper. The student's response to a writing survey (see Figure 4. 1), illustrates both the frustrations he has experienced and the writing skills he wants to gain. When responding to the question, "What are the best ways for tutors to help you with your writing?" he replies, "Don't push for me to write heaps in short amount of time". Shaywitz (2003) argues that dyslexia robs dyslexics of time.

Figure 4.1 PTE student's response to three questions about his writing

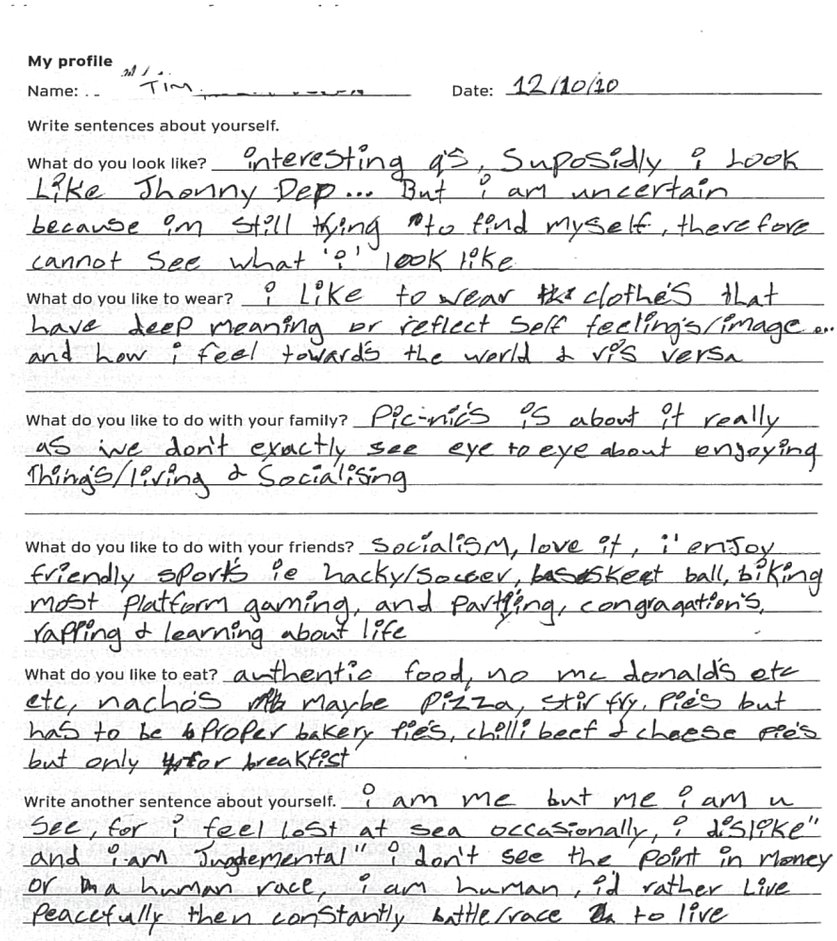

12. Do you have any problems that might make writing hard for you? yes, dyslexia & dysgraphia plus add

13. What are the best ways for tutors to help you with writing? encourage pt, tell me im getting better... not push for me to write heaps in short amount of time

14. What are your writing goals? OR What would you like to be able to write easily? essays, Paragraphs sentences ← writing straight... Laughs thinking it's simple

The following response (see Figure 4.2), illustrates that this dyslexic is a deep thinker and capable. He does want to achieve.

Figure 4.2 PTE student's response to questionnaire about himself



My profile

Name: Tim Date: 12/10/10

Write sentences about yourself.

What do you look like? interesting q's, Suposidly i look like Jhonny Depp... But i am uncertain because im still trying to find myself, therefore cannot see what 'i' look like

What do you like to wear? i like to wear clothe's that have deep meaning or reflect self feeling's/image ... and how i feel towards the world & vis versa

What do you like to do with your family? Picnic's is about it really as we don't exactly see eye to eye about enjoying thing's/living & Socialising

What do you like to do with your friends? Socialism, love it, i enjoy friendly sport's ie hacky/Soccer, basketball, biking most platform gaming, and partying, congragation's, rapping & learning about life

What do you like to eat? authentic food, no mc donald's etc etc, nacho's maybe pizza, stir fry, pie's but has to be proper bakery pie's, chilli beef & cheese pie's but only for breakfast

Write another sentence about yourself. i am me but me i am u see, for i feel lost at sea occasionally, i dislike" and "i am Judgemental" i don't see the point in money or in a human race, i am human, i'd rather Live peacefully then constantly battle/race to live

WORK

Macdonald (2009) found that working-class and middle-class dyslexics' occupational trends differed considerably. The middle-class participants in Macdonald's study had more stable employment and many had professional careers. A concern of the middle-class dyslexics was how to mask or hide their dyslexic traits. They were fearful of being labelled or stigmatised by employers and colleagues. They felt it was paramount to conceal their dyslexia as advanced literacy skills were a characteristic of their jobs. Participants did disclose that over an extended period of time it was impossible to conceal their dyslexia. One participant stated (Macdonald, 2009, p. 356):

> There are parts of your life where you know it's going to be discovered … For most of my professional life you, you know that, it's bound to come up. You're in a job where written communication is going to be important, you're going in, for example, have to do an off-the-cuff PowerPoint presentation. It's going to go up on the screen and [it's] going to have a spelling mistake on it, you know that's going to happen, eventually.

Coping strategies such as establishing themselves as intelligent before they were discovered were used. Even so, barriers still existed for the middle-class professionals.

Working-class dyslexics reported that a key barrier for them was applying for a job. There were anxieties in completing the application form or completing a literacy-related task as part of the interview. Some believed once the interviewer became suspicious the applicant had literacy issues they were no longer considered. Some participants were frustrated as they knew they were capable of performing more advanced tasks than they were currently employed to do.

Forms, according to Ryan, a New Zealand university student with dyslexia, have the potential to be a nightmare for dyslexic adults. One reason is that there is typically little time to complete them—that there is this feeling of being put on the spot. There is an expectation that adults can spell the name of the street they live on, or the city. But this is not necessarily the case. Ryan, a physics and chemistry major, continues to experience difficulty spelling the name of the street he lives on. Imagine the humility of not being able to spell your street name.

Dyslexics also face the possibility of humiliation at work. Tanner (2009) tells the story of an apprentice who was constantly humiliated when his workmates discovered he had reading and writing difficulties. On one occasion his workmate handed him a list of things to collect but he had also included sexual references which he was unable to decode. When he handed the list to the storeroom supervisor to read he was told of the references and innuendoes.

Many adults with learning disabilities, including dyslexia, are either unemployed or underemployed (Price & Gerber, 2008). High-school students with learning disabilities tend to leave school without formal qualifications. While some adults with dyslexia lead corporations, become professors, lawyers, teachers, scientists and world leaders, others are overrepresented in jails and unemployment statistics (Price & Gerber, 2008; Prison Reform Trust, 2006).

Bell's (2010) study examined how working adults viewed their dyslexia and how their lives had been affected by dyslexia. She found that some adults felt disempowered. Because they had experienced failure throughout school they were not willing to continue risking failure so opted for work that did not require qualifications. As one adult with dyslexia wrote, "Get anything that paid money. Whether it was cleaning or anything. Just do it and get a job" (Bell, 2010, p. 218). Schools also impacted on the

work dyslexic adults did after leaving school. After experiencing failure at school and being directed towards a certain type of employment at school Gill became a domestic cleaner. She felt her dreams had been discouraged at school. In time she trained to work in the early childhood sector.

Even when motivated to gain employment after leaving school, the fear of failure yet again, means some adults with dyslexia are simply not prepared to embark on further study. Bell (2010, p. 219) writes, "Kylie feels disempowered and unwilling to risk failure because experience tells her that nothing she can do will make a positive impact."

Bell (2010) also found that because of failure to thrive at school some dyslexic adults were reluctant to apply for promotion as they did not want to risk further embarrassment. She tells the story of a talented mechanic who wanted to apply for promotion and was encouraged by more senior work colleagues to apply. Adrian, the mechanic, states, "I still think I am thick and I think when I have interviews I think the people look at me and think 'He is thick as two short planks' you know, I still think that" (Bell, 2010, p. 221).

Disclosing difficulties with reading or spelling at work is a very sensitive issue. One adult states, "In my job, [we] don't really talk about personal stuff. [I] don't want to talk about anything that could be used against me" (Price & Gerber, 2008, p. 464).

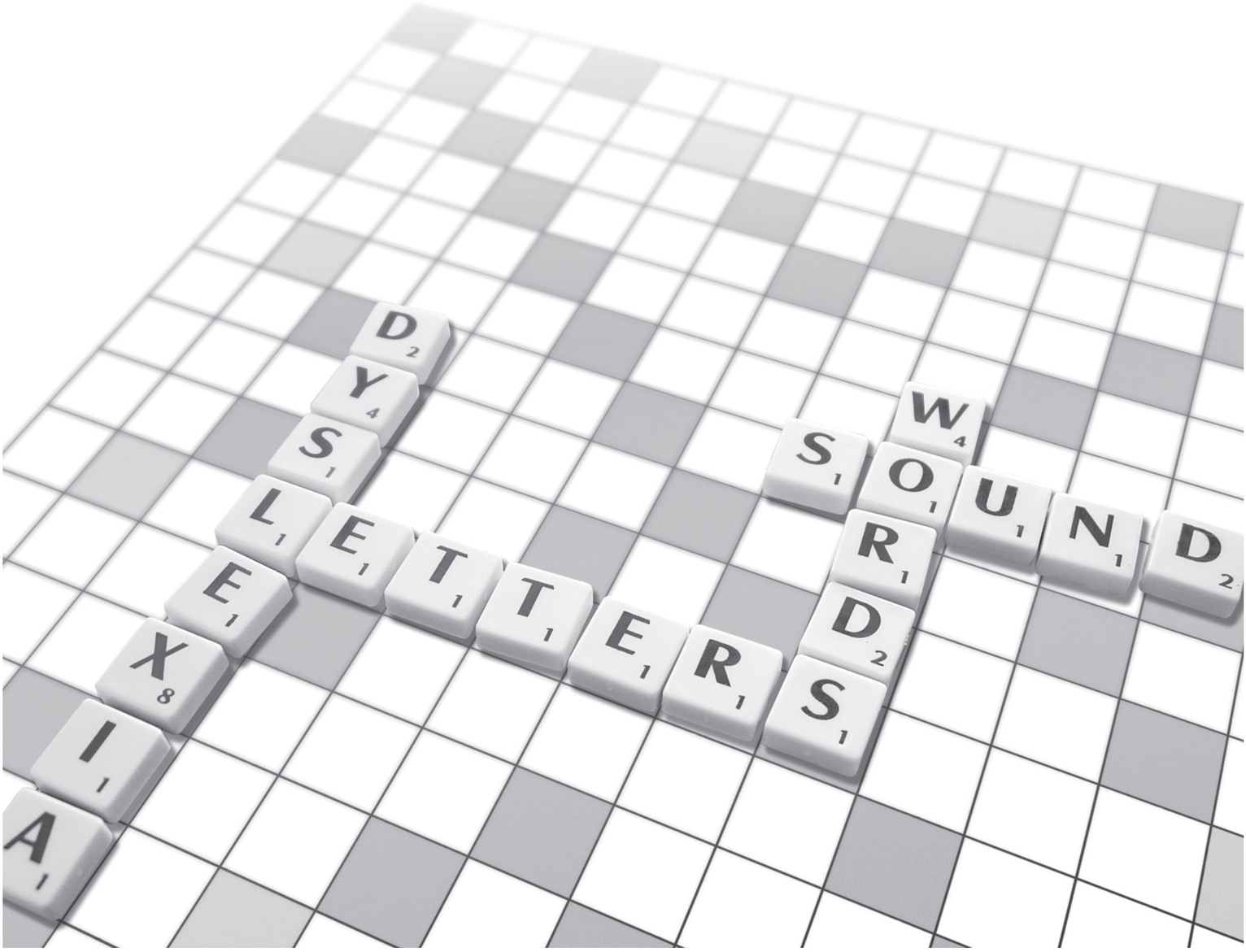
Some dyslexics deliberately choose to become self-employed to avoid negative attitudes, victimisation and exclusion due to a lack of understanding of dyslexia (Tanner, 2009). Being self-employed means the dyslexic adult has more control over their work environment and is less likely to be placed in an embarrassing situation.

SUMMARY

The focus of this chapter is on how dyslexia affects the lives of adults with dyslexia. There is little debate in the literature that these adults encounter additional challenges to those that do not have dyslexia. Research shows that there is considerable evidence of a lifelong "dyslexic syndrome" (Rack, 1997, p. 75). They generally have to make much more of an effort than other adults. In spite of the hard work they put in, they tend not to reap the rewards. The chapter discussed the ways in which dyslexia can impact on home life, work and education. The focus is primarily on the not-so-positive consequences for dyslexics such as believing they are dumb, having low self-esteem and being fearful but not all dyslexic stories have a sad ending (Wolf, 2007). Wolf (2007, p. 166) writes, "After being asked to leave several high schools, Paul Orfalea went on to become the founder of Kinko's, David Neeleman became the CEO of JetBlue, and John Chambers became the CEO of CISCO."

CHAPTER 5

Teaching adults with dyslexia to read more effectively



CHAPTER 5 – KEY MESSAGES

1. English is hard to read. The reason is that we have changed the ways we pronounce words over the centuries but did not change the ways we spelled them. We also have words borrowed from many languages, especially Latin and Greek words. All this complexity means that it takes many years to learn to read and spell well. The good news is that there is a method to this madness – the chapter explains it.

2. Adults with dyslexia have difficulty with reading and spelling, especially long words. The chapter explains how to teach rules for unlocking these words.

3. Adults with dyslexia may have slipped behind in their reading comprehension over the years. They have not been reading as much as they need to and so they need help to build up the reading miles, and to use some effective strategies to remember what they read. This chapter gives examples of how to understand text better.

TEACHING ADULTS WITH DYSLEXIA TO READ MORE EFFECTIVELY

Adults with dyslexia typically have decoding difficulties. In order to read more effectively they need to build their word reading accuracy and fluency which are their main weak areas (Fletcher, Lyon, Fuchs, & Barnes, 2007; Shaywitz, 2003; Tunmer & Greaney, 2008). Dyslexics can have good or even excellent vocabulary and general knowledge but because they have slipped behind in school they may lack higher order knowledge acquisition skills such as the "High 5!" strategies for comprehension (Dymock & Nicholson, 2010, 2012). They may also need more high-level vocabulary strategy instruction in word analysis including words with Latin and Greek origins (Henry, 2010). This chapter will address all these issues: decoding, vocabulary and strategies for learning.

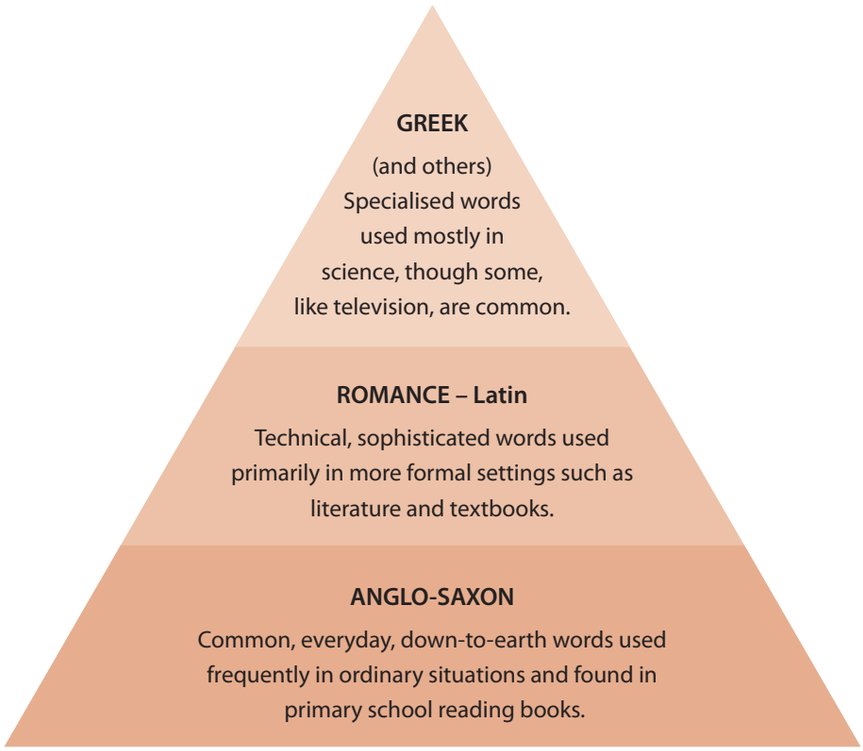
In Chapter 2 the meaning of dyslexia was discussed. The word dyslexia consists of two parts or two Greek combining forms: *dys* meaning difficulty; and *lexia* meaning words. Dyslexics have difficulty with words. There is little debate in the literature that difficulty at the word level is a characteristic of dyslexics (Shaywitz, 2003; Wolf, 2007). Fletcher et al., (2007, p. 85) agree, "The major skill characterizing … dyslexia is a difficulty in single-word reading."

AN OVERVIEW OF THE ENGLISH LANGUAGE

For many adults with dyslexia English is simply a sea of words. While they recognise that some words are short, e.g., *mix, son, car, plan* and some are long, e.g., *reproduced, construction, biography,* they are unaware of their differences in origin. Having an understanding of word origins empowers adults with dyslexia as this knowledge gives them strategies to decode. Readers use different decoding strategies when reading a word like *cat* compared to a word like *reconstruction* or *machinery.*

English words stem primarily from the Anglo-Saxon, Romance (Latin, the basis for Romance languages) and Greek languages. Greek is the top layer and the smallest of the three as shown in Figure 5.1. Greek words tend to be specialised and found primarily in mathematics and science texts. They are usually compounded. This means that two parts are combined into one word. Some dictionaries refer to the two parts as combining forms. The two forms, or word parts, carry equal meaning. Words like *biography* (bio + graphy); *photographic* (photo + graphic) and *telephone* (tele + phone) are of Greek origin.

Figure 5.1 Layers of the English language



Source: (Calfee & Associates, 1984)

The middle layer is the Romance layer which includes words mainly from the Romance languages of which Latin is the basis. Latin consists of words that are used in more formal settings, including education. Learners completing a joinery course will encounter Latin-based words such as *exterior, interior, manufacture, installation* and *construction.* Learners completing a building course will encounter words such as *construction, structural, residential, durability, measurement* and *regulations.* These words are also Latin based. Latin-based words are structured differently from Greek. They typically consist of a Latin root (e.g., *-struct*), a prefix (e.g., *de-*) and/or a suffix (e.g., *-tion*): *destruction*. The Latin root carries the major meaning of the word. Latin roots form the basis of many words found in text that dyslexic adults are required to read as part of their hairdressing, carpentry, joinery, hospitality and other courses. In fact hundreds of thousands of words contain a Latin root.

The Anglo-Saxon layer is the largest layer of English. It consists of common, everyday words that all speakers of English use. Anglo-Saxon words are primarily one or two syllables. Examples are words such as *his, mother, hand, cup, cat, help, house, bed, food* and *drink*. Learners who are able to decode Anglo-Saxon words yet have not mastered Latin-based words will be at Step 1 or 2 of the *Learning Progressions for Adult Literacy* (Tertiary Education Commission, 2008a). Learners who are having difficulty decoding Anglo-Saxon words could be below Step 1.

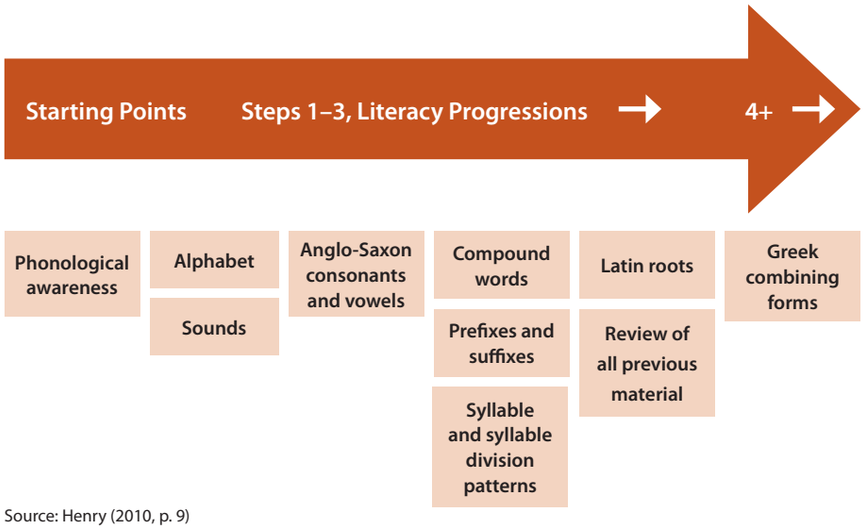
DECODING

Good readers are good decoders. Adults with dyslexia who are unable to decode or have decoding difficulties encounter barriers daily. Poor decoding can also be a health and safety matter. For example, adults who are unable to decode and comprehend the following warning sign, taken at Paynes Prairie Preserve State Park on the outskirts of Gainesville, Florida, are at risk of becoming seriously injured (see Figure 5.2).

Figure 5.2 Warning sign at Paynes Prairie Preserve near Gainesville, Florida

Marcia Henry's (2010, p. 9) decoding and spelling continuum, shown in Figure 5.3, provides an overview of the knowledge and strategies an adult with dyslexia needs to be a good decoder. In order to determine where the learners' strengths and areas needing support are, each component of the continuum should be assessed, including phonological awareness, alphabet names and sounds, Anglo-Saxon consonants and vowels, syllable and syllable division patterns, Latin roots, prefixes, suffixes and Greek combining forms. Syllable and syllable division pattern knowledge provide the reader with strategies to decode multisyllable words, including words from the Latin and Greek layers.

Figure 5.3 Decoding and spelling continuum



Source: Henry (2010, p. 9)

PHONOLOGICAL AWARENESS

What is phonological awareness? *Phonological* is Greek: *phono* means sound; *logos* means word. Phonological awareness starts with awareness that spoken words can consist of large units of sound, or syllable awareness. For example, that *bat* consists of one syllable and *rabbit* consists of two. It can include awareness of onset and rimes, e.g., that /b/ is the onset for *bat* and /at/ is the rime; or that /sh/ is the onset for *shop* and /op/ is the rime. Finally, phonological awareness can include awareness of phonemes. Phonemes are the smallest units of sound. Phonemic awareness, a subset of phonological awareness, involves the understanding that spoken words are composed of small units of sound.

Phonemic awareness involves the ability to recognise and manipulate the smallest sounds in words. In the English language there are 42 to 46 phonemes. *Bat* for example has three phonemes /b/ /a/ /t/. Trip has four phonemes /t/ /r/ /i/ /p/ and *shop* has three phonemes /sh/ /o/ /p/. The 42 to 46 phonemes are represented by the 26 letters of the alphabet. Why is phonemic awareness important for learning to read? Phonemic awareness helps the reader understand the alphabetic principle of English. What is the alphabetic principle? It means that letters represent sounds in writing. In English, letters and letter clusters represent phonemes. In order to understand the way oral language is represented by print, i.e., letters, readers must understand that the words in oral language are composed of small segments of sound. To learn that the letter *t* makes a /t/ sound, readers must have a level of phonemic awareness. If there is no level of awareness the reader does not understand that the letter t makes a /t/ sound in a spoken word. There is considerable research showing that readers who lack phonemic awareness have serious difficulty in learning to read and write (Adams, 1990; Nicholson, 2005). Skill at decoding and word recognition—knowing that the word *cat* is *cat* and not *music* or *dog* or *car*—is central to the reading process. "The ability to read words quickly, accurately, and effortlessly, is critical to reading comprehension" (Adams 1990, p. 3).

Dyslexics have difficulty at the phoneme level. The reason they read so slowly is because they seem to get stuck at the level of the phoneme. This is their weakest strategy. Consider the implications for the adult with dyslexia if their difficulty is at the phoneme level. Phonological awareness is at the beginning of Henry's (2010) continuum. Difficulty at this level leads to difficulty across the continuum (see Figure 5.3).

ANGLO-SAXON CONSONANTS AND VOWELS

In addition to knowing 26 upper- and lower- case letter names and their sounds, letter-sound correspondence knowledge, in particular knowledge of Anglo-Saxon consonants and vowels, is fundamental to good decoding skills. Good readers know the difference between *hop* and *hope;* or *tip* and *trip;* or *cap* and *cup;* or why *beginning* is spelt with two *n*s rather than one (i.e., begining [sic]). There are over 80 Anglo-Saxon decoding strategies good readers use and these are shown in Table 5.1. Adults with dyslexia often have difficulties with these rules. Vowels in particular present the greatest challenge.

Table 5.1 Anglo-Saxon consonants and vowels

CONSONANTS														
SINGLE					BLENDS					DIGRAPHS				
p	g	d	b	c	**Initial**					**Initial**				
v	w	l	r	t	bl	br	cl	cr	dr	ch	sh			
f	j	m	n	s	fl	fr	gl	gr	sl	th	wh			
h	k	q	x	y	pr	tr	sc	sk	scr	gh				
z					spl	sm	squ	sn	str	**Final**				
					sp	st	sw	tw	thr	-ng	-ck	-ch		
					Final									
					- ft	-mp	-nt	-lk						

VOWELS									
	SHORT	LONG	*r*- & *l*- CONTROLLED				DIGRAPHS		
a:	mad	made	**ar:**	park	lard	harm	**one sound:**		
e:	pet	Pete	**or:**	for	horn	short	ai/ay	pain, play	
i:	Tim	time	**er:**	her	stern	fern	ee	meet	
o:	hop	hope	**ir:**	bird	thirst	sir	ie	piece	
	hops	hopes	**ur:**	fur	church	burn	oi/oy	foil, toy	
	hopped	hoped	**al:**	hall	fall	call	oa	boat	
	hopping	hoping		halter	falter		au/aw	taut, law	
u:	cut	cute		walk	talk		eu/ew	feud, few	
							two sounds:		
							ea	breath, breathe	
							oo	cook	food
							ou	mouse	soup
							ow	cow	snow
							ei	seize	eight

Note: r- and l-controlled (or –influenced) vowel patterns. When a vowel is followed by an *r*, the *r* changes the sound of the vowel (compare bird/bid; hard/had). This also applies to the vowel 'a' when followed by an 'l' – has an ORL sound.

Note: The long vowel pattern is often called 'silent e' pattern, or in England a 'split digraph'.

Note: A digraph is a combination of 2 or 3 letters to make one sound.

Source: Calfee & Patrick (1995, p. 108)

COMPOUND WORDS, PREFIXES, SUFFIXES, SYLLABLE AND SYLLABLE DIVISION PATTERNS

Compound words

Anglo-Saxon base words, e.g., *bed, flash, room, foot, ball* can be combined to form compound words, e.g., *bedroom, flashlight, football.* Typically the meaning of a compound word is related to the meaning of the base words.

Prefixes

A prefix is a unit of meaning that can be attached to the beginning of an Anglo-Saxon base word and a Latin root. *Pre-* means before. The addition of a prefix creates a new word. Common prefixes such as *un- re-, de-, con-, in-, ob-, sub- super-* and *infra-* all carry meaning. Table 5.2 lists the 20 most frequent prefixes and their meanings. This is a good place to start.

Table 5.2 The twenty most frequent prefixes

PREFIX	MEANING	EXAMPLE	WORDS WITH PREFIX
un-	not	unhappy	782
re-	back, again	replay	401
in-, im-, ir, il-	not	illegal	313
dis-	separation, undoing, opposite	disable	216
en-, em-	to put into, make	enjoy	132
non-	not	nonstick	126
in-, im-	in or into	indent	105
over-	too much	overweight	98
mis-	wrong, bad	miscount	83
sub-	under	submarine	80
pre-	before	predate	79
inter-	among, between	interplay	77
fore-	before, in front of	foreground	76
de-	removal, departure, reversal	derail	71
trans-	across	transalpine	47
super-	above or over	superpower	43
semi-	half, partly	semisweet	39
anti-	against, opposed to	anticlockwise	33
mid-	in the middle of	midway	33
under-	below or beneath	underground	25

Source: Modified from Graves (2006, p. 104)

Suffixes

Suffixes are added at the end of an Anglo-Saxon base word (or Latin root). Henry (2010) reports that the four suffixes (or inflectional endings) *-s, -es, -ed, -ing,* were found in 65 per cent of 2,000 common suffixed words. Inflectional endings "change the number, person, or tense of the base word" (Henry, 2010, p. 98). The suffixes *-ly, -er (-or), -ion, -ible, -able* were found in 17 per cent of the words. Like prefixes, the addition of a suffix changes the meaning. With the addition of a suffix the meaning or the grammatical function of the word is changed, e.g., noun to verb as in fright -> fright*en*.

The following words, all with the suffix -or are nouns: *actor, doctor, editor, inspector, conductor, collector, inventor, professor* and *translator*. Consider the following words with the suffix -cian: magician, politician, physician, statistician, electrician, mathematician, tactician, technician and beautician. What is the meaning of -cian? It means "one having a certain skill" (Henry, 2010, p. 210), e.g., a mathematician is skilled at maths; a technician is skilled at technology. It also indicates a person.

Syllable and syllable patterns

Good decoders are also aware, or subconsciously aware, of Anglo-Saxon syllable patterns. Syllables, as defined by Henry (2010, p. 47), are "units of spoken language consisting of an uninterrupted sound formed by a vowel sound alone or a vowel sound with one or more consonants". The six major types of syllables are shown in Table 5.3. Closed and open syllables account for 75 per cent of English syllables.

Table 5.3 Six common syllable types

ANGLO-SAXON SYLLABLE TYPE	EXPLANATION	EXAMPLES
Closed	Contains a short vowel and ends with one or two consonants.	top, fat, sit, stop, trap, off
Open	A syllable ending in a vowel sound—making the sound long. They may or may not begin with a consonant.	go, tree, hi, open
Vowel-consonant-e (VCE)	A syllable ending in a vowel, consonant, *e* (VCE) making the vowel long.	made, hike, Pete
Vowel digraph	Syllable contains a vowel digraph.	rain, teeth, piece
Consonant-le	Final syllable with a consonant followed by *-le*	tumble, stumble
r-controlled	A vowel is followed by 'r'. The vowel sound is modified.	her, harm

Good decoders intuitively know the rules for dividing syllables. This knowledge is useful when unknown words are encountered. Syllable division patterns are shown in Table 5.4.

Table 5.4 Syllable division patterns

ANGLO-SAXON DIVISION PATTERNS	EXAMPLES
VC/CV	rab/bit, num/ber, let/ter
V/CV	o/pen, pi/lot, tu/tor
VC/V	Jan/et
VC/CCV	hun/dred
CV/VC	cre/ate; pri/or

LATIN ROOTS

There are many Latin roots, prefixes and suffixes found in English words. Approximately 60 per cent of English words are of Latin and Greek origin (Armbruster, Lehr, & Osborn, 2001) which accounts for several hundred thousand words. One could argue that there are simply too many Latin roots to teach. We do not recommend teaching all the roots, prefixes and suffixes. We do recommend teaching the common ones and the Latin roots that are unique to the field you are teaching. While all vocabulary will advantage the learner, tutors and students do not have endless time. Educators need to prioritise. We recommend starting with Latin roots, prefixes and suffixes that are associated with the learner's field of study. The Latin root *–struct,* which means to *build,* would be an excellent start for a student in the building industry. As shown in Figure 5.4, more than 60 words can be built from this Latin root.

Figure 5.4 Prefixes and suffixes to the Latin root *struct*

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Source: Henry (2010, p. 127). Original source Melvyn Ramsden.

How do tutors know which common Latin roots to teach? Henry (2010) has provided a list of common Latin roots. She suggests that the 10 Latin roots marked by an asterisk in Table 5.5, and two Greek combining forms will help to unlock the meaning of more than 100,000 words. We have also included other common Latin roots, shown in Table 5.5, such as *rupt* that forms the root for *rupture, abruptly, erupt, interruption, eruption, disruptive, corrupt, bankrupt* and *interrupted.*

Table 5.5 Common Latin roots and their meanings

LATIN ROOT	MEANING	EXAMPLES
form	to shape	deform, misinform
port	to carry	deport, import, export
rupt	to break or burst	disrupt, bankrupt
tract	to draw or pull	attract, extract
scrib, script *	to write	prescribe, describe
spec, spect, spic *	to see, watch, or observe	inspector, disrespect
stru, struct	to build	construct, destruct
dic, dict	to say or tell	dictator, diction, dictionary
flect, flex	to bend or curve	flex, reflect, deflect
mit, miss *	to send	admission, admit, dismiss
fer *	to bear or yield	fertile, fertilise
cred	to believe	credence, credible
duc, duce, duct *	to lead	conduct, conductor
pel, puls	to drive or push	compel, expel, propel
vers, vert	to turn	adverse, university
pend, pens	to hang or weigh	pendant, pendulum
fac, fact, fect, fic *	to make or do	benefactor, artificial
jac, jec, ject	to throw or lie	interject, deject
tend, tens, tent *	to stretch or strain	intense, tension
cur, curs	to run or go	concourse, corridor
ped	foot	centipede, pedal, pedestrian, octoped
vid, vis	to see	advise, invisible
aud	to hear or listen	audio, audience, audition
vit, vita, viv, vivi	to live	revitalise, revival, vitality
leg	law	illegal, legal, legislature

LATIN ROOT	MEANING	EXAMPLES
greg	group, crowd, flock or herd; to assemble	congregate, congregation, desegregation
capit, capt	head or chief	capitol, captain, chief
spir spire	to breathe	perspire, respirator, expire
cap, ceit, ceive, cep, cip *	to take, catch, seize, hold, or receive	accept, captive, captor
grad, gred, gress,	step, degree; to walk	digress, gradient, postgraduate
voc, vok, voke	to call	advocate, vocalise, vocabulary
lect, leg, lig	to choose, pick, read, or speak	collect, elegant, select,
lit, liter, litera	letters	alliterate, literate, literary
cede, ceed, cess	to go, yield, or surrender	access, recession
ten, tain, tin, tinu *	to hold	abstain, container
feder, fid, fide, feal	trust or faith	federal, confide, affidavit
sist, sta, stat, stit *	stand	assist, stamina, stand, standardise
cad, cas, cid	to fall or befall	accident, decay, casualty
pon, pose, pound *	to put, place, or set	deposit, dispose, exposure
cern	to separate	discern
cert	to decide	certify, certificate
mob, mot, mov	to move	automobile, motor, mobilise
gen, genus	race, kind, or species; birth	genealogy, homogeneous, progeny
cide	to kill	homicide, suicide
cise	to cut	excision, scissors,
plic, ply *	to fold	duplicate
GREEK COMBINING FORM		
graph	written or drawn	biography, autograph
logy	science or study of	geology, criminology

Source: Henry (2010)

GREEK COMBINING FORMS

Our analysis of texts students encounter in their day-to-day lives and when completing unit standards indicates that they do not encounter many Greek words, the smallest layer of English. But they do encounter some Greek-based words, particularly in science text, so it is important to teach strategies to decode these. Greek words consist of two equal parts: *micro* + *scope* = microscope; *tele* + *vision* = television; *bio* + *logy* = biology.

The letter-sound correspondences in Greek words are similar to Anglo-Saxon. Key differences include:

ch corresponds to /k/

ph corresponds to /f/

y corresponds to short i sound

The Greek work *chlorophyll* could be spelt *klorofill!* What do you think?

AN ADULT WITH DYSLEXIA: CASE STUDY

John is a 30-year-old Pākehā. He left school during the 5th form (Year 11) before completing School Certificate. Since leaving school he has worked in a number of manual labour jobs including construction, farming and in factories. He realised when he was as young as 6 or 7 that he had reading difficulties. He had some help in the 3rd and 4th forms (Years 9 and 10) where he was placed in smaller classes so he could receive extra help with reading and writing. During his early high-school years his parents arranged after-school tutoring for him. John left school early because he was "basically kicked out—lost interest in school."

He is currently enrolled in a joinery programme at an institute of technology. During 2010 he completed a one-year construction programme. He would like to become a better reader. He states, "I am keen as for help." John explains that he is "sick of low-level jobs. I wanted to get better quals [sic], upskill."

The *Starting Points: Assessment Guide* (Tertiary Education Commission, 2010) reading survey indicated that John has always found reading aloud hard. When he encounters an unknown word he skips it and he "never looks at bits of the word". The phonemic awareness subtests showed that he experienced difficulties isolating phonemes, identifying common phonemes and segmenting phonemes. John was able to identify letter names but was hesitant when asked to identify the sound the letter represented and was unable to identify the sounds of *i, q, y, x* and *e* when presented in isolation. The *Bryant Test of Basic Decoding Skills* (Bryant, 1975) indicated that certain decoding strategies needed to be taught to John. This measure can be found in *Starting Points: Assessment Guide* (Tertiary Education Commission, 2010) and on the following website: http://www.tec.govt.nz/Documents/Publications/learning-progressions-starting-points-assessment-guide.pdf

What support does John need? The *Starting Points* assessments showed that John needs support in the following areas:

- isolating, identifying and segmenting phonemes
- letter sounds *i, q, y, x* and *e*
- distinguishing between *b* and *p; v* and *x* at the end of CVC words
- short vowels *e, o* and *u*
- long vowels *a, i, o* and *u*
- vowel digraphs *ee, ai,* and *oa*
- consonant digraphs *ph, th*
- decoding multisyllable words (words of two or more syllables)

HOW CAN JOHN BE HELPED WITH HIS READING DIFFICULTIES?

A typical reader, according to Nicolson and Fawcett (2008), may require 10,000 stimulus presentations to learn to read. A dyslexic requires 100 times more, i.e., one million presentations (Nicolson & Fawcett, 2008). Can an intervention deliver this type of support? Most likely it cannot. We recommend that literacy tutors take a one-step-at-a time approach where complex skills are broken into subskills and literally taught, one step at a time (Orton, 1966). For example, rather than teaching all short vowels in one session focus on one short vowel per session. When teaching long vowels, teach one at a time. Each subskill should be mastered before moving to the next one. According to Nicolson and Fawcett (2008, p. 209) subskills should be "truly mastered before being used as building blocks for the next skill". They also suggest that "skills should be practised past mastery, and then refreshed on a daily basis" (Nicolson & Fawcett, 2008, p. 209).

Suggested guidelines for teaching subskills are:

- identify the specific subskills the learner needs support with (e.g., *Starting Points: Assessment Guide)*
- teach each subskill one at a time
- teach the next subskill when the previous one has been mastered
- practise the skill beyond mastery, to automaticity
- review the skills daily

Does this mean focusing 30 minutes on one short vowel (e.g., short e)? Or 30 minutes on *b/d* confusion? No. The learner could easily become bored if the focus of the entire lesson was on one single decoding strategy such as the short e vowel. In Nicholson and Dymock's (2011) hour-long lessons, 40 per cent of the time was spent on developing phonemic awareness and teaching decoding strategies. Decoding strategy instruction reviewed previous strategies taught and then taught one new one. During the balance of the lesson participants read connected text, practised reading high frequency words, were taught spelling strategies that linked to decoding strategies taught, and received comprehension strategy instruction. Each lesson was linked and strategy instruction developed in a step-by-step process.

How does the tutor know which strategy to teach first? Once the tutor has identified the decoding strategies that need support they can be highlighted on the Anglo-Saxon word chart as shown in Table 5.6. The Anglo-Saxon consonants and vowels John needs

to learn are highlighted. The vowels and consonants are taught in order of difficulty. The 21 single consonants are easier than blends, and blends are easier than digraphs. Short vowels are easier than long; long vowels are easier than *r* and *l* controlled vowels; *r* and *l* controlled vowels are easier to learn than vowel digraphs.

Table 5.6 The Anglo-Saxon consonants and vowels John needs support with are highlighted

EASY TO INCREASING DIFFICULTY →																				
CONSONANTS																				
SINGLE					**BLENDS**										**DIGRAPHS**					
p	g	d	b	c	**Initial**										**Initial**					
v	w	l	r	t	bl	br	cl	cr	dr						ch	sh				
f	j	m	n	s	fl	fr	gl	gr	sl						***th***	wh				
h	k	***q***	***x***	***y***	pr	tr	sc	sk	scr						gh	***ph***				
z					spl	sm	squ	sn	str						**Final**					
					sp	st	sw	tw	thr						-ng	-ck	-ch			
					Final															
					- ft	-mp	-nt	-lk												
VOWELS																				
	SHORT		**LONG**		***r*- & *l*- CONTROLLED**										**DIGRAPHS**					
a:	mad		***made***		**ar:**	park	lard	harm							**one sound:**					
e:	***pet***		Pete		**or:**	for	horn	short							***ai***/ay	pain, play				
i:	Tim		***time***		**er:**	her	stern	fern							***ee***	meet				
o:	***hop***		***hope***		**ir:**	bird	thirst	sir							ie	piece				
	hops		hopes		**ur:**	fur	church	burn							oi/oy	foil, toy				
	hopped		hoped		**al:**	hall	fall	call							***oa***	boat				
	hopping		hoping			halter	falter								au/aw	taut, law				
u:	***cut***		***cute***			walk	talk								eu/ew	feud, few				
															two sounds:					
															ea	breath, breathe				
															oo	cook	food			
															ou	round	soup			
															ow	cow	snow			
															ei	seize	eight			

We acknowledge that most vocational tutors are not in a position to work with John on an individual basis, focusing specifically on further developing his decoding strategies.

What can John's vocational tutor do?

- Record the unit standard so he can read the text in read-along style. He could use his smartphone, tablet or a CD.
- Provide him with a summary of important information in diagrammatic form.
- Prepare an individual learning plan for him that focuses on the decoding strategies outlined above.
- Discuss with John the decoding strategies he needs to learn. Encourage him to highlight words he finds challenging to read.
- Write or print the words onto flashcards and have John practise reading at home or with a classmate.
- Work one-to-one with John, when opportunities arise, on the decoding strategies he needs to learn, in the order outlined above.

VOCABULARY

Vocabulary plays a key role in decoding and reading comprehension. It is fundamental to success in coursework. Both decoding and comprehension are at risk if a learner has a limited vocabulary.

Research shows that extensive reading is the richest source of vocabulary beyond the ages of 10 to 12 (Beck & McKeown, 1991; Nagy & Anderson, 1984; Nicholson & Dymock, 2010). Due to decoding difficulties, adults with dyslexia may not have encountered as many words as those with good decoding skills. It could be that their vocabulary is not as large as other adults given that they may not have had access to printed text (Stanovich, 1986, 2000). Learners, however, may listen to audio books. Their parents and teachers may have read to them throughout their schooling so it is important not to draw conclusions about vocabulary size until it has been assessed.

For example, one of our past students, Ryan, at the age of 9, had a decoding score on a standardised test at stanine 1, the lowest possible score, and in the bottom 4 per cent for his age. His vocabulary score on a standardised test was stanine 9, the highest possible stanine, placing him in the top 4 per cent for his age. Ryan is dyslexic.

A robust instructional programme, whether one-to one, small group or the entire class, will include strategy instruction at the word level. Stahl and Nagy (2006, p. 58) write, "Word consciousness should permeate the entirety of a word learning programme. Vocabulary learning is not just talking about words in class, memorizing definitions and learning word parts. It is all of this and more."

Consider John, the dyslexic joinery student discussed above. Comprehension is at risk if John does not know the meaning of *spindle moulder, edge bander, processed, exterior* and *interior.* When he encounters the word *frame* does he associate the correct definition? There are door frames (correct association) but there is also eye-glass frame, picture frame, bed frame, bicycle frame and there is the notion of being framed.

Whether learners are studying about joinery, hairdressing, hospitality, horticulture, equine training, or travel and tourism there is specialist vocabulary associated with the field. Learners need to learn what these specialist words mean to pass their courses and also to communicate with their colleagues or work mates in their chosen field. Table 5.7 provides a sample of specialised vocabulary associated with joinery, hairdressing, hospitality, equine training, and travel and tourism.

Table 5.7 Specialised vocabulary associated with various fields of work

JOINERY	HAIRDRESSING	HOSPITALITY	HORTICULTURE	EQUINE	TRAVEL AND TOURISM
manufacture	semi-permanent	site inspection	species	farrier	self-catering
presses	keratin	carrier	transpiration	gelding	package holiday
formers	colourant	commissions	photosynthesis	filly	ecotourism
tenoner	eczema	destination marketing	propagation	thoroughbred	low-season
flush doors	chemical	tariff	fertilise	equestrian	accommodation

Many of the words above are of Latin origin. For example, *manufacture, permanent, destination, inspection, propagation, transpiration* and *accommodation* are Latin based. The suffix *–tion* provides a grammatical clue for identifying these words. Tutors cannot teach all the Latin-based words so students need to be taught strategies for unpacking the meanings which in turn will give them strategies for unlocking the meaning of thousands of words.

HIGHER ORDER KNOWLEDGE ACQUISITION SKILLS: COMPREHENSION STRATEGIES

A secondary consequence of not developing good decoding skills is problems with vocabulary and reading comprehension. A poor vocabulary has a negative impact on reading comprehension. Simmons and Singleton (2000) investigated the reading comprehension abilities of dyslexic university students. They found that some dyslexic adults have reading comprehension difficulties that are not accounted for due to decoding. That is, their decoding skills were adequate yet they experienced comprehension difficulties. They also found that reading comprehension may not be as apparent with shorter texts. The most salient feature Simmons and Singleton (2000) explained was that the students found taking notes during class, writing essays and comprehending large quantities of complex text particularly challenging. Do you have students who have difficulty comprehending short and long amounts of text?

HIGH 5! COMPREHENSION STRATEGIES

We have identified five research-based strategies that have received extensive research support by leading researchers in the field of reading comprehension. The following five strategies—the High 5!—are also defined in *Learning Progressions for Adult Literacy and Numeracy: Background Information* (Tertiary Education Commission, 2008b, pp. 26–27). Whether teaching hairdressing, employment skills, foundation students, electricians or horticultural students, comprehension strategy instruction should be embedded into the course. Literacy tutors are also in an excellent position to explicitly teach these, especially the following five (Dymock & Nicholson, 2010, 2012):

- strategy 1: activating background knowledge
- strategy 2: questioning
- strategy 3: analysing text structure, e.g., the narrative (story grammar) or expository text structures (text structure analysis or graphic organisers)
- strategy 4: creating mental images
- strategy 5: summarising.

COMPREHENSION STRATEGY 1: ACTIVATING BACKGROUND OR PRIOR KNOWLEDGE.

The literature suggests that good comprehension depends on domain knowledge, i.e., knowledge about subject matter, general world knowledge and knowledge about how writers structure text. Good readers have a lot of background knowledge. Having a lot of background knowledge does not necessarily mean that readers will comprehend all text. A reader with a lot of domain knowledge about cars, or technology, may experience difficulty comprehending an article on electrical engineering. Comprehension is knowledge dependent (Hirsch, 2010–2011).

Hirsch (2010–2011) makes the case that it is not possible to activate background knowledge if the reader does not have the background knowledge to activate. It is very difficult for hairdressing students to activate background knowledge on *wetting agents; surface tension;* or *emulsifying agent* if they do not have or lack knowledge on these concepts. What are the implications for tutors? In addition to activating background knowledge tutors must also build background knowledge.

To enhance comprehension, students should be encouraged to activate prior knowledge before and during reading (Brown, 2002; Pressley, 2002). Tutors and educators have two challenges. One is to teach students the importance of activating background knowledge prior to and during reading. This is strategy 1 of the High 5!. The second is to develop and teach a programme, throughout the course, that builds both domain knowledge—subject-specific knowledge, and world knowledge—general knowledge about the world.

COMPREHENSION STRATEGY 2: QUESTIONING

Comprehension is enhanced when the reader generates and answers questions before and during reading (Block & Parris, 2008; Block & Pressley, 2007; Dymock & Nicholson, 2012). Good readers ask questions about the structure the writer has followed. If the text follows a sequence, good readers ask, "What happens next?" If the text is descriptive the reader asks, "What is the topic? What are the subtopics?" Good readers ask questions that activate background knowledge. A hairdressing student is reading the section in the workbook on the pH scale. The student is not familiar with pH and is unaware that it is a chemical term. The student, however, is familiar with the word *scale* and knows the word has multiple meanings. The student is familiar with fish scales but is confident that this is not the scale the workbook is referring to. What definition of scale is appropriate, e.g., fish scale; scale for weighing; series of units for measuring or classifying? The reader infers that in this context *scale* refers to a series of units for measuring or classifying—a measuring scale but not for weighing. This discussion in the reader's head occurs very quickly—a fraction of a second. The reader may decide to read further because some authors explicitly define terms or embed the definition. If still unsure the reader could Google the term, refer to a dictionary, ask the educator or all three. The reader can also use the built-in dictionary found in tablet readers.

COMPREHENSION STRATEGY 3: ANALYSING TEXT STRUCTURE

Text structure refers to "how the ideas in a text are interrelated to convey a message to a reader" (Meyer & Rice, 1984, p. 319). Text structure relates to the way sentences, paragraphs and entire text have been organised. It does not matter whether it is a novel, a newspaper article, a chapter in a biology textbook or the road code, the writer has followed a structure to put the text together. Some texts follow one structure. Other texts follow a number of structures. Research has shown that good writers follow a structure and good readers are able to recognise that structure (Dymock & Nicholson, 2007, 2010, 2012). This ability to recognise the text structure enhances comprehension (Dymock & Nicholson, 2007; 2010; 2012). There is more on this in Chapter 6.

Texts can be narrative or expository. Narrative text is a story. Narratives have a setting, characters, a plot and a theme. Stories can be simple, e.g., *The Three Little Pigs* or complex, e.g., *Hunger Games*. Whether a story is written for six-year-olds, teenagers or adults, the text structure is the same.

Expository text, unlike narrative, has many structures. The structures can be divided into two larger groups: texts that are descriptive and texts that are affected by time, or are sequential (Calfee & Patrick, 1995). There are three types of descriptive texts: the list, web, and compare-contrast. The three sequential text structures are linear string, cause-effect, and problem-solution. Students in vocational courses could encounter several of these text structures in one morning. Students who are aware of expository text structures know what to look for as they read, e.g., comparing and contrasting

different types of hair products; or the cause and effect of damaged hair; or the sequence involved in colouring hair; or an article that describes hair conditioner. An understanding of text structure is critical to comprehension.

Analysing text structure involves the reader looking mentally for the structure. The student should look at key words, subheadings and text features to provide a clue to the structure the writer is using. Writers also use signal or cue words. Words such as *first, then, following* and *after* indicate to the reader that time is a factor and the writer has followed a sequential structure.

Subheadings, labels, captions, tables, graphs, charts, timelines and figures provide excellent navigational tools that help the reader identify the text structure the writer has followed.

DESCRIPTIVE STRUCTURES

List. Descriptive structures focus on the attributes of something. The simplest descriptive pattern is a list. It could be the list of ingredients for baking bread, making Greek salad or materials needed to build a shed. Usually, it does not matter which item is first in a list.

The following text is taken from the Collections series, *Shaken,* "Rescue Worker", (Hayward, 2011). The top half of page 14 lists the items the New Zealand Urban Search and Rescue (USAR) workers take with them. "When USAR teams go to rescue people, we have to take everything we need. We take tents, tools, search dogs, and food and water to last for three days." The article then lists the items they take: "gloves, billy, first-aid kit, food rations, water, helmet and visor, knee pads, boots, raincoat, waterproof bag." This section of the article is represented in Figure 5.5.

Figure 5.5 List structure for rescue kit

Source: "Rescue Worker", (Hayward, 2011)

Web. A web structure focuses on one topic. It is more complex than the list structure. It is called a web as it resembles a spiderweb (Calfee & Patrick, 1995). In a web structure the attributes of a person, place or thing are discussed. The attributes have a common link. An article may be about the characteristics of the pine tree, the features of a cockroach or how to prepare for an earthquake. Like the list, a web describes one thing, e.g., pine tree, cockroach, earthquake, but the difference is that the web structure has categories.

The following web pattern, Figure 5.6, is also from the Collections series 8, *Shaken* article titled "How to Prepare for an Earthquake" (Wall, 2011). The article describes five key ways to prepare for an earthquake.

Figure 5.6 Web structure for article "How to Prepare for an Earthquake"

Prepare a survival kit
Bottled water
(3 litres per person per day)
Food (canned; dried; packets)
Cooking equipment
Torch
Battery radio
Spare batteries
First-aid kit
Blankets
Spare clothes
Toilet paper
Rubbish bag

Make your home quake safe
Make sure things don't fall down
- Strap TV to wall
- Strap hot water tank to wall
- Screw tall furniture to wall stud
- Put heavy items on low shelves

How to Prepare for an Earthquake

Prepare a getaway kit
Copies of documents
Birth certificate
Passport
Personal medicine
Glasses (spare pair)
Change of clothes

Know what to do
When earthquake occurs

Drop (to knees)
Cover (head with hands if outside)
Cover (move under table)
Hold (head or table leg)

Prepare an emergency plan
[Information about staying in touch and keeping safe]
Discuss plan with family
– Where will you meet?
Record phone numbers for doctor, hospital, power, gas, helplines
Instructions on how to turn off gas, water, power

Matrix (compare-contrast). A matrix compares and contrasts two or more things. The article may be comparing pine and rimu trees, or pine, rimu and kauri trees. Another article may be comparing and contrasting various shampoos, conditioners or hair gels. Or another may be comparing the various roles and responsibilities of government departments. The following example is also from Collection series 8, *Shaken,* (Nagelkerke, 2011). The article is predominantly sequential in structure but it also includes a matrix or compare-contrast structure. In the following extract the 4 September 2010 and 22 February 2011 Christchurch earthquakes are compared and contrasted (Nagelkerke, 2011, p. 7):

> The February earthquake was an **aftershock** from another big earthquake in September 2010. The February aftershock was smaller, but it caused more damage than the September earthquake. It was closer to Christchurch city, and it wasn't as deep under the ground.

The article then presents a diagram, shown in Table 5.8, comparing and contrasting the two earthquakes.

Table 5.8 Matrix structure

Date	4 September 2010	22 February 2011
Magnitude	7.1	6.3
Depth	11 km	6 km
Distance from Christchurch city centre	44 km west	6 km south-east
Time of day	4 a.m.	12.51 p.m.
Number of people killed	0	181

Sequential structures

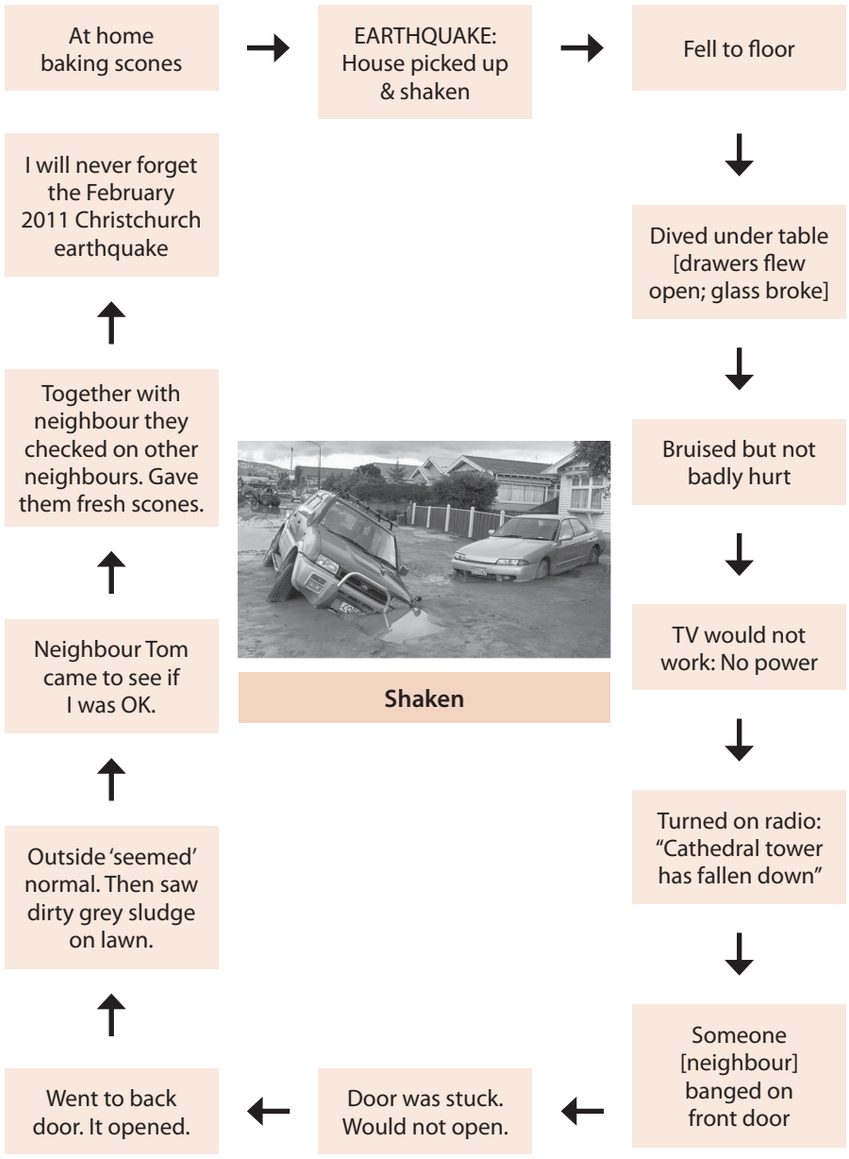
Sequential structures present a series of events, from first to last. Time is a factor in sequential texts. Typically, sequence texts are set out in a first-to-last or step-by-step pattern.

String pattern. A string pattern gives a step-by-step description of events. It could be the steps to follow when shampooing hair, when baking biscuits or the sequence of events during an earthquake as shown in Figure 5.7. It could also be the steps to follow when working out a mathematics problem.

The following extract is from the Collection series 8, *Shaken,* (Nagelkerke, 2011, p. 2). Note that time is a factor:

> I was baking some cheese scones. Then it happened. My house was picked up and shaken by giant hands. I fell to the floor. 'Not again!' I thought. 'Not another earthquake! Not another big one.' I dived under the table. Drawers flew open. Glass broke.

Figure 5.7 String structure for *Shaken*



Cause-effect. In this text structure two or more ideas interact with one another. One is the cause and the other is the effect. The text may present the causes and effects of environmental damages, e.g., the grounding of the container ship, Rena; an oil spill; a nuclear explosion; the cause and effect of leaky homes (see Figure 5.8), or childhood obesity.

The following extract from the article "Leaky Homes a New Zealand Crisis" (retrieved from http://www.leakyhomes.org.nz/index3.htm on 16 March 2012) is an example of a cause-effect text.

What Caused The Proliferation of Leaky Homes?

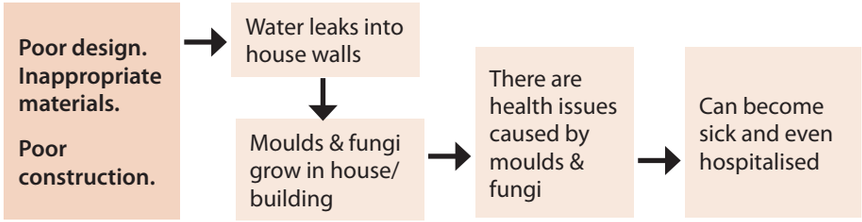
In 1991 the Government of the day passed the Building Act which allowed builders and developers to cut corners in building construction. Many houses and buildings were built during the 1990s, early 2000s using methods that haven't withstood the test of time or weather. We have all heard about RTV silicon being used around window frames to seal them. These structures were doomed from the start by poor design, inappropriate materials being used and poor construction methods.

One of the more common issues has been water or moisture getting behind monolithic cladding. If there has been no cavity created between the cladding and the framework, the water becomes trapped and cannot easily escape or evaporate.

Leaky Homes Cause Health Issues

It has long been known that certain moulds and fungi can cause health issues. Stachybotrys mould (a type of fungi) produces spores that carry chemical toxins known as mycotoxins. These may cause influenza-like symptoms. They are particularly dangerous to the young, old and those with weakened immune systems. People have been hospitalised because they failed to take adequate precautions when carrying out repairs on their houses.

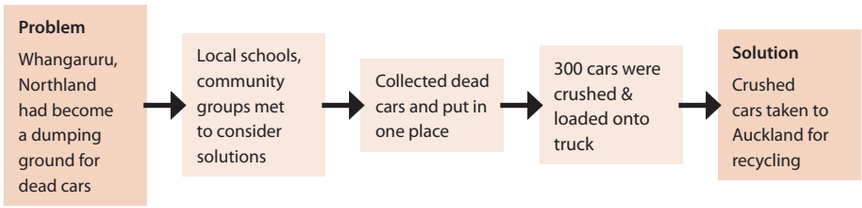
Figure 5.8. Cause-effect structure



Problem-solution. There is a sequence in problem-solution texts: first the problem is presented and then a solution or solutions are suggested (see Figure 5.9). Tamihana and Botting's (2004) article "Dead Car Clean-up" is a problem-solution text. The article discusses the problem of dead cars that have been dumped round Whangaruru, Northland. The following is an extract:

> There's one big problem around Whangaruru—dead cars. For years people have been dumping rusty old cars in the bush and on the side of the road. On one road near Punaruku School, there are nearly 60 dead cars.
>
> The Royal New Zealand Air Force offered their help as a community project. Together with the regional council, they decided that they would collect all the dumped cars into one place. Then the cars would be crushed, loaded onto a large truck and trailer, and taken to Auckland for recycling.
>
> From "Dead Car Clean-up", (Tamihana & Botting, 2004, pp. 2, 5).

Figure 5.9 Problem-solution structure



COMPREHENSION STRATEGY 4: CREATING MENTAL IMAGES

Creating mental images of the text being read, or visualising how texts are structured, impacts positively on reading comprehension (Pressley, 2002). The previous Figures 5.5, 5.6, 5.7, 5.8, 5.9 and Table 5.8 demonstrate ways readers can create mental images of the various types of expository texts.

Comprehension strategy 3 (analysing text structure) and strategy 4 (creating mental images) reinforce each other, i.e., a string, a web or a problem-solution structure. Visualising also includes being able to create pictures in the mind. The reader might be imaging a haircut, building, tool or restaurant. Visualising enhances comprehension. Students can then diagram the text. Different diagrams are used for different structures. Diagramming the text helps to make it concrete. It also provides an excellent tool for studying.

COMPREHENSION STRATEGY 5: SUMMARISING

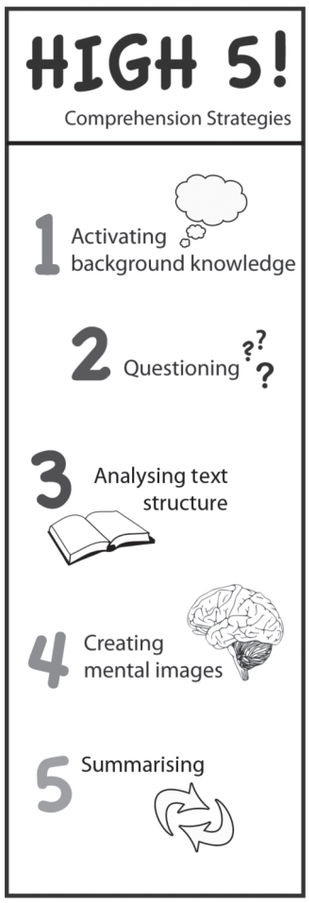
The ability to summarise what has been read has a positive effect on reading comprehension (Block & Pressley, 2003; Dymock & Nicholson, 2007, 2010, 2012). Block and Pressley (2003, p. 117) provide a very useful definition of summarising. They write that "the ability to delete irrelevant details, combine similar ideas, condense main ideas, and connect major themes into concise statements that capture the purpose of a reading for a reader." Students who are able to analyse the text structure the writer has followed, and diagram the text, will be advantaged when required to summarise what they read. When summarising Dymock and Nicholson (2010, p. 172) recommend the following five steps:

1. Read the text.
2. Identify the text structure the writer has used.
3. Diagram the text structure.
4. Discard redundant information so that only the key ideas remain.
5. Circle on the structure only the critical ideas needed for the summary.

Students have found the following bookmark (see Figure 5.10) useful as a reminder of the High5! comprehension strategies (Dymock & Nicholson, 2010). The bookmark reminds them to ask the following questions: Have I activated background knowledge? Have I asked and answered questions? Have I analysed the text structure the writer has followed? Have I created a mental image? Have I summarised? It is also important to remember that most readers need to be taught these strategies. The good news is that

the teaching of comprehension strategies can (and should) be embedded into any course. Tutors who think aloud as they teach provide a powerful model for students. Thinking aloud might go like this: "I am activating my background knowledge on …" and "I wonder what text structure the writer has followed?" "The writer is describing how we can prepare for an earthquake—a web structure.""I am imaging a spiderweb—what are the subtopics going to be?" .

Figure 5.10 High 5! Comprehension strategies bookmark

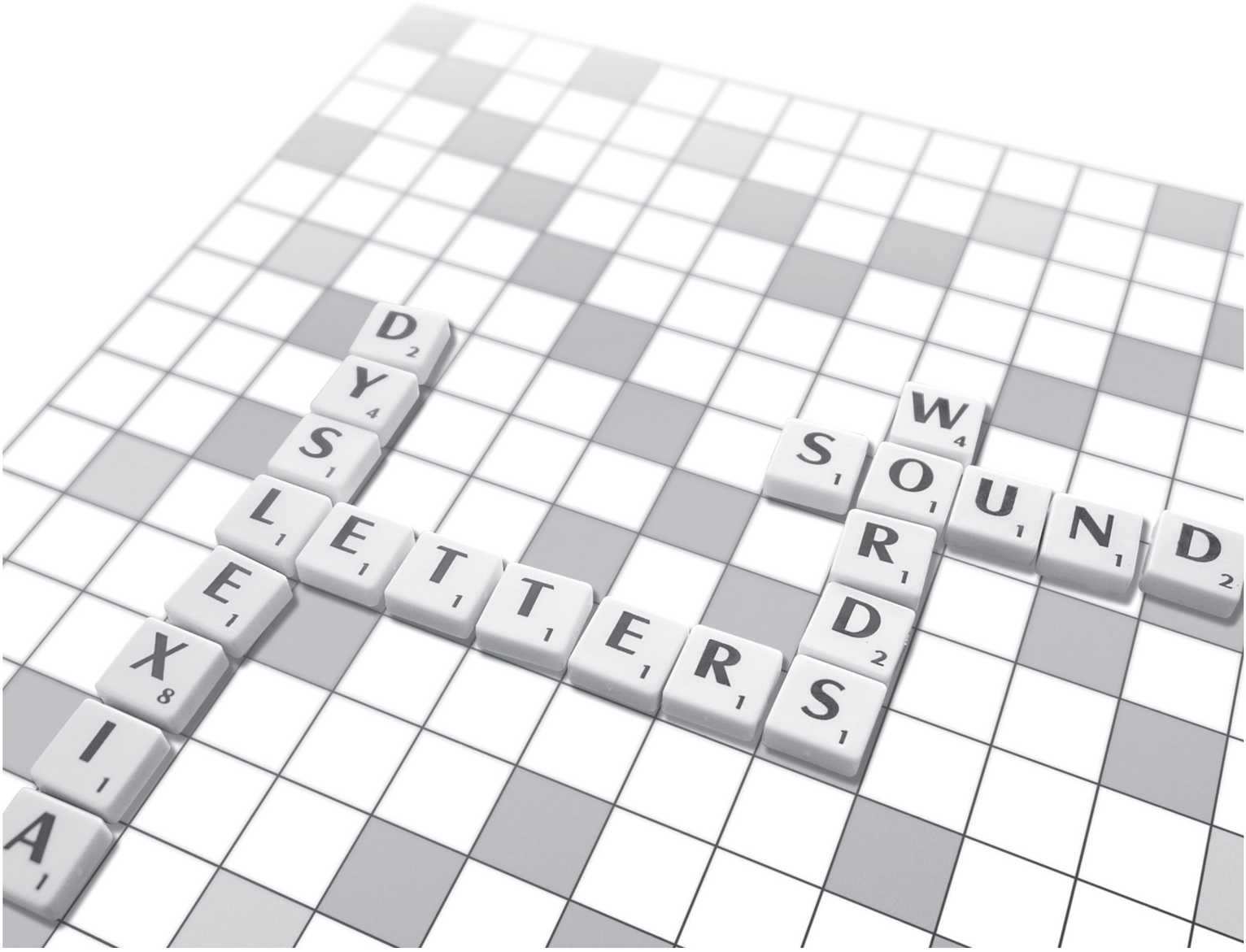


SUMMARY

Adults with dyslexia typically have difficulty decoding. It could be that reading comprehension will be good once they learn to decode. On the other hand, it may be that for some adults with dyslexia, years of not being able to access text has impacted negatively on their vocabulary, and in turn their reading comprehension. If this is the case, students will need strategies for improving not only their decoding skills, but also vocabulary and comprehension.

CHAPTER 6

Teaching adults with dyslexia to write more effectively



CHAPTER 6 – KEY MESSAGES

1. Adults with dyslexia find writing difficult, especially spelling – but they have good ideas and this is their strength.

2. Tutors can focus on how to write good ideas rather than overdo the need for correct spelling.

3. You can write more effectively if you use structures that show how to design a good piece of writing.

4. Marking out spelling mistakes on student work will not help the adult with dyslexia. It is better to teach strategies like over-pronouncing the difficult word to remember it better, associations like the "lion" in "battalion", think of "twice" when you spell "two", and looking for word "relatives" to remind you how to spell correctly.

TEACHING ADULTS WITH DYSLEXIA TO WRITE MORE EFFECTIVELY

Adult students with dyslexia usually have good ideas but have trouble in getting them on paper because of their poor spelling. The effect of their having to put so much mental energy into spelling can range from annoying, such as the odd spelling mistake, to complete turnoff when spelling gets too much to cope with. This chapter will start with a simple model of writing that explains writing difficulties. There are two sides to writing. The first is ideas—the content. The second is spelling—how to put words on paper accurately and quickly. The first part of the chapter explains how students can write more effectively by organising their ideas. The last part of the chapter explains how to teach spelling.

THE SIMPLE VIEW OF WRITING

The simple view of writing (Juel, 1994) explains that there are three kinds of writing difficulty: good ideas but poor spelling (dyslexia), good spelling but poor ideas, poor spelling and poor ideas (mixed problems) as shown in Table 6.1.

Table 6.1 The simple view of writing

	IDEAS FOR WRITING	
SPELLING	**Weak**	**Good**
Good	Good spelling but weak in ideas	The good writer—good in ideas and spelling
Weak	Mixed problems—weak in spelling and ideas	Dyslexia—good ideas but weak in spelling

Good spelling but weak in ideas. This is a common problem for many students. When it comes to writing an essay they cannot think of what to write, even though they can do the mechanics well. They have no difficulty with spelling or punctuation and they can write neatly and quickly. Along with many other people, they do not like writing. They prefer to call or text someone. The problem is severe for these poor writers who probably do not read very much, are not exposed to good writing and have not studied the strategies of good writing so do not know what to do.

The solution is to teach students how to think of good ideas for writing. For example, to write a good narrative, ask them to think of a problem facing the main character, a response to the problem, how the character tries to deal with the problem and how the problem is resolved. To write a good report or essay, suggest that they collect relevant facts, think of a structure that presents them well and put the information into the structure. If it is a persuasive essay, they should collect some arguments, divide the arguments into pros and cons and then write them down in order.

Good ideas but weak in spelling. Many people experience this to some extent. They write an essay or report that has one or two spelling mistakes and this is what their tutors notice most. Even the occasional spelling error or a misplaced apostrophe (e.g., banana's) can lead to the label of a poor speller. The dyslexic writer, though, is much worse than this. They make many spelling mistakes and sometimes their writing is unreadable. Students with dyslexia have good ideas but cannot spell very well.

The solution is to focus on improving their spelling and other mechanics, like punctuation. To be a good speller they have to have a sense of the history of the English language and how the rules of standardised spelling have changed over time. The dyslexic writer may also need some attention to ideas. They can have good ideas but do not know how to present them in an organised way and they may benefit from hints about how to structure their ideas.

Weak in spelling and ideas. This is the mixed-problems poor writer. This kind of writer is the most common poor writer. They need the help that you would give to both the other kinds of struggling writer.

Good spelling and good ideas. In theory, there should be no problems for these students but in practice even good writers can struggle at times to find ideas and to organise their ideas on paper. Good writers sometimes struggle to write an interesting narrative or a compelling report or article. They have spelling skills but the content of what they write is ordinary. They can benefit from additional instruction in how to generate and structure ideas to write in an interesting way.

DYSLEXIA AND WRITING

Students with dyslexia usually have good ideas due to their facility with language. The problem is that their slow and inaccurate spelling slows them down and, over the years, they may have done very little writing. The net effect of lack of writing practice is that they may lack effective strategies to present their ideas. It is worth teaching them the advanced strategies of proficient writers in case they have slipped behind in ability to structure their ideas. The rest of this section is on teaching writing to all students but it will be of benefit to students with dyslexia as they may need to be shown how best to present their ideas.

Most people find writing difficult. It is not something that is peculiar to students with dyslexia. The advantage for many dyslexic students is that they have good ideas. Many

of us are good at spelling but not so good at ideas. Even at university, lecturers write a paper and send it out to colleagues for feedback about the content, but it comes back full of red pen marks showing grammar and spelling errors! Teachers often get distracted by spelling and punctuation errors and do not focus on the writer's ideas (Thompson, 2011).

IN TEACHING WRITING, FOCUS ON IDEAS

Thompson (2011) suggests that teachers encourage students to find their own voice, i.e., start writing, discuss ideas with others and get ideas down on paper. Here is a checklist for students:

1. Find your own voice, write your own ideas, don't copy.
2. Think about the audience. Imagine you are talking to the reader. What do they know and not know? What will convince them that you know this stuff?
3. An interesting introduction is critical to hook and hold onto the reader's attention.
4. Organise your ideas into a structure (as discussed in Chapter 5).
5. Use interesting language—instead of tired words like *awesome* and *amazing* use the online thesaurus or the synonyms options in Word to come up with alternatives like *breathtaking* or *astonishing*.
6. Use visuals to clarify things that are hard to imagine (a picture is worth a thousand words).
7. Use paragraphs. Start with the main point and then give an example or elaborate on it.
8. Use a variety of sentence forms. It is better to write shorter sentences and to use active voice, e.g., change the passive "the gears were put into reverse" into the active voice "we reversed the gears".
9. Use correct capitalisation, punctuation and spelling (but this is not as important as points 1–4)

The combination of less stress on correctness, and more stress on writing interesting ideas and with their own voice should lead to a dramatic improvement in the quantity and quality of students' writing. Even tutors may look at the checklist and say, "Yeah, right—been there, done that, and it still does not work." Or they might think, "Yes, fine in theory but an essay with lots of spelling errors in it is like the kiss of death in an examination. Examiners will be harsh on writing that has spelling errors. We must focus on getting the mechanics correct."

The reality is that if students are to come up with good ideas, then we have to teach them how to do that. You can spend time on teaching spelling but spend different time on getting students to write good ideas.

TEACHING NARRATIVE WRITING

At tertiary level, most writing is factual so this section might not be relevant to your students unless you are teaching English. Some of these ideas might be helpful to adult students who want to help their children with writing. It might also be helpful for them to understand that the factual texts they read at tertiary level are different from narrative writing. You can explain the difference by contrasting narrative structure with factual writing structure.

An important point to understand about narrative text is the plot and how it works. This is the foundation for any effective narrative writing. The plot is the heart of the narrative. It is where the action takes place. Novice writers view narratives as having a beginning, middle, and end. As authors, they want to start at the beginning and continue writing until the narrative ends. This is fine but they often write a long narrative that lacks structure.

It consists of "and then, and then, and then …" as if the narrative is a diary of events. To stop this from happening, Martin Baynton (1995) suggests getting students to think in terms of a problem. Baynton (1995) argues that every narrative has a problem. So ask what the problem is, and whose problem it is. Then the plot "falls into place" (p. 6).

Calfee and Drum (1986) explain that narratives generally tell "What happened. Who did what to whom and why" (p. 836). There are many different types of narratives known as narrative genre (Wolf & Gearhart, 1994). They can be traditional literature, e.g., folktales, myths, fables, and legends or modern fantasy such as science fiction. Narratives can be based in real times and places as in historical fiction, e.g., narratives based on times gone by such as the middle ages, or the beginnings of colonisation of Australia and New Zealand or contemporary realistic fiction such as survival narratives, narratives dealing with death, sport or mystery. While there are many different types of narratives they share a common structure.

Tutors can explain to students that narrative structure includes four components: characters, plot, setting and theme (Calfee & Patrick, 1995; Dymock, 2007; Dymock & Nicholson, 2012). A narrative tells the reader who (characters) did what to whom (plot) and when and where (setting). Narratives usually also have a theme or message but it is not explicitly stated. The reader has to work it out. The characters in a narrative can be major or minor. They have features and personalities. The plot is made up of episodes. Each episode has four parts: a problem, reaction to the problem, action to solve the problem, and outcome or solution. The setting explains where the narrative takes place, the time it takes place, and the mood of the place.

A narrative has to have a structure. Writer Pat Flynn (2006, p. 32) explains how to build a narrative in this way:

- Introduce the problem for the main character in the first paragraph.
- Write two ways the main character's problem gets worse.
- Explain how the main character's problem is solved.

- Make sure there is a message or theme in the narrative without making it too obvious to the reader.

When students write a narrative, it is helpful to use a narrative structure (Dymock & Nicholson, 2012). To illustrate this, Table 6.2 shows the narrative structure underpinning one of the stories from the Collections series (Wall, 2011).

Table 6.2 Writing a narrative

IDEAS	NARRATIVE—THE NOISE PROBLEM
1. What is the problem?	Brendan, the next door neighbour was water-blasting his roof and playing loud music while Anjula was trying to study.
2. What is the reaction to the problem?	Anjula was getting a headache so she called noise control.
3. What do the characters do to solve the problem?	Brendan stopped work for a while and Anjula went to his house and asked him to turn his music down.
4. What is the outcome? How do they solve the problem?	Brendan agreed to stop and gave her a pumpkin from his garden as a gift. Anjula rang noise control and cancelled her request.

TEACHING FACTUAL WRITING

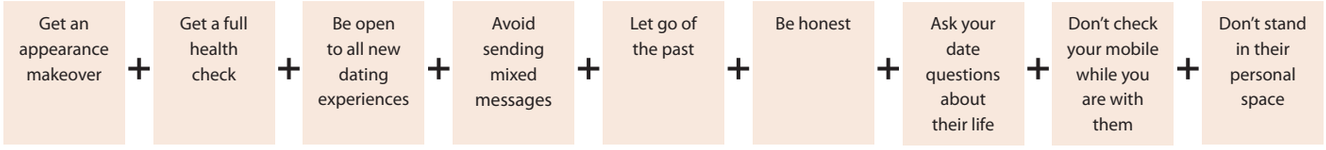
Tutors can explain to students that factual writing is not like narrative writing. It has a different set of structures. There are three main kinds of factual text: descriptive, sequential, and persuasive (Dymock & Nicholson, 2007, 2012).

DESCRIPTIVE (OR RECOUNT) TEXT

Within descriptive text there are four structures: list, web, compare-contrast and hierarchy.

List structure. The text lays out information like a shopping list, such as a list of products made in a country or a list of materials found in a rubbish dump. There is no clear linkage between the items of information. For example, Ginnane (2012, p. C3) wrote a newspaper article about how to get a date. This was a list structure as shown in Figure 6.1. It was a list of tips for getting a date. There was no set order. In a list structure, the list can be in any order and still make sense:

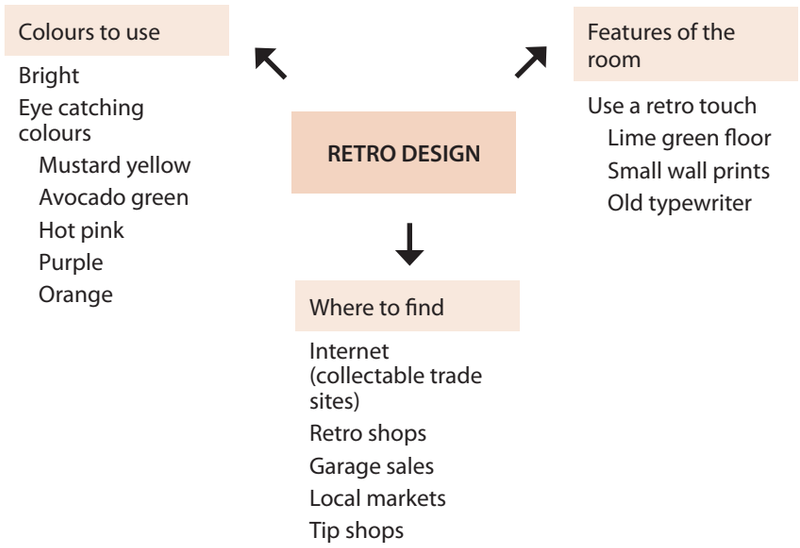
Figure 6.1 A list structure for newspaper article about how to get a date



Web structure. The information in factual text may be about one thing that can be put into categories. For example, the information in a text about Tasmanian tigers might be in clusters of information such as habitat, diet, descriptive features and enemies.

Maloney, (2012, February 5, pp. C14–15) wrote a newspaper article about interior design using furniture and colours that came from previous decades. The article has a web structure in that it has information about just one thing—interior design—and it has categories: colour, features, and location (see Figure 6.2):

Figure 6.2 A web structure for newspaper articles about retro design



Compare-contrast (or matrix) structure. In this structure the information is about more than one thing and there are direct comparisons and contrasts that can be made, e.g., the similarities and differences between Auckland and Melbourne, such as location, population, tourist attractions, weather, and so on. Or, the text might compare two different kinds of bird by colour, size, diet and habitat, or two different kinds of car by engine size, shape, comfort, safety and reliability. In a newspaper article by Tennant (2012, p. C5), two different DVDs were compared and contrasted. Table 6.3 shows a matrix pattern that compares and contrasts the two DVDs in terms of number of stars, type of movie and time to play.

Table 6.3 A compare-contrast structure

STARS	TITLE	TIME	TYPE	SUMMARY
2.5	Abduction	106 minutes	Action	Teen Nathan Harper (Lautner) was a missing child. He sets out to discover his true identity but things go very wrong.
3.5	Fright Night	120 minutes	Horror	Teen Charlie Brewster (Yelchin) thinks their neighbour Jerry Dandridge (Farrell) is a vampire. Things go from bad to worse.

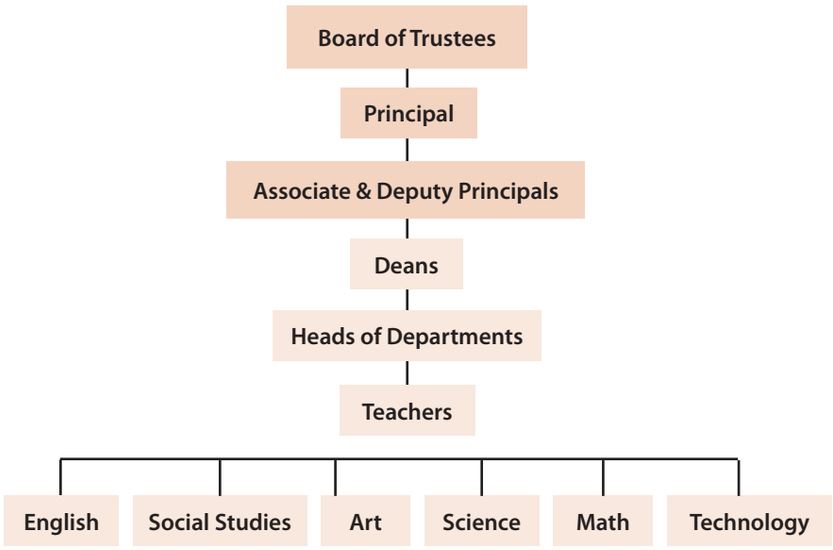
Table 6.4 gives another example of a compare-contrast structure. It is from an advertisement in the newspaper ("Look and Feel Amazing this Cup Day", 2012, p. A7). It compares four make-up packages for the races in terms of price and what is in each package.

Table 6.4 A compare-contrast structure

MAKE-UP FOR THE RACES			
Package one …	Package two …	Package three …	Package four …
$100	$90	$120	$80
• Gel toes and nails • Spray tan	• Lash extensions • Makeup • Spray tan	• Full set of lash extensions • Spray tan	• 1 hour pedicure • 30 minute manicure • Spray tan

Hierarchy structure. Here, information is presented from the more general category to subcategories. Figure 6.3 gives an example of a high school where there is the principal, then the deans, then the teaching subject areas, then the teachers, and finally the pupils.

Figure 6.3 A hierarchy structure



SEQUENTIAL TEXT

There are three structures within sequence text: linear, cause-effect and problem-solution.

Linear structure. In text with a linear structure, one thing happens after the other, e.g., steps in making a cake, milking a cow, starting a computer and so on. Figure 6.4 shows the linear, step-by-step structure of the newspaper's evening television guide (The Examiner, 2012, February 11, p. 103).

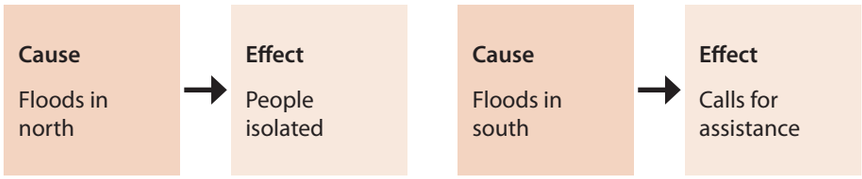
Figure 6.4. A linear structure

TV1	
7.00 p.m.	News
7.30 p.m.	Grand Designs
8.30 p.m.	Midsomer Murders
10.00 p.m.	Dancing with Dictators
11.00 p.m.	Movie – Hud (1963)

Cause-effect structure. In this structure one event causes another to happen, e.g., an earthquake causes the ground to move, which then causes buildings to collapse, and people to get hurt, and so on. In the newspaper report below, ("Floods Move South", 2012, p. 7), the floods in the north (cause) have isolated thousands of people (effect), and in the south, heavy rain (cause) has led to many calls for assistance (effect):

> **Floods move south**
>
> Some 7,000 people are isolated by floods in northern New South Wales but the figure is expected to hit 10,000 with a massive body of water heading south. Flooding has hit the state's south with State Emergency Services deluged with 450 calls for assistance after parts of Western Sydney and the Illawarra experienced flash flooding caused by heavy rain on Thursday night.

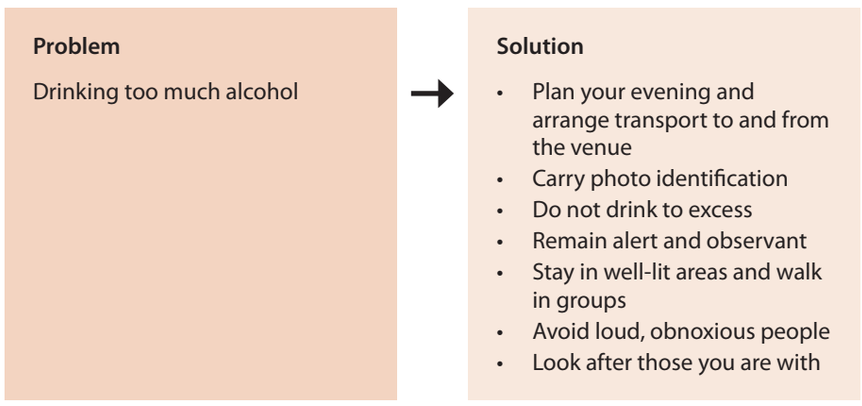
Figure 6.5. Cause-effect structures



Problem-solution structure. In this structure a problem is put and solutions are offered. For example, an historic building may be located on land where a developer wants to build a supermarket. A possible solution is to find another location for the supermarket or move the historic building to another place or destroy the building.

In a newspaper report about the problems of alcohol, the problem was how easy it is in times of celebration to drink alcohol at risky levels. A number of solutions to the problem are in the article ("Avoid Trouble and Stay Safe", 2011, p. 20) as shown in Figure 6.6.

Figure 6.6 A problem-solution structure



PERSUASIVE TEXT

Normally a persuasive text gives information for and against an idea but sometimes the information may be one-sided, as in advertising, where the information about a product is usually positive, or in a submission or speech where the information may be negative if it is opposing an idea or action. Writers who can persuade are able to consider the audience, predict how well the audience will receive their ideas, assess how strong their arguments are, understand the importance of negotiation and understand the need for the audience to be convinced before agreeing (Catts & Kamhi, 2005). These are the skills of persuasion. The persuasive writer is:

- aware that the audience might disagree
- aware that opinions will differ
- aware that the audience can be persuaded—they are not a fixed block of opinion
- aware of what the audience thinks
- aware of what the audience are likely to accept
- aware of how to put arguments in ways that the audience will accept or at least consider (Catts & Kamhi, 2005).

Persuasive writing is about arguments. Arguments have a claim (an assertion), a warrant (a principle gathered from data) and data to back up the claim (Catts & Kamhi, 2005). For example, the claim may be that rainforests should not be cut down. One warrant to back up the claim is that cutting down forests will change the world's weather patterns. Data to back up the warrant are that global warming is already happening (polar bears have no ice to walk on because icebergs are melting; there are droughts when there never used to be). Another warrant to back up the claim may be the loss of important resources. Data to back up the warrant are that unique animals living in those forests will become extinct, and unique plants that might cure horrible diseases will be lost.

A third warrant to support the claim may be that there is no need to farm the land that once held forests. The data to support the warrant are that a) farms can become more efficient and b) that if we eat less farm products we will reduce the country's obesity problem.

A persuasive speech or essay is well thought out. Suggest to your students that they state their position right up front (the claim), present their arguments in the middle (the warrants and the data to support the warrants) and at the end of the essay try to get the audience onside with a personal plea or a prediction or simply sum up what they have said.

The difference between persuasive writing at the higher levels of writing is in terms of negotiation (Kamhi & Catts, 2012). Novice writers are less likely to seek compromise. The rainforests must be saved at all costs! As students make progress in their skills, there is more use of compromise in their writing. A more effective piece of persuasive

writing uses more negotiation markers and counter-arguments, and shows more of a sense of obligation, e.g., "We should save the rain forests because it is a good thing to do" and they show more indicators of uncertainty, e.g., "maybe, surely". And there is more a sense of personal accountability, e.g., "My feeling is that ..."

An example of persuasive writing is below. It is a shortened version of a soapbox column in the newspaper on whether or not small schools in Tasmania should be closed. The newspaper article makes claims and gives supporting data in a persuasive way that makes you wonder whether the government cares more about money than people (Campbell-Smith, 2012, p. 25). The writer makes the following points:

- Big is not always beautiful. Small schools can be just as successful as large schools.
- A minimum number of 100 students as suggested by the government does not necessarily mean that this school will be of an economic size.
- Closing down a small school in a rural area may threaten agriculture because workers will move away.
- A school binds a community together because it brings children and their parents together.
- Closing schools may have negative emotional impacts on children because they will have to go to a new community where they may not be cared for as much.

DYSLEXIA AND SPELLING

> I have a spelling checker. It came with my PC. It plane lee marks four my revue Miss steaks aye can knot sea. Eye ran this poem threw it, Your sure reel glad two no. Its vary polished in it's weigh. My checker tolled me sew (Zar, 1994, p. 13).

THE IMPORTANCE OF SPELLING IN GOOD WRITING

Good writers are good spellers but students with dyslexia are not good spellers. This section sets out to demystify English spelling and give suggestions for skill improvement.

Sipe (2008, p. 38) writes that:

> When discussing secondary English language arts curriculum, spelling is seldom a focal point. Teachers assume that students will have learned to spell …When teachers analyse actual work samples, however, discussions focus on the importance of conventional spelling. Even papers that are interesting, well organized, and otherwise well written are sometimes read with frustration when spelling gets in the way.

Although poor spelling seems often to be the sign of a lazy or careless writer, many poor spellers in high school have had years of frustration trying to become better spellers. They have had weekly lists of words to learn with spelling pretests, practice

and then a test each Friday, and practice at home with Mum drilling them on words. Sipe (2008) mentions that "An amazing number recall the spelling lists on the refrigerator door each week and how reviewing these word lists became part of the family routine" (p. 39).

Many students do not remember any rhyme or reason for the lists of words they practised at school and at home. They just rote memorised them. It is possible to remember the look of words and children do this immediately they start school when they learn to write their name, but it is hopeless as a long-term strategy. There are just too many words to remember visually. In contrast, good spellers build their skills on a phonological foundation. They learn how to spell words according to their sounds, and then learn exceptions to the patterns through their reading and writing (Gough, Juel, & Griffith, 1992).

If someone says they cannot spell, most people nod with understanding simply because English has many irregular spellings. Students are surrounded by misspellings especially in this age of texting, and on shop signs, café sandwich boards, and advertisements, for example (from "Life in New Zealand" in the *New Zealand Listener):*

- Small **slimeline** Fisher and Paykel Kelvinator fridge ... (advertisement)
- My Dad **say's boy's** rule! (on a t-shirt)
- While your hair is still wet run a good dollop of **mouse** through it (newspaper)
- **Clashical** music lessons (advertisement)
- Reading and writing for adults + basic maths lessons **availible** (advertisement)
- George Foreman, large **rooster**, $150 (advertisement)
- Inglewood **male** run re-advertised (newspaper)
- I was born in Johannesburg, South Africa, but I feel like a kiwi born and **bread**

English spelling is more regular than people think but there are a lot of words that have irregular spellings. George Bernard Shaw wrote that English spelling was chaotic. He said it was possible to spell *fish* as "ghoti". The reason was that gh spells /f/ in *cough*, *o* spells /ih/ in *women*, and *ti* spells /sh/ in nation.

On the other hand, this is an extreme argument in that gh is never used for spelling /f/ at the start of a word, and the only time that we spell /i/ with an o is for one word, *women,* and although *ti* has a /sh/ sound in *nation*, ti is a Latin spelling and *fish* is an Anglo-Saxon word.

The point of Shaw's example is that it is hard to learn to spell English words correctly. The fact that we have international spelling bees is an indication that English spelling ability is an unconstrained ability. There must only be a handful of people who can spell nearly every possible English word. In a conference paper, Masha Bell (2008) wrote:

> I felt driven to ascertain why my grandmother had been able to teach me to read Lithuanian in two weeks, leaving me utterly confident how to

> decode and pronounce any Lithuanian word thereafter, while in English I occasionally still check the pronunciation of a newly encountered word in a dictionary. I have been reading and writing the language for 44 years now and teaching it for nearly 20.

In this chapter we accept that accurate spelling is a huge task for all writers of English but for dyslexics, spelling is even harder. They often struggle with easy spelling patterns but they can be taught. They need to spell well enough to get their ideas on paper in a form that might not be 100 per cent correct but they are readable in that the words on the page sound right.

THE LANGUAGE BASIS OF SPELLING

English spelling is more method than madness. Although many words have some component that is irregular, most of the words we spell are regular to some extent. For example, the word *stomach* is irregular in part and the beginner speller might want to spell it as *stumick* but not all of the word is irregular. Only about 4 per cent of words are completely irregular (Moats, 2006, 2010). Good spellers are usually good readers. The many hours of practice in reading words means that they have more opportunities to remember the spellings.

In addition, proficient spellers seem to be able to use four kinds of knowledge when writing words. These are called the four "language knowledge blocks" (Apel, Masterson, & Brimo, 2012). The blocks are phonology, orthography, morphology, and semantics.

Phonological knowledge. The ability to spell words according to their phonemes is very important. It is the foundation on which we build more advanced lexical knowledge (Nicholson, 2000). The student who spells "genuwin" for *genuine* and "egecat" for *educate* is using phonological knowledge to approximate the spellings. The reader, in context, can usually work out what the words say. Phonological spelling is a good predictor of learning to spell well.

Orthographic pattern knowledge. This is knowledge of conventional spellings. It is sight word knowledge and refers to the mental images we have of the exact spellings of words, e.g., that *was* rather than "woz" is the correct form. Knowledge of conventions can be seen in misspellings such as "kitchin" for *kitchen* where the *tch* is correct, and "dauter" for *daughter*, where the /or/ sound is correctly spelled as *au*, and "topick" for *topic* where the student knows that the /k/ sound at the end of a word is often spelt *ck*. The good speller somehow remembers ways to keep the correct spelling in mind. Sometimes this is done by remembering an association, for example, the "w" in the spelling of *two* can be remembered by linking it to *twice*, and the "g" in length can be remembered by linking it to long. Some good spellers over-pronounce the word to remember the spelling, e.g., *choc-o-late.*

Morphological knowledge. This is knowledge that spellings of some meaningful parts of words are the same even though they may sound different. For example the

past tense "ed" is spelt the same in *jagged, worked* and *joined* even though the "ed" is said differently in each word. The plural "s" form is also like this, e.g., in *cats* and *dogs* where it has a different sound in each word. The "ian" spelling refers to someone who does things, like a *magician* does magic, or an *electrician* does things with electricity. In contrast, the "ion" spelling is for words where this is not the case, e.g., *commotion* or *sensation*. The student who spells "equipt" for *equipped* or "enterd" for *entered* can benefit from knowing about morphology.

Semantic knowledge. English spelling reflects semantics (meaning) as well as form. Spell checkers do correct words with correct spellings but do not check whether they have the wrong meaning, for example, homonyms like "they're it is" *instead* of "there it is" and homonyms like "the queen rained for 60 years" instead of *reigned*.

Knowledge of related words that have similar meanings can help with spellings, especially those with Latin forms. This is the strategy of looking for spelling relatives. For example, it is easier to work out the correct spelling of "hist__ry" if students think of *historical,* or "si_n" if they think of *signal,* or "comp_tent" if they think of *compete,* or "de_t" if they think of "debit". It is easier to spell the "mn" in "autumn" if they think of *autumnal,* or the "mb" in "bomb" if they think of *bombardment*.

LEARNING A SHORT LIST OF HIGH-FREQUENCY WORDS IS A USEFUL SPELLING STRATEGY

> The letter-sound rules of English help with "the spelling of many words like *hand, arm*, and *leg,* but it provides little help with irregulars like Mrs, colonel, and yacht." (Gough, Juel, & Griffith, 1992, p. 43). The irregular words have to be stored in memory as sight words.

The good news is that if the student with dyslexia learns a list of the 100 most frequent words in English this will help them to spell correctly nearly 60 per cent of all the words they write (Vousden, 2008). A list of the "100 most frequent words" is in Table 6.5 and are also in Nicholson (1997, 2006). Similar lists can also be located using Google. The most frequent words we read and write are often irregular in spelling, so require lots of practice to learn. A problem is that they are not very interesting words in that they tend to be words that you cannot image in your mind. They are glue words in that they join content words together, e.g., *come, could, here, one, said, there, their, they, to, two, too, was, would, what, you, your.*

As for learning other irregularly spelled words, we have suggested using associations, over-pronunciation, and looking for semantic relations, but the main strategy used by good spellers is to build a visual memory for the irregular bits through extensive reading and writing practice. For example, the "ui" in "build" is irregular. It does not help that in the middle ages, we used to write "bild". We just have to remember that the "i"

has become "ui". There are many weirdo spelling like this, such as *world*, *friend*, *done*, *often*, *straight*, *cough*, *laugh*, *blood*, *shoe*. We can learn these irregulars but it takes time.

Table 6.5 100 most frequent words in order of their frequency

1–25	26–50	51–75	76–100
the	or	will	number
of	one	up	no
and	had	other	way
a	by	about	could
to	word	out	people
in	but	many	my
is	not	then	than
you	what	them	first
that	all	these	water
it	were	so	been
he	we	some	call
was	when	her	who
for	your	would	oil
on	can	make	now
are	said	like	find
as	there	him	long
with	use	into	down
his	an	time	day
they	each	has	did
I	which	look	get
at	she	two	come
be	do	more	made
this	how	write	may
have	their	go	part
from	if	see	over

Source: Fry, 2000, pp. 5–8

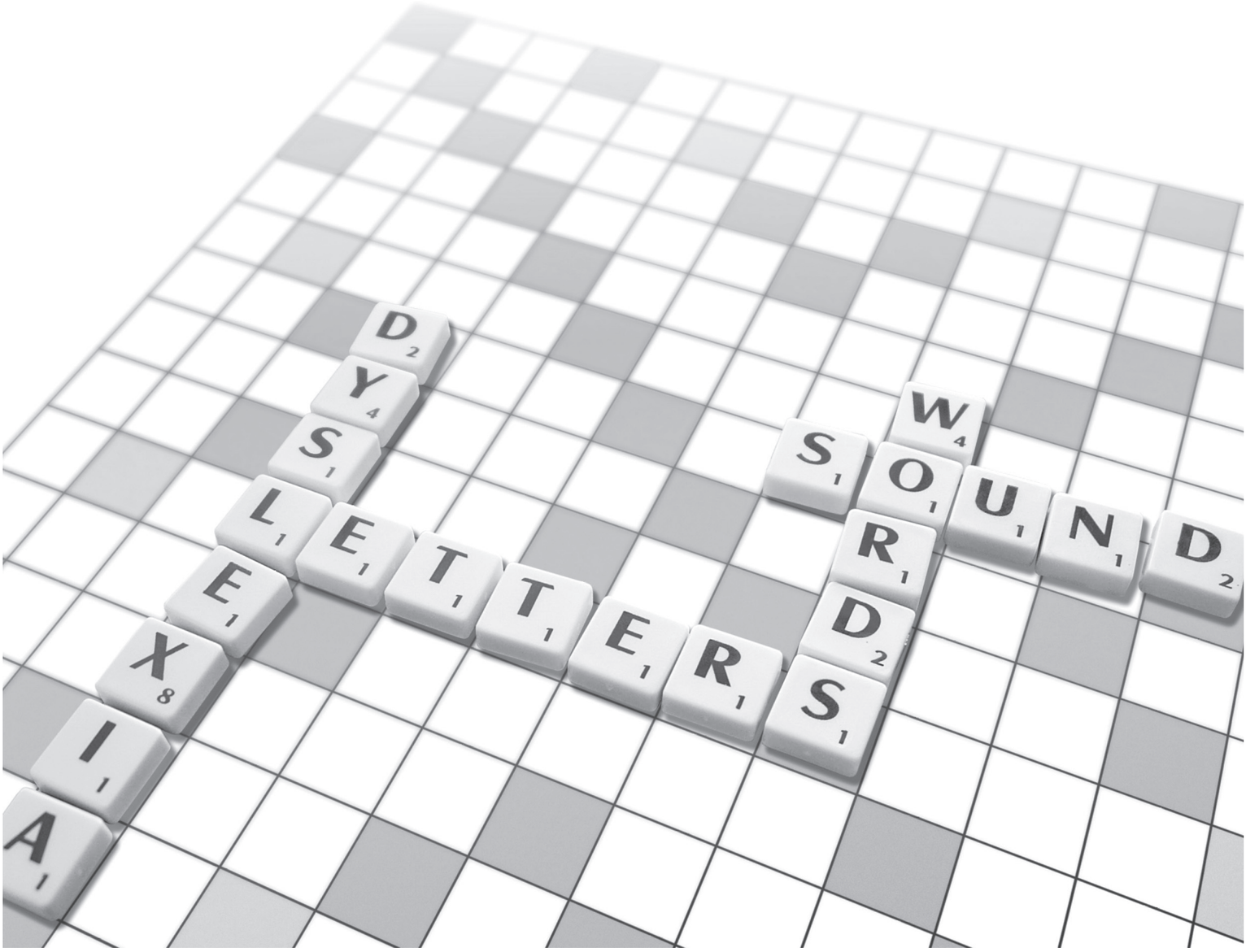
SUMMARY

This chapter has focused on the two sides of writing—ideas and spelling. Of course, spelling is a major difficulty for students with dyslexia. Spelling accurately and quickly is essential for good writing. Students can have the best ideas in the world but they need to get them down on paper and spelling skill helps them to do that.

On the other hand, even with good ideas, the student with dyslexia may need instruction that focuses on how to organise these ideas so that their writing has more structure and depth. The chapter has given some brief suggestions on how to do this for both narrative writing and factual writing.

CHAPTER 7

Catering for adults with dyslexia in my course



CHAPTER 7 – KEY MESSAGES

1. Nine out of 10 organisations have workers or students with dyslexia. You are not alone!

2. Most organisations are keen to help their workers and would like resources like this book.

3. Today's technology means that it is possible to provide a lot of help to reduce literacy demands. For example, there is software to convert text to speech, and speech to text. How good is that? It is easy to put text and an oral version of the text onto the company website. Even good readers like to listen rather than read sometimes, especially since you can do it on those boring hours to work in the train, bus, or car.

4. If it involves reading and writing a report or something similar, it is good if the employer can make some accommodations like give them a bit more time to write the report, or have a meeting to go through the report. This is a good thing to do anyway, with any worker, but it is even more helpful for adults with dyslexia.

5. When teaching, videotape your presentations and make them available to the class. They can download the video onto their digital tablets, smartphones or computers and listen again later. The technology is easily available to do this but we often forget that it is helpful to the whole class, including the ones who struggle with some of the reading and writing.

6. Use "break-up" strategies to present your information to workers and students. Use bullet points, web diagrams, matrixes, flow-charts, YouTube videos, diagrams, and images (a picture or a demonstration is worth a thousand words)! Get the class to do role play, explain to each other, buddy up to practise new jobs – work together! You will find that the whole class will thank you for it.

CATERING FOR ADULTS WITH DYSLEXIA IN MY COURSE

CATERING FOR ADULT DYSLEXICS

To cater for students with dyslexia tutors need some knowledge about what dyslexia is, the ability to identify students with dyslexia, and an understanding of how to teach reading and writing. To help you find out where there may be gaps in your knowledge we have developed a checklist. If you can answer "yes" to the seven items in the checklist below you are in an excellent position to cater for dyslexics in your course. If you answer "no" to one or more of the items you will find helpful answers in this book.

CHECKLIST FOR EDUCATORS

1. Do I have a good/adequate understanding of what dyslexia is? (see Chapter 2)
2. Am I able to identify students with dyslexia, i.e., screen? (see Chapter 3)
3. Am I able to identify students' specific literacy needs, e.g., have a toolbox of assessments or is there a literacy specialist who is able to assess them and then meet to discuss their needs? (see Chapter 3)
4. Am I able to assist the student gain better reading skills? (see Chapter 5)
5. Am I able to assist the student gain better writing skills? (see Chapter 6)
6. Can I identify ways to modify my teaching in order to cater for students with dyslexia? (see this chapter)
7. Can I identify ways that will enhance the dyslexic students' learning experience? (see this chapter)

The primary focus of this chapter is to answer questions 6 and 7. The above checklist suggests that teaching students with dyslexia is complex. Educators should be able to modify their teaching in order to enhance the learning experience of dyslexic students.

HOW COMMON IS DYSLEXIA IN TERTIARY SETTINGS?

To find an answer to this question, in December 2011 we conducted a survey of 348 New Zealand PTEs. Ninety responded to the survey, a response rate of approximately 29 per cent. The primary purpose of the survey was to gain an insight into how PTEs identified students with dyslexia, their procedures and approaches for teaching them, how they could better cater for dyslexics in their courses and whether they were adequately equipped to teach this group of students.

The majority of PTE respondents offered fully funded courses or offered fully funded and fee-paying courses (see Table 7.1).

Table 7.1 Types of courses offered by PTE respondents (N=90)

TYPES OF COURSES	PTE (NUMBER)	PTE (%)
Fully funded	62	69
Fully funded and fee paying	26	29
Fee paying only	1	1
No response	1	1

The size of PTEs varied from less than 25 students to over 250 (see Table 7.2).

Table 7.2 PTE size (N=90)

PTE SIZE	PTE (NUMBER)	PTE (%)
Small (less than 25 students)	11	12
Small to medium (25–99 students)	31	35
Medium (100–249 students)	21	23
Large (over 250+ students)	25	28
No response	2	2

PTEs taught primarily a combination of Māori and Pasifika or Māori and Pākehā students (45 per cent or n=40); 36 per cent (n=32) of PTEs consisted of Pākehā only students; 14 per cent (n=13) taught only Māori students; 3 per cent (n=3) catered for international and ESOL students, 1 per cent (n=1) taught Pasifika students. There was no response from 1 PTE.

The responding PTEs offered a variety of training and other educational programmes. Literacy and numeracy programmes were offered by 21 per cent (n=18); 26 per cent (n=22) offered vocational training; 9 per cent (n=8) offered youth training; and 8 per cent (n=7) offered employment skills and basic computing. Twenty (23 per cent) PTEs offered a combination of vocational and literacy and numeracy; or employment skills, basic computing, vocational, and literacy and numeracy. A small number of

respondents offered ESOL programmes (3 per cent; n=3). Five PTEs did not fit into the above categories.

The majority of PTEs (88 per cent; n=79) reported that they had students with dyslexia. When asked what they could tell us about these students, 41 per cent (n=31) reported that the students had difficulties with reading, writing or both. A selection of comments follows:

- "Struggled with reading all their lives."
- "Didn't qualify for extra help but didn't function well in school."
- "Lifetime background of struggling to cope with written material."
- "Typically convinced that they have no prospect of learning progress."
- "Usually embarrassed about it [dyslexia] and try to avoid anything to do with reading and writing."
- "Range in age from 15–70 years. Many have never been able to read, spell, or write."
- "Have difficulty distinguishing vowel sounds particularly."
- "Not comfortable with reading."
- "Have major issues with spelling and decoding words, therefore interrupts their comprehension."
- "Students want to learn. Cannot understand why they find it difficult to read or write."

Fourteen PTEs (18 per cent) reported that the students had "struggled at school" or had "general learning difficulties" or "have struggled with the mainstream school system". Seven PTEs (9 per cent) reported that students felt that they were 'dumb' or 'stupid' and "cannot succeed". One PTE wrote, "They often come with the branding that they 'must be dumb'. One PTE wrote, "All of them have received or interpreted messages that they are 'dumb' or 'stupid' and cannot succeed." One PTE replied, "They have been told that they are dumb." Another, "they come with the branding that they must be dumb." Seven PTEs (9 per cent) reported that their students can often be disruptive, were trouble makers and generally frustrated. One PTE writes, "Usually have caused trouble in class." Five PTEs (7 per cent) reported that their students had developed coping strategies and that some students were adept at covering up. One PTE stated that the student they taught "had developed strategies to cope with dyslexia." The balance of PTEs reported that their dyslexic students were involved in practical jobs (4 per cent; n=3); 3 responses were not applicable; and the responses of 6 PTEs (8 per cent) fitted an "other" category.

When PTEs were asked if they had ways of identifying students with dyslexia 53 per cent (n=48) reported that they did. The most common way of identifying students with dyslexia was through informal assessments (46 per cent; n=22). Some PTEs used the Assessment Tool (13 per cent; n=6) and others used Web-based assessments (6 per cent; n=3). Nine (19 per cent) PTEs identified students through observation and 6 per cent (n=3) of the PTEs that responded referred students to qualified assessors, including SPELD NZ (Specific Learning Disabilities Federation), for formal diagnosis.

Four PTE (8 per cent) responses were categorised as other and one was not applicable to the question. Examples of other are "We are under-resourced" and "We don't have any formal identification process."

PTEs were also asked whether they had procedures for teaching students with dyslexia. Nearly half of the respondents had procedures for teaching dyslexics (47 per cent; n=43); 50 per cent said they did not and two PTEs did not answer the question. Of the 43 respondents to this question, 33 per cent (n=14) provided one-to-one tuition. Three PTEs (7 per cent) followed phonics programmes, including programmes that used multisensory approaches; one PTE followed Ron Davis' (1997) method (refer to Ron Davis' website http://www.dyslexia.com/); 12 per cent (n=5) provided reader-writers for their students; 21 per cent (n=9) identified students' interests and pursued these, rebuilt their confidence and attempted to re-engage the learner, "We have learner-centred programmes where we work in partnership with the individual"; 6 per cent (n=3) offered professional development for their tutors; 9 per cent (n=4) used what PTEs referred to as visual, kinaesthetic and multisensory strategies. Four responses did not apply to the question.

The PTEs were asked if they wanted specific information about dyslexia and 69 PTEs (77 per cent) answered "yes". Nine (13 per cent) wanted ways to identify, assess and diagnose their dyslexic students; 13 per cent (n=9) wanted to learn about strategies that had been successful in teaching them to read; 26 per cent (n=18) of the respondents wanted more information, including research on teaching adults with dyslexia; 6 per cent (n=4) wanted professional development and further training; 22 per cent (n=15) wanted a combination of ways to assess and diagnose as well as successful strategies for working with dyslexic adults; 4 per cent (n=3) of PTEs were open to any help they could receive for their students; 7 per cent (n=5) wanted more resources and four PTEs (n=6 per cent) were either "not sure", or wanted to know "how to explain dyslexia" . Two responses did not address the question.

Finally, PTEs were asked if they felt adequately equipped to teach students with dyslexia. Of the 90 respondents 40 per cent (n=36) replied "yes" and 58 per cent (n=52) "no" and 2 did not provide an answer. Of the 36 PTEs that replied "yes", 44 per cent (n=16) replied that they employed skilled or trained staff who were able to address the needs of students with dyslexia; 19 per cent (n=7) provided one-to-one tuition; and 11 per cent (n=4) reported they had resources and strategies available; and 9 (25 per cent) responses were not applicable to the question.

PTEs were also asked if they had attended the 2011 two-day workshops offered by the National Centre of Literacy and Numeracy for Adults (NCLANA). The workshop focused on what dyslexia is, the myths of dyslexia, the social and emotional consequences of dyslexia and ways educators are catering for dyslexics in their courses. The majority of respondents had not attended the workshops (70 per cent; n=63).

SURVEY SUMMARY

The dyslexia survey shows that most PTEs (88 per cent) have learners who are dyslexic. Approximately half (53 per cent) have ways of identifying students with dyslexia as well as procedures for teaching them (48 per cent). The majority of PTEs did not feel adequately prepared to teach adults with dyslexia (58 per cent). Most (79 per cent) wanted an array of varying information about catering for dyslexic learners in their courses. Table 7.3 gives a summary of the survey results.

Table 7.3 Summary of the PTE dyslexia survey (N=90)

	YES (n)	YES (%)	NO (n)	NO (%)
Learners with dyslexia	79	88	11	12
Way of identifying students with dyslexia	48	53	41	46
Procedures for teaching students with dyslexia	43	48	45	50
Any specific information you would like	71	79	17	19
Adequately equipped to teach dyslexic students	36	40	52	58
Attended 2011 NCLANA workshop	25	28	63	70

CATERING FOR DYSLEXICS IN MY COURSE

> Students with dyslexia may have left school early having experienced years of 'failure' and are apprehensive starters due to years of feeling dumb.

Students with dyslexia who are enrolled in courses that involve reading and writing experience considerable challenges if they are unable to access course-related written text, or produce it. How can educators cater for this group of learners? To begin with it is important to acknowledge that educators face a number of challenges. Typically, they teach large groups of diverse students. The time educators have available to work with all students is limited. What's more, in most courses there is considerable content to cover. While some educators have specialist knowledge in teaching reading and writing in addition to their own specialist area, e.g., hairdressing, building, forestry, hospitality or horticulture, this is the exception. Tutors, like high school teachers, have specialist content knowledge, rather than specialist knowledge about the teaching of reading and writing. Also, there are student factors. Students with dyslexia may have left school early having experienced years of failure, and may be apprehensive starters due to years of feeling dumb (Frank & Livingston, 2002). Students with dyslexia may be experiencing reading and writing difficulties (Shaywitz, 2003). They may have learnt to read and write but require more time to complete tasks that involve reading and writing, so a course that moves at a quick pace will present additional challenges for

them (Shaywitz, 2003). Some adult students may have children to care for, as well as full- or part-time jobs which place additional pressure on their time, particularly compared to adult students who do not have these commitments.

Morgan and Klein (2000, p. 132), writing about British adults with dyslexia, found that there are two distinct groups of adult learners with dyslexia who enrol in educational courses and programmes. One group is those who have appeared "on the surface" (Morgan & Klein, p. 132) to have overcome their dyslexia, e.g., they are able to read and write. The second group is those who left school without basic reading and writing skills. For both groups, dyslexia-related difficulties become apparent when they encounter the demands of tertiary study.

Why do some adults with dyslexia return to or begin study? Some want to advance in their field and one way of doing this is to gain a qualification. Others may have been encouraged by workmates, family members or friends. For some students it may be a condition of their benefit, allowance or employment.

VOCATIONAL EDUCATORS

The authors of this book recognise that vocational educators' expertise is typically not teaching literacy—and numeracy—yet most educators teach students who are required to do a great deal of reading and writing. Tutors are required to embed literacy—and numeracy—into their courses (Tertiary Education Commission, 2008c, 2009), particularly courses at New Zealand Qualification Framework Levels 1–3. Another challenge facing the vocational educator is to ensure students gain the necessary content knowledge to pass the course and, in time, complete the qualification. In order to gain the knowledge, however, they must access the content. Accessing course content, or some course content, requires reading. Courses are also characterised by written tasks such as completing forms, completing workbooks, writing short essays or long answers or assessments. Students with dyslexia who are unable to read and experience difficulty writing are clearly disadvantaged.

Vocational tutors should be aware of some of the possible challenges that adults with dyslexia encounter in the classroom. These challenges generally impact negatively on the students' ability to complete reading and written tasks associated with their coursework. Some possible challenges are:

1. Decoding difficulties so unable to access written text.
2. Spelling (encoding) difficulties so unable to produce written text. Experiencing difficulty taking notes in class.
3. Able to decode accurately but lack fluency. Not enough time to process text. Takes much longer than other students.
4. Able to spell some high frequency or phonetically regular words but not easily and quickly. Not enough time to record lecture or tutorial notes.
5. Inconsistent academic performance, i.e., completes some tasks, including complex ones with ease, but may have trouble with seemingly simpler tasks.

6. Lifetime of feeling dumb along with emotional consequences and effects.
7. Reluctant to ask for help—doesn't want to appear the odd one out. Reluctant to disclose dyslexia in case of possible repercussions or perceived repercussions.
8. May have limited computer and technological skills when these are now routinely required for tertiary study, e.g., using internet search engines such as Google, and not having access to the technology for this, e.g., not owning a smartphone, a tablet (like an iPad), or even a computer.
9. Unfamiliar or uncomfortable with modern teaching approaches.

BARRIERS THAT MAY PREVENT A DYSLEXIC DEMONSTRATING THEIR TRUE ABILITY

1. Decoding difficulties

Students experiencing decoding difficulties have great difficulty accessing written text and will experience difficulties with coursework until they can do this. Students with decoding difficulties should be encouraged to seek one-to-one tuition from a literacy specialist. But this will not necessarily mean they can somehow magically access course content. A student at Step 2 on the decoding progression, who is required to read text at Step 4, and is receiving one-to-one tuition will most likely not move two steps on the *Learning Progressions for Adult Literacy* (Tertiary Education Commission, 2008a), during the length of a course. Decoding progress takes time, even when specialist tuition is available. Ryan, a first-year university student, has found tuition helpful. However, the specialist reading and writing tuition has not enabled him to overcome his difficulties. Ryan states, "I get better but I will never be great at reading and spelling" (personal communication, 24 January, 2012). Students such as Ryan do need to access course material. One way to help them access course material is for the text to be recorded and downloaded onto an mp3 player, smartphone, digital tablet or computer. While this may take time, once text is recorded it is available long term and to other students. Text- to- speech software is also available to purchase, e.g., TextSpeech Pro. Text- to-speech software enables the user to select text they want to read. Speed and volume can be adjusted. In addition to reading a Web page, Word document, or a PDF file, text-to-speech software can also access Microsoft Outlook.

Dr Sally Shaywitz (2003), a leading international expert on dyslexia based at Yale University, tells the story of a tertiary student who struggled throughout schooling. The student did not struggle with course content but he struggled to access course material, due to his decoding difficulty. If course material was read aloud he could remember "just about everything" (Shaywitz, 2003, p. 319). He simply "read too slowly to keep up" (p. 319). He discovered that the course material was available on tapes. "Once I began the tapes, everything changed. I was able to read along with the book at my leisure, absorb nearly everything I was reading … The tapes have changed my life" (Shaywitz, 2003, p. 319. Having course material available on digital tablet, smartphone, mp3 player, computer or appropriate software available, can literally change the life of many students with dyslexia.

2. Spelling and writing difficulties

Some adults with dyslexia experience spelling difficulties. Dyslexics with spelling and writing difficulties are more apparent today than in previous decades. One reason is that vocational qualifications now require and demand increasing evidence of reading and writing skills. Due to spelling difficulties and a lack of fluency, notetaking is a challenge for students with dyslexia. They simply do not have enough time to record lecture notes. Poor handwriting can also be a factor. One solution is for students to record lectures and tutorials and later to change them to text with speech-to-text software such as *Dragon Dictate for Mac*—a speech recognition software programme that can record the lecture or tutorial in written form. The programme could also be used for assignment writing. An in-class notetaker and reader-writer for assessments would enable students to gain access to course content and to demonstrate their knowledge.

While speech to text software may provide adult dyslexics with greater opportunities, the literature reports difficulties. Oral language is different from written. Informal language, e.g., "Hi—what's up?", "Have a good weekend?, "Enjoy the game?", "Hope the weekend is fine", is different to formal language, i.e., language often associated with printed text such as "It is commonly agreed that dyslexia is at least in part a weakness in language processing, with most dyslexic individuals experiencing difficulties in phonological coding" (Morgan & Klein, 2000, p. 13). Ryan, who gained NCEA Level 3 in 2011, explained that he had to think differently when using a writer as he soon discovered that written text is not speech written down.

Spellcheckers were once thought to be one "panacea for dyslexia" (Sanderson, 1999, p. 113). Spellcheckers, while useful, are not foolproof. For example, the following two sentences, according to the spellchecker, are accurate. "The knight rode his hoarse into the distance." "I had a refreshing swim in the see but could not swim for long because my ant had just arrived from Hamilton for a lunch." There are additional challenges for spellcheck users. When a word is spelt incorrectly a list of alternative words is suggested. Which alternative word is the correct word? Correctly spelt words can also be identified as incorrectly spelt, adding even more confusion and frustration for adults with dyslexia.

3. Time due to a lack of decoding and spelling fluency

Research shows that adults with dyslexia decode more slowly and less accurately than good readers (Hanley, 1997). The implications are that it takes longer for dyslexics to process text. We also know that educators have a great deal of content to cover in a relatively short period. Teaching at a fast pace, however, can spell disaster for students with dyslexia. Dr Sally Shaywitz claims that "dyslexia simply robs a person of time, accommodations like extra time return part of it, and that a person who is dyslexic has as much a physiologic need for extra time as a diabetic needs for insulin" [http://www.childrenofthecode.org/interviews/shaywitz.htm, 13 January 2012). Multiple assignments due, or assessments to complete, in close proximity is stressful for all

students but particularly so for students with dyslexia because of the time it takes them to process and produce text. Adults with dyslexia need more time.

4. Academic performance is inconsistent

There is little a tutor can do when a students' academic performance is inconsistent. One day the student is able to spell simple everyday words and the next day some are misspelt. Tutors, however, need to be aware that this can be the case. The inconsistency is not due to being lazy or dumb.

5. Lifetime of feeling dumb

The social and emotional consequences of dyslexia were discussed in Chapter 4. Educators with an understanding of dyslexia are well placed to ensure the student knows that they are not dumb. Educators who give positive reinforcement, focus on the students' strengths, are supportive and understanding and who create an environment that is conducive to learning will impact positively on the student.

6. Reluctant to ask for help

A lifetime of being the student who needed help or was in pull-out programmes during compulsory school years may have caused the adult student with dyslexia to be reluctant to ask for help. Some adults may be unaware they are dyslexic so think they are dumb—a characteristic they try to hide from others. Other adults with dyslexia employ strategies to mask their dyslexia. Asking for help may increase the chance of being detected. One adult with dyslexia stated that when he was at school he "Always took the back seat, kept his head down and mouth shut" (Eunice Kennedy Shriver National Institute of Child Health and Human Development, 1999). One reason he gave for this was that "If you don't fit in, you can get ripped to pieces."

Tutors should encourage all students to ask for help. Tutors who move around the room interacting with students, enquiring whether they have questions and so on may help students with dyslexia not feel the odd one out. Knowing that all students are receiving help normalises it.

7. Unfamiliar with current technology

Adults over the age of 30 will have had a different educational experience from their younger counterparts. The smartphone, digital tablet and mp3 player did not come into widespread use in the mass market until after 2000. It is possible that some adults with dyslexia who are returning to study do not have computer or technological skills so are hit by both, i.e., reading and writing difficulties and a lack of computer and other technology skills. The learning experience for students with dyslexia can be enhanced once they have access to, and are able to use, the hardware and software.

While some adults may be familiar with new technology, it is possible that they find it frustrating. Sanderson (1999, p. 113) holds the view that learning to use a keyboard can be as "confusing as learning to read, write and spell".

8. Unfamiliar with modern teaching approaches

Modern teaching approaches such as group work activities and computer-based courses (elearning) may be new ways of learning for adults who were taught by a more traditional model of lectures and tutorials. Some dyslexics may not be comfortable working in groups as they do not want others to know they are dyslexic. Or perhaps they are unaware they are dyslexic, instead think they are dumb, thus providing another reason to avoid group work.

Teaching approaches that include the use of technology may present barriers to the adult who is dyslexic. Extra tuition may be required in order to develop students' understanding of technology.

CASE STUDY 1

Ryan was awarded University Entrance in January 2012 having successfully completed NCEA Level 3 in 2011. He is enrolled in a Bachelor of Science degree with the intention of completing a double major in physics and chemistry. He commenced his studies in Semester A 2012. This path is typical for many students studying for the first time at university or polytechnic. For example, in 2010, 39 per cent of new students studying at the University of Waikato were school leavers. Many high school students who gain University Entrance enrol at a university or polytechnic within 12 months of completing high school.

What is atypical about Ryan? What is atypical are the challenges he has had to overcome to successfully complete NCEA Levels 1, 2 and 3. For Ryan, getting to university was not an accident. He didn't coast through high school. He worked hard. Most would agree that physics and chemistry content is challenging. Ryan read and reread his textbooks until they made sense. Ryan states, "I retain the information—once I get it into my brain" (personal communication, January, 2012).

Ryan's progress as a reader in year 5 of school

Ryan enrolled at the Hamilton Reading Centre in 2003 when he was a year 5 primary student. The Reading Centre provides specialist diagnosis and tuition for children, aged 6–15, who are experiencing reading difficulties (Nicholson & Dymock, 2011). Ryan was 9 years 8 months at the time of his enrolment. His assessments, based on standardised measures, showed that his reading level was very low (Stanine 1). He had made limited, if any, decoding progress since the end of his first year of school. That is, his ability to read words, at the age of 9 years 8 months, put him where a child should be at the end of their first year of school, at the age of 6. If Ryan was an adult he would not have reached Step 1 on the decoding progression (Tertiary Education Commission, 2008b). A learner at Step 1 on the decoding progression has a "bank of sight words and

is able to use a few reliable strategies for decoding regularly and irregularly spelled everyday words in short, simple, texts" (Tertiary Education Commission, 2008a, p. 17). Ryan had a small bank of sight words and a few strategies for decoding regularly and irregularly spelt everyday words.

As well as completing various reading and reading related measures Ryan completed a standardised measure of receptive oral vocabulary. His stanine score for vocabulary was 9 placing him in the 95th percentile ranking. In contrast, his decoding stanine was 1 putting him at the 4th percentile. Stanine scores range from 1 to 9. A score of 1 is a very low score. An average stanine score is 4, 5, or 6; above average is 7 or 8; and 9 represents an outstanding performance. Only 4 per cent of the population receive a stanine score of 9. The 95 percentile score means that 4 per cent of the population (99 percentile is the maximum score) score higher than 95 per cent of the population. The stanine score of 9 showed that Ryan's oral vocabulary was excellent, while his decoding score of 1 showed his decoding was very poor.

Ryan was struggling to decode words like *bear, goes, fishing,* yet understood words such as *detonation, dilapidated,* and *reprimanding.* In other words there was a huge chasm between his decoding on the one hand, and his reading comprehension, his vocabulary and general world knowledge on the other. Ryan, an alert, engaged, articulate and intelligent boy, was struggling to read the primer reader *Father Bear Goes Fishing* (Randell, 1993), a book written for children in their first year of school. Yet Ryan's vocabulary placed him in the top 4 per cent, nationwide, for his age. Ryan is dyslexic.

Imagine a Ryan enrolled in your course. His written work raises eyebrows. You immediately ask yourself how an adult, after 12 years in the school sector, still has difficulty spelling everyday words. In Ryan's case he did receive extra tuition that was appropriate and intensive. Your observations suggest that he is engaging with the course. He is articulate and his vocabulary is excellent. He is asked to read an extract from the workbook. His reading, however, is slow and, at times, inaccurate. What's going on? You are puzzled. His decoding and encoding/spelling would be at Step 4–5 on the Literacy Progressions yet his oral language is excellent. Speaking and listening would be beyond Step 6 on the Progressions. You have also observed Ryan, on many occasions, chatting to his neighbours. Does Ryan lack concentration? Perhaps you think that if Ryan focused more on his studies he would not be so far behind in reading and writing.

Ryan is dyslexic. He is an intelligent adult who has difficulty reading and writing despite receiving appropriate interventions. What is Ryan chatting about? Ryan and his friends have struck up a deal. "If my friends read the text or question to me I will explain the content and tell them the answer." His friends are good decoders yet have difficulty with comprehension. Ryan has excellent comprehension yet poor decoding. They make a perfect match.

How can a tutor cater for the Ryans? What we do know is that with support, appropriate support, adults with dyslexia have a greater chance of succeeding. In Ryan's case he is more than capable of completing the course, provided he has assistance. One factor that contributed to Ryan's high school success is that he had a reader-writer for assessments. A notetaker enabled Ryan to focus on what the tutor was saying, rather than focusing on his spelling. Providing Ryan with a copy of the PowerPoint prior to the class starting helped create a dyslexic-friendly classroom. Ryan also finds diagrams and images very helpful. Having access to the Internet and wifi in the classroom would enable Ryan to Google Image words he is unable to decode. Ryan finds Google Image very useful. In fact the Internet has been a real breakthrough for him. Having course material available on audio would be "A huge help, a huge help." Modern technology enables this. Dyslexic-friendly classrooms would not ask students to read aloud. Being asked to read aloud causes considerable stress and anxiety for dyslexic adults. When Ryan was asked to read aloud or when his turn approached his hands would start shaking.

Dyslexic-friendly classrooms provide time for students to process text or consider ways of presenting content that does not disadvantage them. Ryan talked about his experiences when a new topic or unit was introduced. Typically, the tutor distributes an article to each student and asks them to silently read pages 1–4. Immediately, anxiety and stress set in. By the time Ryan has finished the first paragraph other students have already read the first page. He hears the first, second and third pages turn which increases his anxiety. By the time he has read the first page his peers have finished reading the article and the tutor is ready to discuss the content. The classroom becomes a living nightmare for him. Within a few minutes of the article being distributed he has experienced anxiety, stress and frustration. The discussion begins and Ryan is largely cut out of it. Within 20 minutes of the class commencing he is on the back foot. If this scenario is repeated several times a day, 5 days a week, one can only begin to imagine the time he will have to spend catching up with his peers.

CASE STUDY 2

Ann (not her real name) is a middle-aged Pākehā female. She left high school at third form, aged 13 or 14, when she was expelled from a large city high school. The principal called Ann and her mother in and told them there was nothing the school could do for her and that she was not to return to school. She remembers receiving numerous detentions and sitting at the back of the class because the teachers did not know what to do with her. She recalls starting to have reading problems towards the end of primary school. At one stage she was put into a special class. This was a severe blow to her self-esteem.

Eventually Ann trained as an automobile mechanic at a polytechnic. She had some sympathetic tutors who were aware of her literacy problems and she received alternative assessments. At the time there was much less emphasis on theory than on

practical work. She worked as a specialist car mechanic but as the industry became more computerised and technology changed she was unable to keep up.

Ann decided to follow her dream of working with animals. She successfully completed a certificate in animal management. She then enrolled in a degree course at a university. She excelled in lab work. In the end, studying at university became too much. She did not complete the degree.

Ann's challenges with reading have not gone away. They impact on her day-to-day life. She recently went to the supermarket to buy her cat its preferred food. The label had changed. She was unable to identify the brand and type that she wanted so she left without buying the cat food. Ann returned to the supermarket with a family member who was able to help her find the cat food she wanted to buy.

What could her tutors have done to assist her in achieving her goals? Like Ryan, Ann, an adult with dyslexia, experiences reading difficulties. While some tutors were sympathetic others were not. This may have been due to the educators' lack of knowledge about dyslexia. Below we have listed suggestions on how to make learning dyslexic friendly in your classroom:

1. Present course content in a variety of ways:
    a. bullet points
    b. summary form
    c. diagrams and charts
    d. demonstrate—show how where appropriate
    e. provide a copy of the lecture PowerPoint so students can follow along
    f. video—YouTube clips.
2. Be mindful of lesson pace and the speed in which content is presented.
3. Be mindful of covering too much content.
4. Provide adequate time to read and produce text.
5. Do not ask adults with dyslexia to read aloud.
6. Increase font size of written text.
7. When using the whiteboard read the text as you write or read after produced. "Here on the board I have three columns. One is headed …, the second …, the third …" Talk it through.
8. Arrange to have a notetaker.
9. Arrange a reader-writer for assessments.
10. Encourage use of the Internet, e.g., Google Image.
11. Consider ways of introducing a new topic or unit that does not require reading a lot of text. Refer to Ryan's experience above.
12. Use a multisensory approach—learning through more than one sense, e.g., sight and hearing. VAK (visual, auditory, kinaesthetic) is the acronym used to summarise multisensory teaching.
13. Present information as real, rather than abstract, if possible.

14. Revise and recap previously learnt strategies and content.

Educators might think that it is not practical to change teaching practices to suit the needs of a seemingly small group of students, but overall, what is good for adult students with dyslexia is good for all students (Morgan & Klein, 2000). Morgan and Klein (2000) suggest that it is not necessary for vocational tutors to develop a separate teaching approach for adults with dyslexia. For example, presenting information as real rather than abstract, would benefit all students, not just the adult with dyslexia. Revising and recapping material taught will benefit all students, not just students with dyslexia. Adult students who are not dyslexic will generally learn regardless of the teaching approach. Dyslexic learners, however, "may very well fail" if the tutor is unable to cater for their needs (Morgan & Klein, 2000, p. 136). In 2011 one author taught an adult student who required a notetaker. The notes were scanned and sent to all students in the class. All students benefited from this approach.

CONVENTIONAL ASSESSMENTS

Consider possible reasons why a student might not perform well on an assessment. Is the performance due to ability or due to reading and writing difficulties? Dyslexia is more pronounced when under stress. It is difficult to produce quality work when under stress. If a student has not performed well because of dyslexia consider using a reader-writer or replace the written assessment with an oral one. Students could dictate answers, having had the questions read to them, and an audio typist or software program could record answers. Multiple choice assessments, particularly poorly designed ones, can also be challenging for students with dyslexia. They typically contain a lot of information in one question which can be difficult to remember for students who are slow decoders. Multiple choice assessments that are well-structured and short are more accessible for students with dyslexia. We recommend using a variety of ways to assess students' learning.

PUTTING IDEAS INTO PRACTICE

The following is a short extract from a Level 3 hairdressing course (Universal College of Learning (UCOL), n.d.). The text is at Step 4 of the decoding progression and it is likely that adults with dyslexia will have difficulty decoding irregular or non-phonetic words such as *are, you, does, of, the, either* and *water.* New words such as *emulsifying,* or the less common use of the word *agent,* may also present challenges. For less common words such as *emulsifying* and multimeaning words like *agent*, (which in this text means "exerting power" but which could mean "spy" as in "secret agent"), spending a few minutes discussing the word or phrase prior to reading will be not only beneficial to students with dyslexia but to all students.

The text extract can be projected onto the whiteboard. The irregular words can be highlighted in bold; the words with unfamiliar or multiple meanings can be underlined. The tutor can discuss both kinds of words with the class.

> Shampoos ***are*** either soap or soapless. ***They are*** used as wetting agents. Water has a type ***of*** film, called surface tension; this must be broken before anything will penetrate. Wetting ***the*** hair does wet it, but it doesn't actually soak ***the*** hair. If ***you*** imagine a few drops ***of*** water on a cloth, it either would roll ***off*** or form a droplet. Water by itself is not a ***great*** wetting agent, it is unable to remove or pull ***the*** dirt or grime ***from the*** hair and scalp. If ***you*** imagine a few droplets ***of*** shampoo dropping on to a cloth, ***they*** would immediately soak into ***the*** cloth. This is because shampoo is a ***great*** wetting agent; it soaks into ***the*** hair breaking ***the*** surface tension. ***Once the*** surface tension is broken, ***the*** detergent then acts as an emulsifying agent. (UCOL, n.d., p. 4)

Approximately 150 commonly used written words have non-phonetic or irregular spellings (Henry, 2010, pp. 186–187). In the passage above, there are 9 different irregular words: *off, of, are, they, the, you, great from, once* with 6 repeated more than once. Imagine if *the* was the one word the student had difficulty with. In the passage above *the* occurs 9 times. The irregular words are highlighted.

Diagrams can also be used to represent the content of texts and can be given to students prior to reading the text. Diagrams can act like a road map (refer to Chapter 5). Figure 7.1, a compare-contrast pattern, represents the above extract on shampoo.

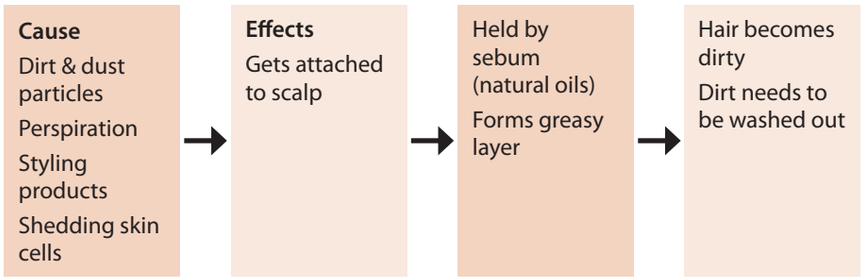
Figure 7.1 Compare-contrast pattern for "Shampoo" extract

	WETTING AGENT	BREAKS SURFACE TENSION	EMULSIFIER	REMOVES GRIME
Shampoo	good	yes	yes	yes
Water	poor	no	no	no

Figure 7.2 can be used to represent the casue-effect pattern as in "How Does Hair Become Dirty?" shown below. The extract was also from the Level 3 hairdressing course workbook (UCOL, n.d.,).

- Hair becomes dirty by sebum (natural oils), which form a greasy and sticky layer over our cuticle scales and scalp.
- Particles of dirt and dust can be attracted to our scalp and become attached and are held by the sebum from our scalps.
- Perspiration, from our sudoriferous glands, especially if we do lots of physical exercise, or are in a warm climate, sticks to our scalp.
- Styling products can also build up in our hair.
- Shedding skin cells causes hair to become dirty.

Figure 7.2 Cause-effect pattern for "How Does Hair Become Dirty?"



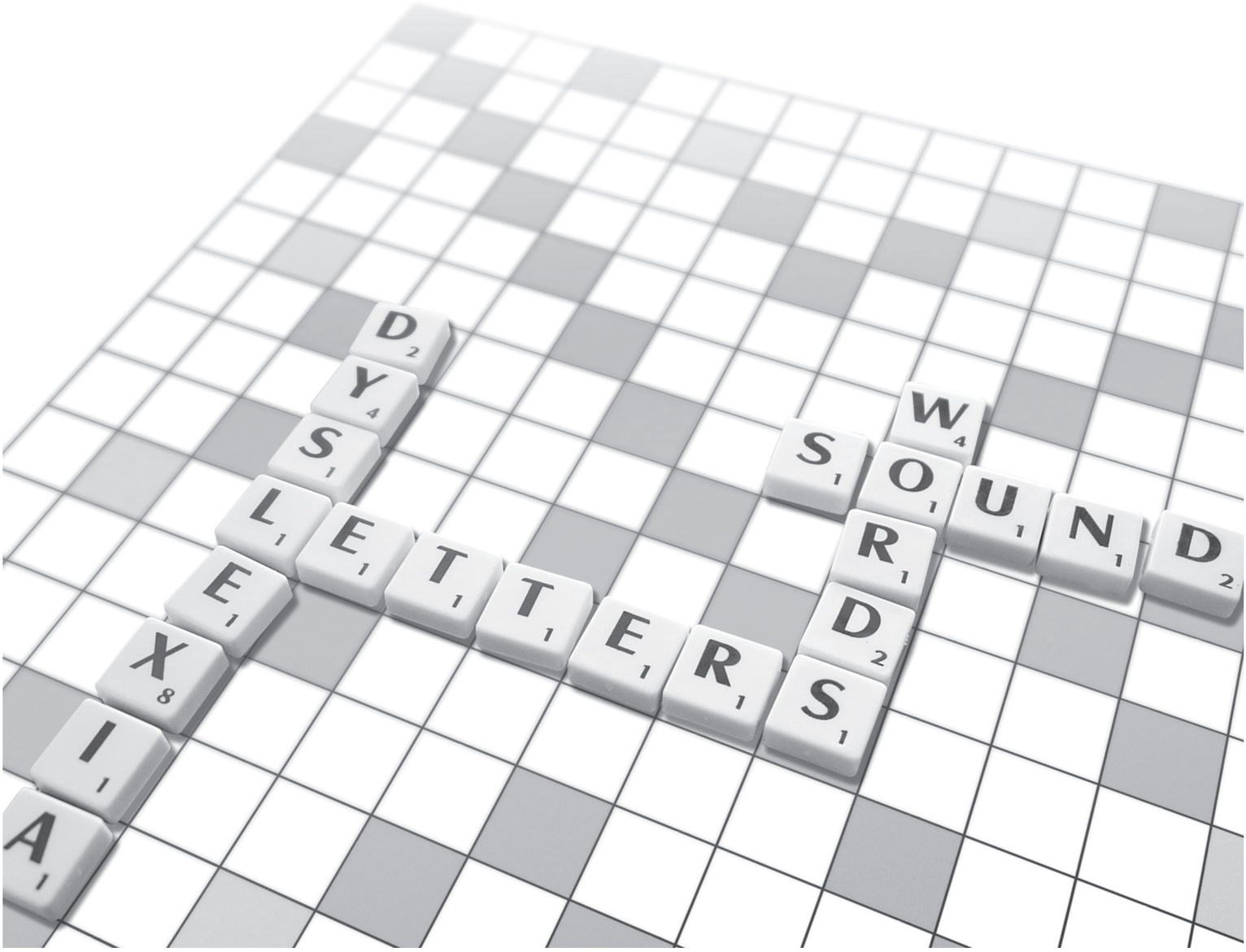
In addition to diagrams and charts audiovisual aids are particularly helpful for dyslexic learners. Tutors can video their presentation and make it available for students to view or revisit. YouTube clips may be useful. For example, the following YouTube clip discusses why shampoos are better for your hair than soap: http://www.youtube.com/watch?v=O3qaxusB7yM.

SUMMARY

Our survey of PTEs (see the start of this chapter) found that 88 per cent of respondents had students with dyslexia. Less than half of the PTE respondents had ways of identifying students with dyslexia or procedures for teaching this group of students. The survey also revealed that the majority of PTEs did not feel they were adequately equipped to teach dyslexics. This chapter has discussed ways of addressing this gap. It presented the knowledge and understandings educators of dyslexic students need in order to cater for them. We have also discussed the varied challenges many students with dyslexia encounter in the classroom, from decoding and encoding challenges to limited computer and technological skills. Students with decoding and spelling difficulties will find study challenging but there is a great deal educators can do to make their classrooms dyslexic friendly.

CHAPTER 8

Dyslexics in the workplace



CHAPTER 8 – KEY MESSAGES

1. The workplace today requires bubbly, hard-working, nice people, with a vision for their company. If their CV has a spelling mistake, are you really going to turn away someone who could make your company rich – and a happy place to work in? Employers do get worried about the importance of literacy but keep it in perspective. Life is about having fun and enjoying work, and this means that a happy employee is better than a sour person who can spell well.

2. Many adults with dyslexia give up chances for promotion or further study because they involve paperwork even though they have all the skills a company or learning institution needs to be successful. What would have happened if Richard Branson had not moved forward in his career due to his dyslexia? Should Einstein have backed off taking a job at a University because of his dyslexia? Should Cher have shied away from her brilliant singing career? A caring employer or training provider who has empathy can provide support to adults with dyslexia, knowing that they have real strengths in that they are creative, fun to be with, and have vision that many of us lack.

3. We can make it easier for adults with dyslexia in the noisy workplace. Let them use noise-reduction headphones or earplugs to make it easier to concentrate. If the workplace is open plan, use carrels and carpeting to reduce impact of noise. Set rules to reduce unnecessary noise in the office. Use modern technology to turn text into speech and vice versa – to make it easier for them to handle text. Set them up with a buddy who has empathy and cares. Give them lots of praise and build their confidence – they are brilliant people and we need them.

DYSLEXICS IN THE WORKPLACE

One New Zealand adult educator with considerable experience in the workplace holds the view that many employers may have heard of dyslexia but this is only in the sense they have heard of dyspraxia or diabetes. His experience is that only a very small percentage of employers—less than 5 per cent—who have employed a worker with dyslexia are aware of it and only a small percentage of employers—again less than 5 per cent—create a supportive workplace environment. This chapter will explain why this is the case and also discuss ways of making the workplace dyslexic friendly.

For dyslexics challenges may begin as soon as they take the first steps in applying for a job. There are forms to complete and a CV and possibly a letter of application to be written. It is not unusual to be asked to spell the city or town one lives in, or the street name. What is stressful and humiliating for the dyslexic, is being asked to spell them but not being able to. As a result, stress levels increase which impact negatively on self-esteem and feeling of self-worth.

The following conversations are typical when job hunting and may be enough to prevent the adult with dyslexia from applying for the position:

> "Good morning, Nicholson Plumbing."
> "Hello, I'm phoning about the receptionist's job in this morning's paper."
> "Thank you for calling. If you give me your contact details I will send you an information pack. Where do you live?"
> "Waikato Esplanade, Ngaruawahia."
> "Can you spell that please?"

> "Good morning, Dymock Electronics."
> "Hello, I'm phoning about the job in this morning's paper."
> "Thank you for calling. There are some forms to complete. I will post them to you. Please complete and return by the 15th. Forms must be handwritten."
> "Thank you."

> "Good morning, Massey Building Ltd."
> "Hello, I'm phoning about the warehouse job in this morning's paper."
> "Thank you for calling. Please send your CV and letter of application to Massey Building Ltd., PO Box 11433, Albany 2013. We look forward to receiving your application."
> "Thank you."

The scenarios above are not atypical. It is easy to see how a dyslexic could become discouraged and decide not to apply.

THE WORKPLACE TODAY

Economic prosperity is dependent upon a highly literate workforce. Adults wanting to become hairdressers, electricians, chefs, mechanics, builders and a host of other professions must pass courses where they are required to read and write at increasingly higher levels.

Jobs such as factory work that historically did not require a tertiary qualification have been altered by automation. Today many factory workers are managing machines rather than people. Dave Holland, Projects Manager, Fonterra, has expertise on robotics in the workplace and the impact this has on the workforce. He states:

> As we move to more automated environments, a different type of operator is required. Move from a repetitive boring task to a supervisory task (of machines, not people). This requires a higher level of ability, and the operator is often fault-finding issues rather than just loading bags into a machine. After staff reduction, the remaining operators do receive a higher level of pay to reflect this. The other big aspect is computer literacy, not just for the machine operation, but also for all the other systems we have around the factory (personal communication, August 2009).

Figure 8.1 shows the changes that have occurred in workplace practices.

Figure 8.1 Modern factory floor dominated by machines vs labour intensive factories in the 1950s

The changing factory floor. Fonterra, present day. Dominance of robotics.

Ford motors – 1950s. Labour intensive.

Prior to discussing the workplace we will focus briefly on the differences between schools and other learning institutions, i.e., teachers and students, and the workplace, i.e., employers and employees. Typically, the relationship between teachers and students is pastoral. Students are told it is ok to make mistakes as one of the roles of the teacher is to provide support and guide them through the learning process. In tertiary institutions, e.g., PTEs, ITPs, wānanga, and universities, errors are regarded as learning experiences. Extensions for assignments can be given, educators are approachable and available, and if a class or two are missed students are often able to catch up. This is not the case in the workplace—particularly those that are governed by the bottom line.

There is far less support in the workplace. Instead of educators there are line managers. Workloads are heavy. Performance is continually being monitored. It is expected that targets set will be met (Kinderlsey, 2010). Errors are not welcomed. The workplace exists to make a profit. Employee errors impact negatively on the bottom line. In school and tertiary settings group dynamics and group-related activities are well defined and usually short term, perhaps a few weeks, at most. In the workplace fellow employees work together for a considerable period of time and there is a sense of mutual dependence. Typically there are high expectations of staff. Errors made by one worker can impact negatively on others, so creating tension and stress.

Kindersley (2010, p. 215) writes that "students need to be prepared for the fact that there are marked differences between the world of education and the world of work. New employees often describe the workplace as being altogether a tougher, faster, more demanding and far less supportive environment—and the transition to this more unforgiving workplace culture can be particularly difficult for dyslexic students."

TRANSITION INTO THE WORKPLACE

Bell (2009, p. 74) refers to dyslexia as a "Cinderella disability". One cannot see dyslexia. It is invisible. In previous chapters we have read about dyslexics being missed in school. Many dyslexics have been told they are "not working to potential", or that they are "dumb", or "stubborn" (Wolf, 2007, p. 194). This is not the case. Dyslexics, in fact, try hard to learn to read and spell. It comes as no surprise that many dyslexics reach the conclusion that they are the problem, particularly after years of failure in school and being labelled thick. Dale and Taylor (2001) found that the adult dyslexics in their study interpreted their educational failure as a personal failure. One participant wrote about her time in primary school, "There was no suggestion of being dyslexic, just a bit on the thick side, you know" (Dale & Taylor, 2001, p. 1000). There are many examples in the literature of the long-term emotional burdens dyslexics carry (Dale & Taylor, 2001; Edwards, 1994; Wolf, 2007).

Meredith (as cited in Pumfrey & Reason, 1991, p. 6) described dyslexia as the "unidentified flying object of psychology". Edwards (1994) and Fitzgibbon and

O'Connor (2002) concur. Why the analogy between dyslexia and UFOs? According to Edwards (1994, p. 20), dyslexia and UFOs "thrive on the fear of the unknown". She continues, "If there is one thing calculated to annoy any group of professionals, it is implying that they are ignorant about something they should know about." Dyslexia is complex and multifaceted. The complexity of dyslexia may be why only a small percentage of schools acknowledge it. And in many New Zealand schools educators are reluctant to use the term dyslexia partly in fear of labelling a child (Driver & Nearn, 2004).

The good news is that progress is beginning to be made in schools which will, in time, impact on the workplace. It is schools that will literally pave the way for improved workplace practices (Fitzgibbon & O'Connor, 2002). Dyslexia was officially recognised by the New Zealand Ministry of Education in 2007. Today, New Zealand schools have available the printed resource, *About Dyslexia,* developed by the Ministry of Education (2008). In 2011 the National Centre of Literacy and Numeracy for Adults (NCLANA) conducted workshops on dyslexia in the North and South Islands for PTE and ITP tutors and educators. As schools, PTEs and ITPs become better informed and better placed to teach dyslexics it is hoped that the workplace will be in a position to cater for them. In the meantime it is correct to conclude that the workforce is poorly informed about dyslexia (Fitzgibbon & O'Connor, 2002). An important message for employers is that dyslexia is a lifelong condition. It persists into adulthood. But it is more complex than this:

> The population of adult dyslexics can, and often do, simply hide their dyslexia from public view. The population of dyslexics is, then, a largely invisible group made up of diagnosed dyslexics who are hiding their condition and undiagnosed dyslexics whose condition has never been uncovered. This explains why dyslexia is perceived as a childhood condition that largely vanishes in adulthood; it vanishes from sight, but not from society. (Fitzgibbon & O'Connor, 2002, p. 18)

Fitzgibbon and O'Connor (2002) and Morgan and Klein's (2000) views align with Tanner's (2009) findings. Tanner found that only 7 per cent of the adult dyslexics in her study willingly disclosed that they were dyslexic whereas the majority, 69 per cent, concealed or denied their situation out of fear and shame. Seventeen per cent did not know they were dyslexic and 7 per cent were non-committal. In sum, the majority of workers, i.e., 86 per cent, hide, deny or are unaware they are dyslexic. This creates challenges for employers.

On the whole, employers have little awareness or understanding of dyslexia. In addition to this, fellow workers lack an understanding and largely associate the dyslexic's less than optimal reading and writing skills to a lack of intelligence. Creating a friendly workplace environment under these conditions presents real challenges for employers.

CAREER CHOICE

Dyslexics are employed in varied careers. Sally Shaywitz (1996; 2003) writes about Gregory, a university student with dyslexia who was accepted into a number of Ivy League medical schools. Actor Henry Winkler, The Fonz, is dyslexic. Dyslexics are architects, teachers, accountants, builders, mechanics, hairdressers, engineers, painters, factory workers, labourers, scientists, bus drivers—literally every imaginable profession. Morgan and Klein (2000) argue however that many dyslexics opt for careers such as science and mathematics which do not require considerable reading and writing. Some research suggests that dyslexics have a tendency to opt for a lower paid job even if they know they are capable of performing at a higher level (Bell, 2010).

Taylor and Walter (2003) found that the dyslexics in their study were overrepresented in sales and sales related occupations, construction, transportation, architecture, engineering, healthcare and technical occupations. Management, business and financial operations, and to some extent computer areas were significantly underrepresented in dyslexics' choices of career (Taylor & Walter, 2003).

Research has shown that many dyslexics have low self-esteem, layers of anxiety and have experienced years of educational challenges and failures. School leavers undoubtedly bring their school experiences into the workplace. Bell (2010), in her study of adults with dyslexia, found that they were either reluctant to apply for promotion or were likely to seek jobs that were low skilled.

Opportunities for career promotion are often shunned by dyslexics as the promotion may result in increased report writing and paperwork (Morgan & Klein, 2000). Morgan and Klein (2000, p. 98) write about Susan, a 26-year-old-factory worker, who "had such low self-esteem that she was unable to acknowledge any ambitions. During her assessment, she claimed she was quite happy working in a factory."

Self-employment is a path some dyslexic adults follow as it minimises the risk of failure (Logan, 2009). Self-employment also means they are in control of their employment and they also have control over who they employ. A spouse or partner, someone who understands their dyslexia, can complete the paper work, take phone messages and help with other administrative tasks.

THE NEW JOB

Applying for a position and successfully completing the interview does not signal an end to the challenges facing the dyslexic. Hales (2004, p. 52) argues that "dyslexia is at its worst when the individual is in 'learning mode'". During the first weeks of a new position employees are fed a great deal of information. The employee with dyslexia must learn the names of fellow workers and management. Learning to use a different telephone system, remembering codes for the photocopier, and learning how to use new software systems can create challenges for the dyslexic. There is a great deal to internalise during the first few weeks. The employee is also grappling with whether or not to disclose that they are dyslexic.

DYSLEXICS IN THE WORKPLACE

If dyslexics were spread evenly throughout the workplace, up to 10 per cent of those employed in each workplace would be dyslexic. This is unlikely to be the case, given that research suggests dyslexics are less likely to complete qualifications that require a great deal of reading and writing. If as many as 10 per cent of the workforce are dyslexic, and their dyslexia is not handled appropriately it is not difficult to comprehend how this could impact negatively on productivity. Given the potential negative economic impact of reading and writing difficulties, it could be argued that it is surprising, from a business or economic perspective, that the needs of dyslexics are not being met. Perhaps the first step in making the workplace friendly for dyslexics is to educate the stakeholders about dyslexia.

Bell (2010, p. 224) recommends training about dyslexia should be available to all stakeholders including teachers, tutors, educators, managers, career advisers, employers, union representatives, human resource and recruitment staff and those who provide workplace training. In addition to this, an understanding of "potential barriers and solutions" (Bell, 2010, p. 224) is needed in order for the workplace to be dyslexia friendly. Solutions to both these challenges are not straightforward and much research is still needed.

The following section will take a closer look at two groups within the workplace—the employer and the dyslexic worker.

EMPLOYERS

Experts in dyslexia, e.g., academics, educational or child psychologists, and a small group of teachers, have focused their attention primarily on children. Because of this it is unlikely most experts will have a good understanding of dyslexia in the workplace. Fitzgibbon and O'Connor (2002, p. 35) state that the "knowledge base that has its origins in educational experiences is largely irrelevant to the workplace, and, as opposed to a simple modification of the rules, an entirely new set of rules needs to be developed".

Most would agree that the workplace is very different to educational contexts and as Fitzgibbon and O'Connor (2002, p. 35) say "The failure by some dyslexia experts to make this clear is likely to lead employers to underestimate greatly the extent to which they need to change their workplace to accommodate dyslexic employees."

SUGGESTIONS FOR EMPLOYERS

Raise awareness

Employers have the capacity to normalise dyslexia rather than stigmatising or ignoring that it exists.

Prior to raising awareness employers must gain an understanding of dyslexia. One dyslexic writes, "Because companies don't understand it or people don't understand it, it

is a disability, you know, they think, 'Oh God, you know, how much is that going to cost us?' " (Bell, 2010, p. 223).

Awareness can be raised by acknowledging that dyslexia exists and by offering educational programmes for line managers, senior management and employees. Employers and fellow workers must understand that dyslexia has nothing to do with ability or intelligence.

Focus on strengths

Focusing on strengths, rather than weaknesses, can be empowering for the worker (Bell, 2010). It is widely recognised that high levels of literacy are critically important for the 21st century workforce. We also know that creativity, a strength that is particularly heightened with many dyslexics, is a valued skill. Bell (2010, p. 224) writes, "Employers who wish to develop the skills of their workforce to increase creativity and efficiency would benefit from creating a lifelong learning culture in which individuals are respected for their differences, strengths are praised, and weaknesses are scaffolded." Bell (2010, p. 224) writes that dyslexics "May indeed be seen as giving them [employers] added value, because of particular strengths associated with dyslexia and also because of their own understanding of the needs of other employees with or without disabilities."

Author Ron Davis (1997) also calls for focusing on the dyslexic's strengths. In fact Davis (1997), a dyslexic himself, goes as far as referring to dyslexia as a gift. Tom West (2005, 2009) argues that the research has focused primarily on what is wrong with dyslexics and interventions that address their needs. West (2005) suggests that dyslexics have "high visual-spatial and other talents that are enormously important for various occupations" (p. 153). Some researchers suggest that employers consider dyslexia as a difference rather than a deficit.

Provide support

During times of transition, e.g., the first few weeks of employment more intensive support will be needed to assist the dyslexic transition into their new role (Bell, 2010). Long-term support could be in the form of literacy tuition, particularly for dyslexics with persistent literacy problems. Larger workplaces could employ a literacy specialist to tutor adult workers with literacy issues. The benefit of employing tutors for individual employees is that they are in a position to cater for specific needs, e.g., tuition around completing a particular form. Smaller workplaces could recommend organisations such as Literacy Aotearoa (http://literacy.org.nz/) that provide reading and writing tuition for adults.

Employees, at times, are required to engage in training as part of their job, e.g., health and safety, first aid. Assessing the literacy demand of the training so appropriate support could be arranged would be helpful for the employee with dyslexia.

Provide regular breaks

Workers with dyslexia typically put in more effort to attain the same results as their non-dyslexic counterparts (Bartlett & Moody, 2012). Regular breaks will improve concentration and performance. Rest breaks every two hours are common in the workplace, particularly in industrial settings, and there is evidence that the ability to take additional short rests benefits performance and productivity (Tucker, 2003). A reason for short breaks is that preplanned breaks do not necessarily coincide with an individual's fatigue level. While it may not be practical for workers in some workplaces to schedule their breaks to align with their body clocks, consideration should be given to workers scheduling their own breaks. Bartlett and Moody (2010) argue that workers known for taking fewer breaks, particularly compared to workers that take more frequent breaks, are not necessarily more productive. Workers should not only be required to take breaks they should be encouraged to do so (Tucker, 2003). Studies have shown that injury rates increase just prior to a meal break and at the end of a shift (Tucker, 2003). In addition to the physical benefits of breaks there are also social and emotional benefits.

Give consideration to open-plan offices and work spaces

Open-plan work spaces, simply by their nature, are noisier than individual offices.

Telephones, the tapping of keypads, the buzz of incoming messages on smartphones and smartphones, the sound of photocopiers and printers as well as discussions between neighbours are all potential distractions for dyslexic workers. Even when not part of the conversation, it is difficult to avoid listening to the conversation when two people are chatting within close proximity. There is also a great deal more movement in open-plan offices which can be a distraction for employees, e.g., people walking to the printer, photocopier and so on.

Open-plan spaces with partitions may create an environment that is more conducive to work productivity but for the dyslexic but this may not be the case. Fitzgibbon and O'Connor (2002) make reference to "prairie dogging" (Prairie dogging, n.d.) a term defined for open-plan offices as "the practice of looking over the top of one's partition in order to discover the source of or reason for a commotion; [after the actions of a prairie dog which stands on its hind legs to get a better view of something]". Workers concentrating on a task may find it distracting to have a fellow worker peering over the partition. For some workers, and particularly a dyslexic, it could mean recommencing the task rather than picking up at the time of the distraction (Fitzgibbon & O'Connor, 2002).

There is a dearth of research on dyslexics and open-plan workplaces. There is, however, anecdotal evidence. Fitzgibbon and O'Connor (2002, p. 88) report that "Over the last decade, reports from our clients, concerning the disruptive effect of having to complete tasks in open-plan workspaces has consistently been the most common complaint that we have heard from them." Employers who are aware that open-plan offices may impact negatively on adults with dyslexia are in a better position to make adjustments to the workspace to better suit them.

Possible solutions to open-plan workplaces

Consider moving the employee to a quieter space within the open-plan space. This could be a corner at a quieter end of the office. Perhaps a space away from the photocopier, printer, water cooler, storage cupboard or any space that staff visit regularly. Consider placing screens around the desk which potentially could create an office. Soundproof barriers in the form of screens can be used to reduce both visual distractions and noise levels. Noise-cancelling or noise-reduction headphones could also be used.

Work organisation

Dyslexics can have difficulties with organisational skills associated with office work. A busy office requires detailed planning and organisation. Help workers to develop strategies for organising tasks including diaries, calendars, action lists, and systems for recording tasks. Dyslexics tend to lose their place. This initial work of setting up the workspace may be time consuming but it is a one-off. Once systems are in place the worker will have a feeling of control and an overall improvement in efficiency and satisfaction.

LAYING THE FOUNDATION FOR WORKPLACE SUPPORT

Reid, Came and Price (2008) acknowledge that the workplace has yet to fully, or even partially, develop an awareness of, and arrange workplace support, for adults with dyslexia. Employers who lack awareness—and it could be argued in New Zealand that this applies to the majority of the workforce—are not in a position to cater for the needs of dyslexics.

Reid, Came and Price (2008) make the case that all employers need to:

- be aware of the nature of dyslexia
- understand how dyslexia can affect the employer in the workplace
- understand the workers' strengths
- help to dispel the myths associated with dyslexia.

WORKPLACE SUPPORT

What type of support should employers provide workers with dyslexia? This will depend upon the requirements of the job. The zoo worker who has responsibility for feeding animals may not require extra time to complete tasks but having a diagram or mind map that outlines feeding time, type of food and amount will help. The mechanic may not require administration support or a proofreader but may need diagrams and mind maps. Careful and sensitive management by employers is required.

Examples of support:

- making available technology, e.g., voice recognition, read back scanners, voice recorders, reading pens, personal organisers, dictaphone and so on
- providing access to portable technology such as digital tablets, netbooks, eReaders
- providing a GPS for workers who travel, e.g., travelling salespeople, courier drivers
- using visual strategies such as mind or concept mapping to illustrate daily tasks, workplace layout and so on
- working in pairs
- working in teams
- allowing extra time to complete tasks
- providing administrative support and/or proof-reader
- typing rather than handwriting instructions
- helping organise workload
- organising workspace
- providing a quiet space when tasks require long periods of concentration
- keeping written instructions and emails brief

DYSLEXIC WORKERS

Some key questions to consider include: Do workers with dyslexia want their dyslexia brought to everyone's attention? Do dyslexics want to be singled out?

Diana Bartlett, psychologist, and Sylvia Moody, clinical psychologist, suggest three broad areas dyslexic employees will need to tackle:

1. Learn strategies and ways of enhancing efficiency at work.
2. Learn, if necessary, key literacy skills for the position, e.g., recording incidents; writing and reading job cards; phone messages; reading instructions.
3. Tackle the negative attitudes, low expectations and lack of self-confidence that have built up over the years because of their dyslexia (Bartlett & Moody, 2010, p. 64).

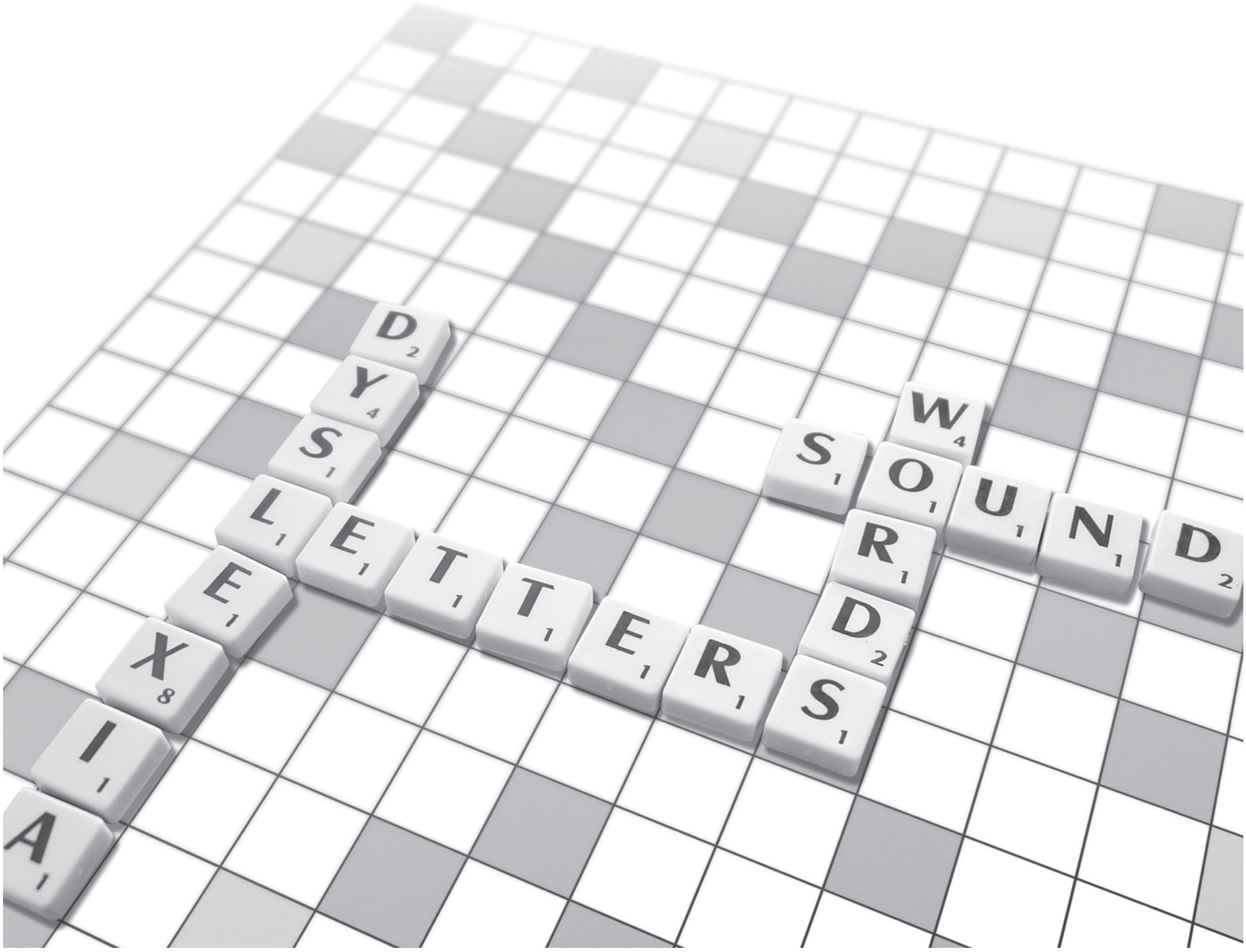
We add a fourth area for dyslexic workers. If in doubt, ask questions. If a worker does not ask, and the mistake continues, it could lead to even greater concerns by the employer. Ryan, a first-year university student, shares a recent experience while working for an industrial cleaner. He was asked to press a particular button on a machine. His line manager asked him to "Push the button that says xx." Ryan, fully aware that pushing the correct button was very important, asked his line manager to be more specific. "Where is xx?" The reply, "It's on the bottom row." There was a line of bottom row buttons. Ryan asked for further clarification before he pressed a button. He also explained that his line manager knew he was dyslexic and that he felt safe to ask questions. His manager was sympathetic and understanding.

SUMMARY

The workplace is a challenging environment for all workers, and particularly challenging for the worker who is dyslexic. On the one hand there may be employers, managers and line managers who lack an understanding of dyslexia. On the other hand there may be dyslexic workers who either do not want to disclose they are dyslexic or are unaware they are dyslexic. If employees do disclose their dyslexia they may be in a difficult and vulnerable position. The good news is that there is a great deal the employer can do to create a dyslexia friendly workplace, e.g., from raising awareness to supplying voice recorders. Education plays a key role in creating a dyslexic-friendly workplace. This will take time but the suggestions in this chapter will help employers speed the process.

CHAPTER 9

Conclusion



CONCLUSION

WHAT IS DYSLEXIA?

Dyslexia is a term used to describe a student who has had persistent difficulties with reading and writing, especially with decoding and spelling words by sound, yet has no health problems, comes from a good home, has had high-quality classroom instruction in the past and has good oral language abilities in English. The essential feature of dyslexia is that it is unexpected, should not happen, yet it does happen. In contrast, many other students have reading difficulties but for reasons that we can understand such as they came from disadvantaged home backgrounds, they were not taught properly, or they had difficulties with vision or hearing, or behaviour or emotional difficulties that interfered with learning. These are the mixed problems poor readers, by far the most common. Many of them will respond dramatically if they are taught effectively. A final group of struggling readers can decode and spell quite well but who do not understand what they read. Their difficulties are more in the area of language. They have fallen behind in vocabulary and general knowledge because they do not read much. The solution for them is to read more. In this book, we have tried to explain the differences between these kinds of reading difficulty but with a focus on tutoring those with dyslexia. As a result, the book is more about decoding and spelling than it is about comprehension, writing and vocabulary, though we do give some attention to these areas because often we find that students with dyslexia have fallen behind in these skills as well.

HOW CAN A TUTOR HELP?

You, as a tutor, can make an enormous difference to the life of a dyslexic adult. It is critical that an adult with dyslexia has someone who is there for them, who understands what it is like for them and who is willing to adapt their teaching to help them.

There are two approaches to tutoring students with dyslexia. One is to work on the areas of difficulty, i.e., to improve their decoding and spelling. This means finding a block of time to work with a small group, or one-to-one. The other is to make accommodations or adjustments in tutoring the whole class such as hands-on activities or pairing up the poor reader with a mentor who can help them. Another accommodation is to give alternative assignments that do not involve as much reading and writing. For example, rather than assign an essay, put students into teams to present the topic as a PowerPoint, with a mix of words, pictures, art and music. Actually, this is a good idea for any classroom, but it is of special help if the class has

struggling readers. Giving dyslexic students more time to read set text and to write would be considerable help to them.

As a tutor, there are also other in-class things that you can do. Even small changes in teaching can be helpful. Asking students in confidence what they would like you to explain a bit more will help. This is a minitutorial that might take just 60 seconds but will help the dyslexic student immensely. There are also classroom opportunities when designing group activities to focus more on spelling or structuring of ideas, e.g., how to break words into their sounds, syllables or morphemes, will all help. Activities like matching cards where the technical word is on one card and the meaning is on another, or snap where you say a word slowly and students put a button on the word if it is on their card reinforce strategies that have been taught. The winner is the one who covers all the words on their card. Students can work in pairs to use the dictionary to find the meanings of words, or to find out what languages the words came from. If you pair up a good reader with a not so good reader then they can work well together on these tasks.

DON'T MAKE THINGS WORSE THAN THEY ARE

One message from the literature is that students with reading difficulties have had a hard time in the past and are very antireading. They also may still get a rough time as an adult if they admit their difficulties. This is why the tutor–student relationship is more like doctor–patient than mate–to–mate. A good suggestion is not to advertise the difficulty. If you want to get help for the student, seek it in confidence. There is a stigma out there, a tendency to write someone off if they have literacy difficulties, rather than teach them properly. When you are teaching, keep it in mind that they might have trouble reading a long word like *sporophyte* and discuss how to break it down into syllables, and that it is a Greek word, and so on—tell the whole class because many of them might wonder about meaning and pronunciation as well. Do not say, "I'll explain this to you all because I know Ian will appreciate the help." Just do not embarrass dyslexics by singling them out or mentioning anything in front of a group. Instead, ask them what they want, listen to their needs, and do everything quietly without letting the whole world know. When marking their essays, ask them if they want the red pen treatment through spelling mistakes or do they want you to focus just on their arguments and ideas. To be honest, you can mark out spelling errors until you are blue in the face but research shows that it does not help, and it can be very discouraging.

SHARE IDEAS AND USE REAL-WORLD MATERIAL

Try to share your ideas with other tutors. What do they do? Find out more and adapt the ideas to your own situation. There are websites and resources listed in different parts of the book. They are a source of ideas. You will also find teaching ideas in newspapers and magazines and on the Internet that are relevant to topics in your course. Put these

short articles up on the whiteboard screen or on transparencies and talk about the ideas and how they are structured. Use the structural diagrams we suggested in this book to help the class to summarise the article and write their own summaries. This will help with writing. Also talk about words in the articles. It is amazing how many abstruse words crop up in the newspaper. Use the word analysis strategies we have suggested in the book to sound out the words, break them into meaningful parts or break them into syllables to make them easier to pronounce. All these things will keep your students reading and writing. For students with dyslexia it is all about practice, and this will give them the practice they need.

CONCLUDING COMMENT

Dyslexia can be forever but it does not have to be. Many successful people in our society have dyslexia. It can range from annoying to frustrating. Tutors in the tertiary settings can be an agent for change by finding out about dyslexia and adjusting their teaching. In this book, we have tried to inform and explain, but also to suggest practical ideas for the classroom situation. Keep in mind that we all have reading and writing difficulties sometimes. If we had to give a dollar for every letter we receive in the post these days that is not a bill, we would hardly spend 10 dollars a year. In recent times, the amount of letter-writing and hard copy mail has fallen greatly and this has caused many post offices to close but there is a huge counter to this in the amount of Internet correspondence by email, the enormous world of the Internet, the increasing use of digital tablets and similar technology and the cell phone correspondence by texting. Reading and writing is probably more important and commonplace than it has ever been, and is essential for everyday living and career success. Finally, the person with dyslexia is a person with huge potential to succeed and our job as tutors is to make literacy part of the success they will definitely achieve. This book has been about how to help dyslexic adults achieve their dreams.

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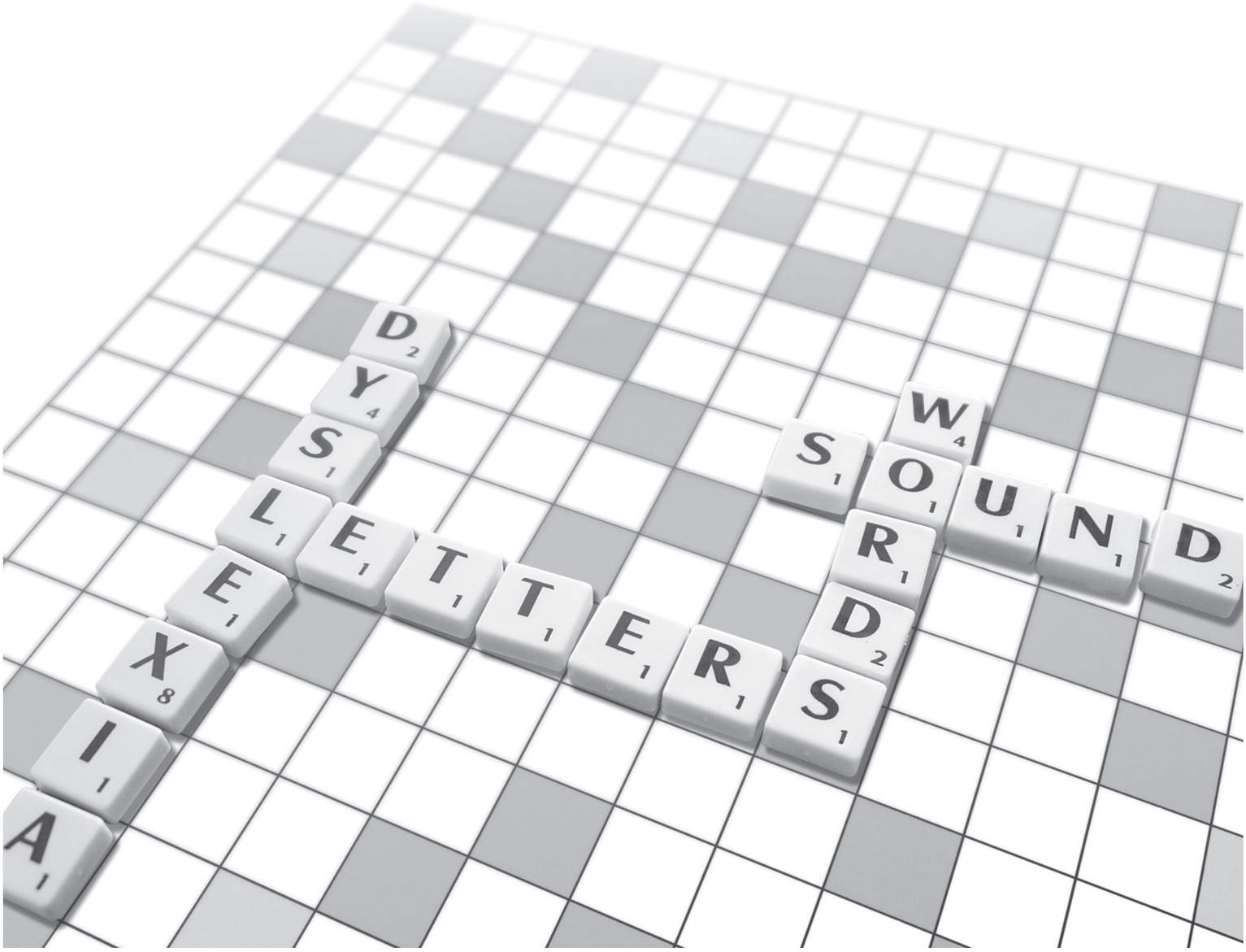

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WEB RESOURCES

British Dyslexia Association: http://www.bdadyslexia.org.uk/

International Dyslexia Association: http://www.interdys.org/

Learning Disabilities Online: http://www.ldonline.org/

The Yale Center for Dyslexia and Disability: http://dyslexia.yale.edu/About_ShaywitzBios.html

BBC Skillswise. English and Maths for adults. This website has excellent videos on the reading, writing and maths skills used in a range of jobs such as armed forces, cleaning, construction, hair, beauty, and fashion, retail etc. http://www.bbc.co.uk

TERTIARY EDUCATION COMMISSION ON-LINE RESOURCES

Learning Progressions for Adult Literacy (Tertiary Education Commission, 2008) http://literacyandnumeracyforadults.com/The-Learning-Progressions

Learning progressions for adult literacy and numeracy: Background information (Tertiary Education Commission, 2008) http://literacyandnumeracyforadults.com/The-Learning-Progressions/Background-Information

Starting points: Supporting the learning progressions for adult literacy (Tertiary Education Commission, 2008)
http://literacyandnumeracyforadults.com/The-Learning-Progressions/Starting-Points

Starting points: Assessment guide (Tertiary Education Commission, 2010)
http://literacyandnumeracyforadults.com/The-Learning-Progressions/Starting-Points

NATIONAL CENTRE OF LITERACY AND NUMERACY FOR ADULTS

Video clips showing how to do diagnostic assessments.
http://literacyandnumeracyforadults.com/

Video clips that accompany *Dyslexia Decoded*
http://literacyandnumeracyforadults.com/

- Defining Dyslexia
- Diagnosing Dyslexia
- Tailoring the Instruction
- A Strategic Approach
- Coping with Dyslexia
- Living with Dyslexia
- Multiple Perspectives