

## **WHY CAN SOME CHILDREN NOT READ?**

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### **Abstract**

Lay people usually consider reading as a natural or instinctive process; once people can speak, then they can read. However, this assumption is not true. There are many schoolchildren struggling to learn to read. Those who have difficulties in reading are usually diagnosed with a problem, e.g. dyslexia. This literature review will examine the reason why some schoolchildren have problems in reading. The article will start by introducing the historical background and the definition of dyslexia, and its causes and characteristics. Finally, the possible treatment and the resources for dyslexia will be discussed.

**Keywords:** *dyslexia, reading disability, phonemic awareness.*

### **Introduction**

People usually consider reading as a natural or instinctive process; once people can speak, then they can read. However, this assumption is not true. There are many schoolchildren struggling to learn to read. Failure in learning to read will result in low self-esteem and may lead to other negative effects, such as being unable to cope with other subjects and low motivation to go to school (Macmillan 1997). On the other hand, people who succeed in learning to read will have self-confidence and emotional and behavioural advantages. Having reading problems will also link to crime. A longitudinal study showed that ‘reading disability at age 9 in boys was predictive of juvenile delinquency at age 15’ (Macmillan 1997, p.13). A survey in the United States demonstrated that more than 85% of juvenile criminals could not read; a survey in England showed that 52% of prisoners could only read at the level of a 9-year-old or below (Macmillan 1997). Therefore, having the ability to read is crucial

for schoolchildren. Those who have difficulties in reading are usually considered as dyslexia. Although dyslexia has many symptoms, such as having problems in alphabetic, numeric and musical notation, having problems in reading is usually considered as the main characteristic. The main cause for reading disability is usually considered as lacking phonemic awareness. This paper, then will discuss the causes and characteristics of dyslexia, the possible treatment, and the resources for dyslexia.

## **I. The historical background**

The word *Dyslexia* is combined by a Latin word, *dys*, which means difficult, and a Greek word, *lexia*, which means words (Shaywitz 2003). Dyslexia was first introduced in the late nineteenth century in a medical Journal, the *British Medical Journal*. In the journal, Dr. W. Pringle Morgan described a brilliant 14-year-old boy, who was smart and good at doing everything except for reading. The boy had no visual problem, but he just could not recognize printed or written words. He said that those printed or written words ‘have no meanings to him’ (Shaywitz 2003, p.14). Many similar cases were also reported from worldwide, like Europe, South Africa, and the United States, after Morgan’s findings. In 1987, three centres were established to study reading disability. Through a longitudinal study, it showed that ‘dyslexia is a chronic condition and that it does not represent a temporary lag in reading development’ (Shaywitz 2003, p.33). It means that dyslexia will not be outgrown; poor readers will remain poor readers unless they receive special instruction. Thus, it is important to identify whether a child has reading disability as early as possible and give him or her treatment.

## **II. The definitions**

Currently, there are various definitions of dyslexia. According to the British Dyslexia Association (Peer and Reid 2003, p.13), a descriptive definition for dyslexia is:

a combination of abilities and difficulties which affect the learning process in one or more of reading, spelling and writing. Accompanying weakness may be identified in areas of speed of processing, short-term memory, sequencing, auditory and/or visual perception, spoken language and motor skills. It is particularly related to mastering and using written language, which may include alphabetic, numeric and musical notation.

A working definition of dyslexia proposed by The British Psychological Society in 1999 is: 'Dyslexia is evident when accurate and fluent word reading and/or spelling develops very incompletely or with great difficulty' (Peer and Reid 2003, p.18).

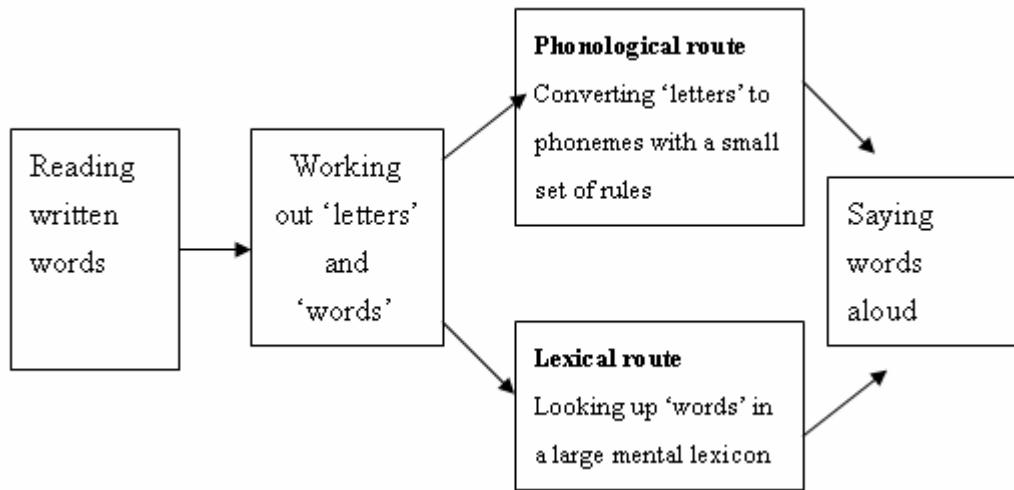
Some people may confuse dyslexia with backward readers. However, the two terms refer to two different things. Backward readers have an IQ that is below average and also have poor reading skills; dyslexic people have problems in reading, but this does not necessarily mean that their IQ is low (Badian 1994). Boys tend to have dyslexia more than girls. The ratio of boys to girls who have dyslexia is 5 or 6:1 in remedial settings; 2 or 3:1 in schools (Macmillan 1997).

Definitions are important because they provide observable criteria, and can help in identification and support. The definitions can also be a reference for educational or research institutes to set up policy and practice. More importantly, a definition should be informative but not a generic label (Peer & Reid 2003).

### **III. The characteristics**

Dyslexia has many descriptive characteristics, such as having problems in reading, spelling, writing, short-term and long-term memory, coordination, organisation, information processing, phonological difficulties, visual difficulties and discrepancies (Peer and Reid 2003). Among all, the most observable characteristics are reading and spelling problems. The main reason that causes the difficulties in reading and spelling is lack of phonemic awareness. When dyslexic people read a text, they are unable to decode the alphabetic script into meaningful messages. For normal people, the standard model for decoding written language can be illustrated as below (Cook 2004,

p.17).



When reading a text, people decipher the code through either the phonological or lexical route. For example, when seeing the word 'tip', people use the phonological route to convert the letters to three phonemes /t/ /ɪ/ /P/, and thus can read the word aloud. By doing so, people decode the word directly into sounds by using phonological knowledge without connecting to its meaning. Alternatively, people use lexical routes to sound a word or a symbol out. When reading the symbol <%>, people need to consult their mental lexicon to get its meaning and pronunciation. It is through this route that people can read the symbol out as 'percent', and also know it means 'a proportion out of a hundred'. In all, normal people use either the phonological route to convert letters to sound one by one, or use the lexical route to look up words in their mental lexicon (Cook 2004).

People who have dyslexia simply cannot decode a text as normal people do. When reading a text, the lack of phonologic awareness blocks the decoding. If people cannot convert the printed characters into phonetic code, then those letters will become meaningless symbols. The reading process of dyslexic people can be illustrated as below (Shaywitz 2003, p.54):

Dyslexic people have a phonologic weakness, and thus they are not able to

identify words by either phonologic routes or lexical routes. As a result, they will not be able to get the meanings of written words. The side effects of lacking phonemic awareness will lead to problems in naming and verbal memory since both of the tasks need to retrieve phonemic information from the memory (Macmillan 1997). When people have naming problems, they have difficulties in calling out the name of a subject. For example, a dyslexic boy may call a cup, a pub. He definitely has no problems about the function of a cup but just got confused about the sounds. For people who have verbal memory problem, they have difficulties in remembering words because something is wrong with both their short-term and long-term memory.

The importance of phonemic awareness has been proved by many researchers. It can predict whether a child will become a good reader or not. In the 1980s, British researchers Lynette Bradley and Peter Bryant found that ‘a preschooler’s phonological aptitude predicts his reading three years later’ (Macmillan 1997, p. 55). In the 1990s, Shaywitz and other research groups found that ‘phonological difficulties are the most significant and consistent markers of dyslexia in childhood’ (2003, p.55). Thus, it is important for readers to have phonemic awareness for reading and spelling. The following will discuss the physical aspects about why dyslexic people are unable to decode the words into meanings.

#### **IV. The causes**

People once thought that dyslexic people had problems with their eyes, so they cannot read correctly. Some people also thought that dyslexics have low IQ, and thus they cannot learn as well as normal people do. However, those are false assumptions. By the development of technology, people now are able to examine the brain of dyslexic people. Normal readers use mostly the back of the left side of the brain when reading; whereas, dyslexic readers tend to have overactive frontal areas but not the back of the brain (Shaywitz 2003). Because of the differences in the brain activity,

dyslexic people have ‘initial trouble analyzing words and transforming letters into sounds’ (Shaywitz 2003, p. 81). The study then ensures that the main problem in dyslexia is phonologic: lacking the ability to decode text into sounds. However, it does not mean that dyslexic people cannot become skilled readers. The study shows that dyslexic readers can become accurate and fluent readers after early reading intervention. After effective reading intervention, dyslexic people will develop left-side reading systems in both the front and back part of the brain. The development of both the front and back part of the brain will make dyslexic readers have rapid and automatic reading ability. Therefore, it is optimistic to say that dyslexic people can become effective readers under early careful reading instruction.

## **V. The diagnosis**

Since dyslexia can be adjusted by early intervention, it is important for educators and parents to diagnose whether their children have dyslexia or not. There are many standard screening tests for diagnosing dyslexia. But there are some observable symptoms of dyslexia that parents and teachers can diagnose in early time: having difficulty in reading single words, function words (the, for, an), and nonsense or unfamiliar words; struggle to or unable to read text out correctly; slow reading and poor spelling (Shaywitz 2003).

The best way to test if a child has phonemic awareness is to ask him or her to read nonsense words. Since children have never seen those nonsense words before, it will then depend on their phonemic ability to read the words out. Another way to test if a child has phonemic ability is to ask him or her to delete a certain phoneme in a word. For example, the teacher can ask the student, ‘Can you say black without the *b*?’ or ‘Can you say flame without the *f*?’ (See Appendix I for more activities). For most children, they have no difficulties in doing this activity, but this task is hard for dyslexic people.

Many dyslexic children also have problems in naming objects. They clearly know the function of an object, but have difficulty saying the name of the object. A girl, Amy, was given a picture of a volcano and asked to say the name of it. Amy looked at the picture and said, ‘*tornado*’. Later on, the teacher asked Amy to explain what a volcano is orally. Amy had no problems in explaining the meaning of the word; she just confused the sounds of the two words (volcano and tornado).

Activities such as asking students to sort out words that have the same first sound, or asking them to count how many sounds in a word, or to blend separate sounds into one word can also help to diagnose dyslexia. If parents or teachers find those who have symptoms of dyslexia, they should not hesitate in giving them the necessary help. As mentioned earlier, dyslexia will not be outgrown with age, so proper intervention should be given to help children overcome it.

## **VI. The treatment**

Since the lack of phonemic awareness is the core reason for dyslexia, the best treatment is to help dyslexic people develop the knowledge of letter-sound correspondence step by step. Many researchers have tried to explain the process of learning reading and writing. Among all, Firth’s thesis is found highly useful by other researchers and scholars (Cook 2004). She proposed that there are three developmental phases (Cook 2004, p.135):

- *Learning logographic skills*, that is to say, learning to recognize word patterns as wholes, such as ‘zoo’.
- *Learning alphabetic skills* involving matching letters with sounds, say the correspondences between <z> and /z/ or <oo> and /u:/
- *Learning orthographic skills* involving ‘instant analysis of words into orthographic units’, that is, acquiring letter combinations that are not linked to phonology, such as <ck> as a spelling for a syllable coda ‘back’ but not for a syllable onset ‘cab’.

Most children do not have problems in stage one, which means that most of them can acquire logographic skills. However, some people cannot progress to stage two or

three because they have no idea about letter-sound correspondence. For some others, they are unable to ‘grasp the orthographic principle that combinations of letters have properties of their own unlinked to sound’ (Cook 2004, p.136). There are several ways that can help children acquire the three skills for reading competently (Macmillan 1997, pp.25-31):

- (a)developing an understanding of print concepts
- (b)providing direct instruction in awareness of speech sounds
- (c)providing direct teaching of the alphabetic code
- (d)helping children to blend phonemes to form words
- (e)developing knowledge of spelling patterns
- (f) developing reading fluency, automatic decoding.

The first way is to help children understand that printed symbols are corresponding to words and sentences. It coincides with Firth’s first developmental step, which means that children are expected to recognize words as a whole before they learn other reading skills. In this stage, educators should help children learn the correct direction in which print is read. Pointing to words while reading helps children understand that print represents spoken language (Macmillan 1997).

Ways (b), (c), and (d) are aiming to help children build alphabetic skills. In this stage, it is important to help children know the relation between letter and sound. Children at age 6-7 are able to understand spoken words, but they do not necessarily understand that words are combined with separate sounds (Macmillan 1997). Therefore, it is crucial to help children become aware of the sounds in English. Learning songs and nursery rhymes before attending primary school is proved to have significant effects to help kids become better readers and spellers (Lundberg, Frost, & Peterson 1988). For helping children to have more awareness about the segmentation and spelling of words, one technique is found to be very effective. That is to ask children to ‘make’ words by using manipulative materials (letters on newspapers, cards, magnetic letters, etc.) Students will have more ideas about the phonemes of

English by doing this activity than simply listening to the teacher explain the phonological rules (Macmillan 1997).

After adopting logographic skills and alphabetic skills, children are expected to learn orthographic skills. In order to become a fluent reader, they need to have the concept that ‘letters have patterns and arrangements of their own (Cook 2004, p. 122).’ There are many spelling rules and systems for English, and those rules and systems are said to be designed firstly for native speakers. ‘Orthography is a system designed for readers who know the language, who understand sentences’, said by Chomsky and Halle (1968, p. 49). Therefore, native children are expected to have this innate ability. Some children, however, do not acquire this alphabetic principle, and become failures in reading. Those children need careful instruction to help them learn the spelling patterns of English. In Pollock and Waller’s book (1994), *Day-To-Day Dyslexia In the Classroom*, they suggest many spelling guides for teaching spelling patterns. It starts with teaching students alphabetically by using their names, then using minimal pairs (ex. mat and map, tap and tab) to teach phonically-regular words. Then, move on to teach spelling conventions such as consonant diagraphs (ch, sh, th, wh), initial blends (bl, cl, gl, fr, gr, spl), and final blends (nt, st, mp, nk). The guides also cover the teaching of silent e (hate, Pate), simple vowel diagraphs (-ai and –ay, ee and ea), doubling consonant (planner, better), -ed endings, -y to –ies endings, syllable division, prefixes and suffixes.

After children acquire logographic, alphabetic, and orthographic skills, they then can mix those skills and apply them when reading. For helping children to become efficient readers, reading practice is needed. Teachers should provide students with books at appropriate levels. It is suggested that children’s first books should contain ‘liberally-repeated spelling patterns, sequenced in difficulty, and that the children themselves are sufficiently equipped to decode the first words they encounter’

(Macmillan 1997, p.31).

## VII. The resources

Since dyslexic people can make progress in reading by careful intervention, there are many resources for educators and parents to help dyslexics. There are many dyslexia-friendly schools that dyslexic children can go to. To put dyslexic children in a traditional learning environment may not give them the necessary help, and may cause them to feel frustrated and lose their self-esteem. It is recommended not to keep a child back a year in school even if he or she cannot catch up with others. Extra assistance by individual tutorial help or summer programs is always better than to retain the students one year. Research data shows that students who were not retained performed better academically and emotionally; those who stay back one year do not make significant progress in their studies, but have negative feelings about themselves (Shaywitz 2003).

Reading practice should not only be done at school, but parents should help children practice at home. Shaywitz (2003) suggested in her book that parents should spend fifteen or twenty minutes a day with their children to help them do reinforcement. She points out that school is the place to learn new things, and home is for practice and reinforcement.

There are many books that can help children gain phonemic awareness. Books such as *Cat in the Hat* by Dr. Seuss; poetry like *Soap Soup and Other Verses* by Kuskin, picture books with rhymes like *Marth Blah Blah* by Meddaugh. The books for children should be selected carefully. Children are supposed to read nineteen out of twenty words correctly on one page; if not, then the book is too hard for them to read alone.

Many websites also have reading programs that can help children with their reading. By searching *dyslexia* in Google, one can find many websites of dyslexia

institutes and research centres worldwide. Some websites, such as *The Optimize Intervention Program* [www.scottforesman.com](http://www.scottforesman.com), [www.sparktop.org](http://www.sparktop.org), are especially designed for dyslexics. From some websites, one can download useful software to assist and practice reading. On *WordSmith* [www.textHELP.com](http://www.textHELP.com), one can download software that can read out the text on the computer (Shaywitz 2003). The talking word-processors will read out the words and sentences that the users typed, and it will help reassure dyslexics. There are also interactive CDs that can help dyslexics with their phonic reading and spelling, such as Wordshark 3, Starspell 2001, and Gamz Playser (Peer & Reid 2003).

There is a website which is built by a 17-year-old dyslexic boy (I am dyslexic, [www.iamdyslexic.com](http://www.iamdyslexic.com)), where he has his autobiography and writing samples, which shows his awkward handwriting and spelling (see Appendix II). On this website, he recommends books, lessons and products that helped him overcome dyslexia. There are also many success stories about kids like him on this site. Moreover, the website offers games and tips for dyslexics and teachers, and it has message boards where people can discuss and know more about dyslexia. It is an interesting and useful site for dyslexics.

Resources for dyslexia are available and obtainable in various places. Attending a dyslexia-friendly school will do much to help their kids. Besides, using suitable books, softwares, and CDs at home or at school help children learn to read better. Parents and teachers should not hesitate to seek help if they find their children need special care. Dyslexia can be overcome with early intervention, and thus diagnosing earlier and assisting dyslexics with appropriate resources is crucial and cannot be neglected.

## **Conclusion**

Learning to speak is a spontaneous process. However, learning to read is not because reading involves complex skills such as recognizing the symbols, decoding

them, and sounding them out. The process requires phonemic awareness and also relates to short-term and long-term memory. Some people are quite successful in reading, but some are unable to read. Those schoolchildren who are failures in reading are often considered as lazy students or as having mental problems. Some schools do not offer special help for dyslexics but just keep them back for one year. By doing so, however, those kids will not have any improvement but will only feel frustrated about themselves. Some parents do not want their kids to attend dyslexia-friendly schools because they do not want their children to be labeled.

However, dyslexics should be diagnosed earlier and should be given the necessary help. Though dyslexics have a weakness in their language area in the brain (overactive in their front part of the left brain instead of using the back part as normal people do), studies show that after earlier intervention, both their front and back part of the left brain will develop, and thus they can become fluent and accurate readers. Informal diagnosis can be done at home by some simple activities, such as asking the child to delete a certain sound in a word; formal diagnosis can be done at a hospital by examining the brain. Teachers and parents should try to help dyslexic children establish the essential skills for reading, such as the logographic, alphabetic, and orthographic skills. It is said that if parents can read with their children for fifteen to twenty minutes per night, then it will do much to help with children's reading ability. There are many existing resources for dyslexics, such as research institutes, books, CDs, and websites that can help to overcome dyslexia.

Dyslexia is not an infectious disease, but it will not be outgrown, either. People need not panic when they know their children or friends have dyslexia, but should not neglect it. Knowing the causes and characteristics of dyslexia will help people learn how to assist dyslexics properly. By giving them appropriate help and encouraging them with positive attitude, it is optimistic to say that every schoolchild can learn the

joy of reading.

## Appendix I

### Simple Activities for Diagnosing Dyslexia

1. To read out nonsense words

e.g. kebt      bense      phodo

2. To delete a phoneme in a word

e.g. ‘Can you say black without the *b*?’

‘Can you say flame without the *l*?’

3. To sort out words that have the same first sound

fun      some      photo      fish      can      sort      kind      school

4. To count the sounds in a word

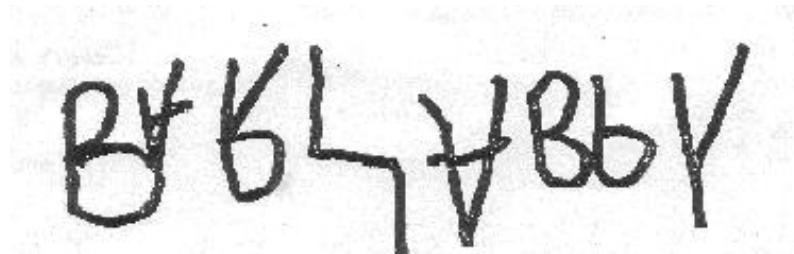
banana      Christmas      cat      tree

5. To blend separate sounds into one word

/t/ /o/ /n/ /l/      /s/ /o/ /l/ /d/

## Appendix II

The site maker of *I am dyslexic* ([www.iamdyslexic.com](http://www.iamdyslexic.com)), Barnaby Blackburn’s handwriting.



At age 4

9/11/93 List	Test
bad	cze x
had	ize x
sad	tze x
bag	cZh x
wag	xZh x
jam	RZn x
man	nZO x
ron	SZO x
map	nZq x
tap	uzq x
✓	0 10
like in the back	
set the table	

At age 9.

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