

A Resource Guide About Dyslexia for People in Hawai'i

Second Edition, Revised and Expanded

by

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Welcome

If you or someone you know has a difficult time with reading, writing, or spelling, this person may well be dyslexic. Dyslexia, sometimes called a specific learning disability (SLD), may pose a major life challenge. One dyslexic child described school as “trying to run through mud. You struggle so hard, but you never seem to get anywhere.” Without proper teaching, dyslexic learners face a life-long struggle with language. People with dyslexia are often creative thinkers who excel at multidimensional, “big picture” thinking. Yet, the talents that often accompany dyslexia may be masked by the demands of learning to read, write, and spell.

There are services and resources available in Hawai'i to help meet these demands. Recent breakthroughs in scientific research help educators understand how dyslexic brains work. Proven methods of teaching are successful in opening up the world of the written word. Legal accommodations and technological innovations provide needed support.

A network of knowledgeable and committed people and organizations in Hawai'i can help dyslexic learners and their families meet their needs. This *Resource Guide* is written to introduce dyslexic learners, their parents, teachers, and other relevant professionals to our community's resources and to help them take action to meet the needs of the dyslexic persons in their lives. Please visit our website at HI.DyslexiaIDA.org/ for the latest information on workshops, conferences, teacher training, parent support groups, and other events and resources in Hawai'i.

Facing your fears

Readers of this *Resource Guide* may approach the subject with trepidation. For the dyslexic learner, the document may be very hard to read. If you are having trouble, go to the HIDA website and use the *browsealoud®* function to hear this document read aloud.

For the parents of a dyslexic child, concern for your child's future is probably a daily companion. Rick Lavoie, a long-time special education teacher and administrator, reports that parents are often more traumatized by the news that their child is dyslexic than they are by reports of other, far more

1 Katherine Kerston, “The Start of a New School Year,” *What Not-So-Famous People with Dyslexia Remember* in *Bright Solutions for Dyslexia*, Inc. (nd) <http://www.dys-add.com/backiss.html#notfamous> (accessed 10/3/17).

serious, even life threatening, conditions.² Perhaps because dyslexia is a hidden disability, parents may feel confused that a problem they cannot see threatens their child. Perhaps because dyslexia may be hereditary, concern for a child’s wellbeing could trigger difficult memories of the parents’ own struggles with language.

If you are a teacher, you may be puzzled and frustrated by the challenges of teaching students who, despite your best efforts, just don’t “get it.” If you are a principal or other educator, you may be worried about stretching scarce resources to meet the needs of multiple populations.

Don’t be afraid. Instead, be determined. The world of dyslexia offers significant rewards as well as challenges. This *Resource Guide* provides useful information for everyone in Hawai‘i who is dyslexic, or knows someone who is dyslexic. The knowledge you need in order to take effective action is here.

The second edition of this book: a few words on science, politics, language, and money

The second edition of this *Resource Guide* has been revised, updated, and expanded to reflect recent changes and current debates on several topics related to learning disabilities.

Science: The scientific study of dyslexia crosses numerous fields, is packed with divergent views, and changes over time. This is, overall, a good thing: science would not be doing its work without thorough investigation of competing explanations. The information herein is based on the author’s best efforts to summarize existing scientific research, as well as educational policies and practices, and also to learn from the experiences of qualified educators and from dyslexic individuals and their families.

Politics: In the field of education, as in any field, organizations emerge that accumulate resources and make claims to knowledge. These institutions, agencies, and professions can develop vested interests, leading them to advocate or reject interventions based on what they want to be true, not what we know to be true. This makes it difficult for students, parents and educators to get the information and assistance they need. Do not give up: get help, find allies, arm yourself with the best available information, and keep in mind the life-changing benefits that can come from helping everyone learn to read and write.

Language: Since this is a document about reading, writing, and spelling, it

2 Rick Lavoie made this comment at a HIDA symposium, “On the Waterbed: The Impact of Learning Disabilities,” Kapi‘olani Community College (September 13, 2003).

is important that it be written and spelled correctly. Yet rules of language change over time. In accordance with emergent changes in language use, this text often uses the pronoun *they* for the third person, singular, rather than the more cumbersome *he or she*.

A second relevant language debate concerns the best way to speak of persons with disabilities. Some disability activists and scholars consider it more respectful to employ “person-first” language, that is, to talk about *people with dyslexia* rather than *dyslexic people* in order to avoid reducing individuals to their disabilities. Others find “person-first” language overly apologetic; they reject the idea that disabilities are something negative and question the possibility of actually separating persons from the circumstances of their disability. These are fruitful debates.³ This *Resource Guide* employs both ways of speaking and intends no disrespect. This book insists that dyslexia itself is not a problem; educational systems hostile to dyslexic ways of learning are the problem.

Money: Many of the options discussed in this book cost money. Assessments, private schools, tutors, and technologies may put a financial burden on struggling families. Beware of anyone who promises a “quick fix,” “guaranteed outcome,” or “cure” for learning disabilities. If it sounds too good to be true, it probably is. The only valid intervention for significant learning disabilities lies in the right kind of teaching, delivered by qualified educators in an effective manner.

Acknowledgements

The second edition of this *Resource Guide* builds on the first. For both editions, HIDA is indebted to the Donald C. Brace Foundation for major underwriting of the project and to Margaret Higa, now HIDA’s executive director, for her work on behalf of this publication and all of HIDA’s projects.

For the second edition, we thank HIDA volunteer Heather Morgan for updating local resources; Charles Bering, Rhonda Black, Cindy Carson, Sandy French, Margaret Higa, Andrew Hoffman, Susan Kowen, Donna Sherlock, and Sue Voit for carefully reading and commenting on the manuscript; Katharina Heyer for sharing her expansive knowledge of disability politics; Elizabeth Ishii for steering the important work of HIDA’s Public Awareness Committee; and Cindy Carson for many conversations exploring the exciting world of Orton-Gillingham instruction.

³ See Cara Liebowitz, “I am Disabled: On Identity-First versus People-First Language,” *The Body is Not an Apology* (March 20, 2015) <https://thebodyisnotanapology.com/magazine/i-am-disabled-on-identity-first-versus-people-first-language/> (accessed 1/5/18). My thanks to Katharina Heyer for informed conversations on this and other topics related to disability politics.

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While all these individuals have contributed to the accuracy and utility of this *Resource Guide*, any remaining errors are solely the responsibility of the author.

BIOGRAPHY BOX 1

MEET TWO READERS

In your mind, picture two people sitting down to read a book.

One of them takes a minute to review her prior knowledge on the subject and think about why this subject matters to her. She scans the beginning and end, reads the chapter headings, looks at the pictures, and gets a sense of the task ahead. As she reads, she stays focused on the text, underlines the main ideas, and writes her questions and comments in the margins. (This is not a library book!) She anticipates upcoming topics, re-reads prior passages when the material gets difficult, and uses the larger context to understand unfamiliar ideas. She is able to see how the author has structured the text and to integrate the ideas into her own thoughts. When closing the book, she takes a few minutes to think about what she has read, summarize the ideas to herself, plan her next step (Keep

reading this book? Find a better book? Talk to an expert?) and affirm that she is taking positive steps toward her goal. This person has the needed comprehension skills for the job she wants to do.

The other person has dyslexia. He opens the book to the first page and starts reading, without reflecting on his purpose or his prior knowledge, without a plan or a strategy. While reading he is easily distracted but plows on nonetheless, determined to get this unpleasant job over with. He has no way to distinguish important from unimportant information. He doesn't really expect to understand, so he doesn't actually notice when he becomes confused and he doesn't have any strategies for identifying and dealing with his confusion, such as looking up unfamiliar words, re-reading key passages, underlining important ideas, or noting questions in the margins. The text looms as a morass of intimidating information and he can't find a way to "tame" it by seeing how it is put together. Not surprisingly, he puts the book aside as soon as possible with a sigh of relief but also a feeling of failure. Any new knowledge he has gained seems more like luck than reward for effort, and no clear picture emerges for him about next steps to take.

The first example follows the reading strategies of a skilled reader, while the second draws a picture of a struggling reader. With structured, methodical intervention, the struggling reader can acquire the needed skills. Without that intervention, he is unlikely to find his way. While early intervention in a child's life is always preferable, it is never too late to learn.



To the memory of
Barrett McCandless
who worked tirelessly on behalf of
dyslexic children in Hawai'i.

And in honor of the extraordinary work
of my teachers

Sue Voit
Fellow of the Academy of Orton-Gillingham Practitioners and Educators,
and President of Kumukela Academy of Innovative Learning and

Ron Yoshimoto
Fellow of the Academy of Orton-Gillingham Practitioners and Educators,
and Co-Director of Orton-Gillingham International

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What is dyslexia?

Dyslexia is a common learning difference. It is sometimes called a specific learning disability (SLD). In general, language-based learning disabilities affect about 15–20% of the population to varying degrees, with dyslexia being by far the most common.⁴ Many educators and researchers refer to dyslexia simply as a learning difference, not a disability; dyslexia only becomes a disability because traditional educational systems are usually set up with non-dyslexic learners in mind. Yet, federal policy requires that educators identify dyslexic students as learning disabled (LD) in order to qualify for services, so the language of disability often prevails.

Today, about six and a half million school-age children in the United States receive special education services. This is 13% of the nation’s public school enrollment. About 35% are students identified with a specific learning disability, that is, dyslexia. We know that many struggling readers go unidentified in schools, so these figures undoubtedly underrepresent the actual situation.⁵

The word *dyslexia* comes from two Greek terms: *dys* means difficult or poor, and *lexia* means language. Dyslexia, then, is difficulty with language. Dyslexia is not a disease, nor does it have a cure. It is a way of learning, often a gifted and creative way, which does not respond well to the kind of teaching prevalent in conventional classrooms. Many researchers have found that learners with dyslexia are usually average to above average in intelligence, while other researchers have questioned the association of dyslexia with average to high intelligence, finding dyslexia at all intelligence levels.⁶ While this debate is ongoing, educators widely recognize a population of learners who experience difficulty in reading, spelling, writing, sequencing, remembering, listening, organizing their thoughts, and/or expressing themselves clearly. Teachers often note an unexpected and significant gap between the students’ potential and their actual achievement, a gap that cannot be explained by visual or hearing impairments, emotional/behavioral disorders, or lack of conventional instruction. Parents and teachers unaware of dyslexia’s typical patterns will often say, “He’s so bright. If only he would try harder.” Yet people with dyslexia are neither lazy nor stupid. Given proper instruction, dyslexic learners can flourish.

4 Estimates vary, as this *Resource Guide* explains, because there are different definitions of key terms. This estimate comes from the International Dyslexia Association (IDA), *Frequently Ask Questions*, “How Common are Language-Based Disabilities?” <https://dyslexiaida.org/frequently-asked-questions-2/> (accessed 10/7/17).

5 “Children and Youth with Disabilities,” *The Condition of Education*, Institution of Education Sciences: National Council of Education Statistics (May 2017) https://nces.ed.gov/programs/coe/indicator_cgg.asp (accessed 10/7/17).

6 See Julian G. Elliott and Elena L. Grigorenko, *The Dyslexia Debate* (N.Y.: Cambridge University Press, 2014): 22.

The official definition of dyslexia, adopted by our parent organization, the International Dyslexia Association (IDA) and by the National Institutes of Health in 2002, states:

Dyslexia is a specific learning disability that is neurological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge.⁷

This is the definition of dyslexia that guides current research and educational policy. It has several important components. *Specific learning disability* is the language used by the Hawai'i Department of Education (DOE) to identify, assess, and remediate dyslexic students. *Neurological* means that dyslexia is a characteristic of the brain and central nervous system; it is “hard-wired” into our brains, yet current research suggests that the “wiring” of the brain can itself be changed through structured educational interventions. *Decoding* refers to the ability to put the pieces of a word together in order to read it, while *encoding* means breaking a word into its constitutive pieces in order to spell it. *Phonological component of language* refers to the patterns among sounds and written elements of language. Non-dyslexic learners usually pick up the patterns after modest exposure to their elements. Dyslexic learners, in contrast, do not intuit the patterns in language on their own and must be directly taught how language works. These problems are unexpected in that the person struggling with language often seems to be quite intelligent in other ways, yet is unable to benefit fully from conventional classroom instruction. Dyslexic learners have the cognitive resources needed to learn to read, but in ordinary classrooms, they do not learn well; hence the unexpected lack of academic achievement.⁸ (See Glossary at the end of this guide for more detailed explanations of terms.)

The International Dyslexia Association (IDA) offers a further definition containing similar information in more accessible language:

Dyslexia is a language-based learning disability. Dyslexia refers to a cluster of symptoms, which result in people having difficulties with specific language skills, particularly reading. Students with dyslexia usually experience difficulties with other language skills

⁷ For more information, see the IDA website at <https://dyslexiaida.org/definition-of-dyslexia/> (accessed 9/30/17).

⁸ Suzanne Carreker, “Teaching Reading: Accurate Decoding,” in Judith R. Birsh, ed., *Multisensory Teaching of Basic Language Skills* (Baltimore, MD: Paul H. Brookes Publishing Co, 2011): 211.

such as spelling, writing, and pronouncing words. Dyslexia affects individuals throughout their lives; however, its impact can change at different stages in a person’s life. It is referred to as a learning disability because dyslexia can make it very difficult for a student to succeed academically in the typical instructional environment, and in its more severe forms, will qualify a student for special education, special accommodations, or extra support services.⁹

Dyslexia is the most common learning disability, characterizing about 85% of all learning disabilities (LD).¹⁰ Learning disabilities, in turn, are the most common form of disability, making up about half of all students who qualify for special education. Because dyslexia is a family of traits and occurs on a sliding scale of modest to severe, and because it overlaps with other language difficulties, the exact number of dyslexic or LD individuals is difficult to specify. Consequently, estimates of the percentage of the population with learning disabilities vary from as low as 5% to as high as 20%. The important thing to remember is that nearly all individuals who struggle with language can benefit from systematic, direct, explicit instruction, the sort of teaching that is explained and recommended in this *Resource Guide*.¹¹

The relation of sounds that you hear to symbols that you see is often, prior to effective instruction, incomprehensible to learners with dyslexia. They just don’t “get” representation — the idea that a sound, like the short /ă/ sound in *apple*, is represented by a letter which has a name, pronounced /ā/, and a written form that looks like a circle with a little tail.¹² Rick Lavoie, a special education teacher and consultant at Harvard University, recalled a dyslexic student who, confounded by a written

9 “Dyslexia Basics,” *Just the Facts* (Baltimore, MD: IDA, 2017): 1. <https://dyslexiaida.org/fact-sheets/> (accessed 10/10/17).

10 Christian Nordqvist, “Dyslexia: Symptoms, Treatments and Diagnosis,” *Medical News Today* (April 18, 2017) <https://www.medicalnewstoday.com/articles/186787.php> (accessed 9/30/17).

11 “Dyslexia Basics,” *Just the Facts* (Baltimore, MD: IDA, 2017): 2. <https://dyslexiaida.org/fact-sheets/> (accessed 10/10/17). Some researchers throw up their hands at the difficulty of defining the term *dyslexia*. In *The Dyslexia Debate* (Cambridge, UK: Cambridge University Press, 2014), Julian G. Elliott and Elena L. Grigorenko urge that the term be “consigned to the history books” because the term is imprecise, and it is difficult to do scientifically rigorous research without precise definitions (p. 180). While federal policies use the term, the Department of Education in Hawai‘i does not, preferring *specific learning disabilities*. Although debates among researchers are important for lay persons to appreciate, this *Resource Guide* largely sets them aside to focus instead on the best information and most successful practices available to help struggling readers.

12 The convention of placing slash marks on each side of a letter or letter combination refers to the sound that letter or letter combination makes when said aloud. For vowels, which make more than one sound, a curved line above the letter (a breve) indicates a short sound (such as the /ă/ in *ox*) while a straight line (a macron) indicates a long sound (such as the /ō/ in *bone*).

text, looked up in desperation and cried, “I can’t find the words! I can’t make the book talk.”¹³ To this child, dark squiggles on a white page meant nothing. To the non-dyslexic parent or teacher, for whom the patterns of representation seem obvious, the child’s confusion is itself baffling, often leading to frustration and blaming rather than effective intervention.

Further, dyslexic learners often have difficulty hearing the separate sounds that make up a word; instead, they hear a single blast of sound and cannot differentiate its elements. A person with dyslexia could hear and repeat the word *cat* but have difficulty breaking it down into its three phonemes (sound units): /k/ /ă/ /t/. These are not malfunctions in the person’s eyes or ears, but, as Yale researcher Sally Shaywitz explains, a “glitch” in the brain’s visual and auditory processing of information.¹⁴

A century ago, grammarians thought that the relation between the sound, the spoken name of the letter, and the written letter was universal and natural, but more recent studies indicate that, while speaking is “natural” in the sense that nearly everyone can do it without explicit instruction, relations among sounds and symbols are arbitrary and must be learned. Some people have more trouble learning them than others.

An individual with dyslexia may experience deficits in memory storage, sequencing, and retrieval of information. These problems can include:

- remembering information long enough to repeat, manipulate, or store it (this is called working memory)
- retaining new material long enough to integrate it into previous knowledge
- retrieving a sequence of tasks that includes several steps.

Problems in storing, sequencing, and retrieving information often lead teachers and parents to scold the dyslexic child for “not paying attention.” Parents and teachers may not realize that the linear component of thinking, where one goes step-by-step through a list of items, is often less amenable to a dyslexic way of thinking than are the multidimensional, integrative, higher-order skills that help dyslexics to “think outside the box.”

Readers with dyslexia struggle to decode (read) and encode (spell). Often they work so hard sounding out each word that, by the time they get to the end of the sentence or paragraph, they can’t remember what they have read. They are focusing on each individual word, one word at a time, and they lose the meaning of the whole passage. If they do not know the rules and patterns of English, they often sound out the first syllable of a longer word, then guess at the rest. A few wrong guesses that go

13 Rick Lavoie, “On the Waterbed: The Impact of Learning Disabilities,” Kapi’olani Community College (September 13, 2003).

14 Sally Shaywitz, *Overcoming Dyslexia: A New and Complete Science-Based Program for Reading Problems at Any Level* (NY: Alfred A. Knopf, 2003): 82.

uncorrected obscure the meaning of the passage, and the laboring reader gives up.

Because reading becomes a traumatic, unrewarding chore, people with dyslexia often avoid it. If they don't read, they are not exposed to the range of vocabulary and background information that are routine for peers who are active readers. Deficits in vocabulary and general information grow at an exponential rate, creating a vicious cycle in which lack of reading leads to decreased vocabulary and knowledge which makes reading even harder, leading to more avoidance of reading. So the dyslexic person falls further and further behind their age group. The National Research Council estimates that 25–40% of U.S. school children “do not read well enough, quickly enough, or easily enough to ensure comprehension in their content courses in middle and secondary school.”¹⁵ These children's educational careers and future occupational choices are imperiled.

The psychological consequences of academic failure may scar a person for life, hindering the development of other life skills and the emergence of other talents. Michael Ryan, a psychologist and researcher who is himself dyslexic, has interviewed many learners with dyslexia and writes “from the inside” about how it feels. The dyslexic learner's inability to meet the expectations of others, Ryan finds, produces frustration, anxiety, and shame. When nondyslexic learners succeed at a task, they usually credit their own efforts for the success. When they fail, they urge themselves to try harder next time. In contrast, when dyslexic learners succeed at a task, they tend to attribute their success to “luck.” When they fail, they assume they are stupid. The accumulated burden of school failure can lead to depression, negativity toward oneself and toward life in general, and anger, often directed at those who are trying to help. Relationships within families are often painfully taxed by the stress of the dyslexic family members' problems and perhaps by jealousy and resentment if others perceive the dyslexic person as “getting all the attention.”¹⁶

Learners with dyslexia often feel an added discouragement because their abilities and disabilities fluctuate, leading others to question whether the problems are real. Author Tom McLaughlin write of his struggles with dyslexia: “I have good days and bad. One minute I can be reading the most complicated thing in the world, I feel like I am surfing along on every sentence; the next minute I struggle to read the most simple of picture

15 C.E. Snow, S. Burns, and P. Griffin, eds., “Preventing Reading Difficulties in Young Children,” (Washington, DC: National Research Council, 1998), quoted in Lee Sherman and Betsy Ramsey, *The Reading Glitch* (Lanham, MD: Rowman and Littlefield, 2006): 74.

16 Michael Ryan, “Social and Emotional Problems Related to Dyslexia,” *Just the Facts* (Baltimore, MD: The International Dyslexia Association, 2004) <http://nh.dyslexiaida.org/wp-content/uploads/sites/22/2016/07/Social-and-Emotional.pdf> (accessed 9/26/17).

books to a child.”¹⁷ Parents and teachers who see children fail at academic tasks the students appeared to have mastered earlier often conclude that the students are simply not trying. Yet the students know they are trying, and too often conclude that they cannot learn; so, they ask themselves, what is the point of continuing to try?

We can intervene in the downward spiral by teaching dyslexic learners reliable strategies for reading, writing, and spelling so they can “crack the code.” In place of the negative feedback loop, we can create a cycle of success. The ability to read generally produces a greater willingness to read, which develops vocabulary and general knowledge, thus making reading easier and more pleasurable. Similarly, the ability to spell and write generally produces a greater willingness to try, thus broadening the person’s familiarity and comfort with words and texts. Just as failure leads to more failure, interventions that prompt success can lead to more success.

17 Tom McLaughlin, “A dyslexic author’s writing tips for dyslexic kids,” *The Guardian* (U.S.A. Edition) (January 22, 2015) <https://www.theguardian.com/childrens-books-site/2015/jan/22/a-dyslexic-authors-writing-tips-for-dyslexic-kids> (accessed 12/28/17).

What are the common indicators of dyslexia?

People with dyslexia are not all the same. There are different degrees of dyslexia, ranging from mild to moderate to severe. There is no clear division, no “gap in nature,” between good readers and poor readers; instead, there is “an unbroken continuum.”¹⁸ Some elements of dyslexia will manifest in a given person while others will not. The manifestations of dyslexia may change over time as individuals grow and learn. They may even vary from day to day, confusing dyslexic learners, their teachers, and their families, as tasks that the person could do yesterday seem insurmountable today. The signs of dyslexia should be thought of as a spectrum or set of traits; no single one of them is a decisive indicator of dyslexia, but many of them together strongly suggest a learner with dyslexia. A person may have a few of the difficulties discussed below, but is not considered learning disabled unless enough of these problems are present to significantly interfere with the person’s ability to learn in a typical classroom setting.

The central characteristic is difficulty in processing oral and/or written language.

Difficulty with oral language:

- Delayed language development
- Problems in pronouncing words, retrieving words in speech, and/or expressing ideas clearly
- Difficulty in learning to rhyme
- Difficulty in learning the alphabet or comprehending the relation between sounds and symbols
- Problems perceiving and sequencing sounds within words, including segmenting (breaking words into sounds) and blending (combining sounds to make a whole word)
- Poor listening skills (e.g., difficulty in following oral directions)

Difficulty with reading:

- Difficulty with phonemic awareness activities (e.g., identifying or generating rhyming words; counting sounds or syllables in words; substituting one sound for another in a word)
- Difficulty in sequencing letters or sounds in words or numbers

18 Sally Shaywitz, *Overcoming Dyslexia* (NY: Alfred A. Knopf, 2003): 27–28. Researchers conceptualize reading ability and disability in a dimensional model (a continuum) rather than a categorical model (two separate categories characterized by a natural break). A dimensional model suggests that the cut-off point between good and poor readers is somewhat arbitrary. Consequently, children who have not yet failed enough to meet particular criteria of disability may go unidentified.

- Reversals (e.g., *b* for *d*) or rotations (e.g., *p* for *b*)
- Transpositions (e.g., reading *was* for *saw*, or *from* for *form*)
- Confusion over words that look similar (e.g., *horse* for *house*)
- Problems misreading or omitting small words
- Tendency to delete or change the latter syllables of words (e.g., *commit* for *commute*, or *intention* for *intensity*)
- Slow and laborious word-by-word reading
- Difficulty in remembering what was read or drawing inferences from the material

Difficulty in spelling:

- Has trouble noticing and remembering the sounds that letters represent
- Doesn't know what to do when told to "sound out" the word
- May do well on weekly spelling tests, but forgets it all after the test and makes many spelling errors in daily work
- May spell the same word differently within one sentence or paragraph
- Persistently misspells common non-phonetic words (e.g., *they*, *could*, *does*)
- Is confused over homonyms (words that have the same sound but different spellings and different meanings, such as *their*, *there*, and *they're*)
- Has a tendency to reverse, transpose, or rotate letters
- Is easily confused regarding when to double the final consonant, drop the silent *e*, or change the *y* to *i* when adding a suffix

Difficulty with writing:

- Difficulty in putting ideas on paper (may have many good ideas, but cannot write them in an organized manner)
- Errors in copying
- Level of oral vocabulary not evident in writing
- Poor handwriting (awkward, overly tight pencil grip; pushes too hard on the paper; slow, labored production of letters; poor formation of letters or overly elaborate "drawing" of letters; difficulty spacing the letters and words, putting them too close or too far apart)
- Difficulty in learning cursive and preference for printing
- Illegible handwriting, often to the point that the dyslexic individuals themselves cannot read what they write.

Difficulty with organization:

- Difficulty remembering homework or assignments, often unsure if it has been turned in
- Overwhelmed by too much information
- Difficulty locating belongings
- Difficulty imposing order on a messy space; sometimes overcompensates by compulsive ordering beyond what is needed
- Poor time management skills (often does not realize how long a task will take to complete)
- Slow, laborious work process (e.g., can visualize the final product but can't get started)
- Difficulty carrying out a plan or completing a task

Difficulty with math:

- Difficulty in learning to tell time and sequencing the days of the week, months, seasons, etc.
- Difficulty in memorizing (e.g., arithmetic facts or formulas)
- Difficulty with math vocabulary and concepts
- Tendency to reverse numbers or confuse signs (e.g., p and q or 2 and 5)
- Difficulty in discriminating between similar-sounding numbers, such as 13 and 30 or 15 and 50
- Difficulty copying problems or keeping numbers aligned in columns
- Frequent calculation errors

Difficulty with physical movement:

- Trouble manipulating small objects
- Trouble cutting with scissors
- Trouble drawing or holding a pencil
- Trouble climbing, running, doing sports



BIOGRAPHY BOX 2

"I LOVE O'S"

Lori is a talented musician who struggled to learn to read and write as a child. She once said, wistfully, to her mother, "I love o's." The letter *o* looks the same from every direction. It cannot be reversed or flipped over. The capital *O* is the same shape as the lower case *o*. All Lori had to do to write an *o* was to draw a circle. Given how many errors Lori made in constructing other letters, it was reassuring to have one letter that she could rely on. Compared to the jumble of lines and curves in most other letters, the simplicity of the *o* was a great relief. It made the daunting task of learning to write her name a bit easier because the *o*, like the *i*, could not be reversed or rotated.



- **Difficulty with social relations:**

Dyslexic learners may experience accompanying problems with social relations, often resulting from the frustration and impatience produced by the accumulated weight of academic difficulties. Children with disabilities

BIOGRAPHY BOX 3

TELLING TIME

“I was 13 before I learned to tell time. I would just panic when someone would ask me the time, because I was so embarrassed. To this day I feel anxiety when asked the time, and I still make mistakes.” These words come from a woman in her 70s who has had several successful professional careers. Telling time on an analog clock is often a nightmare for learners with dyslexia or dyscalculia because the motion of the hands seems arbitrary and the two hands appear unrelated to one another. Supplying the struggling learner with a digital clock only helps a little; they will have an easier time reading the numbers, but still have trouble understanding how much time has passed or whether an event is earlier or later. Different ways to say the same thing about time — “It’s 8:45” or “It’s quarter ‘til 9:00” or “It’s 15 minutes before 9:00” — are confusing to the dyslexic learner.

Learning to tell time is a skill that can be learned the same way that language or mathematics can be learned: by breaking the task down into its component parts, methodically teaching each part in logical order using multisensory methods, then re-assembling the task step-by-step with lots of opportunity for review.

COMMON INDICATORS



are 2 to 3 times more likely than non-disabled students to be bullied at school.¹⁹ Social dimensions of dyslexia may include:

- Low tolerance of frustration
- Difficulty interpreting nonverbal cues
- Difficulty making and keeping friends
- Misunderstanding figurative language
- Poor social judgment
- Weak problem solving or coping skills
- Difficulty in accepting changes in routine
- Low self-esteem
- High risk for depression
- Impulsive behavior²⁰

Other difficulties may include:

- Confusion over directions (e.g., left-right, before-after, forward-backward, up-down)
- Difficulty with word retrieval or rapid naming (e.g., naming colors, objects, letters)
- Lack of dominant handedness
- Need to see and hear concepts repeatedly in order to learn them
- Inconsistent performance in school, work, or household tasks
- Downward trend in achievement test scores
- Difficulty in learning a foreign language

Given these alarming indicators, it is tempting to conclude that dyslexia is only and always a disability, a burden for those afflicted. Indeed, the negative consequences of dyslexia often seem to outweigh any positives, especially because it is the “down side” of dyslexia that is most prominently highlighted in school. About half of U.S. children and teenagers with drug and alcohol problems also have significant reading problems. A whopping 38% of 4th grade students in the U.S. fail to learn to read well

19 “Students with Disabilities and the Juvenile Justice System: What Parents Need to Know,” Pacer Center: Champions for Children with Disabilities (Minneapolis, MN: Pacer Center, 2013): 7. <http://www.pacer.org/jj/pdf/JJ-8.pdf> (accessed 9/30/17).

20 Richard Lavoie, “How Hard Can This Be?” (Scholastic: 2017) <http://teacher.scholastic.com/professional/specialneeds/howhard.htm> (accessed 9/26/17).

in school.²¹ Many, if not most, are dyslexic. Dyslexic teenagers are more likely than non-dyslexics to drop out of school, withdraw from friends or families, or attempt suicide.²² The National Council on Disability estimates that “approximately 30% of children in the juvenile justice system” have a learning disability.²³ Dyslexics are disproportionately represented in prison; a British study found that over half their prisoners have limited literacy skills, while 20% have a learning disability.²⁴

21 Maryanne Wolf, *Proust and the Squid: The Story and Science of the Reading Brain* (N.Y.: Harper, 2007), p. 135. See also G. Reid Lyon, “Reading Disabilities: Why Do Some Children Have Difficulty Learning to Read? What Can Be Done About it?” *Perspectives* 29 (2) (Spring, 2003): 17, 19.

22 Christine Gorman, “The New Science of Dyslexia,” *Time* 162 (4) (July 28, 2003): 55.

23 National Council on Disability, *Addressing the Needs of Youth with Disabilities in the Juvenile Justice System: The Current Status of Evidence-Based Research* (Washington, DC: 2003) cited in Marshall Raskind, “Research Trends: Is There a Link Between LD and Juvenile Delinquency?” *Great Schools!* (April 2, 2015) <https://www.greatschools.org/gk/articles/link-between-ld-and-juvenile-delinquency/> (accessed 9/30/17). Dr. Raskind notes that studies on learning disabilities and juvenile crime are often flawed and conclusions are difficult to draw. Research has not established a causal relation between learning disabilities and juvenile delinquency: some have hypothesized that failure in school leads to a host of other problems, including delinquency; others suggest that personality characteristics such as impulsivity or problem-solving deficits might incline dyslexic youth toward crime; still others wonder if kids with learning disabilities commit crimes at about the same rate as their non-learning disabled peers, but are more likely to get caught and punished.

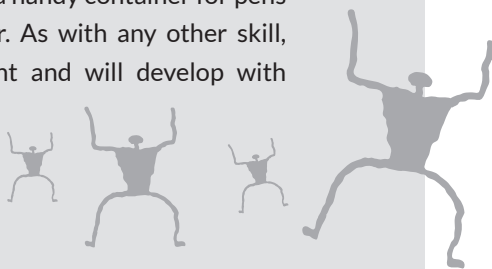
24 “The Incidence of Hidden Disabilities in the Prison Population: Yorkshire and Humberside Research,” *The Dyslexia Institute* (10 March 2005): 2. <https://www.scribd.com/document/307321467/The-Incidence-of-Hidden-Disabilities-in-the-Prison-Population-UK-2005> (accessed 1/8/18).

BIOGRAPHY BOX 4

BRINGING ORDER TO CHAOS

When Frank confronts a sinkful of dirty dishes, he does not wash them in the order they present themselves to his hands. Instead, he clears the counter and organizes the dishes by type: dinner plates, salad bowls, glasses, mugs, dessert plates, pans, and silverware are each grouped together. He then methodically washes one set of objects at a time. If he runs out of time, usually a pile of dirty silverware is left unwashed in the sink. This seems like an unnecessary degree of organization to his wife, who just washes the items on top first, then works her way down. But his methodical approach works for Frank: it entails a few minutes of work to impose order on the situation without spending an inordinate amount of time organizing things. Frank has found a strategy midway between chaos, which can be overwhelming, and too much order, which can be paralyzing in its own way.

Dyslexic students often flail in their search for this middle ground. They may obsess over every little aspect of the situation, making it hard to move on; or they may give up in despair before ever tackling the mess, because it is overwhelming. Teachers and parents can help by providing the means for organizing schoolwork: a different colored folder, with pockets, for each subject; labels for assignments that are pending, in process, or completed; a handy container for pens and pencils; a calculator; a stapler. As with any other skill, organizational skills can be taught and will develop with practice.



Positive traits associated with dyslexia

It is crucial for the mental health of dyslexic learners, the resilience of their families, and the adaptability of society as a whole to be aware of the accompanying “up side” of dyslexia and to ask why our educational system makes dyslexic ways of thinking so difficult to sustain. While some researchers express doubts, many other researchers as well as educators with extensive first-hand experience teaching dyslexic learners find that dyslexics have characteristic talents. Dr. Sally Shaywitz, co-founder and co-director of Yale University’s Center for Dyslexia and Creativity, calls dyslexia an “encapsulated weakness surrounded by many strengths.”²⁵ The “sea of strengths” includes superior abilities in problem solving, reasoning, comprehension and concept formation, general background knowledge, and advanced vocabulary.²⁶ Dyslexic ways of processing information predispose individuals to perceive subtle patterns within complex bodies of data and to be receptive to implicit relationships within language such as analogies, metaphors, and other figures of speech.²⁷

Dyslexics tend to think in pictures more so than in words. Bill Dreyer, an inventor and a biologist at Caltech who is dyslexic, commented, “I think in 3-D technicolor pictures instead of words.”²⁸ He believes that thinking in pictures has enabled him to develop the ground-breaking theories and unique technologies at the heart of the human genome revolution.

The phrase “twice exceptional” has been coined by educators to describe the combination of dyslexia and giftedness in young learners. Some studies estimate that 3–5% of school-age children are twice exceptional; that percentage is much higher if non-academic gifts in areas such as dance, art, music, leadership, gaming, relationship-building, and sports are included. Some common characteristics of these learners include:

- Superior verbal vocabulary and expression, significantly outstripping academic performance
- Advanced ideas and expressive opinions
- Advanced creativity and problem-solving abilities
- Highly developed curiosity and imagination
- Extremes of highs and lows in tests
- Unusually wide range of interests

25 Shaywitz, *Overcoming Dyslexia*, p. 58.

26 Sherman and Ramsey, *The Reading Glitch*, p. 222.

27 Brock L. Eide and Fernette F. Eide, *The Dyslexic Advantage: Unlocking the Hidden Potential of the Dyslexic Brain* (NY: Plume Books, 2011): 5.

28 Betsy Morris, Lisa Munoz, and Patricia Neering, “Overcoming Dyslexia,” *Fortune* (May 13, 2002) http://archive.fortune.com/magazines/fortune/fortune_archive/2002/05/13/322876/index.htm (accessed 9/26/17).

- A specific strong talent that stands out
- A sophisticated sense of humor²⁹

Indeed, it may benefit teachers and parents to regard all children as gifted in some way, so that each child's abilities and potential are nurtured at the same time that their problems are addressed.³⁰

Researchers Gordon Sherman and Carolyn Cowen find that learners with dyslexia process information more globally and are thus better at three-dimensional thinking than at sequential, linear tasks. Dyslexic learners often excel at activities that require holding complex images in their minds, including art, engineering, mechanical repair, and computer technologies.³¹ John Chambers, CEO of Cisco, links his success to his dyslexia: "I just approach problems differently," he says. "It's very easy for me to jump conceptually from A to Z. I picture a chess game on a multiple-layer dimensional cycle and almost play it out in my mind."³² Dyslexic learners are over-represented in medicine, architecture, design, and some branches of science and mathematics.³³ They frequently have talent for making things and putting objects together. There are so many dyslexic students at Massachusetts Institute of Technology (MIT) that it is sometimes called "Dyslexia U." Silicon Valley, home to many innovative high tech companies, is called "dyslexia corridor." Like Diane Swonk, chief economist at Bank One, dyslexics may stumble over simple arithmetic, yet excel at higher level math.³⁴ Dyslexics often shine at oral language expression, including excellent memories for spoken language, a keen sense of observation, and strong leadership skills. Many successful actors and political leaders are dyslexic. Dyslexics often have an acute spatial imagination and enhanced abilities to process visual-spatial information globally rather than part-by-part.³⁵ Several successful CEOs

29 "Gifted and Dyslexic: Identifying and Instructing the Twice Exceptional Student," *Just the Facts* (Baltimore, MD: IDA, 2013): 2. <https://dyslexiaida.org/fact-sheets/> (accessed 10/10/17).

30 I'm grateful to my teacher Ron Yoshimoto for expressing this idea in a personal conversation. See also Ron Yoshimoto, "Celebrating Strengths and Talents of Children with Dyslexia: An Educational Model" *Orton Gillingham International* (Spring 2000) https://docs.wixstatic.com/ugd/ee6a7e_2c8ae338d08b45ca81607bd871648bdf.pdf (accessed 1/6/18).

31 Gordon Sherman and Carolyn D. Cowen, "Neuroanatomy of Dyslexia through the Lens of Cerebrodiversity," *Perspectives* 29 (2) (Spring, 2003): 9–13.

32 Morris, Munoz, and Neering, "Overcoming Dyslexia."

33 Thomas West, "The Gift of Dyslexia: Talents Among Dyslexics and their Families," *Hong Kong Journal of Paediatrics* 10 (2005): 153–158.

34 Morris, Munoz, and Neering, "Overcoming Dyslexia."

35 Catya von Károlyi, Ellen Winner, Wendy Gray, and Gordon Sherman, "Dyslexia Linked to Talent: Global Visual-Spatial Ability," *Brain and Language* (2003) <http://www.sciencedirect.com/science/article/pii/S00939334X0300052X> (accessed 9/26/17).

attribute their success in the business world to their dyslexia, which fosters “a distinctly different way of processing information that gave them an edge in a volatile, fast-moving world.”³⁶

These abilities are not traits that come about despite their dyslexia, but are rather part and parcel of dyslexic ways of knowing. Children who are twice exceptional are not gifted in the morning and dyslexic in the afternoon; they are always both, and their schools need to consistently address all dimensions of their learning needs. Successful dyslexic learners pursue and cultivate their substantial gifts, often relying on the unfailing support of family members to compensate for inappropriate classroom education. An educational system that does not reach dyslexic learners causes unnecessary human misery and creates much bigger and more expensive problems down the road. A society that does not value dyslexic learners is losing a significant pool of talent.

POSITIVE TRAITS

36 Morris, Munoz, and Neering, “Overcoming Dyslexia.”

Frequently asked questions

Q: Is dyslexia a result of nature or nurture?

A: Both together. Research on dyslexia strongly suggests that it makes little sense to divide life into inherited, biological traits (“nature”) and environmental, learned traits (“nurture”). Instead, our brains are dynamic organs that continue to grow and change throughout our lives in response to our experiences. There is a symbiotic interaction (a give-and-take relation) between our bodies and our cultures, characterized by fluid pathways and complex feedback loops in brain-environment relations. Scientists used to think that our brains stopped changing early in life, but now know that brain development continues. Recent breakthroughs in scientific research using functional magnetic resonance imaging (fMRI) and other technologies indicate that dyslexia is a manifestation of neuroanatomical and neurochemical characteristics of brains and that proper instruction can actually alter the brain’s pathways and reorganize its functioning. There is no place where biology ends and society begins.

Q: Is dyslexia inherited?

A: Yes, to some extent. Dyslexia often runs in families. No single gene has been found to carry dyslexia, but researchers have identified what they call an inherited pattern of risk. Approximately 20 different genomic regions are currently suspected to affect reading disability.³⁷ A research team from Yale University, University of Bristol, and the Max Planck Institute have found what they call “strong circumstantial evidence” that an element of the DCDC2 gene “confer[s] risk of a deleterious effect on reading and language.”³⁸ The researchers are sufficiently confident of their findings that they have renamed the element “READ1” which stands for “regulatory element associated with dyslexia 1.”³⁹ The authors caution readers that relations among genetic elements “appear to be synergistic” [interactive] and that their significance “lies on a continuum and is dependent on other, interacting risk variants, as environmental and stochastic [random] factors.”⁴⁰

37 Elliott and Grigorenko, *The Dyslexia Debate*, p. 115.

38 Natalie R. Powers, John D. Eicher, Falk Butter, Yong Kong, Laura L. Miller, Susan M. Ring, Matthias Mann, and Jeffrey R. Gruen, “Alleles of a Polymorphic ETV6 Binding Site in DCDC2 Confer Risk of Reading and Language Impairment,” *The American Journal of Human Genetics* 93, 19-28 (July 11, 2013): 20.

39 Powers, et al, “Alleles of a Polymorphic ETV6 Binding Site in DCDC2 Confer Risk of Reading and Language Impairment,” p. 20.

40 Powers, et al, “Alleles of a Polymorphic ETV6 Binding Site in DCDC2 Confer Risk of Reading and Language Impairment,” p. 26.

While research to this point strongly suggests that dyslexia has a genetic component, periodic reports in the popular media announcing the discovery of a “dyslexia gene” are problematic for several reasons.

- First, there is not yet a scientific consensus on the precise genetic composition of dyslexic brains.
- Second, dyslexia’s genetic component does not make it immutable or pre-determined. Because genetic traits can be modified through environmental relations, one scientist has observed, “it is better to speak in terms of probabilities of outcomes and risks due to genes instead of absolutes like *genetic causes*.”⁴¹
- Third, while early identification of dyslexic learners through genetic testing could be a step toward providing appropriate instruction before children experience school failure, the possibility of developing gene therapy to “cure” dyslexia raises enormous ethical and educational questions. Dyslexia entails considerable talents as well as deficits, so genetic interventions could lose more than they gain.

Q: Can dyslexia be caused by poor parenting?

A: NO. Dyslexia is a neurological condition. While parents can take positive steps to help a child with dyslexia, such as reading to the child, arranging for early assessment, and securing the right kind of teaching, parenting does not cause dyslexia.

Q: Won’t my child suffer in school from being labeled dyslexic?

A: If your child is having trouble learning to read, write and spell, they are probably already suffering in school. Over and over, adult dyslexics recall being called lazy and stupid by parents, teachers, and peers. One woman found out about dyslexia at age 75 and she exclaimed in relief, “Dear Blessed God, I am not dumb, I have dyslexia.”⁴² It is often reassuring and empowering to have a name for their problems and a strategy to address them.

Q: How should I talk to my child about dyslexia?

A: It is usually best to be honest and matter-of-fact, to provide age-appropriate information, and to add to that information over time. Everyone has strengths and weaknesses. Addressing the child’s confusions early and giving them a useful vocabulary to understand their own learning process is much more helpful than avoiding the subject. Be ready to revisit the subject as children transition to new situations

41 Jeff Gilger, “Genes and Dyslexia,” *Perspectives* 29 (2) (Spring, 2003): 6.

42 Janet Bell, “Reflections on Dyslexia — at 78,” *What Not-So-Famous People with Dyslexia Remember* in *Bright Solutions for Dyslexia, Inc.* (n.d.) <http://www.dys-add.com/backiss.html#notfamous> (accessed 10/3/17).

which often bring new challenges. Children quickly catch on when adults are pretending that everything is okay when it is not.

Artist Krista Weltner's stop-motion video, *Partially Compensated*, is an excellent source to share with children.⁴³ Weltner portrays her own confusion as a child when other children in her class were reading. What were they doing when they looked at words? How did they know when to turn the page? Weltner's own story is an excellent example of successful sharing from one dyslexic learner to others. Weltner reports that her favorite response to her video has come from "a mother who wrote me an email and said she shared [the video] with her child and then she sent me a series of videos that her child had made that were stop-motion videos of his action figures. It made me really happy."⁴⁴ Educating yourself and educating your child about dyslexia can happen together so that everyone benefits.

Q: How is a dyslexic brain different than a neurotypical brain?

A: Research suggests that there are differences in organization and in chemistry between the brains of dyslexic and non-dyslexic learners.

- Reading generally draws on the left hemisphere of our brains, although this can change as we age.⁴⁵ The left hemispheres of the brains of non-dyslexic learners are frequently larger than the right, while early research on the brains of deceased adults with dyslexia showed their brains to be more symmetrical.⁴⁶
- There are also cellular differences: dyslexic brains have smaller neurons in the thalamus, which may interrupt the precise interactions required to transmit information across networks in the brain. The thalamus is a "way-station" that transmits information from our sensory organs to the higher-level processing centers in the cerebral cortex.⁴⁷
- Finally, there are connectional differences: dyslexic brains often manifest "ectopic wiring," which means that bundles of nerve cells are found in a part of the brain where nerve cell bodies are normally absent. These ectopias appear in fetal development when neurons travel in atypical ways to the cerebral cortex (the outer parts of the brain involved in higher level processing). Ectopic neurons con-

43 "Krista Weltner's *Partially Compensated*," *Dyslexia Connection* (Baltimore: IDA 2018) <https://dyslexiaida.org/krista-weltner/> (accessed 1/5/18).

44 "Krista Weltner's *Partially Compensated*."

45 "Dyslexia and the Brain," *Just the Facts* (Baltimore, MD: IDA, 2015): 1. <https://dyslexiaida.org/fact-sheets/> (accessed 10/10/17).

46 "Dyslexia and the Brain," *Just the Facts*, 2.

47 "Structural Brain Differences in Kids with Dyslexia," *GreatSchools!* (June 2, 2016) <https://www.greatschools.org/gk/articles/structural-brain-differences-in-kids-with-dyslexia/> (accessed 10/1/17).

nect differently to neurons in other parts of the brain, changing the “wiring pattern” in ways that can affect the complex process of becoming literate.⁴⁸

It is important to keep the limitations of this research in view: brain research has great potential to help us understand reading difficulties but cannot yet differentiate dyslexic readers from other poor readers and cannot yet say what interventions work best.⁴⁹ Certain areas of the brain are associated with typical and atypical reading but these don’t allow us to diagnose individuals because the colorful brain images produced by scans are usually composites from multiple participants. Psychologists Julian Elliott and Elena Grigorenko conclude that there is “a remarkable amount of heterogeneity [differences] in the etiology [causes] of both typical and atypical reading.”⁵⁰ There is, unfortunately, a certain amount of hype surrounding popularized presentations of flashy brain images; educator Mary Farrell and neuroscientist Gordon Sherman warn us that “brain-based pedagogy (and its various publications, trainings and products) are more about marketing than science.”⁵¹

At the same time, it is widely accepted that dyslexic readers compensate for disruptions in the specialized neural systems ordinarily activated for reading by utilizing other areas of the brain; they can learn to read, but in all likelihood, will always read more slowly than non-dyslexic readers.⁵² Again, it is important to remember that the brain is a dynamic organ; while one does not “outgrow” dyslexia, the workings of the brain can change over time with proper teaching.

Q: Is dyslexia new? My parents and grandparents never heard of it.

A: No. The pattern combining average to high intelligence with great difficulty in learning to read, write, and spell has been identified for over 100 years. Doctors in the 19th century called this condition “word blindness.” The path-breaking work of Dr. Samuel Orton in the 1930s established the scientific basis for understanding dyslexia. However, until recently, the only way to study human brains directly was during autopsy, resulting in an unfortunate lack of data. We are hearing more about dyslexia today because recently invented technologies, including computer activated tomography (CAT) and functional magnetic resonance imaging (fMRI),

48 “Structural Brain Differences in Kids with Dyslexia,” *Greatschools!* (June 2, 2016) <https://www.greatschools.org/gk/articles/structural-brain-differences-in-kids-with-dyslexia/> (accessed 10/1/17).

49 Elliott and Grigorenko, *The Dyslexia Debate*, p. 110.

50 Elliott and Grigorenko, *The Dyslexia Debate*, p. 171.

51 Mary L. Farrell and Gordon F. Sherman, “Multisensory Structured Language Education,” in Judith R. Birsh, ed., *Multisensory Teaching of Basic Language Skills* (Baltimore, MD: Paul H. Brookes Publishing Co, 2011): 37.

52 Sherman and Ramsey, *The Reading Glitch*, p. 11.

allow noninvasive access to information about our brains. With greater information comes more demands from parents, students and teachers to address the needs of learners with dyslexia.

Q: How early can children be accurately assessed?

A: A professional assessment can be done as early as age 5. While there are many disputes among educators regarding assessment, there is unanimous agreement that it is best to identify and address language problems early. In researcher Joseph Torgesen's memorable phrase, we must "catch them before they fall."⁵³ While experienced educators can often spot early indicators of dyslexic learning in younger children, the scientifically developed measurements are valid and reliable beginning around age 5.

The cost of early screening tools is minimal: the assessment tools offered by Dynamic Indicators of Basic Early Literacy Skills (DIBELS) are free on-line, while the Texas Primary Reading Inventory (TPRI) is about \$3.00 per child.⁵⁴ Both are based on the recommendations of the National Reading Panel report in 2000 and the National Research Council report in 1998. There are some costs entailed in administering these screenings, but these expenses pale next to the enormous, life-long consequences of doing nothing.⁵⁵ An investment in early identification of dyslexic learners, followed by the appropriate teaching, could avert much more costly problems later on while making an enormous difference in many children's lives.⁵⁶

Q: Do schools overlook a lot of students with dyslexia?

A: Yes. In 2016, 10.5% of the 180,895 K–12 public school students in Hawai'i received special education (that is, had Individualized Educational Programs, or IEPs). Yet, national averages tell us that as many as 15–20% of the population has a learning disability, with dyslexia by far the most common. Other disabilities and differences raise the likely percentage even higher. This suggests that there are indeed children who are in need of services beyond those provided in conventional classrooms, yet are overlooked by the educational system. The federal government has found that Hawai'i "needs assistance" in meeting the goals of the Individuals with Disabilities Education Act (IDEA); in other words, the state has "a

53 Joseph Torgesen, "Catch Them Before They Fall: Identification and Assessment to Prevent Reading Failure in Young Children," *American Educator* 22 (1998): 32–39.

54 See <https://dibels.uoregon.edu/assessment/index/material> (accessed 9/30/17) and <http://www.tpri.org/index.html> (accessed 9/30/17).

55 Nadine Gaab, "It's a Myth that Young Children Cannot be Screened for Dyslexia!" *The Examiner* (Baltimore, MD: IDA, 2017) <https://dyslexiaida.org/its-a-myth-that-young-children-cannot-be-screened-for-dyslexia/> (accessed 1/6/18).

56 "Universal Screening: K-2 Readings," *Just the Facts* (Baltimore, MD: IDA, 2017) <https://dyslexiaida.org/fact-sheets/> (accessed 10/15/17).

ways to go.”⁵⁷ We are not alone: a large study of Florida schools found that only 1 out of 4 boys and 1 out of 7 girls with reading impairments were identified as learning disabled by their schools.⁵⁸ Disability rights attorneys Jo Anne Simon and Michele Kule-Korgood state flatly, “no state has fully complied.”⁵⁹

At the same time, the Hawai‘i DOE invests 23% of its budget in Special Education, including the program Operation Search, which tries to locate students needing special education or related services.⁶⁰ This is a substantial investment of funds, but still results in inadequate education for many dyslexic students. The problem is complex, from lack of sufficient resources for students with disabilities to shortages of trained teachers to inadequate investment in education at all levels.

Q: Who is typically dyslexic? Are there more boys than girls?

A: Dyslexia is an equal opportunity condition. It occurs in all races, ethnic groups, genders, and classes of people. Dyslexia tends to run in families, suggesting that the propensity to be dyslexic is inherited. It occurs in both males and females, although the exact distribution is still in dispute. Many years ago, it was thought that more boys than girls are dyslexic, as many as 4 boys for every girl. Subsequent research suggested that the gender distribution was more equal: boys were four times more likely than girls to be identified, it was thought, because boys are more likely than girls to “act out” their frustration. Girls, on the other hand, tend to avoid calling attention to their difficulties and often substitute the social rewards of school for its academic offerings.

However, some recent studies are returning to the older theory, finding more boys than girls among dyslexic learners even after controlling for the greater propensity of schools to identify boys. An Australian study found more boys than girls with reading problems, but the difference between the sexes was modest.⁶¹ A study of nearly 500,000 Florida second graders also found more boys than girls, with the gender imbalance increasing

57 “Our Special Ed Priority: Hire More Teachers, Raise the Bar for All,” Hawai‘i State Department of Education (August 13, 2015) <http://www.hawaiipublicschools.org/TeachingAndLearning/SpecializedPrograms/SpecialEducation/Pages/mulcahy.aspx> (accessed 9/26/17).

58 Jamie M. Quinn and Richard K. Wagner, “Gender Differences in Reading Impairment and in the Identification of Impaired Readers: Results from a Large-Scale Study of At-Risk Readers,” *Journal of Learning Disabilities* 48 (4) (2015): 433–445.

59 Jo Anne Simon and Michele Kule-Korgood, “Rights of Individuals with Dyslexia and Other Disabilities,” in Judith R. Birsh, ed., *Multisensory Teaching of Basic Language Skills* (Baltimore, MD: Paul H. Brookes Publishing Co, 2011): 687.

60 “Child Find and Referral,” *The Parent’s Guide to Partnership in Special Education*, (May 2015).

61 Kevin Wheldall and Lisa Limbrick, “Do More Boys Than Girls Have Reading Problems?” *Journal of Learning Disabilities* 43 (5) (2010): 418–429.

with the severity of the problem being examined. When these researchers employed a narrow definition of dyslexia, equating it with decoding problems (reading individual words), the gender gap was 1.6 boys for each girl.⁶² But when they defined dyslexia more broadly, including problems with fluency (reading smoothly enough to comprehend), they found 2.4 boys for each girl. While research continues on this point, it is clear that dyslexic learners are found among both boys and girls.

Q: Does dyslexia occur in languages other than English?

A: Yes. Current research suggests that the complexity of a language's written form determines how dyslexia will manifest in reading and writing. Writing is a code, and different writing systems make different sorts of demands on the brain's processing systems. English and French, for example, contain many different ways to write the same or similar sounds, or to pronounce the same letter or combination of letters, while the patterns of orthography (written language) are much more regular in Italian. Italian, then, is easier to read and write for all learners, while "cracking the code" in English and French poses greater challenges.⁶³ Latin is a relatively regular language, as well as being the basis for half of the English language; consequently, learning Latin helps build vocabulary in English and thus is a good choice of second language for dyslexic learners.⁶⁴

While the majority of studies on dyslexia have been conducted on English-speaking subjects, international researchers have found dyslexia to be relatively common in many different languages. Japanese scientists have identified orthographically specific processing patterns in the brains of dyslexic learners in their society; it is the reading and writing of phonetically irregular *kanji* (as opposed to *hiragana* or *katagana*) that provokes

62 Jamie M. Quinn and Richard K. Wagner, "Gender Differences in Reading Impairment and in the Identification of Impaired Readers: Results from a Large-Scale Study of At-Risk Readers," *Journal of Learning Disabilities* 48 (4) (2015): 433–445.

63 There are over 1000 different letter combinations (graphemes) representing 44 phonemes (sound units) in English. In Italian, only 33 graphemes represent the language's 25 phonemes. See a report from the American Association for the Advancement of Science, summarized in "Dyslexia Study in Science Highlights the Impact of English, French, and Italian Writing Systems," *Science Daily* (March 16, 2001) <https://www.sciencedaily.com/releases/2001/03/010316073551.htm> (accessed 10/3/17). Professor Erardo Paulesu at the University of Milan Bicocca, the director of the study, points out that English and French have been heavily influenced by elements from other languages over the centuries, while Italian has remained relatively pure.

64 Dyslexic learners may also find sign language to be a good choice for a second language in high school or college. For insight into the relation of dyslexia to foreign language acquisition, see "At-Risk Students and the Study of a Foreign Language in School," *Just the Facts* (Baltimore, MD: IDA, 2017) <https://app.box.com/s/1bg6yjdpuw20xirpllenxfqi0zxst4h1o> (accessed 10/3/17).

problems.⁶⁵ Chinese languages require readers to master about 5,000 different characters, each corresponding to a word. Chinese scientists have found that dyslexic learners have difficulty extrapolating from a symbol's shape to its sound and meaning.⁶⁶ Bilingual individuals may manifest dyslexic ways of processing information in one language but not in another.⁶⁷

Some writers associated with the IDA have ventured to claim “a universality of dyslexia across different world languages,”⁶⁸ while others dispute such generalizations. Researcher Sally Shaywitz reports that when her article “Dyslexia” appeared in *Scientific American* in 1996, stories of similar language difficulties poured in from all parts of the globe.⁶⁹ While the neural basis of various languages is complex and not yet fully understood, it is clear that dyslexia is a global phenomenon.

Q: My child reverses *b* and *d*. Is she dyslexic?

A: Not necessarily. Reversal of letters or numbers is only one of several dozen traits that, together, outline the areas of language difficulty characterizing dyslexia. Many young children initially reverse or transpose letters, but readily learn the proper form and relation of the figures as they advance. Reversing *b* and *d* is the most famous trait of dyslexic learners, but is not by itself grounds for establishing that dyslexia is present.

Q: Is there a quick fix?

A: NO. The *only* legitimate, successful approach to dyslexia is educational. Legitimate remediation programs are based on scientific research published in peer-reviewed journals and subject to replication. Empirical evidence is also found in case studies and first-hand observation by qualified educators. Legitimate programs will be based on published, peer-reviewed studies. Beware of charlatans selling products promising deliverance: for example, tinted lenses, expensive “auditory retraining,” special dietary supplements, complex exercise programs, special bed

65 Linda Himelstein, “Unlocking Dyslexia in Japanese,” *The Wall Street Journal* (July 5, 2011) reprinted in “Dyslexia and Character-Based Languages,” *For Dyslexia* (June 14, 2013) <http://www.fordyslexia.com/2013/06/dyslexia-and-character-based-languages/> (accessed 10/10/17).

66 Helen Pilcher, “Chinese Dyslexics Have Problems of Their Own,” *Nature: International Weekly Journal of Science* (September 1, 2004) <http://www.nature.com/news/2004/040830/full/news040830-5.html> (accessed 10/3/17).

67 Christa M. Miller, “Does Dyslexia Exist in Languages Other Than English?” *Aulexic: Fostering a Love of Reading* (May 10, 2017) <https://www.aulexic.com.au/dyslexia-exist-languages-english/> (accessed 10/2/17).

68 “Dyslexia and the Brain,” p. 2.

69 Shaywitz, *Overcoming Dyslexia*, p. 31.

sheets, shoe inserts, or “orientation counseling.”⁷⁰ Be suspicious of any approach that promises a “cure” or sounds too good to be true. Avoid programs that guarantee results within a specified time period. A scam program can do harm because the dyslexic learner gets discouraged and becomes reluctant to put in the time and labor needed to succeed in a legitimate program. There is a great deal of money to be made from desperate parents looking for a quick fix, but there is no quick fix, only long-term intervention in the child’s learning.

Proposed treatments should live up to these three criteria:

1. Is there scientific research (not company-sponsored research or consumer testimonials) to support the practice?
2. Is the treatment being commercially pushed *before* its validity has been established through proper research?
3. Is the program being promoted commercially despite scientific evidence that it does *not* work?

The answer to the first question should be *yes*. The answers to the second and third questions should be *no*. A good program should cultivate skills that translate into improvements in reading, writing, math or study skills. Short-term gains should turn into long-term advancements. Tinted lenses or altered fonts may temporarily ease eyestrain but there is no evidence of consistent, continuing impact on reading.⁷¹ Programs that teach children to crawl or juggle may help them to succeed at crawling or juggling, but are not likely to have payoffs in language arts or math. Sometimes just paying attention to a problem will ease it temporarily, but the problem will reappear.⁷² Expensive programs based on false promises deplete families’ resources while delaying the needed educational interventions that *will work*.

Q: Are there are other kinds of learning disabilities besides dyslexia?

A: Yes. There are a number of other learning differences that sometimes overlap with each other and other times appear in isolation. They are brain-based conditions that make certain kinds of tasks harder for those affected. All of them appear on a continuum from mild and severe. None of them are caused by lack of intelligence or absence of desire to learn and all can be addressed with appropriate methods of teaching.

70 Larry B. Silver, “Controversial Therapies,” *Perspectives* 27 (3) (Summer, 2001); see also “Controversial Therapies for Dyslexia,” *Perspectives* vol 37 no 1 (Winter 2011): 7–32.

71 The American Academy of Pediatrics reaffirmed in 2009 that “eye exercises, behavioral vision therapy, or special tinted filters or lenses are not endorsed” as treatments for dyslexia. Quoted in Joanna K. Uhry, “Teaching Phonemic Awareness,” in Birsh, ed., *Multisensory Teaching of Basic Language Skills* (Baltimore, MD: Paul H. Brookes Publishing Co, 2011), p. 121.

72 Elliott and Grigorenko, *The Dyslexia Debate*, pp. 154–161.

- *Dysgraphia* means difficulty with writing. It is a neurologically-based writing disability in which the individual has difficulty forming letters, writing on a horizontal line, spacing letters and words, holding a pencil, or putting thoughts on paper. Students with dysgraphia may have problems with orthographic coding, meaning they have trouble storing written words in their working memory long enough to analyze them, or they may have trouble creating a permanent memory of written words linking their appearance with their pronunciation and meaning.⁷³ Grappling with both dyslexia and dysgraphia, one frustrated child wrote, “i get the writ word but wen it travels down my arm it disapeeurs befour it coms out of my hand” [errors in original].⁷⁴ Dysgraphia may co-occur with giftedness and is frequently mis-recognized as laziness or sloppiness in an otherwise capable child.

These activities often help individuals with dysgraphia to learn to form letters:

- Playing with clay to develop hand muscles
- Staying inside the lines while doing mazes or coloring to develop muscle control
- Connecting dots or following arrow cues to form letters
- Covering the letter and imagining its shape
- Tracing letters with the index finger in a tray of sand
- Copying the teacher in forming letters properly
- Copying letters from models, memory or dictation
- Writing on lined paper

Dysgraphic students who have spelling problems benefit from the same approach to spelling used with dyslexic students.

- *Dyscalculia* is a mathematical disability in which a person has unusual difficulty in grasping math concepts or solving arithmetic problems. Children with this condition often lack “number sense” — they have trouble understanding the concept of quantity (biggest, smallest) or relating the word *five* with the numeral 5. They often stumble over “quantity patterns,” that is, putting together and taking apart quantities by using other quantities (for example,

73 “Understanding Dysgraphia,” *Just the Facts* (Baltimore, MD: IDA, 2012) <https://dyslexiaida.org/fact-sheets/> (accessed 10/10/17), p. 1.

74 Imogen Stubbs, “Like Driving in a Foreign Country,” *Not-So-Famous Dyslexics: What They Remember about School in Bright Solutions for Dyslexia* (n.d.) <http://www.dys-add.com/backiss.html#famous> (accessed 10/3/17).

composing 7 by adding 6+1, 5+2, 3+4, or subtracting 8-1, 9-2, etc.)⁷⁵ They might not understand that 5+1 is the same as 4+2. They might excel at the conceptual side of mathematics but flounder with the routines of arithmetic.

As with dyslexia and dysgraphia, it often helps learners with dyscalculia to be given multisensory methods for practicing arithmetic functions, such as:

- counting with beans, cereal, marbles, buttons, etc.
- using music to express duration, such as holding a whole note for four beats, then holding quarter notes for one beat each
- manipulating different colors and sizes of tiles or blocks to represent the 100's, 10's, and 1's columns in 3 digit numbers
- doing math problems on graph paper so that there are both vertical and horizontal lines available to keep the digits lined up
- using their bodies to tap or stomp out patterns.⁷⁶
- *Dyspraxia* makes it difficult for an individual to plan or carry out physical activity. It can affect gross motor skills such as walking and jumping, as well as fine motor skills such as gripping a pencil properly or enunciating clearly. Physical, occupational, or speech therapy can help develop the needed skills, as can everyday activities such as playing tag or hide and seek, swimming, tossing a bean bag, or doing jigsaw puzzles. Typing properly (not two-fingered) and playing electronic games can develop fine motor skills.⁷⁷
- *Nonverbal learning disability* (NLD) is a catch-all category for learning disorders that are not language-based, including problems with spatial judgment and orientation, difficulties relating parts to wholes, and problems interpreting other people's facial expressions, gestures, postures, and conversational cues.⁷⁸

It is common for a person to have more than one kind of learning disability. About 15–20% of the general population has some language-based learning disability, and dyslexia is by far the most common.

75 Marilyn Zecher, "Math Strategies for Students with Dyslexia," *Dyslexia Connection* (June 2017) <https://dyslexiaida.org/multisensory-math/> (accessed 10/15/17).

76 Brendon Hodnett, "8 Multisensory Techniques for Teaching Math," *Understood: For Learning and Attention Issues* (nd) <https://www.understood.org/en/school-learning/partnering-with-childrens-school/instructional-strategies/8-multisensory-techniques-for-teaching-math> (accessed 9/2/17).

77 Erica Patino, "Understanding Dyspraxia," *Understood: For Learning and Attention Issues* (n.d.) <https://www.understood.org/en/learning-attention-issues/child-learning-disabilities/dyspraxia/understanding-dyspraxia> (accessed 9/2/17).

78 Hall and Moats, *Parenting a Struggling Reader*, p. 85.

Q: Is Attention-Deficit/Hyperactivity Disorder (ADHD) a learning disability?

A: No. It is a behavioral disorder characterized by inattentiveness, distractibility, and/or hyperactivity and impulsiveness. It can have an impact on learning but is not itself a learning disability. ADHD often co-occurs with dyslexia, but one is not the cause of the other. Recent studies suggest that as many as 12–24% of those diagnosed with dyslexia also have attention disorders.⁷⁹

Q: Is executive function the same as dyslexia?

A: There are strong correlations between them but they are not identical. Individuals with dyslexia often, but not always, have trouble with a key skill that educators call executive function. It is just what it sounds like — “the management functions of your mind.”⁸⁰ Applied to reading, *executive function* requires us to have a plan, set priorities, activate prior knowledge, hold the new information in our minds while we manipulate it, employ workable strategies, and monitor our success.⁸¹ When executive function falters, it is difficult for a learner to assemble the parts of a project or task into a coherent whole.

Q: What should I do to learn more about dyslexia?

A: Join the International Dyslexia Association (IDA) DyslexiaIDA.org and the Hawai'i Branch (HIDA) HI.DyslexiaIDA.org to get current scientific information and access to local resources. These not-for-profit organizations support scientific research, educate the public, provide referrals, and advocate for the needs of dyslexic learners.

Benefits and services include:

- References to tutors trained in multisensory structured literacy approaches (SL) in your area
- References to professional evaluators trained to assess dyslexia
- Access to a national network of learning disabilities professionals
- Subscriptions to IDA's quarterly newsletter, *Perspectives*, and its scholarly journal *Annals of Dyslexia*

79 Judith Birsh, “Connecting Research and Practice,” in Birsh, ed., *Multisensory Teaching of Basic Language Skills* (Baltimore, MD: Paul H. Brookes, 2011), p. 13. See also Rhonda Marinussen, “The Overlap of ADHD, Reading Disorders, and Language Impairment,” *Perspectives* vol 41 no 1 (Winter 2015): 9–16.

80 Lydia H. Soifer, “Development of Oral Language and Its Relationship to Literacy,” in Judith R. Birsh, ed., *Multisensory Teaching of Basic Language Skills* (Baltimore, MD: Paul H. Brookes Publishing Co, 2011): 82.

81 Soifer, “Development of Oral Language and Its Relationship to Literacy,” in Birsh, ed., pp. 82–83.

- Local publications (including free copies of this *Resource Guide*)
- Notice of local events, including writing workshops and informational events
- Access to a community of knowledgeable, involved, and caring persons
- Discounts on our publications, conferences, and teacher training workshops
- One membership fee allows you to join the IDA and automatically become a member of HIDA at the same time

Author Tom McLaughlin, himself dyslexic, urges young people with dyslexia to learn as much as they can about it: “You’ll find yourself going, ‘I totally do that!’ There are many others like you, all of them probably have felt isolated, stupid, like they didn’t belong at some point, too.”⁸² Joining HIDA can help dyslexic learners, their families, their teachers, and the larger community to find the resources they need to take effective action.

82 Tom McLaughlin, “A dyslexic author’s writing tips for dyslexic kids.”

Dyslexia through the life cycle

Dyslexia is not something a person can outgrow. It is “hardwired” into the brain. Yet the brain is a work-in-progress, a dynamic organ that responds to structured intervention over time. When people say, “I used to be dyslexic but I got over it,” they are probably saying one of two things: either they received the appropriate education and learned how language works, so that they bypassed the difficulty; or, even without proper training, over time they developed coping skills to allow them to function effectively.

While it is never too late to teach a dyslexic person to read, write, and spell, early assessment and intervention can correct problems before they interfere with further learning. Our educational system stresses the two-dimensional aspects of learning in the early years; in primary school, students are expected to learn the sequence of letters in the alphabet, and the assembly of sounds to make letters, letters to make words, words to make sentences, and so forth. Native Hawaiian educator Edward Kame‘enui of the University of Oregon refers to the demands of early school years as imposing “the tyranny of time.”⁸³ Children need to read at least somewhat fluently by the end of first grade, Kame‘enui insists, yet the skills needed to do so are precisely the skills that dyslexics lack and probably will not develop without explicit instruction.

The three-dimensional aspects of learning, in contrast, where conceptual thinking and creative problem-solving take place, are the aspects at which dyslexics often excel. Yet these higher-level abilities come later in school, and by then dyslexic children are so far behind, and so convinced that they are stupid, that significant damage has been done. When concerned parents are reassured that “everyone develops at their own pace,” and encouraged to “wait and see” how the child does, this well-meaning advice overlooks the realities of school structures: adults may pretend not to know, but children all know that early failure at the paper-and-pencil side of academics marks a child as “stupid” or “lazy” in the eyes of too many teachers, parents, and peers.

Without fundamental change in the educational system, learners with dyslexia will continue to be tyrannized by a framework for learning that does not suit them. Many of them, like guitarist and lyricist Anthony Raneri of the band Bayside, will drop out of school, with the words “I must be dumb” following them into adulthood. With increased public awareness of dyslexia in recent years, more and more adult dyslexics are sharing their stories with the public. Stories of resilience and success from adults with dyslexia are enormously important to children and young people facing similar struggles.

⁸³ Edward Kame‘enui, “The Teaching of Reading and the Generosity of Readers,” *TEDxClaremontColleges* (August 10, 2015) <https://www.youtube.com/watch?v=gdx8UoaFmMTs> (accessed 10/17/17).

Assessed as dyslexic when he was 31 years old, Raneri felt relief and a “confidence boost.” Despite his achievements as a musician, the past stayed with him: “I felt really stupid when I was a kid, and as a performer, I know how important confidence is, and that goes for business, it goes for anything you do in life. If you don’t believe you can do it, no one else is going to believe you can do it.”⁸⁴ Raneri’s career as a musician entails keeping up with rapid chats with fans on social media, where he runs into problems. He used to think, “Why can’t I keep up? I must be dumb.” Now he just tells his fans, “I can’t keep up. I’m dyslexic. It’s OK. I just don’t read that fast.” Raneri concludes, “And now I know, I’m not dumb. Born different, that’s all.”⁸⁵

Tiffany Coleti Titolo, now managing director of a multinational translation agency, similarly recalls her self-esteem plummeting in elementary school when she could not keep up with her classmates. “I did not value myself because I was convinced I wasn’t as smart as my friends and classmates,” she recalls. Finding out in 5th grade that she had two learning disabilities, dyslexia and dysgraphia, was a double whammy: “I didn’t know what this “dyslexia dysgraphia disability” even meant, nor did my parents. I wasn’t sure of how my brain worked — or if it worked at all! Was I stupid?”⁸⁶

With bountiful support from her mother and teachers, Titolo found the education she needed. Like many learners with dyslexia, she found her strength in speaking could counter weaknesses in reading and writing: “I could speak like a Roman historian — my auditory skills were off the charts — but anything written on a piece of paper was very challenging.” She learned to be her own advocate, to accept moments of failure without giving up, to ask for help in her areas of weakness and to offer assistance to others who lacked her strengths. “Finding one’s passion and potency is equally important in various corporate tasks, whether one is a left-brained grammar expert or a right-brained visionary...No skill set can do it all.”⁸⁷

“Finding one’s passion” is a journey with which Native Hawaiian artist Sam Kaha’i Ka’ai, a master wood carver and teacher, is also familiar. Ka’ai struggled with dyslexia in school. He recalls himself as “a child who was supposed to have less than most, who looked out at the world and saw different things.”⁸⁸ He went to McKinley High school where his “dyslexic eyes, and the questioning spirit that is the bane of mundane teachers, led him to A’s in art...and even two art scholarships” which he was evidently

84 Jenny Wierschem “Born Different, That’s All,” *Dyslexia Connection* (2017) <https://dyslexiaida.org/6083-2/> (accessed 10/17/17).

85 Wierschem “Born Different, That’s All.”

86 Karen Dakin, “Tiffany Coletti Titolo: A Woman to Watch,” *The Examiner* (December 2012) <https://dyslexiaida.org/tiffany-coletti-titolo/> (accessed 10/17/17).

87 Dakin, “Tiffany Coletti Titolo: A Woman to Watch.”

88 Sally-Jo Bowman, “Reluctant Kahuna,” *Honolulu Magazine* (November 2000): 102.

unable to accept because of poor grades in his academic subjects.⁸⁹ Finishing high school in 1957 with a certificate of completion instead of a diploma, Ka'ai went on to become a leading figure in Hawaiian artistic and philosophical circles, as well as the first non-academic Fulbright scholar. Among his achievements, he is known for carving the male and female stern images for the Hokule'a's first voyage to Tahiti in 1976.

Gareth Cook, reporter for the *Boston Globe*, gathered the courage to write about his strategies for concealing dyslexia after decades of secrecy and shame. He encountered barriers that might have been disastrous to his profession as a newspaper writer and reporter, such as his inability to take notes during an interview: "If I try to write notes by hand while someone is talking," Cook relates, "I am hit with a jarring, confused feeling. If you have ever tried to talk on a bad phone line, where your own words echo back at you, then you know this sensation."⁹⁰ Cook discovered, however, that he can readily type notes during verbal conversations, an adjustment that allows him to succeed in his career.

Raneri, Titolo, Ka'ai and Cook are in good company. Much-admired local comedians Andy Bumatai and Augie T. are dyslexic. Reflecting on what he might do differently if he had the opportunity to repeat high school, Augie T. said, "I would have studied harder and listened. I am the luckiest guy in the world. I travel, I sit in big meetings (and) I speak in front of large groups, but my insecurities about not having gone to college, my struggle with dyslexia, and my goofing off in high school, keeps me from being confident at times."⁹¹ His advice to the graduates of his alma mater, Farrington High School, showcases his resilient spirit: "Speak the dream! What this means is, when you start talking about your dreams and goals out loud, you keep yourself accountable to your family, friends and the world. Start telling people your dreams and goals."⁹²

Andy Bumatai remembers childhood torments and school difficulties that will sound familiar to many dyslexic learners. "I didn't know I was dyslexic when I was growing up," he recalls. "I just knew certain things were hard for me. For instance, I remember whenever we'd play 'hide and seek' the other kids would laugh because I'd always mess up before I counted to 100. I stopped playing when the kids stopped hiding and started just standing near me to hear me count and then laugh and call me stupid." Noticing the gap between his abilities and his performance, his teachers called him lazy and wrote that common condemnation, "If only he would apply himself," on his failing report cards. On his own at age 16, he

89 Bowman, "Reluctant Kahuna," p. 104.

90 Gareth Cook, "Life with Dyslexia," *The Boston Globe* (September 28, 2003).

91 John Berger, "Augie T. Goes Back to School," *The Honolulu Star Bulletin* 11 (223) (August 11, 2006) <http://starbulletin.com/2006/08/11/features/story04.html> (accessed 10/3/17).

92 Berger, "Augie T. Goes Back to School."

dropped out of high school to support himself. Yet despite the hardships, Mr. Bumatai believes that “dyslexia helps me think differently. I’m stronger now because of it even though back then I remember feeling very alone.”⁹³

Other successful entertainers who are dyslexic include Jay Leno, Keanu Reeves, Whoopi Goldberg, Tom Cruise, Henry Winkler, Harry Belafonte, and Cher. World political leaders who are or were dyslexic include Winston Churchill, former Prime Minister of England; Lee Kuan Yew, former President of Singapore; Nelson Rockefeller, former Governor of New York and Vice President of the United States; and Woodrow Wilson, former President of the United States. Scientist Thomas Edison; paleontologist Jack Horner, “the dinosaur guy;” molecular biologist Carol Greider, winner of the 2009 Nobel prize in medicine; six-time Emmy award winning correspondent Anderson Cooper; athletes Caitlyn Jenner, Magic Johnson, and Greg Louganis; businessmen Charles Schwab (financier) and Richard Branson (founder of Virgin Enterprises); musicians/singers Bob Weir (guitarist for the Grateful Dead) and Brad Little (played the part of the Phantom in *Phantom of the Opera*); artist Robert Rauschenberg; political activists Erin Brockovich Ellis and Emma Goldman; writers Agatha Christie, Y.B. Yeats, and Gustave Flaubert — all these individuals developed their remarkable talents while struggling with dyslexia’s challenges.

Vice President Nelson Rockefeller’s advice expresses the same ready spirit as Augie T.’s: “Accept the fact that you have a problem. Refuse to feel sorry for yourself. You have a challenge; never quit!”⁹⁴

93 Email communication with author, May 13, 2007.

94 “Famous Dyslexics: What They Remember About School,” *Bright Solutions for Dyslexia, Inc.* (n.d.) <http://www.dys-add.com/backiss.html#famous> (accessed 10/3/17).

Interview with parent of dyslexic children

HIDA spoke with Anne Vitro, the parent of three boys and two girls ranging in age from 10 to 23. Anne is a piano and voice teacher and has home schooled all five of her children. At the time of the interview, Anne's three oldest children were in college and had no learning challenges, but she had come to realize that her younger two sons, ages 10 and 14, were having trouble learning. Her experience in recognizing the challenges her children were facing, getting help for them, and dealing with the feelings that accompany the process, are common to many parents of children with learning differences.

HIDA: What made you wonder if your children were having trouble learning?

Anne: When my son Joseph, now 14, was somewhere between seven and nine, I noticed that he was struggling with his reading, often reversing words like “bed” for “deb.” I didn’t notice earlier because he seemed to be making some progress and then seemed to just plateau. It was frustrating for me to watch him struggle word by word — I know it was painful for him. It also took me by surprise because my older children had sailed through reading. I wondered whether I was doing something wrong.

HIDA: What did you do about it?

Anne: I knew something wasn’t working in the way I was teaching my son and was lucky enough to know Leila Lee, one of HIDA’s tutors, who had a system for teaching reading to struggling readers.⁹⁵ I began to notice a gradual change. But I also know from working with my son that when reading comes hard to someone, it’s only natural that they don’t like it. Until they can learn how to work with their learning difference it is so stressful...both for the child and the parent.

With my youngest son, Robert, I realized that there were learning challenges when he was five or six. Basically, he couldn’t sit still. I took him to our family practitioner, who referred me to a child psychologist. In addition to his ADHD, I knew also that there was some dyslexia because of my experience with Robert’s brother. I had to set very clear rules and very clear consequences with my child, which makes the parenting job much harder. I also enlisted the tutor to help twice a week with Robert’s reading.

95 This is the Orton-Gillingham (OG) approach to language. Orton-Gillingham is a multisensory, structured language system, based on the research of neurologist Samuel Orton and educator Anna Gillingham. OG is the parent of many other structured literacy programs. See the section of this *Resource Guide* entitled “What do you need?” for further information.

HIDA: What does it feel like to be the parent of a son or daughter with dyslexia or any learning challenge?

Anne: You go through different emotions. First, I wondered what I might have done wrong. Even my older children wondered about whether I was to blame. Once you find out what's going on, you need to re-think how to deal with your children. My son with dyslexia tends to rely on me to set guidelines; I want him to become more internally motivated and I always have to challenge him in that regard. My younger son, with ADHD, requires me to think ahead of time and give him advance notice about things.

It can be exhausting. Sometimes I just wish I could be a normal parent and not always have to be ahead of the game. It's good to involve other people and activities and to give yourself a breather.

HIDA: What have you learned that you wish you had known earlier?

Anne: I wish I had had my older son tutored earlier than I did, even as young as four years old. It would have helped to diagnose the problem earlier. It's a careful balance: you don't want to jump the gun; in fact, parents who jump all over their kids who are not excelling bother me. I think that all learning is a bit of a struggle, but there should be some peace and satisfaction in the process. It's good to stretch, but not for a student to be miserable.

I want my children to earn a good living, but most of all, to be content with what they are doing. My brother had a learning difference and he could never measure up to the expectations of my father, who was an attorney. So I don't want to pressure my sons with expectations that are unrealistic, but I want to support them to reach whatever goals they set for themselves.

HIDA: What could you tell other parents of children with dyslexia or any learning difference?

Anne: Even though I have home schooled my children, I feel that every parent is a home schooler to some extent. You need to stay involved. When I was growing up and going to public school, if I was struggling with math and asked my mom for help, she'd say: "Ask your teacher; that's what they are paid for." But teachers can't worry that much about the kids who struggle or the kids who excel. You, as the parent, need to know what's going on with your child.

Also, don't forget to focus on your child's strengths. We spend so much time working on their weaknesses, that sometimes we forget this. I also find it's good to speak to others going through the same thing and to learn from speakers that HIDA brings in for their workshops and conferences.

Where should you start?

ASSESSMENT

Educators utilize the word *assessment* in different ways:

- Brief assessment of young children, usually in kindergarten through 2nd grade, to determine if they are at risk for a learning disability, is called *screening*. These quick assessments take a few minutes and should be administered several times per year to gauge students’ progress.⁹⁶
- Assessment also refers to the comprehensive evaluation of a learner by a trained professional, either through the State Department of Education (DOE) or private professional services. This is a more lengthy process than screening, often taking several hours and utilizing different testing instruments. This is called a *professional assessment*. For a very young child, this can be broken into more than one session.
- There is also a third use of the term, when trained tutors take informal “snapshots” of their learners to determine, at a hands-on level, how to proceed with the learner in front of them (See “Selecting a tutor,” below.) This is called an *informal assessment*.

Here we are talking about the second meaning of assessment, the full-on professional evaluation that has legal standing and can be used to qualify for services. Educators use the term *evaluation* to refer to the process of determining if a student has a disability and, if so, what educational services are needed. The term *assessment* in this context refers to “the specific tests, instruments, tools, strategies and other materials used.”⁹⁷

To get started down the road to a good educational outcome, this sort of assessment, or comprehensive evaluation, is advised. The purpose of assessment is to acquire an accurate picture of the learner’s strengths and weaknesses. Assessment is not primarily about test scores and it does not provide a template for subsequent instruction. Rather, it provides a scientifically-based snapshot of the individual’s way of learning that trained educators can use to fashion effective intervention.

There is no single test for dyslexia, but an array of assessment tools can provide answers. HIDA maintains a list of private testing centers and diagnosticians in the state who provide assessments for dyslexia. These

96 “Universal Screening: K–2 Reading,” *Just the Facts* (Baltimore, MD: IDA, 2017): 1. <https://dyslexiaida.org/fact-sheets/> (accessed 10/10/17).

97 “The Evaluation Process,” *A Parent’s Guide to Partnership in Special Education* (May 2015).

professionals are trained to conduct a psycho-educational assessment as opposed to a mental health evaluation. Psycho-educational testing measures cognitive ability, academic achievement, language proficiency, and selected nonacademic processes related to learning.⁹⁸ Tests may be conducted by a single individual or an interdisciplinary team. A qualified tester must understand how individuals learn to read, why some people have trouble learning to read, and how to measure appropriate reading interventions. The evaluator should go beyond general conclusions, such as observing that the individual has a learning disability, and provide a specific diagnosis of the kind of disability or difference so that proper remediation can be arranged. A thorough physical exam should also be conducted by the individual's doctor to rule out visual, hearing, or emotional impairments.

Many parents fear or resent having their child “labeled” as learning disabled. The Roper Poll commissioned by the Coordinated Campaign for Learning Disabilities (CCLD) in 2000 found that 48% of parents felt that having their child labeled “learning disabled” was more harmful than struggling privately with the inability to read and write.⁹⁹ While the parents’ intentions may be good, avoiding the label while keeping the child in an unsuitable educational situation does much more harm than good. In fact, it can be a great source of relief for the child, the parents, and the teachers finally to have a name and an explanation for the problems they have noticed. Assessment can be empowering for the dyslexic learner because it dispels more insidious suspicions and reassures everyone that something can be done. A child who is assessed as dyslexic has many resources to utilize and options to pursue, while a child who is failing in school and is not given those resources faces far more damaging labels, such as “lazy” or “stupid.” As musician Anthony Raneri said when he learned he is dyslexic: “Now I know, I’m not dumb. Born different, that’s all.”¹⁰⁰

Some things dyslexic learners and their parents should know about assessment include:

- Testing may be obtained from public schools, clinics, or private professionals. Public schools are not diagnostic facilities and the purpose of testing in public schools, which is mandated by federal law, is to establish eligibility for services rather than to identify or remediate the full range of learning challenges a child may face.
- Parents should consult with the Student Services Coordinator if the student is in public school. Parents must initiate evaluation of

98 Hall and Moats, *Parenting a Struggling Reader*, pp. 116–117; “Dyslexia Assessment: What Is It and How Can It Help? *Just the Facts* (Baltimore, MD: IDA, 2017), p. 1. <https://dyslexiaida.org/fact-sheets/> (accessed 10/10/17).

99 Hall and Moats, *Parenting a Struggling Reader*, p. 106.

100 Wierschem, “Born Different, That’s All.”

their children by making a written “Request for evaluation” to the public school the child attends or could attend (if home schooled or attending private school). The school will convene a team including the parents to review existing data on the child and determine if additional assessments should be made. This team has a timeline for completion of its work, which must include a variety of assessment tools and approaches to obtain relevant functional, developmental, behavioral, and academic information regarding the suspected disability. Be sure to remember that the Hawai'i DOE uses the federal IDEA category *specific learning disability* for children who may have dyslexia, and parents should use that language in seeking assessment or services. In October 2015, the federal D.O.E. issued a guidance letter to states and schools as a reminder that there is nothing in the law to prohibit them from using the terms dyslexia, dyscalculia, and dysgraphia in a student's IEP and evaluation.¹⁰¹

- For a detailed explanation of the DOE procedures for evaluation, re-evaluation, parental consent and due process, see *A Parent's Guide to Partnership in Special Education* put out by the Special Education Advisory Council (SEAC) and the Special Parent Information Network (SPIN). It is periodically updated at <http://spinhawaii.org/education-parent-guide/>.
- Seek private assessment if necessary. It is appropriate to request references from others who have been assessed by the evaluator.
- Comprehensive evaluation may be expensive, but it is essential. Results will help clarify any problems and will also establish eligibility for services in special education programs at K–12 and college levels.
- Be very careful to select a qualified professional. A qualified evaluator or team can come from the fields of education, reading, speech language pathology, psychology, or neuropsychology. The evaluator will have professional knowledge of and experience in reading development, language processes, dyslexia research, psychology, education, and educational regulations. The evaluator must be able to observe the learner carefully and identify relevant patterns in the data. An established history of providing assessments is very valuable. Often parent networks are good sources of information about evaluators in your area. A list of qualified individuals and testing centers in Hawai'i is posted on the HIDA website. See HI.DyslexiaIDA.org/tools-information-resources/.
- Tests will vary depending on the age of the person as well as the evaluator's observations about the individual's strengths and weaknesses. Young children may be tested for phonological pro-

101 “Dear Colleague,” U.S. Department of Education (October 23, 2015) <https://www2.ed.gov/policy/speced/guid/idea/memosdccltrs/guidance-on-dyslexia-10-2015.pdf> (accessed 1/12/18).

cessing (ability to hear similarities and differences among sound units), oral language abilities, and the ability to make sound/symbol associations.

- Testing will be most efficient when evaluators are guided by clear referral questions and relevant background information. Concrete data are helpful, including the following: samples of spelling tests, written work, and reading materials; observations of words frequently mispronounced or warning signs regularly observed; medical records and developmental milestones such as the age at which the child began to talk; results of all previous testing, including standardized tests from school; concerns expressed by teachers or other professionals; information about the type of instruction already received.¹⁰²
- Even without a diagnosis of dyslexia, when problems are identified, remediation can begin immediately. While diagnosis can be cloudy because our brains are so complex, most people who need help learning to read, write, and spell can benefit from structured literacy instruction using multisensory techniques.
- The expert evaluator should consider other causes of learning problems including ADHD, affective disorders such as anxiety or depression, central auditory processing dysfunction (a generalized weakness in processing information), or pervasive developmental disorders (impairments in social relations and communication, including autism and Rett's disorder).

TESTS

While the specific tests chosen for each individual will vary according to their potential to address referral issues, a thorough assessment will include evaluation of the following:

- Expressive oral language (the ability to communicate with others verbally)
- Receptive oral language (the ability to comprehend what others say)
- Expressive written language (the ability to communicate with others in writing)
- Receptive written language (the ability to understand written text)
- General intellectual functioning
- Cognitive processing (including the ability to detect, understand, organize, and remember information, comprehend patterns, and make appropriate decisions based on information received)
- Specific oral language skills related to reading and writing, includ-

102 Hall and Moats, *Parenting a Struggling Reader*, p. 127.

ing phonological processing (ability to hear similarities and differences among sounds)

- Developmental, medical, behavioral, academic, and family history (including avoidance of or frustration with language in pre-K years)
- Educational tests to determine the individual's level of functioning in basic skill areas of reading, writing, spelling, and math. These tests include:
 - Phonological awareness (ability to access the sound structure of spoken language)
 - Phonological memory (ability to recall sounds, syllables and words)
 - Decoding (reading) single words, both real words and nonsense words (made up words that follow English language patterns of pronunciation and spelling, such as *steb* or *bront*)
 - Oral and silent reading of texts to evaluate rate, fluency, and accuracy
 - Reading comprehension
 - Dictated spelling test
 - Handwriting
 - Written expression, both sentence writing as well as story or essay writing.
 - Mathematical calculations and reasoning
- For K–12 students, classroom observation and review of the language arts curriculum to assess remediation programs that have already been tried.¹⁰³

USING THE EVALUATION

It is crucial to make full use of the results of the evaluation:

- Always ask for a written report including clinical observations, test scores and explanations, and analysis of the patterns of errors.
- Always ask the tester to explain and discuss the test results orally in a language that the dyslexic learner and/or family can understand.

¹⁰³ For general discussion of assessment, see “Dyslexia Assessment: What Is It and How Can It Help?” *Just the Facts* (Baltimore, MD: IDA, 2017) <https://dyslexiaida.org/fact-sheets/> (accessed 10/10/17). See also Margaret Jo Shepherd and Eileen S. Marzola, “Assessment,” in Judith R. Birsh, ed., *Multisensory Teaching of Basic Language Skills* (Baltimore, MD: Paul H. Brookes Publishing Co, 2011) pp. 427–458.

- Use the test to understand the individual's strengths and weaknesses. Think about whether the results of the assessment reflect what the individual knows about himself/herself, and what his/her family knows about him/her.
- Always ask for the tester's recommendations regarding tutoring, teaching strategies, accommodations, modifications, or additional testing.

Be aware that understanding the results of testing is crucial for taking the next step, including selecting a tutor or creating an Individual Education Program (IEP).

What should you do after you are assessed?

There are two general approaches to dealing productively with dyslexia. The first is *remediation* and the second is *accommodation*.

- A remedial program, such as a multisensory structured language program (or structured literacy program, or SL), provides instruction and practice in developing needed skills. Remediation can be successful at any age, but is easier when the learner is young.
- Accommodations, such as a note taker or a speech-to-print dictation machine, provide technologies and resources to work around the missing skills. Accommodation asks less of the dyslexic learner, so is often more attractive to teenagers and adults, but by itself does not help the learner to grow as a reader or writer.

Accommodation is not a substitute for remediation. Both are important for dyslexic learners. They can be pursued simultaneously.¹⁰⁴ The temptation to turn away from remediation and hope that accommodation will solve all learning problems is another version of the search for the “quick fix.”

ADULTS

Upon receiving and comprehending the assessment, the dyslexic learner who is not currently a student will have to decide what to do with the new information. Some adults with dyslexia can negotiate the demands of their jobs and families without ever truly learning to read, write, or spell. Others find that the need to change jobs, seek promotion, expand careers, or read to their children or grandchildren makes it necessary that they develop their language abilities.

For the dyslexic adults who decide not to seek further assistance, the knowledge gained from accurate assessment can still be very useful. These individuals now have a name for their life-long struggle with language. They now know they are not stupid, nor are they incapable of learning. They know they are in good company, since 15–20% of the population is dyslexic or has some other language disability. They know that dyslexia runs in families, so they can be on the lookout for similar difficulties in other family members.

Adults who decide to seek assistance should consider engaging the services of a private tutor. General classes in literacy are unlikely to provide the specific form of instruction needed by dyslexic learners. On-the-job training, GED preparation, and other kinds of adult education will be much

104 Birsh, “Connecting Research and Practice,” in Birsh, ed., p. 15.

more useful once the person has “cracked the code” of language through structured literacy instruction using multisensory techniques. It is never too late: researchers at the medical centers of Wake Forest and Georgetown Universities have found that “phonics-based instruction can actually change brain activity in adults with dyslexia, resulting in significant improvements in reading.”¹⁰⁵

A list of qualified tutors in Hawai'i who are trained in structured literacy (SL) approaches is posted on HIDA's website. See HI.DyslexiaIDA.org/tools-information-resources/.

STUDENTS

If the individual who has been assessed is currently in public school, next steps include:

- Arranging an eligibility meeting including parents and teachers
- Determining eligibility for school services
- Completing an Individual Education Program (IEP), 504 plan, or school-based intervention plan.¹⁰⁶

At the meeting to determine the child's eligibility for school services, parents are key participants. Parents need to understand the specialized language and procedures used by the Department of Education (DOE) in assessing your student and determining eligibility for services. Parents or other adults will probably need to advocate for the child's needs, while older students will also need to advocate for themselves. The first crucial step is securing an **IEP**.

In many cases, the development of an Individual Educational Program (IEP) will take place at the same meeting where the results of the evaluation are explained. An IEP is “the roadmap to be followed in making special education services available to that child.”¹⁰⁷ It is developed to ensure that appropriate services for the child will be provided in the least restrictive environment. Students with dyslexia have a legal right to an appropriate education. An IEP is both a management tool, to ensure that the school is providing needed services, and an evaluation device to de-

105 “Adults with Dyslexia Can Improve with Phonics-Based Instruction, Research Shows,” *Science Daily* (October 29, 2004) <http://www.sciencedaily.com/releases/2004/10/041027144140.htm> (accessed 10/7/17).

106 Leadership in Disabilities and Achievement of Hawai'i (LDAH) offers workshops and small group sessions on understanding evaluations and developing an IEP. See ldahawaii.org/events/ for information (accessed 9/19/17).

107 Simon and Kule-Korgood, “Rights of Individuals with Dyslexia and Other Disabilities,” in Birsh, ed., p. 689.

termine if the student is making progress toward stated goals.¹⁰⁸ An IEP meeting is not about asking for favors; it is about securing the education to which the student is entitled.

An effective and appropriate IEP combines these three sources of information:

- Evaluation results
- Parental input
- Consultation with the child's diagnostic team

The IEP should address all the child's unique needs regarding learning. The IEP should contain information regarding the student's Present Levels of Educational Performance (PLEP). The PLEP section of the IEP will contain information about each area of need identified in the evaluation and will indicate how a child's disability affects their academic progress in the general curriculum.¹⁰⁹

The **Goals** and **Objectives** section of the IEP will provide the following:

- Measurable annual goals, including academic and functional goals
- Statements about how progress in reaching goals and objectives will be monitored and determined
- Identification of persons responsible for implementation

The IEP may prescribe specialized instruction and provision for related services such as counseling or other therapies that are necessary in order for the child to benefit from education under the service section. Only after the program is developed should there be discussion of placement or location for implementation of the program. Placement must be in the least restrictive environment and could be in:

- A modified program in the regular classroom, regular class placement with supplemental tutoring, remedial instruction, resource room, and/or counseling
- A special class or school.¹¹⁰

All supplementary aids and services, program modifications, and supports for school personnel must be appropriate based on the PLEP, agreed to by the team and written into the IEP.

108 "Understanding IEPs," *Ha'imo'olele-Tell Your Own Story*, (n.d.) http://www.cds.hawaii.edu/iep/mscurriculum/student/unit_5/5_2.pdf (accessed 9/12/17).

109 "Program/IEP," in *A Parent's Guide to Partnership in Special Education* (May 2015).

110 "Placement," in *A Parent's Guide to Partnership in Special Education* (May 2015).

According to the DOE website, “the following participants need to be present at an IEP meeting:

- a representative of the public agency, other than the child’s teacher, who is qualified to provide, or supervise the provision of, special education
- the child’s teacher
- one or both of the child’s parents
- the child, if appropriate, and
- other individuals at the discretion of the parent or agency.

If a purpose of the meeting is the consideration of transition services for the student, the following shall also be invited:

- the student
- a representative of any other agency that is likely to be responsible for providing or paying for transition services.

For a child with a disability who has been evaluated for the first time, either of the following needs to be present

- a member of the evaluation team; or
- an IEP team member who is knowledgeable about the evaluation procedures used with the child and is familiar with the results of the evaluation.”¹¹¹

At this point in the process, parents and students must decide if they are satisfied with the program the public school can provide, and if they can afford to look into private alternatives. Parents are frequently put in the difficult position of trying to wrest resources from underfunded schools and reluctant administrators. As two experienced attorneys for the rights of disabled students acknowledge, “Unfortunately, placement decisions often depend on available resources and local politics.”¹¹² Parents often become very skilled at negotiating with their school and become effective advocates for their child’s needs. Yet it is time-consuming and frustrating, sometimes nightmarish, to struggle with a school system that is not as responsive or flexible as the parent and the child would like.

111 This description is taken verbatim from “Developing an IEP,” Individualized Education Program, Hawai’i State Department of Education (nd) <http://www.hawaiipublicschools.org/TeachingAndLearning/SpecializedPrograms/SpecialEducation/Pages/IEP.aspx> (accessed 1/7/18). Readers are advised to check the DOE website for updates.

112 Simon and Kule-Korgood, in Birsh, ed., p. 690.

Interview with students

To hear the views of young people growing up dyslexic in Hawai'i, HIDA interviewed Oren and Ari. At the time of the interview, Oren was 19 years old and a sophomore in college. He attended kindergarten at a public school in Honolulu, switched to a small private school in Kailua for first grade, before transferring to Assets School in second grade. His younger brother, Ari, 15 years old at the time of the interview, was a sophomore in high school and had been at Assets since kindergarten.¹¹³

HIDA: When did you find out that you are dyslexic?

Oren: As I recall, it was 2nd grade. That would have been...14 years ago. I would have been 6. That's when my parents took me to the then-head master at Assets School, and she tested me and told my parents I was dyslexic, and they told me. I had no idea what it meant at the time.

Ari: I'm not sure. I believe it was when I was quite young. We went to a woman, I believe her name was Barrett. We did a series of tests; I did some writing exercises. After a while, she diagnosed me with dyslexia. My parents put me in Assets School, one of the only schools on the island or in the U.S. that's especially for dyslexic children.

HIDA: Did it mean anything to you at the time?

Oren: I really didn't think anything at the time. To be honest, it took me a couple of years to really grasp exactly what that meant. At that time, all it meant to me was that I had to change schools, which I wasn't keen on.

Ari: No. I know it's a learning difference. Some people call it a disability. I don't think so. It hasn't really changed anything. Of course I don't have any experience not being dyslexic. That's how I was born. It just doesn't seem any different than being normal.

HIDA: Do you recall anyone explaining dyslexia to you at the time?

Oren: Someone may have told me that it meant I learn differently, or I may have just filled that in later. My memories of that particular event are a little sketchy.

Ari: My parents told me I was going to Assets because it was for dyslexic kids. That's about all I understood: I'm dyslexic and I need to be there because it's the best place. My older brother had jumped around to several different schools before they found Assets, so I had the benefit of early testing.

¹¹³ In the interests of full disclosure: these young men are the sons of the author of this *Resource Guide*.

HIDA: Do you remember struggling to learn to read and write?

Oren: My coherent memories are mostly of my first grade year at Seagull School. Nothing particular. I do remember having a lot of trouble with spelling and handwriting and that sort of thing. I was having a hard time writing four letter words when the rest of the class was mostly writing sentences.

Ari: No, not really a struggle. I just didn't like it. I mean, I wasn't really bad at it. I just didn't enjoy reading. My handwriting was bad, but I got the basics down pretty quickly.

And now I love to read. My handwriting is still not that good. So mostly I type.

HIDA: When did things begin to change?

Oren: Not right away. I didn't really learn to read until 2 years later, in 4th grade. It wasn't really a gradual process. I went from not reading at all to reading a lot.

My teacher realized that trying to get us to read huge books we had no interest in reading was kind of silly. She handed me a small, thin fiction book written for little kids about some cats that could fly. I thought this was the greatest thing ever when I was in 4th grade. I learned to read so I could read that story. That was how it went from there.

Ari: I'm not really sure what changed. I just started reading more often. Around 7th or 8th grade, I started reading for pleasure. At school there is often a lot of down time. If I had a book, I had something to do during the down time. Now I read both out of school and in school a lot.

HIDA: Do you remember being read to by your parents?

Oren: Yes. I read books occasionally on my own for pleasure, but mostly my mom read to me. I got to the point that I wasn't into the idea of her reading to me anymore, which we used to do a lot, but I still liked the stories. She used to read these really advanced *Star Wars* books, so one day I just read one, by myself. Once I'd read that, the rest didn't seem so hard.

Ari: Yes, my mom did read to me when I was younger; before I went to bed she would often read me stories because I didn't particularly want to read. That exposed me to different stories and types of books. I'm sure it had an effect on me wanting to read more.

HIDA: What about the writing and spelling part? When did that start to change?

Oren: Well, it's never really changed in that I've never been a good speller,

and I don't think I ever will be. I've never had good handwriting, although that changes depending on how often I'm called on to write. I'm not really sure when I started typing. The first time I did any large amount of typing was probably during our sabbatical, when I wrote a lot when we were traveling around the U.S. and in Israel. I just wrote all the time on the computer.

I learned to type over at least a couple of years. It took me awhile. I've more or less gotten the hang of it by this point. I do remember a few computer programs to teach typing.

Ari: I was always decent at spelling, but I got a lot better around 8th grade. I did have Ms. Brouwers. She was a really good teacher.

HIDA: How do you think people should think about dyslexia. Is it a learning disability?

Oren: No. I see all these books, articles, newspapers, and speeches that people give about it, and they all refer to dyslexia as a learning disability. Even the most forward-thinking people call it that. I'm not usually someone who gets all worked up about what you call something. I don't get all angry about people being politically incorrect. But that's just *regular* old incorrect. It's *not* a disability. Calling it such is deliberately misleading. It would be like saying that someone with long legs and shorter arms has a disability. No, he doesn't. He's just better at running than he is at boxing. OK, he's not disabled. A disability would be if one of his arms didn't work right.

Ari: No, it's not a disability. I can't spell very well. My handwriting is terrible, but I'm very good at math. I don't really consider that a bad thing. What I'm bad at, I can use a computer for. My spelling is not that great but it's good enough to use spell check.

I consider myself pretty lucky.

HIDA: How do you think about dyslexia?

Oren: If I understand it correctly, in most people it manifests as people who have trouble with language. That's why English is so difficult for dyslexics; it has so many things you just have to memorize.

Dyslexics don't tend to be as good at linear thinking. By the same token, you get to have more creative stuff. You get better at three dimensional thinking, non-linear thinking, that manifests in different ways in different people. I know a lot of dyslexics who are very good at math. I am horrible at math, and I will never be good at it, and I'm dyslexic, so it can manifest both ways.

I'd like to think I'm fairly creative, which would be thanks to being dyslexic. I certainly wouldn't want to change it. That would be silly. People

who...I don't think very many people are seriously considering removing the genes that cause dyslexia, although I have seen a couple of people talk about it. Even the ones who say that's a bad idea continue to refer to dyslexia as a disability. Which it isn't. It's just not. It can hold you back if you're in a bad situation where no one knows how you do things. All it means is that you learn language differently, in my experience.

Ari: I would consider it more a mixed blessing. I'm good at some things, and not so good at other things. That's true for everyone; for dyslexics, it's more of a singled-out thing. Some people, even some teachers I've met, call it a disability, but they're wrong.

HIDA: Do you have any advice for kids who are dyslexic and might be struggling?

Oren: Well, that would depend a lot on their situation. Definitely dyslexics can have a lot of problems in public schools, because a lot of the teachers have no idea how dyslexia works or how to deal with it.

My advice would be...don't try to force it. In a lot of situations, that just won't get you anywhere. Like, I was taught to read very well by people who knew how to teach dyslexics. But you could be in a situation where you don't have that, and maybe your parents don't have the resources to send you somewhere else, since, sadly to say, places that know how to teach dyslexic students are very expensive these days. My advice is, don't worry that you're having problems reading. Find the thing that dyslexia makes you good at and go with that. That's what your strength is. That's what you should try to do.

The college level is actually much friendlier to dyslexics than high school is. In college they are less focused around a set line of thinking and way of doing things. Colleges tend to be more liberal and more willing to experiment, which is what you need with dyslexia. The primary nature of college is to teach things, whereas the primary nature of high school is to keep you busy so you're not out causing vandalism or what have you.

Ari: Your brain works differently and it can be difficult if you're in a bad environment for dyslexics. But just work on it.

There's not a "treatment" because it's not bad. Basically, the way you get over the things you're not so good at is, you work at them. You find other ways to do that same thing.

HIDA: Anything else you think about with regard to dyslexia that you would like to share?

Oren: I would like to tell people that, disappointed as this may make them, I do not read backwards. I have never read backwards or upside down or anything like that. I don't know anyone else who has. I'm not sure where this idea came from. I guess there are some people out there who do.

I'd also like to point out that being dyslexic does not necessarily mean you are ADHD. It also doesn't necessarily mean you aren't. A lot of people tend to think those things always go hand in hand, and they don't.

Ari: The main thing is getting the right environment for someone who is dyslexic. You need an environment that specializes in mostly one-on-one attention for the dyslexic kid to work in an area the kid is not proficient at. If you're already good at something you don't need much help at it. But if you have a problem with writing, or math, or spelling, and you can get one-on-one time with a tutor or a small class, it would really help the person. I know it helped me.

What do you need?

HOW DO PEOPLE WITH DYSLEXIA LEARN BEST?

Dyslexic learners thrive when they are directly and explicitly taught using a language-based approach that is structured, sequential, and cumulative, while also flexible and emotionally sound. This approach builds step-by-step, utilizing needed repetition and review, but it is not rote. On the contrary, it is based on “active techniques [that] require the learner to select, classify and consciously manipulate sounds and letters so that more thorough learning occurs.”¹¹⁴ Multisensory techniques bring all learning modalities to bear on the process of cracking the code.

Structured literacy instruction (SL) (also called structured language instruction)¹¹⁵ is based on the research of Samuel Orton in the 1930s. Out of his work with Anna Gillingham came the Orton-Gillingham (OG) approach, which is the “parent” for a variety of other programs including Project Read, Slingerland, Wilson, Spalding, and Alphabetic Phonics. One-on-one or small group instruction is best, although the approach can be adapted to larger classroom settings.

Many educators, when they first hear about Orton-Gillingham (OG), comment, “Isn’t that just good teaching?” The answer is yes, most students would probably benefit from this careful attention to the process of learning; hands-on, step-by-step instruction engaging multiple senses is effective with almost everyone. With dyslexic students, it is absolutely crucial.

WHAT IS STRUCTURED LITERACY (SL) INSTRUCTION?

SL instructors go through the English language step by step, methodically breaking it down and putting it back together. We teach our students to identify the 44 sound units (phonemes) that make up the English language. We explain the rules and the exceptions, building a logical edifice to capture the flows of Latin, Greek, French, Anglo Saxon, and Middle English that mix into contemporary English. We teach to our students’ intelligence, supplementing their inability to intuit the patterns among sounds and symbols by directly explaining those patterns. We take the same methodical approach to writing sentences and paragraphs: break the task down into its component parts, organize the parts in logical

114 Louisa Moats, *Speech to Print*, p. 209, quoted in Judith Birsh and Jean Schedler, “Planning Multisensory Structured Language Lessons and the Classroom Environment,” in Birsh, ed., p. 466.

115 “Effective Reading Instruction for Students with Dyslexia,” *Just the Facts* (Baltimore, MD: IDA, 2017), p. 1.

sequence, and reconstruct them step-by-step. Repeat; review; take another step. We go as fast as we can, as slow as we must.

Scientific studies of language learning establish that an effective SL program must include the following elements:

- *Explicit instruction:* Instructors cannot assume that any elements of the reading, writing, and spelling process are obvious or “go without saying.” Dyslexic learners need to be directly taught each step with continuous student-teacher interaction.
- *Systematic and cumulative approach:* Learning must proceed from the simple to the complex, the known to the unknown, in a methodical, step-by-step fashion, leaving nothing to chance. Each step builds on what was learned before. Because dyslexic learners often make up with their general intelligence what they lack in their understanding of language, effective instruction spells out

BIOGRAPHY BOX 5¹

LEARNING THE SEQUENCE
OF SOUNDS

Elan had trouble with sequencing. He had difficulty putting sounds or words in a row and keeping them there. His many talents — his curiosity, sense of humor, and deep thinking — allowed him to soar in verbal exchanges, but in order to read and write he had to be able to relate sounds to symbols in an orderly, step-by-step fashion, not leaving any needed letters out, not putting any extra ones in, not substituting one for another. Because he could not hear the order of sounds, being encouraged by his teachers to “sound out” the letters

1 Kathy E. Ferguson, “Dyslexia Manifesto,” in Barbara Arneil and Nancy Hirschmann, eds, *Disability and Political Theory* (Cambridge, UK: Cambridge University Press, 2018): 137–160.

was useless. Words and sentences had two parts, as far as Elan was concerned — the first part and the rest. The first word in *Cats like to drink milk* is *cats*, he knew, but the rest was a jumble. The first syllable of *magnify* is *mag*, but the middle and the end were interchangeable. The other kids made fun of him for not apprehending the order that seemed obvious to them: “Sometimes I get things backwards,” he told his tutor.

For Elan, everything was either the first thing, or not the first thing. But reading and writing don't work like that. Without clear sequence, the word *bold* easily becomes *blood*; *drip* becomes *dirt*; *fern* becomes *friend*. Accurate sequence is critical to literacy.

Elan learned sequencing by starting with words, then moving to syllables, then sounds. His tutor wrote words on colored construction paper, one word per sheet, starting with simple sentences: *Elan likes pizza*. The tutor put the sheets of paper on the floor, so that Elan could stand on each word as he said it, moving deliberately through the sentence, always going from left to right. Then Elan himself would place the word sheets on the floor and step through the sentence as he read each word. Slowly they added complexity: *Cats like to drink milk. The puppy is eating his dinner*.

Once the order of words was clear, they moved to syllables, again starting with simple units: *rab...bit*; *can...ter*; *fish...ing*. Finally, they worked on sounds within a word: /p/ /ō/ /t/ = *pot*; /s/ /t/ /ŭ/ /b/ = *stub*; /sh/ /ī/ /p/ = *ship*. In each case the lessons moved logically from the simple to the complex, each step explained directly and practiced until success was automatic, all available senses brought to bear. Elan cracked the code and soon became the best reader in his class.



the complex rules and patterns of the English language in detail. One woman in her late 50’s, as she learned the logic of the English language through one-on-one SL tutoring, exclaimed in disbelief, “Why didn’t anyone tell me this before?” Like many students, she found it enormously liberating to learn these rules, because for the first time English made sense to her.

- *Diagnostic and prescriptive approach:* *diagnostic* means the teacher analyzes the individual student’s needs based on careful assessment of their learning processes, and *prescriptive* means the teacher guides each individual student in the most effective way possible, in order to achieve automaticity in decoding (reading individual words) and encoding (spelling) so that the student’s

BIOGRAPHY BOX 6¹

UNDERSTANDING WHAT YOU READ

Karen initially appeared to read fairly well. She could read lengthy passages aloud with few errors of decoding (reading individual words). She read as smoothly when the text was upside down as she did when it was right side up. Yet, when she looked up from the page, she retained nothing at all of the content. She did not recall the most basic elements of the story. Her eyes filled with tears and she gave a hopeless little shrug. “I have trouble...” she said in a small voice.

Karen’s troubles with reading comprehension hid a more basic problem with phonological awareness. She worked hard at decoding (reading) each word, tried hard not to make any mistakes, and consequently wasn’t tuned in to the con-

1 Kathy E. Ferguson, “Dyslexia Manifesto,” in Barbara Arneil and Nancy Hirschmann, eds, *Disability and Political Theory* (Cambridge, UK: Cambridge University Press, 2018): 137–160.

tent of the words. An adult who heard her “read” and did not engage her in conversation might well assume she understood the text, but she had in fact only said each word and not apprehended the writing as a whole. As explained by neuroscientist and child development expert Maryanne Wolf, Karen’s decoding lacks the needed automaticity “to allocate time for comprehension.”² It takes a skilled reader one half of a second to read nearly any word. During that half second, a great deal happens: “the almost instantaneous fusion of cognitive, linguistic, and affective processes; multiple brain regions; and billions of neurons that are the sum of all that goes into reading.”³ Without “the secret gift of time to think” that emerges in a skillfully reading brain, readers may decode words on a page but they do not readily develop the capacity to think beyond those words.⁴ In other words, they may be saying the words but they do not understand what they are reading.

In addition to working on gaining automaticity with sounds, syllables and words in her tutoring sessions, Karen practiced guided reading. She read a passage once to decode each word, then another time to absorb the meaning of the text, and a final time to develop her fluency (smooth and regular pace). She discussed the passage with her tutor between readings, identifying key vocabulary, important information, and striking turns of phrase. She learned to pre-read (look at the text for clues about its content), to make inferences, and to guess where the passage might go next. Karen became a brave reader, willing to take risks in order to understand.

2 Wolf, *Proust and the Squid*, p. 177.

3 Wolf, *Proust and the Squid*, p. 145.

4 Wolf, *Proust and the Squid*, p. 221.



attention is freed up for comprehension and expression.¹¹⁶ (Automaticity means that the answer has become automatic and the learner no longer needs to think about it at a conscious level.) The diagnostic and prescriptive interaction requires active participation of teachers and students. It integrates all layers of language: sounds, words, spelling, handwriting, vocabulary, comprehension, and composition. We ask questions, foster dialogue, analyze errors, and observe students carefully to see what they need so we can plan subsequent lessons.

These classroom strategies further enhance the delivery of structured literacy (SL) instruction:

- *Consistent review and practice:* Dyslexic learners often need extensive repetition of lessons to fully process the information and achieve automaticity.
- *Individualized or small group instruction:* Dyslexic learners may flounder in large classes where their confusion goes unattended.
- *Immediate corrective feedback:* Dyslexic learners need to be told immediately when their work is correct and when it is incorrect. Correct answers need immediate reinforcement, and incorrect answers need to be interrupted and replaced with correct ones. Many dyslexic learners have gotten used to guessing and hoping rather than actually expecting to know the answer. The process of repetition and review depends on immediate and accurate feedback so that students can distinguish correct from incorrect answers and so they never practice the wrong material.

WHAT IS MULTISENSORY LANGUAGE INSTRUCTION?

Clinical evidence suggests the importance of *multisensory methods*: these methods simultaneously use many sensory channels throughout the entire lesson. This is sometimes referred to as VAKT: visual (seeing), auditory (hearing), kinesthetic (moving), and tactile (touching). We bring every sense to bear on the often painful, sometimes exhilarating process of cracking the code. Students see the written symbol, hear the spoken sound, feel their hands, arms and shoulders write or trace the letters on a rough surface, feel their mouths and throats make the sound, hear themselves repeat the sound. They may write with large motions in the air (sky writing) or trace difficult letters in sand, or use their fingers to count off sounds or syllables (finger spelling). Exercises coordinate visual, auditory, kinesthetic, and tactile memories to recall and reproduce language patterns. We rewire resistant neural pathways to be more receptive to written signs.

116 The newest statement of SL from IDA, as of this writing, is “Effective Reading Instruction for Students with Dyslexia,” *Just the Facts* (Baltimore, MD: IDA, 2017) <https://dyslexiaida.org/fact-sheets> (accessed 10/10/17).

As with many aspects of learning, elements of sound education for dyslexic learners are currently debated by researchers. Studies conducted under controlled conditions utilizing valid and reliable scientific procedures have not yet, according to IDA, validated multisensory techniques. In its 2017 statement, IDA states, “The multisensory principle that is so valued by experienced clinicians has not yet been isolated in controlled comparison studies of reading instruction, but most programs that work do include multisensory practice for symbol learning.”¹¹⁷ While it is difficult to isolate the multisensory element for controlled observation, there is other empirical evidence for the multisensory component that comes from case studies and carefully observed and recorded clinical experience.¹¹⁸ Over a half-century of experience by trained teachers, starting with the path-breaking work of Anna Gillingham and Bessie Stillman, shows the utility of multisensory methods as part of structured, sequential, explicit, direct teaching.¹¹⁹

Researchers Mary Farrell and Gordon Sherman argue that multisensory methods work because our brains themselves are multisensory — older models of the brain as a series of compartmentalized regions are giving way to more dynamic and holistic understandings. “Sensory convergence” is the rule, not the exception: “We constantly use information from all our senses. Even experiences that appear specific to one sense (e.g. vision) are modulated by activity in other senses.”¹²⁰ Multisensory methods use all available pathways to learning in every lesson.

These methods can have dramatic effects. “Teaching matters!” exclaim Sherman and Cowen. The “dynamic gene-brain-environment interaction” can be partially redrawn.¹²¹ Drawing upon fMRI data, Guinevere Eden from the Georgetown University Medical Center observes that, “the experience of reading itself changes the brain.”¹²² SL instruction teaches the child’s brain to change by strengthening “the brain’s aptitude for linking letters to the sounds they represent.”¹²³ Introduced to multisensory structured

117 “Multisensory Structured Language Teaching,” *Just the Facts* (Baltimore, MD: IDA, 2017) <https://dyslexiaida.org/fact-sheets> (accessed 10/10/17).

118 My thanks to Sue Voit, Fellow of the Academy of Orton-Gillingham Practitioners and Educators (AOGPE), for helping me to understand the role of multisensory methods in research and in practice.

119 Anna Gillingham and Bessie Stillman, *Remedial Training for Children with Specific Disability in Reading, Spelling and Penmanship* (NY: Sackett and Wilhelms Lithographing Corporation, 1940).

120 Farrell and Sherman, “Multisensory Structured Language Education,” in Birsh, ed., p. 35.

121 Sherman and Cowen, “Neuroanatomy of Dyslexia through the Lens of Cerebrodiversity,” p. 9.

122 Guinevere Eden, “The Role of Brain Imaging in Dyslexia Research,” *Perspectives* 29 (2) (Spring, 2003): 14.

123 Gorman, “The New Science of Dyslexia,” p. 54.

literacy instruction, dyslexic learners often experience academic success for the first time. If we begin early enough, we may rewire the brain so thoroughly that the neurological glitch disappears.

SELECTING A TUTOR

Private teaching is expensive, and both the student and the teacher invest a great deal of time and energy in the process. It is important to find a qualified tutor trained in a valid structured literacy (SL) approach who is a good match for the student. An initial meeting between the individual seeking services, the parent (if appropriate), and the tutor is important to establish expectations. Fees for tutoring vary, and some tutors charge for mileage, supplies, written reports, or attendance at meetings with school officials or other professionals. A written contract spelling out the rights and responsibilities of the parent(s), student and tutor is useful.

To evaluate the tutor’s qualifications and experience, the following questions are appropriate:

- How long has the individual been tutoring?
- Can they provide references from professionals, former students, or the parents of students?
- Is the person involved in other activities in the field, such as conducting research, serving on boards, or making presentations, that would attest to their good standing in the eyes of other professionals?
- Is the person certified by an accredited program? What instructional strategies do they use in tutoring?
- How does the tutor proceed and set goals for tutoring? What are the policies for fees and payment schedules, missed sessions, timing and location of lessons, and tutor’s availability for school meetings and conferences?¹²⁴

A workable tutoring schedule must fit into the life habits of the student and the family. Two sessions per week spaced at least 1–2 days apart, lasting 45–60 minutes, is the minimum for effective progress. For younger children, three sessions of 45 minutes each is usually good. The tutoring should take place when the student is refreshed and alert. If tutoring takes place after school, the child should have a break and a snack first. Summers and holidays provide opportunities to make faster progress without the pressure of daily homework, but it is also important for the child or teenager to have breaks from tutoring. Parents are often tempted to force their children to give up other activities in order to receive tutoring, but it is very important for the child

¹²⁴ “Evaluating Professionals,” *Just the Facts* (Baltimore, MD: IDA, 2017) <https://dyslexiaida.org/fact-sheets/> (accessed 10/10/17).

to stay involved in activities that provide satisfaction, fun, and a sense of achievement. Balance is key.

EXPECTATIONS FROM TUTORING

There should be open communication between the tutor and the learner about how the tutoring works and what it can accomplish. If the learner is a child, parents should be included in ongoing communication, and classroom teachers may be as well. Periodic conferences and reports are important to monitoring progress. The parents' role as mediators, supporters, and advocates are crucial to success.

The length of needed tutoring varies with each learner. In general, it takes approximately two years for a child to catch up to grade level, depending on the severity of the gap. Tutoring may be discontinued if the child is able to function at or above grade level in reading, writing, and spelling. However, since dyslexic learners are often exceptionally bright, "grade level" may be well below their capacities, leading parents or children to seek more extensive tutoring. Adult learners may have their own goals, such as passing the GED, getting a better job, or seeking a college education. Adults' individual goals will affect the length of tutoring needed.

In the end, the person receiving the service is the best judge of its success. While initially a child may resist the labor involved in tutorials, the satisfaction of "cracking the code" often overcomes reluctance. Adult learners are often even more highly motivated than children, but they may be hampered by the damage done by years of academic failure. A good match of tutor to learner will help ensure successful instruction.

SELECTING A SCHOOL OR PROGRAM

Today there are regular public schools and some charter schools offering structured literacy (SL) instruction. In addition, parents and students can consider several alternatives to public school. There are private schools designed for teaching dyslexic students as well as private schools that utilize multisensory structured language instruction for all students. (See the section on local resources for names and contact information.) Parents must also keep in mind that private schools not receiving federal funding cannot discriminate against students with dyslexia; however, they may not have the resources or flexibility to assist learners with dyslexia and are not required by law to accommodate students with learning disabilities in the same ways as public schools.

In weighing alternatives, the family should inquire about the following:

- Is the program designed with the needs of students with dyslexia in mind? Such a program will have routines and structures geared to the specific needs and abilities of dyslexic learners.
- What is the usual class size? Dyslexic students learn better in small

groups or with one-on-one instruction. Particularly if students have experienced school failure before, they should not be required to perform in front of other children.

- What specialized methodologies are used in teaching? Structured, multisensory, sequential, direct teaching of language and hands-on approaches are crucial for dyslexic learners' success. Programs that offer only so-called "visual phonics" or use tape-recorded phonics materials will not be effective with dyslexic students. Nor will programs that teach reading through experience stories (that is, having the students decide what words they would like to learn), whole language (stressing meaningful literature but neglecting the structure of language), memorization of large numbers of words, or reliance on computer programs purporting to develop reading and spelling skills.
- What is the teaching style in the rest of the curriculum? The classes in science, social studies, math, art, music, and language should also be geared to the learning style of students with dyslexia. Learning through a project-based curriculum involving making and doing, discussing and acting, is much more effective for dyslexic learners than more passive instruction such as lengthy lectures.
- Is there a remedial curriculum? Parents often fear the word remediation because it provokes their anxieties that their children have fallen behind. However, remediation is the act of remedying a problem. It is much better for learners of all ages to understand their problems and find remedies than it is to live with the burdens and lost opportunities of denial. Diagnosis of students' problems and prescription of needed interventions are essential to effective instruction.
- Does the curriculum enhance the gifts and abilities of students? Since dyslexic students are often very bright, a curriculum that only addresses their deficiencies will become boring and will fail to develop their full potential. A curriculum that addresses concepts and facilitates thinking about ideas serves a dyslexic child well, while learning through memorization does not. Each learner's academic program should be individually designed and monitored to nurture strengths as well as remediate weaknesses.
- How are the teachers trained? What is their experience with dyslexic students? Schools that invest resources in ongoing professional development for their staff are more likely to provide appropriately trained teachers. Teachers should have explicit instruction in structured literacy (SL) methods, including these six elements:
 - Phonology (the sound system of language)
 - Sound-symbol association (the relation of spoken sounds to written symbols)
 - Syllable instruction (breaking words into their parts)

- Morphology (studying prefixes, roots and suffixes)
- Syntax (the rules of sentence formation)
- Semantics (the meaning of words and sentences)¹²⁵
- What modifications and accommodations are offered? Note takers, extended time, oral testing, and access to calculators, computers, and spell checkers, as needed, are often crucial for the dyslexic student's success.
- What is the philosophy and mission of the school?
- How is the student's progress assessed? Both parents and students should be provided with regular progress reports and test results in both public and private educational settings.
- How effective is the school in working with students to address issues of personal development and helping students transition to the next step in their lives? Children who have experienced academic failure in dyslexia-unfriendly classrooms often need to build self-confidence. Students and families who are fearful of returning to hostile environments need assistance in planning the next steps in education and life choices. Students with special needs must learn to advocate for themselves.
- How are children selected for the program? It can be catastrophic for a student with dyslexia to be grouped into general disabled populations including physically, mentally, emotionally, and behaviorally disabled students. Dyslexic students should be placed with students who share similar educational needs.
- How are computers used? Word processing utilizing full-handed touch typing (not two fingered) is a great boon to dyslexic learners; it avoids hand-writing problems, reinforces spelling lessons, and allows individuals' writing speed to keep up with their quick thinking. Proficiency in word processing is central to success in college. However, computers cannot teach children to read, write, and spell. Educators Linda Hecker and Ellen Engstrom explain that, for dyslexic learners to use computer technology effectively, it must be "combined with instructional and learning strategies that prepare students to take advantage of the technology."¹²⁶ Most programs that claim to use computers to teach language arts have actually only created expensive, computerized workbooks.
- Can prospective students and their families visit the facility? Tour the school or program, observe a classroom or session, talk with

125 "Effective Reading Instruction for Students with Dyslexia," *Just the Facts* (Baltimore, MD: IDA, 2017), <https://dyslexiaida.org/fact-sheets/> (accessed 10/10/17), pp. 1–2.

126 Linda Hecker and Ellen Urquhart Engstrom, "Technology that Supports Literacy Instruction and Learning," in Judith R. Birsh, ed., *Multisensory Teaching of Basic Language Skills* (Baltimore, MD: Paul H. Brookes Publishing Co, 2011): 659.

BIOGRAPHY BOX 7

CRACKING THE CODE

When Sophie was 7 years old, she was assessed as dyslexic and began receiving Orton-Gillingham (OG) instruction. One of the first rules she learned was the FLOSS rule: this rule explains why we double the *f* at the end of *stuff*, the *l* at the end of *hill*, the *s* at the end of *grass*, and the *z* at the end of *buzz*. We don't hear or say the final consonant, but the rules of spelling require that we write it.

But we don't double the final consonant of other words that may look similar to a dyslexic child: *dog* doesn't end with a double *g*; *heal* doesn't have a double *l*; *cat* doesn't have a double *t*. This forest of detail is overwhelming to the dyslexic child: there are no obvious patterns. The whole thing appears random.

Sophie's world changed when she learned the FLOSS rule: in a one syllable word, with a single short vowel, ending in *f*, *l*, *s*, or *z*, you double the final consonant. This generalization brought order to the chaos. Sophie's mother heard her in her room, chanting under her breath in a sing-song voice: "When you have a one syllable word, with a single short vowel, ending in *f*, *l*, *s*, or *z*, you double the final consonant!" For average-reading children, learning this rule is unnecessary, because they intuit the pattern and remember it after being exposed for a period of time to its elements. The extra *f*, *l*, *s* or *z* just "looks right." For Sophie and others like her, this rule is one key to cracking the code of written English.

the teachers or tutors, and speak with parents and professionals who have experience with the program. Ask the students currently in the program if they feel they are making progress. While students may complain about academic work, they generally know if they are learning. If students report that they spend their time playing games or just talking, they are probably not having their academic needs met.

AVOIDING PROMISES THAT ARE TOO GOOD TO BE TRUE.

Find out if the program cultivates skills that directly teach reading, writing, math or study skills, or else transfer to strengthened abilities in those skills. Are there independent scientific studies or clinical case studies backing up the gains claimed by the program? Talk to someone knowledgeable who isn't trying to sell you something. Remember, if it sounds too good to be true, it probably is.



Is homeschooling good for dyslexic kids?

It may be. Home schooling offers several advantages:

- Individualized instruction
- Flexible pace and schedule
- Varied activities including travel and field trips
- Hands-on learning
- Greater range of subjects such as foreign languages or skilled trades
- Inquiry guided by the student's own interests and enthusiasms
- Emotional support. Children who are home schooled in a caring environment do not face the humiliation of academic failure that often scars dyslexic students in traditional classrooms.

Yet home schooling is a challenging task for any parent of any child, and more so with children who require specialized teaching: parents must in essence become experts on the content, sequence and methodology of effective language instruction, or find a tutor who possesses that knowledge. Knowing how to read and write does not guarantee that you can teach a child how to read and write.

How to get started:

- Learn about your child's abilities and challenges in reading, writing, spelling, and comprehension. The public school in your district may be willing or required to provide an educational assessment, even if your child does not attend. If not, look for a private assessment by an educated professional.
- Be aware that there is no easy solution for the problems that come with learning disabilities. The best approach is direct, structured, systematic teaching with plenty of opportunities for practice.
- Employ as many senses as you can in your child's learning. Clapping out syllables, moving letter cubes or magnets to form sounds, tracing difficult sounds on a rough surface while simultaneously voicing and hearing the sound — these are a few ways to bring the tactile and kinesthetic dimensions of learning into play with the visual and auditory.
- Incorporate daily reading. You want your child to be able to read a book aloud with at least 95% accuracy. (This is called the independent reading level.)
- Don't give up bedtime reading or other opportunities to read to your child. If the child does not want to "take a turn," don't force it. Let this be a special story time, not a grinding lesson. Cultivating an interest in reading for pleasure is a great gift for every child.

- Incorporate social relations and play into the day. Homeschool communities often offer team sports, reading groups, swimming lessons, or other chances to socialize. Some public schools will allow homeschooling children from the district to participate in afterschool activities.
- Expect that some days will be more successful than others.¹²⁷

¹²⁷ “Why Homeschool a Student with Dyslexia?” *Just the Facts* (Baltimore, MD: IDA, 2012) <https://dyslexiaida.org/fact-sheets/> (accessed 10/10/17).

Academic skills

READING

Current research on reading, as documented by the National Reading Panel and others, suggests that there are five levels of skill that must be developed and utilized to read successfully. These five “big ideas” of reading are:

- *phonemic awareness* — the ability to distinguish and identify the separate sounds in a spoken word.
- *phonics* — the relation between letters and sounds; also known as the alphabetic principle or code.
- *fluency* — smooth, coordinated, and accurate reading that allows meaning to emerge.
- *vocabulary* — knowing the meaning of words, including synonyms, antonyms, multiple meanings, figurative as well as literal usages, and context.
- *comprehension* — understanding the meaning of what you read.¹²⁸

These five skills are reciprocal: cause and effect runs in many directions, as each skill both builds upon and influences the others. Phonemic awareness allows the reader to “unglue” the sounds from one another and hear each one. Phonemic awareness is sometimes called an “ear skill” — not because it originates in the ear itself, but because it allows the brain to discern the elements heard in spoken words. Phonics enables the reader to relate the sound structure to the print structure. The beginning reader links the detected sounds to the letters that represent them. G. Reid Lyon calls these the “essential, non-negotiable” foundation for reading.¹²⁹

Combining phonemic awareness and phonics allows the learner to develop fluency by reading a word repeatedly, reinforcing the brain’s neural circuits. Reading words over and over, handling them successfully, builds up a storehouse of useable words in the reader’s mind. Cultivating each of these leads to comprehension, which is the ability to summarize and analyze written text, to draw inferences and predict subsequent directions of thought.

Identifying discrete sounds, linking sounds to symbols, sounding out words, becoming familiar with the words, and learning to use the words — these are the basic steps in learning to read. Without this interactive process, readers rely on memorization. By fifth grade, when children

128 Birsh, “Connecting Research and Practice,” pp. 5–8.

129 Lyon, quoted in Hall and Moats, *Parenting a Struggling Reader*, p. 137.

come across as many as 10,000 new words during the school year, memorization is not possible.¹³⁰ The child must learn to crack the code.

Reading comprehension is not the same as just saying all the words on the page. It is possible to decode well but not comprehend meaning. To fully understand what we read, we need to understand the narrative structure of the text and the intentions of the writer. We need to be able to draw inferences, to “read between the lines.” We need strategies to tackle difficult passages, such as identifying key words to look up in a dictionary, re-reading for the main point, and paraphrasing the main argument in our own words. Good readers approach a text with the intent to understand it and the expectation that it will make sense. Poor readers, in contrast, often think the point is to say all the words, and don’t really expect to get much out of it.¹³¹

Reading exposes us to the cadence and rhythm of good prose. It expands our vocabulary and knowledge. Readers who develop a “feel” for language, who have a sense of how language works, become brave readers. They are willing to take risks: “They attempt to sound out and spell sounds for which they may not have a strong visual image but that are, nevertheless, the best, most appropriate words for their writing.”¹³² Reading skills grow with practice: the more we read, the better readers we become. Continuing to read for school, work and pleasure throughout life is one of the greatest gifts we can give our children and ourselves.

SPELLING

Many individuals with dyslexia learn to read well, but their difficulties with spelling tend to persist, requiring continuing instruction, modification of tasks, and understanding from teachers, bosses and colleagues. Spelling is harder than reading because spelling requires exact recall: one error makes the word wrong. The IDA Fact Sheet on spelling notes, “Poor spellers have trouble noticing, remembering, and recalling the features of language that those letters represent.”¹³³ The difficulty is not with the person’s vision but with their brain’s ability to process language.

The relation of written letters to spoken sounds is not obvious. Young children may think that longer words should be the names of bigger objects, or that words should look like the things they name. Learning to crack the code requires understanding that there is a code, and what sort of code it is, and then figuring out where to look for it. Learning to

130 Shaywitz (2003), pp. 102–103.

131 Soifer, “Development of Oral Language and Its Relationship to Literacy,” in Birsh, ed., pp. 78–82.

132 Carreker, “Teaching Reading: Accurate Decoding,” in Birsh, ed., p. 244.

133 “Spelling,” *Just the Facts* (Baltimore, MD: IDA, 2011): 1. <https://dyslexiada.org/fact-sheets/> (accessed 10/10/17).

spell should not be reduced to “mindless busywork” — instead it is a valuable opportunity to learn how language works.¹³⁴

Students who know the basic patterns of English are better spellers as well as better readers. These patterns include:

- The common recurring patterns (and their exceptions) in the placement, spelling and frequency of different spellings. For example, the sound /oi/ in *oil* or *coin* is spelled *oi* because it comes in the beginning or middle of the word, while the same sound in *boy* is spelled *oy* because it comes at the end.
- The recurring patterns in syllables. There are 6 types of syllables. For example, a closed syllable ends with a consonant and the vowel is short (e.g., *cān* in *canter* or *rīb* in *ribbon*). An open syllable ends with a vowel and the vowel is long (e.g., *tī* in *tidy* or *bā* in *baby*).
- The meaningful word parts or “little words” inside the “big words.” These are usually prefixes, roots and suffixes inherited in English from Latin or Greek. They contain meaning as well as sound. For example, *con* is a prefix meaning *together* or *with*; *vent* is a root meaning *come*; *tion* is a suffix meaning the *act of doing something*. So *convention* means the *act of coming together*.
- The most common and reliable rules for adding endings to words when adding a suffix: when to double the final letter in the base word (e.g., double the *p* in *tip* to write *tipping*); when to drop the silent *e* (e.g., drop the *e* at the end of *shape* to write *shaping*); when to change the *y* to *i* (e.g., change the *y* in *handy* to *i* to write *handier*).¹³⁵
- “Inventive spelling” (guessing at the spelling of a word and leaving it at that) is fine in preschool and kindergarten because it is an early step toward learning that written letters represent spoken sounds that you combine to write words. But inventive spelling is not sufficient in school. Similarly, memorization is not enough. Dyslexic students need to know the structures, origins and meanings of words in order to recall them accurately and make use of them. Memorization should be reserved for those words that are common and truly irregular in English, such as *come* or *their*.
- Spelling instruction should build on common sounds, patterns, rules and generalizations. While it makes sense to build vocabulary lists around readings, spelling lists should be built around the logic of spelling. Furthermore, since the point of spelling is writing, not taking spelling tests, using words to write is more valuable than learning them for tests.

134 Carreker, “Teaching Spelling: Accurate Decoding,” in Birsh, p. 288.

135 “Spelling,” *Just the Facts* (Baltimore, MD: IDA, 2011): 2–3. <https://dyslexiada.org/fact-sheets/> (accessed 10/10/17).

- Two final points about spelling: first, the spell check function on the computer is useful but cannot replace learning to spell. Spell check is helpful if the student has enough spelling knowledge to distinguish the correct option from the incorrect options, but spellcheck does not catch all errors, nor does it help the student learn to proofread.¹³⁶
- Second, while learning to spell is important, cultivating the confidence to write is even more important. If a dyslexic child is willing to write, but cannot spell the words, then giving the child the proper spelling when asked is a useful intermediate step.

WRITING

The best preparation for becoming a good writer is to become a good reader. Reading a well-written text immerses us in the structure and rhythm of language. It allows us to absorb patterns so we can make use of them ourselves.

Developing the confidence to write is essential. Just as providing the proper spelling when asked can be a crucial intermediary phase for a struggling writer, dictating to a trusted person can be a crucial intermediary step in writing.

Writing can be a very personal form of self-expression, and there are many ways to do it well. Writing well is challenging for most people and it takes practice to develop the needed skills. A few steps that are central to most academic writing include:

- Identifying a topic and research question: what do you want to know? Why is it important?
- Identifying your audience: with whom do you wish to speak? (“Audience” means more than the individual, often a teacher, who will actually read your paper. It refers to the population of potential readers with whom you are speaking in your imagination.)
- Doing research and collecting relevant information. Students should be guided by the expectations of their teachers and their fields of study.
- Taking accurate, useful notes. The note-taking stage of writing is often the place where inadvertent plagiarism can take place. Be sure to place all direct quotes within quotation marks, and write down the source of the passage, including the page number, within your notes. Do not assume that you can go back later and dig out that information.

136 “Spelling,” *Just the Facts*,” (Baltimore, MD: IDA, 2011) <https://dyslexiada.org/factsheets/> (accessed 10/10/17), p. 3.

- Organizing your notes. A concept map (a graphic organizer displaying main ideas and supporting materials) is often useful for grouping similar ideas together and figuring out how they relate to one another. This is an important step in planning your essay.¹³⁷
- Creating an outline. This step continues planning; in a timed situation such as a test, you probably won't have time for a concept map, so making an outline before you begin to write is your main planning activity. Your outline imposes order on your material by identifying your thesis or main argument, your supporting arguments and examples, and your conclusion. Your outline may well change over time as you write, because the act of writing will change the content of your writing. But some planning is essential.
- Writing a first draft. Inexperienced writers often jump directly to this point, then stare for hours at a blank screen, because they don't know where to start. Fear of beginning to write is often so overwhelming that professional journalists have a term for it: they call it "lead phobia." It often helps to start in the middle, with the supporting arguments and evidence, rather than the beginning. It also sometimes helps to go back to your research materials and take more notes or read through your notes several times to absorb them.
- Revising your draft. This step may take more time and effort than producing the original rough draft. Here you need to think carefully about how the parts of the essay go together and whether you are saying what you want to say. If you are struggling with revisions, sometimes it helps to write a "reverse outline" of your first draft, to make the order (or lack thereof) more evident to your own eyes.
- Editing and proofreading. Dyslexic writers often skip this step because problems of spelling, capitalization, punctuation, and sentence structure are so overwhelming they do not know where to start. It helps to do one task at a time: first check the capitalization, then the punctuation, then the spelling (use your spellcheck but remember it will not catch all errors), then the sentence structure. Older writers can consider hiring a copy editor at this point.
- Sharing your work with others. Often participating in a writers' group, exchanging papers and comments with a fellow student, or just getting a second set of eyes on a text is a big help. While it often makes writers feel vulnerable to share their words, learning to talk about your own writing, to explain your goals and accept constructive criticism, helps you grow.

137 Joseph D. Novak and Alberto J. Cañas, "The Theory Underlying Concept Maps and How to Construct and Use them," Technical Report IHMC *CmapTools* 2006-01 Rev 01-2008, Florida Institute for Human and Machine Cognition (2008) <https://cmap.ihmc.us/docs/theory-of-concept-maps> (accessed 10/21/17).

BIOGRAPHY BOX 8

GETTING STARTED

Amy is a conscientious student who is reasonably successful during class time, when she focuses on her work, follows the steps laid out by her teacher, makes use of available feedback, and minimizes distractions. But homework is another matter: she doesn't know where to start, and consequently stares at a blank computer screen for far too long. She has trouble translating her assignments into a series of logical and do-able sub-tasks. She is easily distracted by more stimulating activities. Even assignments that she manages to finish somehow disappear into her backpack or her desk clutter and are never handed in. Amy has problems with executive function.

Getting started is such a difficult task that professional journalists, who daily face rigorous demands on their time, have a name for it: they call it "lead phobia." Amy learned to work around her difficulty getting started on written assignments by *not* starting at the beginning. Instead she wrote ideas in whatever order they occurred to her, without worrying about what would come first or which thoughts should be gathered together. She first created a "concept map" of relevant ideas, then stepped back to group the ideas together around shared themes. Her concept map let her see her main themes, so she could develop them into an outline. After she knew what her paper was about, she could write the needed introduction and conclusion.





BIOGRAPHY BOX 9

WRITING TWICE TO WRITE WELL

Ryan is a successful graduate student at a major university. He has the capacity to read, record and digest large amounts of information, synthesize ideas, and inject his own creative analysis into the mix. But he has great difficulty in getting his own ideas down on paper while at the same time writing in acceptable form. The first version of his academic papers is often a structural nightmare – poorly organized, riddled with errors in punctuation, spelling, and grammar. With time and guidance, his second version is much cleaner and better organized. But with each new paper, the process starts again. He can’t both think clearly and write coherently at the same time.

Ryan may have a problem with working memory. He cannot hold onto his knowledge about how to write long enough to put that knowledge to effective use, especially when he has to give most of his attention to getting his ideas down on paper. He was able to succeed by convincing his professors to treat his first paper as a rough draft and to evaluate the content of the ideas but not the form of grammar, spelling, sentence structure, punctuation, or organization. Once he knew that he was on the right track with his ideas, then he could turn his attention to rewriting and editing for proper presentation.

Skilled writers often merge some of these steps together, or do them in their heads. Beginning and intermediate writers have greater need to methodically tackle each step.¹³⁸

TAKING STANDARDIZED TESTS

Standardized tests are the bane of a dyslexic student's academic life. Standardized tests examine the exact skills that students with dyslexia have trouble with, such as performing under pressure in a timed environment, while overlooking those abilities at which the students may excel, such as looking at a problem from multiple points of view. Students often "overthink" the questions, making the test even harder for themselves. Many skeptical educators have concluded that the main thing we learn from the results of a standardized test is how well the student does on standardized tests, rather than anything more meaningful about the student's abilities.

However, many institutions require high-stakes standardized tests for advancing to the next grade, or for admission to the school or program. Given their gatekeeping function, knowing how to approach these tests is essential. A few useful tips for dyslexic students and their parents include:

- Read the test program's website carefully, including any supplemental information regarding test takers with disabilities.
- Get the practice books, or utilize the online practice tests.
- Take a reputable prep course if one is available and affordable. An experienced tutor specifically for this purpose can be useful. Standardized tests have a certain pattern to their questions and expectations. It is helpful to be familiar with those patterns.
- Become familiar with the categories of questions and the specific instructions for each category.
- Be sure you know where you are going, what you should take, and what you should expect on test day. Avoid surprises.
- Look for schools and programs that do not require the tests or do not weigh the results heavily in their decision-making.

If you or your child is applying for accommodations on a test, especially a college admission test:

- Ask for help from your high school counselor in completing the application.
- Find out how recent the assessment documentation needs to be.

¹³⁸ For excellent writing advice for advanced high school, college, and graduate school students, see Kate Turabian, *A Manual for Writers of Research Papers, Theses, and Dissertations*, eighth edition (Chicago, IL: University of Chicago Press, 2013).

Allow at least 9 months to secure a new evaluation from a qualified professional if yours is outdated or insufficient. Find out what materials the evaluator requires, such as IEPs, previous assessments, descriptions of past accommodations, school records, etc. Be sure the evaluator knows the requirements of the testing organization.

- Inquire if the college offers assessments at a reduced fee if the cost of the needed evaluations is prohibitive.
- Learn which accommodations require prior approval (such as extended time or a reader) and which do not (usually mobility assistance or access to medication).
- Submit your application early because the testing agency may require additional material and may have deadlines substantially in advance of the test date.
- Be sure your documentation is in order. It should be signed, dated, written in English, on official letterhead stationary, and should address the impact of the student’s impairments on test-taking. It should be explicit about the requested accommodations (e.g., how much extended time and why) and should demonstrate that the requested accommodations are similar to those provided in educational settings in the past. Send all the required documents in one complete packet.

The decision letter regarding accommodations will usually contain one of these responses:

- Approval of the accommodation with instructions on how to move forward to schedule the test.
- Request for additional information.
- Denial of the accommodation, sometimes with information on an appeal process.¹³⁹

Keep in mind that, while these tests seem very important to students, teachers, and parents at the time, they are a means to an end, not an end in themselves. Taking standardized tests should not be confused with learning.

STUDYING A FOREIGN LANGUAGE

While many people find foreign language study challenging, learners who face difficulties in reading, writing, understanding and speaking

139 “Applying for Accommodations on College Entrance Tests,” *Just the Facts* (Baltimore, MD: IDA, 2017): 1–2. <https://dyslexiada.org/fact-sheets/> (accessed 10/10/17). See also “Transitioning from High School to College: Help for Students with Learning Disabilities,” *Just the Facts* (Baltimore, MD: IDA, 2013): 2–3. <https://dyslexiada.org/fact-sheets/> (accessed 10/10/17).

their mother tongue are especially likely to face problems in acquiring a second language. In a conventional classroom, they are likely to have trouble keeping up with the class, responding when called upon, studying effectively, understanding language concepts, following directions, following rapid conversations, and spelling correctly. The students with severe learning disabilities will likely have fundamental problems in learning, repeating, and remembering sounds, breaking down and reassembling words, recognizing patterns, matching spoken to written words, and following conversations even when spoken slowly.

Foreign language study is an important part of preparing to live in a global, multicultural world. Finding a way to successfully study a foreign language is more beneficial than avoiding it. Dyslexic learners will benefit from the same approach that serves them well in English: a structured, sequential, cumulative, explicit approach with clear explanations, adequate models for breaking words into syllables (to read) and reassembling them (to write), and sufficient opportunity to practice. They may need extended time on tests and assistance in preparing for tests. They benefit from multisensory approaches.¹⁴⁰ Learning a second language early in life is a gift to all learners.

At the same time, students who are severely challenged may be eligible to take classes on the culture of foreign societies taught in the students' own language.¹⁴¹ Other possibilities for meeting foreign language requirements include studying Latin or American Sign Language. Latin is useful to everyone because approximately one half of English comes from Latin, so it is a good vehicle for learning vocabulary. Sign language is by definition multisensory, so may be a good match for a dyslexic student's ways of learning.

140 "At-Risk Students and the Study of Foreign Language in School," *Just the Facts* (Baltimore, MD: IDA, 2017): 1. <https://dyslexiada.org/fact-sheets/> (accessed 10/10/17).

141 "At-Risk Students and the Study of Foreign Language in School," *Just the Facts* (Baltimore, MD: IDA, 2017): 2. <https://dyslexiada.org/fact-sheets/> (accessed 10/10/17).

Workplace skills

Just as students with dyslexia must develop workable strategies to cope with academic life, adults with dyslexia need strategies to cope with the demands of their workplaces. Because dyslexia often leads to a sense of shame and fear of being judged, people may try to hide it. One adult learner hid his learning strategies by pretending to be playing “air piano” when he was actually finger spelling (counting out sounds or syllables of words on his fingers). Another made pictures in his head to correspond with hard-to-remember words — he pictured a parrot landing on a car which then explodes in a blast of smoke shaped like a figure eight to represent the word *polycarbonate*.¹⁴² A woman who worked as a manicurist carried a card in her purse containing the words she most commonly was required to spell in making appointments, writing orders, and issuing receipts. Another man drove all over town each month to pay his bills in cash in order to avoid writing checks or addressing envelopes.

Adults with dyslexia must decide if they will disclose their learning difference to their employers. Employers are not allowed to ask about disabilities in a job interview, so the decision resides with the applicant. This important decision comes relatively late in the game; it is important not to let concern about the pros and cons of disclosure interfere with solid preparation for finding and getting a job.

THINKING ABOUT YOUR INTERESTS AND ABILITIES

Before you begin your job search, take the time to reflect on yourself:

- What do you like to do? What is your favorite part of your day? Think about the sorts of activities that motivate you and stimulate your interest.
- What tasks are associated with these interests? Do you like interacting with people? Fixing things? Working outdoors? Working with computers? Organizing activities? Solving problems? Working with children? Working with the elderly? Writing? Conducting research? Designing things? Working independently? Participating in a team?
- What specific skills do you have for performing these tasks? Are you good at oral communication? Research? Planning? Managing? Finance? Repair work? Sales? Do you have specific skills such as cooking, sewing, gardening, child-raising, music, art, typing, or carpentry? Can you speak, read, or write a second language? Can you drive?

142 Katie Simon, “*Overcoming Dyslexia* and Turning a Corner in Life,” *National Public Radio* (November 3, 2006) <http://www.npr.org/templates/story/story.php?storyId=6425164> (accessed 10/7/17).

- What kind of person are you? Outgoing or shy? Talkative or reticent? Warm or aloof? Patient or demanding? Highly focused or easily distractible? Do you enjoy high-paced, fast action settings or quieter environments? Think about matching your personality to the demands of various jobs.
- What are your work values? Look for a match between the value you place on work and the work ethic that potential employers expect and co-workers share.

PREPARING FOR INTERVIEWS

In preparation for your job search or interviews, the following steps are crucial:

- Make a résumé, including your name, contact information, career objective, education, work experience, skills, activities, awards, and references.¹⁴³ First impressions count: have a teacher, friend or family member proofread it to correct errors. Be specific about the opportunities you are looking for and the skills you bring. Be sure to ask people if you may use them as references before listing them on your résumé.
- Write a cover letter. In one page or less, introduce yourself to your prospective employer. While your résumé is the data about you, your cover letter is your narrative. Your cover letter is your chance to interpret the information on your résumé and tell the story you want your interviewer to hear. You need to relate your skills and experience to the position you are seeking. Arrange for someone to proofread your letter before submitting it.¹⁴⁴
- Role-play an interview with a supportive friend. Practice maintaining eye contact, speaking directly and clearly, standing and sitting erect, listening attentively, and providing full and relevant answers. Practice asking questions and talking about your skills and your interest in the particular job at hand. Avoid vague or general answers and instead talk specifically about the job for which you are applying. Practicing will decrease your anxiety and build self-confidence.
- Take application forms home, if possible, so you will have time to answer all questions carefully and get help in correcting errors. Secure a blank copy of the form before you begin so you can prepare a neat, clean final copy. If your handwriting is difficult to read,

143 For help in writing a résumé (geared toward college students but helpful for most people) see Purdue University On-Line Writing Lab, "The Résumé: Making it Work for You," (n.d.).

144 For more specific guidelines about successful résumés and cover letters, including a sample cover letter, see Ruth Mayhew, "How to Explain a Disability in a Cover Letter," *Chron* (2017) (n.p.) <http://work.chron.com/explain-disability-cover-letter-10841.html> (accessed 9/19/17).

consider typing the form (if you can find a typewriter). Be sure to answer all the questions and sign and date the form.

- Find out as much as you can about your potential employer. Be sure to read the organization's website carefully. Many human resource managers say that a job applicant who asks questions that are clearly answered on the website will rapidly come to the end of the interview.
- Try to speak with others who have worked in the same firm or industry. Use their experience to develop specific examples showing how your abilities are a good match for the position.

SUCCEEDING IN AN INTERVIEW

Once you have an interview, keep the following points in mind:

- Be prompt. Allow for unexpected traffic delays.
- Dress appropriately. While dress norms in Hawai'i are informal, a clean and tidy appearance is essential to a good first impression.
- Bring copies of your résumé, cover letter, application, and any other relevant materials with you to the interview. Do not assume that the person conducting the interview will have your file.
- Be honest about your prior work-related experiences. Often a problem can be turned into an opportunity. For example, your awareness that you need extra time to complete written work could lead you to develop a workable system for checking errors. If you know you need your boss to write down instructions rather than delivering them orally, you can show the benefits of keeping a communication log and checking off tasks when they are completed. You can be frank about your situation while emphasizing your strengths.

BIOGRAPHY BOX 10

ADAPTING MULTISENSORY METHODS TO THE WORKPLACE

Carol learned she is dyslexic in her early 30s. With tutoring, she gloried in learning to read after years of “faking it,” yet some challenges in her job were not addressed by better reading. Carol had to coordinate weddings at a busy chapel that operated on a tight schedule. Each wedding was allocated precisely one half hour, which meant that each about-to-be-married couple was entering the chapel mere minutes after the earlier just-married couple departed. Delays resulted in awkward encounters of brides and grooms whose ceremonies were supposed to be kept separate. Carol’s boss was becoming impatient with Carol’s difficulties organizing the parts of this complex task, keeping everything in order, and coordinating the timing of each entrance and exit.

Carol and her tutor applied the principles of Orton-Gillingham instruction to this workplace problem: they broke the task down to its most basic parts, then built it back up again, one step at a time, using all Carol’s senses to learn the process. They drew simple representations of each setting: the limousine, the front street entrance, the chapel, the back street exit, the second limousine, and the reception area. They acted out the ceremonies with figurines from a board game, labeled “bride 1,” “groom 1,” “bride 2,” “groom 2,” etc. Carol used the physical representations of the clients and settings to practice the needed timing of entrances and exits. She used her multi-sensory skills to say what she was doing, hear herself say it, manipulate the figures, move through the setting, anticipate problems, and construct solutions.



- Be informed and realistic about your salary expectations. It is often appropriate to write “open” or “negotiable” when asked about anticipated salary.

DISCLOSING OR NOT DISCLOSING?

At this point, the time has come to decide whether and when you will disclose your learning disability to your potential employer. You are in a much better place to make this decision if you have learned your own specific profile as a learner and worker. You need to know your specific strengths and weaknesses so you can identify the support and accommodations you will need to succeed. You also need to come to terms with the impact of dyslexia on your life, and become comfortable with your self-understanding. If you are overwhelmed by traumatic memories of school failure, or if you are ashamed to have anyone know you are “different,” it will be difficult to calmly weigh the pros and cons of disclosing your learning difference in the workplace.

You need to figure out what is best for you. While every situation has unique aspects, some of the risks and benefits of disclosing dyslexia include the following:

Gains of disclosure:

- You can take advantage of legal protections. The Americans with Disabilities Act protects you against discrimination in employment, while section 5 of the Rehabilitation Act protects your civil liberties in higher education and training. To get the protection of these laws, one must disclose one’s disability.
- The accommodations guaranteed by law may make you a more competent worker and thus a stronger candidate for advancement. Relevant accommodations include adjusting work schedules, acquiring or modifying equipment, providing auxiliary aids and services, structuring job tasks, modifying examinations, or providing additional or alternative training. Does extended time on written assignments make a big difference in your performance? Does typing rather than handwriting a set of notes result in significant improvement in quality? Do you follow directions a lot better when they are written down than when they are delivered verbally?
- If your learning disability does affect your performance, you will be able to explain the situation frankly and clearly. You will be able to seek your employer’s support to improve your work.

Risk of disclosure:

- Unfortunately, people outside of formal education (and sometimes inside it as well) are often ignorant about dyslexia. Some people still confuse learning disabilities with retardation, while others are impatient or suspicious of differences. What can you tell about the

personal traits of your boss and co-workers? Do their capacities for understanding, flexibility, and professionalism seem strong? Does there seem to be a “culture of acceptance” in the workplace?¹⁴⁵ The main problem often is not dyslexia but other people’s reaction to it.

When to disclose:

- Experienced advocates have different points of view on the optimum timing of disclosures. The National Center for Learning Disabilities suggests that it is appropriate to disclose your learning disability after the job has been offered to you. However, Suzanne Kitchen of the Job Accommodation Network in the Department of Labor cautions against disclosing at the beginning of your new job. “The Equal Employment Opportunity Commission has ruled that an individual can disclose a disability at any time, from the first day of application to the day of termination,” Kitchen says. “But I don’t advise disclosing at the beginning. You don’t have to, and it’s illegal to ask.”¹⁴⁶
- On one hand, talking about your learning difference early in the process would give you insight into your employer’s attitude; further, getting this potentially anxiety-producing topic out of the way may help you present yourself more effectively. On the other hand, approaching the topic early might put undue emphasis on it, crowding out other relevant factors. Your own assessment of yourself, the job, and the employer is crucial to deciding whether and when to disclose your learning difference.

How to disclose:

Be sure to have this conversation in person, not over the phone or on email. Be prepared to discuss:

- The specific features of your dyslexia
- How dyslexia affects your performance
- The accommodations or modifications you need to be successful
- Examples of successes you have enjoyed in the past when you have used these accommodations.

Be straightforward, brief, and positive. For example: “My learning disability makes it a challenge to understand spoken instructions with a lot of steps. But my solution is to ask for written instructions or to write them

145 “Disclosure in the Workplace: For Employers,” *Learning Disabilities Association of Ontario* (2015) <http://www.ldao.ca/introduction-to-ldsadhd/articles/about-employment/disclosure-of-lds-for-employers/> (accessed 10/7/17).

146 Dan Woog, “Learning Disabilities at Work: How to Get What you Need,” *Monster* (2017) <http://diver-sity.monster.com/wwd/articles/learningdisabilities/> (accessed 9/19/17).

down myself. My supervisor at my previous job sent me email messages, and that worked great. In fact, he gave me an excellent evaluation on my last review.”¹⁴⁷

You should be prepared to answer questions and politely correct misapprehensions. After you have come to an agreement on needed modifications, it is appropriate to ask for a memo documenting the arrangement. A written record of mutual understanding about accommodations you need to be productive on the job facilitates clear expectations. It is crucial that you never appear to use your learning disability as an excuse for poor performance.

In weighing the potential gains against the acceptable losses of disclosure, researcher Paul Gerber reports that many young people find satisfaction in a “two stage” process.¹⁴⁸ They first get established in a new work or social situation, getting to know others and be known by them as “just a person.” At a later date, when trustworthy relationships have been established, they have become more comfortable and are willing to share this aspect of themselves without so much fear of meeting discrimination or ridicule. Discussing the pros and cons of disclosure with a vocational counselor may help you make the decision that is right for you.

147 Victoria Scanlon Stefanakos, “Pros and Cons of Disclosing a Disability to Employers,” *Understood: For Learning and Attention Issues* (2014–2017) <https://www.understood.org/en/school-learning/choosing-starting-school/leaving-high-school/pros-and-cons-of-disclosing-a-disability-to-employers> (accessed 10/7/17).

148 P. Gerber and L.A. Price, “To Be or Not To Be LD: Self-disclosure and Adults with Learning Disabilities,” *Thalamus* (2005): 18–29. See also GreatSchools Staff, “Disclosing One’s Learning Disability in Young Adulthood,” *GreatSchools!* (March 14, 2016) <https://www.greatschools.org/gk/articles/disclosing-learning-disabilities/> (accessed 9/19/17).

BIOGRAPHY BOX 11

TO DISCLOSE OR NOT TO DISCLOSE?

The perceived open-mindedness of the workplace environment has significant consequences for dyslexic learners. It can make the difference between success and failure.



Dan sought out tutoring to improve his reading so he could pass a standardized civil service exam and qualify for a skilled trade. He improved his reading comprehension but needed extra time to read the assignment twice: the first time to decode the individual words, and the second time to absorb the meaning. However, Dan feared that his potential employers would be prejudiced against him if he admitted to a learning disability. To keep his dyslexia a secret, he did not request extra time on the exam. He subsequently could not finish the test and did not pass.

Joshua had a very different experience. He attended a university with a vigorous program for students with disabilities. Based on an assessment done in his junior year of high school, he asked for and received several accommodations, including extra time on tests, a quiet room in which to take tests, and a blank word processor (no saved documents or internet access) on which to write his tests. Joshua did not experience any negative feedback from his professors. The accommodations helped him to succeed at his academic work and graduate from college.

Joshua faced an easier decision than Dan, because Joshua had reason to believe the professors would be open-minded about his learning disability, and he had a disability officer to serve as his advocate. Dan was isolated and feared to “come out” as dyslexic so he did not seek available resources. Dan could have continued his Orton-Gillingham tutoring and retaken the exam with accommodations the following year, but his failure on the first test was too demoralizing and he gave up.

Family relations

Learning disabilities are a family affair. Frequently the first person to notice that “something isn’t right” with a child’s learning is the mother, whose concern may be disparaged by partner, family, friends, or teachers who think she is “making excuses” for her child’s difficulties. Early concerns may be dismissed by well-meaning people who urge the parent to “wait and see.” Given that dyslexia tends to run in families, a father’s resistance to taking the mother’s observations seriously may well stem from his own painful memories of failure in school. In fact, adults frequently discover their own dyslexia as they struggle to help their children. Pulitzer prize-winning poet Philip Schultz was 58 years old when his son was diagnosed with dyslexia and he finally “had a name for the disorder that had plagued him for his entire life.”¹⁴⁹ Bill Samuels, Jr., the president of Maker’s Mark, recalls sitting in a school office, listening to a description of his son’s problems, when he realized, “Oh, s***. That’s me.”¹⁵⁰

A range of emotional responses, including worry for the child’s future, disappointment that the child has a disability (followed by guilt at being disappointed in one’s child for a situation that is not the child’s fault), anger at the parent with “bad genes,” and self-blame (“Did I do something wrong?”) put enormous pressure on family relations. Families in Hawai’i are already pressed by the demands of holding multiple jobs, raising children, caring for aging parents, and managing lengthy commutes. Dyslexia’s added medical and educational implications, financial strain, and time demands may push families to the brink.

Since children with dyslexia become adults with dyslexia, the learning disabilities of a partner or parent can also put pressure on relationships. Adults who are not dyslexic are often impatient with a partner who cannot write a grocery list, look up a number in the phone book, tell time, or fill out a tax form. As with the dyslexic child, the dyslexic adult is often ashamed and defensive about his/her problems, making communication difficult. Subsequent success in life does not eliminate this pain: CEO John Chambers kept his secret until he found he could help others by talking about his experience: “This is very painful to talk about, even today,” says Chambers. “The only reason I am talking about it is 100% for the kids and their parents.”¹⁵¹ Dyslexia can become the “dirty little secret” that families keep to hide their shame.

The key to family success with dyslexia is openness and knowledge. Just as teachers and tutors can adjust their strategies to meet the needs

149 “Prize-Winning Poet: Discovering ‘My Dyslexia’ At 58,” Talk of the Nation *National Public Radio* (September 6, 2011) <http://www.npr.org/2011/09/06/140220142/prize-winning-poet-discovering-my-dyslexia-at-58> (accessed 10/17/17).

150 Morris, Munoz, and Neering, “*Overcoming Dyslexia*.”

151 Morris, Munoz, and Neering, “*Overcoming Dyslexia*.”

of dyslexic learners, so can parents, grandparents, and siblings adjust their family patterns to incorporate successful outcomes for all family members. It is not enough simply to know that a child or adult is “LD.” Families need accurate, detailed information that they can share with others. They also need to garner the resources to face difficult, painful issues together.

Some issues likely to manifest in families with dyslexia include:

- *Imbalance in the relations between children with dyslexia and children without it.* The dyslexic child is likely to resent being scrutinized for deficiencies, while the non-dyslexic child may resent getting less attention.
- *Parents who have no time for each other.* Children + jobs + dyslexia is a formula that can put the relations among adults on the back burner. The less involved partner may begin to look for reasons to stay away from home, doubling the burden on the other adult and making open communication even more difficult.
- *Financial stress.* The appropriate school or tutor for your child or adult may be expensive. Other family needs and opportunities may be sacrificed. Mom and Dad may consider getting a second or third job to pay for the added expenses, which of course takes even more time away from face-to-face family time.

To hold families together while they cope with the needs of dyslexic family members, information and communication are critical. Strategies that often work include:

- *Expand your knowledge.* Once parents have a “big picture” of both the strengths and the weaknesses dyslexia entails, it becomes easier to take things in stride by cultivating a broader view. Attend seminars, workshops, and conferences in your area; talk to other parents who have been in your shoes; take advantage of local resources (see the list at the end of this booklet). Once the world of dyslexia becomes more familiar, dyslexia will cease to seem like a disaster and instead become just another way that people can be.
- *Work together.* Take every opportunity to meet teachers, doctors, and tutors as a chance to work as a team toward the common good of the family. Attend parent-teacher conferences, IEP meetings, and school events together. Involve other children as appropriate, while still allowing each child his or her special place.
- *Emphasize the positive.* Make sure family members can articulate and appreciate everyone’s strengths, not just their weaknesses. Create an upbeat home environment where children and adults combine their abilities to solve their problems.
- *Model resilience.* Children learn much more from their parents’ behavior than from their words. Telling the child not to worry when the parents are manifestly distraught does not reduce the child’s

BIOGRAPHY BOX 12

RELIVING SCHOOL FAILURE THROUGH YOUR KIDS

Meeting with her daughter’s teachers led Kehau to identify her own dyslexia. As teachers described her daughter’s difficulties in reading and her strategies to avoid it — strategic bathroom visits, sudden stomach aches, dropped pencils, disruptive joking, even picking fights — Kehau said to herself, “S***. I used to do that, too.” She recalled that in grade school she would put her hands under her desk and surreptitiously make two fists with her thumbs sticking up in order to model the contrasting shapes of *b* and *d*. She remembered becoming the class clown to divert attention from her academic failure, and becoming hostile to teachers and peers because anger was easier to express than fear. Facing her own suppressed feelings of shame and confusion, Kehau became a fierce advocate for her daughter.



anxiety. The ability to manage difficulties with patience and perseverance is a great gift to every child.

- *Find mentors.* At both school and the workplace, individuals with dyslexia benefit from one-on-one guidance from caring and knowledgeable advisors. Many universities have mentoring projects for students with disabilities.
- *Find allies.* The world of dyslexia can be overwhelming. Sometimes family members will find it difficult to digest new information, adjust their expectations, or resist the temptation to find someone to blame. You need to identify family and friends who can understand and accept your situation, and who are willing to absorb new knowledge and identify positive steps to take. Just as isolation can be debilitating, so can a community of caring, supportive people enable families to gather the resources to meet their needs.
- *Love each other.* Find the time to listen, hug, encourage, and play. Everyone has strengths and weaknesses. We have to help each other.¹⁵²

152 Betty Osman, "How Learning Disabilities Affect Family Dynamics," *GreatSchools!* (April 2, 2015) <https://www.greatschools.org/gk/articles/family-dynamics/> (accessed 10/7/17); see also "About Learning Disabilities," *Child Development Institute* (n.d.) https://childdevelopmentinfo.com/learning/learning_disabilities/#.WdnFuhOPLR0 (accessed 10/7/17).

Advocating for yourself (including knowing your rights)

Effective teaching includes providing students who are dyslexic with an accurate picture of themselves as learners. People with dyslexia need to know what works for them, what doesn't, and why. Because the person's deficiencies are often obvious and painful, their strengths need to be articulated, too. Children and teenagers as well as adults need to be able to advocate for themselves in school and in workplaces. Self-advocacy requires understanding your strengths and needs, articulating personal goals, knowing your legal rights and responsibilities, and communicating these to others.

Steps toward effective self-advocacy include:

- *Understand your way of learning.* Know the strategies that help you succeed and the accommodations that bypass your limitations. Be informed about dyslexia and able to explain it in language that is easy to understand. This requires getting past initial fears and denial and becoming thoroughly familiar with specialists' and teachers' assessments of your learning. You also need to be attuned to your own experience and able to reflect on both your successes and limitations.
- *Practice communicating.* Learn how to make clear requests and back them up with explanations. Role-playing different situations and putting together the needed information in advance will build confidence. Your manner of communication can create allies or it can leave others confused or defensive.
- *Identify supporters.* You need to know whom you can trust. People with whom you can comfortably share experiences and seek advice are a crucial life-long resource.
- *Meet with teachers and counselors, if you are still in school.* You can get useful feedback and create a plan for improvement. Your participation in creating your IEP or 504 plans will let you provide your own perspective and hear the reasoning behind the recommendations of others. You can also practice your self-advocacy skills for future workplace situations.
- *Know your rights.*
 - Individuals with Disabilities Education Act (IDEA) is an education law guaranteeing special education and related services to eligible children.
 - Section 504 of the Rehabilitation Act is a civil rights law prohibiting discrimination on the basis of a disability in programs that receive federal funding.

- Americans with Disabilities Act (ADA) is a civil rights law prohibiting discrimination on the basis of disability in employment, public services, and accommodations.

If you are eligible under any of these laws, you have certain rights and responsibilities. If you have an IEP and receive special education services, you are protected under IDEA until you graduate from high school with a diploma. Section 504 and ADA may protect you in college by providing for “reasonable accommodations.” In the world of work, you are most likely protected under ADA. (See below for further details.)

- *Plan for the future.* In high school, your IEP will include an Individual Transition Plan (ITP). Make sure that you take part in the preparation of the ITP and use it to gain specific assistance. In college, counselors from the campus learning disabilities center can help you think through your next steps. Vocational counselors can help you anticipate your needs and move smoothly from one stage of your life to another.
- *Educate others.* Many people will be uninformed or, worse, misinformed about dyslexia. Peers may be curious, teachers may be unprepared, and employers may be hesitant. While these encounters are sometimes uncomfortable, each conversation will hone your self-advocacy skills and perhaps improve the situation for the next person who is in your shoes.
- *Keep thinking.* As your life circumstances change, your challenges and satisfactions will also evolve. Reflect on both positive and negative experiences, looking for concrete methods of improvement. Self-evaluation is often your greatest source of insight.¹⁵³

153 This list is adapted from Dr. Jodie Dawson, “Self-Advocacy: A Valuable Skill for Your Teenager with LD,” *Online: The Educator’s Guide to Learning Disabilities* (2017) <http://www.ldonline.org/article/32728> (accessed 10/7/17).

Advocating for your child

While self-advocacy is a crucial skill for dyslexic learners, so is the continuing support of family, friends, and teachers. In particular, younger children need an adult advocate to support them in negotiating with their school. Usually parents or grandparents are in the best position to advocate for their children. Initially, it may be an uncomfortable role for parents to play, requiring them to question the authority of teachers and schools; yet consistent, effective advocacy is essential for getting needed resources in a timely manner.

Effective advocacy for your child requires the following skills:

- *Be supportive.* Your child needs to feel your emotional support and know that they have your help in solving problems. Younger children may not be able to ask for help or articulate their experiences clearly; by listening carefully, watching closely, and helping the child put their experiences into words, you can help the child through distressing times. You can translate your intimate knowledge of your child for teachers.
- *Be attentive.* You are in a position to understand your child better than anyone else. You can provide educators with crucial information about the history of your child’s instruction and the entirety of their life circumstances. Listen to your child’s words, observe how they read and write, and share your observations.
- *Be assertive.* If your child is struggling with reading, writing, and/or spelling, you must be willing to ask questions in areas that educators consider “theirs.” Advocates must learn to enter the territory ordinarily reserved to the school and ask hard questions about how language is taught, how progress is observed, and why your child is having difficulties. While educators must balance your child’s needs with those of every other child as well as available resources, you are the only person who is concentrating exclusively on your child’s best interests. It is your child and your family, not the teacher or the principal, who will live with the consequences of ineffective or delayed instruction.
- *Be respectful.* Teachers and schools are, generally speaking, trying to teach well; if they do not succeed, it is not their intentions but rather their knowledge of dyslexia and their available resources that are lacking. A pleasant but firm and unapologetic approach is usually most effective.
- *Be persistent.* The process of obtaining and executing an appropriate IEP is complex and often daunting. You may need to monitor your child’s work and intervene if progress is not forthcoming. Communicate your urgency and determination. Your child needs an advocate who will not give up.
- *Be informed.* An effective advocate must be able to ask knowl-

edgeable questions, find answers, challenge inappropriate methods, and distinguish accurate from inaccurate responses. You need to identify the specific problem or problems your child faces. Your school is one source of relevant information; this *Resource Guide* is another; others can be found from local professionals, parents, and organizations listed at the end of this document. You need to know how your school determines when a child needs help, what sorts of special services are available, and how to secure those services. Knowing your legal rights is also important so that your child will get appropriate and effective instruction, rather than a boilerplate, “one size fits all” approach that is usually inadequate for struggling readers.¹⁵⁴

- *Be organized.* Document everything, so you can have a paper trail of all conversations, phone calls, and meetings; periodically request copies of your child’s records and keep them in a notebook, organized chronologically; secure independent second opinions from outside experts when needed; network with other parents and develop your own political power within the school system.

Advocating on behalf of your child may be a daunting task. You can sustain your spirit and determination by remembering three important facts:

- *Time matters.* The single most consistent message from scientific research on reading is that early intervention is the key to success. The earlier a problem is detected and addressed, the more successful the child will be in overcoming it. In study after study, early assessment and intervention are critical to success.¹⁵⁵ While it is never too late to teach someone to read, write, and spell, early intervention can save a great deal of time, money, and work later on. Yet parents often delay: a 2010 Roper poll commissioned by the Emily Hall Tremain Foundation found that many parents opted to wait and see if their child would “grow out of it.”¹⁵⁶ But children do not just “grow out of it,” and the consequences of waiting are dire. It takes *four times as long* to improve the skills of struggling readers in 4th grade as it does in mid-kindergarten to 1st grade. The “wait and see if they grow out of it” approach is wasting the best window of opportunity for teaching your child the sounds, letters, words, and language comprehension skills needed for reading and writing success.
- *Appropriate teaching matters.* Your school may be taking an inef-

154 Hall and Moats, *Parenting a Struggling Reader*, p. 12.

155 Hall and Moats, *Parenting a Struggling Reader*, p. 7.

156 “Measuring Progress in Public and Parental Understanding of Learning Disabilities — Executive Summary,” Tremain Foundation (September 2010) http://www.idanys.org/images/uploads/misc/1298294677_Tremain_Executive_Summary_September2010.pdf (accessed 10/7/17).

fective approach to teaching your child, wasting the child's time and contributing to the child's doubts that they will ever be able to learn. Despite some gains over the last decade in accurate knowledge about learning disabilities among the general public, many educators have not been trained in research-based teaching strategies and are likely to overlook a struggling reader or writer until the signs of failure are sufficiently alarming as to garner notice.

- *You are not alone.* The Hawai'i Branch of the International Dyslexia Association (HIDA), the Leadership in Disabilities and Achievement of Hawai'i (LDAH), and other resources listed in this publication are available to help. LDAH may provide help with advocacy through its Parent Training and Information Center.¹⁵⁷

¹⁵⁷ See LDAH website at <http://ldahawaii.org/programs-and-services/> for information on their advocacy program and other services (accessed 9/9/17).

Social relationships and life skills

While some children and young people with dyslexia are adept at cultivating friends and relating to people, a higher-than-average number of “LD kids” have trouble making and keeping friends. Across ages and social settings, teenagers with learning disabilities consistently reported higher levels of loneliness than other young people.¹⁵⁸ One family therapist noted, “Children with learning disabilities often end friendships because they have been unable to work out conflicts.”¹⁵⁹ Dr. Betty Osman of the National Center for Learning Disabilities views relationships as the “fourth R” that should be cultivated in education. She suggests helping children develop social competence by naming and practicing social skills, including:

- Starting, maintaining, and ending a conversation
- Negotiating diplomatically
- Asserting oneself without being aggressive
- Learning to give and receive compliments
- Responding appropriately to joking and teasing
- Responding appropriately to bullying, including getting help from adults
- Accepting constructive criticism gracefully
- Naming and interpreting facial expressions, body language, vocal pitch, use of personal space, and other non-verbal communications.¹⁶⁰

By modeling positive social relationships and being patient as children try out friendships, parents can provide a positive environment for developing social competence. Dr. Malka Margalit, who has studied loneliness among children with learning disabilities (LD) for nearly 30 years, found that LD children who have developed an age-appropriate repertoire of social skills, and who are confident about the coherence and predictability of their life world, are no more troubled by loneliness or social distress than their non-LD peers.

158 “How to Help a Child with Learning Disabilities Who Is Lonely,” *Greatschools!* (March 14, 2016) <https://www.greatschools.org/gk/articles/help-lonely-child/> (accessed 10/7/17).

159 Janet Giler, “Helping Kids with Learning Disabilities Understand the Language of Friendship,” *Greatschools!* (March 14, 2016) <https://www.greatschools.org/gk/articles/understanding-the-language-of-friendship/> (accessed 10/7/17).

160 “Nurturing Social Competence in a Child with LD,” *Greatschools!* (March 18, 2016) <https://www.greatschools.org/gk/articles/nurturing-social-competence/> (accessed 10/7/17).

Contrary to many adults' prejudices, Dr. Margalit found that computer use predicts lower levels of loneliness for kids with learning disabilities. She comments, "Sometimes we are biased against technology, worried that children may neglect their face-to-face friendships in favor of virtual connections. I would like to encourage parents to think differently about e-friends and Web peers, since they may expand children's social networks, enable them to try out their social skills, as well as give them a different sense of their social status."¹⁶¹

Research conducted by the Frostig Center in Pasadena, California, identifies six "success attributes" for the long-term thriving of individuals with dyslexia:

- *Self-awareness* = individuals are knowledgeable and thoughtful about their learning difficulties, while not defining themselves solely in terms of those difficulties.
- *Proactivity* = individuals embrace problem solving, take appropriate risks, get involved in decisions and projects
- *Perseverance* = individuals have the ability to keep at projects, learn how to deal with setbacks.
- *Attainable goals* = individuals can identify realistic short and long term goals.
- *Support systems* = individuals can find and use needed support from others, and at the same time can offer support to others.
- *Emotional coping strategies* = individuals can recognize stress triggers, develop strategies, and know when to ask for help.¹⁶²

A longitudinal study (a study of a group of people over several years) from the Frostig Center following individuals with learning disabilities who became successful later in life, compared to those who did not, found no significant differences between the groups with regard to gender, IQ, socio-economic background, ethnicity, or the kind of disability with which they were diagnosed.

However, the authors found significant differences in other areas.

Successful individuals were those who:

- learned to see their disability as only one aspect of themselves
- took an active approach to life choices and were able to reciprocate

¹⁶¹ "How to Help a Child with Learning Disabilities Who Is Lonely," *Greatschools!* (March 14, 2016) <https://www.greatschools.org/gk/articles/help-lonely-child/> (accessed 10/7/17).

¹⁶² Marshall H. Raskind, Roberta J. Goldberg, Eleanor H. Higgins, Kenneth L. Herman, "Life Success for Children with Learning Disabilities: A Parent Guide," Frostig Center (2003) <http://frostig.org/our-research/parent-guide/> (accessed 10/7/17).

the caring and mentoring roles from which they had benefited

- were creative in finding ways to circumvent obstacles
- could set concrete, attainable goals
- had mentors who helped them grow rather than fostering continued dependence, and
- learned to cope effectively with stress.

Successful individuals used these strategies for success throughout their lives, not only in school, and developed the “personal passions” that carried them through their challenges.¹⁶³

163 Roberta J. Goldberg, Eleanor L. Higgins, Marshall H. Raskind, and Kenneth L. Herman, “Predictors of Success in Individuals with Learning Disabilities: A Qualitative Analysis of a 20-year Longitudinal Study,” *Learning Disabilities Research and Practice* 18 (4) (2003): 236, passim. See also Stephanie L. Hoft and Fumiko Hoeft, “What Protective Factors Lead to Resilience in Students with Dyslexia?” *The Examiner* (Baltimore MD: IDA, December 2016) <https://dyslexiaida.org/what-protective-factors-lead-to-resilience-in-students-with-dyslexia/> (accessed 1/7/18).

What are students' rights and resources?

There is a dense thicket of state and federal laws and regulations that guide or at least affect education. They change frequently, and they vary in both applicability and compliance from state to state. The devil is often in the details. Educators' and policy-makers' penchant for acronyms can increase confusion. Below is a brief summary of the main laws and regulations as of this writing.

FEDERAL AND STATE LAW

Equal educational opportunity for students with disabilities in Hawai'i is governed by four major federal laws:

1. The 1990 *Americans with Disabilities Act* (ADA) bans discrimination on the basis of disability in employment, education, transportation, retail services, and government services. The ADA is probably best known for providing for physical accessibility to buildings. It might also be invoked to support requests to provide information in alternative formats such as Braille or to modify tests.
2. *The Family Education Rights and Privacy Act* (FERPA) protects the privacy of students' records and gives parents the right to review students' records. This could become important when a family is creating a home file to collect information for securing an assessment or applying for accommodations.
3. *Section 504 of the Rehabilitation Act of 1973* requires equal access to education for students with disabilities. A student who qualifies for a 504 Plan receives both modifications and accommodations for the purpose of securing an education comparable in quality to that provided to non-disabled students. Section 504 provides protection against discrimination in federally funded programs for individuals diagnosed with dyslexia. It also applies to extracurricular programs. It is a civil rights law that protects the rights of individuals with disabilities and forbids discrimination on the basis of disability by any program receiving federal funds, including schools. The eligibility requirements for a 504 Modification Plan are relatively broad and may include students with mild disabilities who do not qualify under IDEA eligibility requirements. Examples of modifications could include: "seating in the front row of the classroom, modifying homework requirements, changing the way tests are given, using tape recorders or other audio-visual equipment, adjusting class schedules, selecting modified textbooks

or workbooks, using behavioral management techniques, and providing a structured learning environment.”¹⁶⁴

4. *The Individuals with Disabilities Education Act* (IDEA) provides for free testing and special education for children attending public school. The Act, initially passed in 1975 and reauthorized in 2004, requires schools to provide students with disabilities an education that meets their unique needs. IDEA provides federal funds to the states to help make special education services available for students with disabilities. It also articulates specific requirements to ensure a free appropriate public education (FAPE) for students with disabilities. FAPE is the protected right of every eligible child in the United States and its territories. In addition to the provision of services, the law also guarantees the right of due process to children and their families. IDEA is enforced under Chapter 60 of the Hawai'i Administrative Rules, Provision of a Free Appropriate Public Education for Exceptional Children Who Are Disabled. Further reauthorization of IDEA has been much discussed but still delayed.

Some arrangements relevant to dyslexia in the IDEA regulations include:

- FAPE requirements: Section 300.101 moves away from the old “wait to fail” model. This section states that Free Appropriate Public Education (FAPE) must be made available to students with disabilities who require special education, even if the students have not failed and have been advancing from grade to grade.
- Both IDEA and Section 504 deal with provision of a Free and Appropriate Public Education (FAPE) but IDEA requirements are more detailed than Section 504 requirements. IDEA also offers more extensive arrangements for parental participation in decision-making than Section 504. Coverage under IDEA will usually also ensure compliance with Section 504.¹⁶⁵
- Evaluation of students with specific learning disabilities (SLD): Section 300.307-311 no longer requires states to use the criteria of “severe discrepancy between intellectual ability and achieve-

164 “Equal Educational Opportunity for Students Who Are Disabled,” (Honolulu, HI: DOE, Exceptional Support Branch, April 2017) p. 2. <http://www.hawaiipublicschools.org/DOE%20Forms/EEOS%20Disabled%20Students.pdf> (accessed 9/12/17). See also “Accommodations and Modifications” in LD on-line at <http://www.ldonline.org/in-depth/accommodations> for useful information on creating a 504 plan (accessed 9/12/17).

165 “Equal Educational Opportunity for Students Who Are Disabled,” (Honolulu, HI: DOE, Exceptional Support Branch (April 2017) <http://www.hawaiipublicschools.org/DOE%20Forms/EEOS%20Disabled%20Students.pdf> (accessed 9/12/17).

ment” to identify an SLD.¹⁶⁶ It also requires states to adopt new eligibility requirements permitting the use of scientific, research-based interventions to assess students. Parents must be notified when assessments are used to identify a specific learning disability (SLD) and informed of their right to request an evaluation under IDEA.

- Individualized Education Programs (IEP): Section 300.320-324 requires schools to “do what it takes” to ensure parents understand the IEP process, including interpreters for deaf or non-English speaking parents. Schools must also inform relevant teachers and other service providers of their responsibilities for implementing the IEP. Students can be included in the IEP process when appropriate, and it is often empowering for them to learn to advocate for themselves.¹⁶⁷
- Private School Participation Project: The Hawai'i DOE has a Private School Participation Project that makes some resources available to disabled students in private schools. Mandated by the federal IDEA and chapter 56 of the Hawai'i Administrative Rules, this project uses federal funds to identify private school students in greatest need for special education services and to deliver selected services to those students. While students whose parents have voluntarily taken them out of DOE schools and placed them in private schools do not have the same rights to DOE services as do public school students, some assistance is available.¹⁶⁸
- Hawai'i DOE pamphlet “Rights of Parents and Students Under Section 504 Subpart D and Hawai'i Law Regulations” lays out federal and state laws regarding the provision of free and appropriate public education (FAPE) as of April 2017.¹⁶⁹ Parents who are challenging an IEP in an administrative hearing can seek assistance from the Disability Rights Center of Hawai'i. The Special Education Advisory Council (SEAC) and the Special Parent Information Network (SPIN) provide a useful overview of the steps available to parents to chal-

166 Candace Cortiella, Sue Gamm, Claudia Rinaldi and Steve Goodman, “RTI-based SLD Identification Toolkit,” *RTI Action Network* (n.d.) <http://www.rtinetwork.org/get-started/sld-identification-toolkit/ld-identification-toolkit-introduction> (accessed 9/12/17).

167 “Raising Your Child to be a Self-Advocate,” *SPIN News* (July, 2017): pp. 1–4. <http://spinhawaii.org/wp-content/uploads/2014/10/2017-Special-Edition-1.pdf> (accessed 9/12/17).

168 See “Private School Participation,” Hawai'i Department of Education (DOE), <http://www.hawaiipublicschools.org/TeachingAndLearning/SpecializedPrograms/SpecialEducation/Pages/authority.aspx> (accessed 9/12/17). See also “Placement,” *A Parent's Guide to Partnership in Special Education* (May 2015).

169 “Rights of Parents and Students Under Section 504 Subpart D and Hawai'i Law Regulations” (Honolulu, HI: DOE Exceptional Support Branch, April 2017).

lenge the DOE's evaluation and placement of their child.¹⁷⁰ (See local resources at the end of this guide for details.)

OTHER RELEVANT LAWS AND POLICIES

- *Every Student Succeeds Act (ESSA)*

Every Student Succeeds Act (ESSA) is a federal policy that replaced No Child Left Behind (NCLB). It was signed into law in December, 2015, and is scheduled to go into effect in the 2017-2018 academic year. It covers all public school students in the United States. ESSA requires that states consult with parents and other concerned parties to establish the states' plans for compliance with ESSA. However, according to Meghan Whittaker of the National Center for Learning Disabilities (NCLD), the federal Department of Education does not require that states actually report their arrangements for consulting relevant communities, nor does the agency require states to open their plans for public comments.¹⁷¹ The National Center for Learning Disabilities (NCLD) and understood.org have created a toolkit to help parents and educators work together to use ESSA to secure educational policies that support all learners.¹⁷²

- *Common Core (CCSS)*

Common Core State Standards (CCSS) is a state-led initiative coordinated by the National Governors Association Center for Best Practices and the Council of Chief State School Officers. It is not a federal policy. It was adopted in Hawai'i in 2010. As with most educational reforms, Common Core is complex, controversial, and challenging to implement. It is driven by political as much as educational considerations.

One goal of CCSS is that students with learning disabilities (LD) who have trouble reading and writing at grade level, but are capable of thinking and learning at grade level, will have access to the materials. This is an excellent goal, providing that the needed supports are in place to make it achievable, including an IEP stating goals aligned with CCSS standards, educators able to deliver the needed instruction, and support services as needed for

170 "Handling Disagreements/Due Process," *A Parent's Guide to Partnership in Special Education* (May 2015).

171 "Handling Disagreements/Due Process," *A Parent's Guide to Partnership in Special Education* (May 2015).

172 The Understood Team, "ESSA Advocacy Toolkit," *understood.org* (n.d.) <https://www.understood.org/en/school-learning/your-childs-rights/basics-about-childs-rights/download-essa-parent-advocacy-toolkit> (accessed 10/21/17).

each student.¹⁷³ However, dyslexia researcher Louisa Moats finds that too often Common Core produces curricula that neglect the foundational cognitive and language skills needed by dyslexic students. Further, she argues, Common Core-aligned tests “are simply unreasonable and punitive for students who experience language-based learning difficulties.”¹⁷⁴

- *Senate Concurrent Resolution 120* (SC 120), adopted by the Hawai'i state legislature on April 25, 2013, is the first step in implementing the *Comprehensive Plan for Teaching Reading in Hawai'i Schools*. Adopted by both houses of the legislature, the document requests the state Department of Education to promote public awareness, professional development of educators, and comprehensive support services for students with dyslexia. Implementation has moved forward with the establishment by the Hawai'i Teacher Standards Board of a new educator license category called Literacy Specialist, which will be based on the principles of multisensory structured literacy (SL).¹⁷⁵

RELATED EDUCATIONAL APPROACHES

- *Response to Intervention* (RTI)

RTI was established by IDEA (2004) to better identify and teach struggling readers. It is intended to be a three-tiered system for identifying students who are falling behind, despite good classroom instruction, while also enhancing the academic work of all students. The problem is that, if the students are dyslexic, they are probably not getting instruction that is good *for them*.

- First level: all students receive high-quality instruction and behavioral supports in general education.
- Second level: students not flourishing at tier 1 are moved to more intense instruction, often in small groups with new teaching strategies delivered by trained educators.
- Third level: diagnosis and remediation is provided to those stu-

173 “Common Core State Standards and Students with Disabilities” *Just the Facts* (Baltimore, MD: IDA, 2017) <https://dyslexiaida.org/fact-sheets/> (accessed 10/21/17); “Now Playing: CCSS,” *SPIN News* (2013-2014 Special Edition), p. 1. <http://spinhawaii.org/> (accessed 9/24/17). Details are provided in the Common Core State Standards document “Application to Students with Disabilities,” p. 1. <http://www.corestandards.org/assets/application-to-students-with-disabilities.pdf> (accessed 10/17/17).

174 Louisa Moats, “Many Children Left Behind?” *Perspectives* vol 41 no 2 (Spring 2015): 19.

175 “Comprehensive Plan/SCR120,” Hawai'i Branch of the International Dyslexia Association (HIDA) <https://hi.dyslexiaida.org/tools-information-resources/comprehensive-planscr120/> (accessed 10/21/17).

dents who do not respond well to the first two levels. These students would primarily be those with significant learning disabilities.

There are different models of the practice of RTI, but the basic idea is that students who do not thrive at one level will move to the next level of intensive, individualized instruction until they succeed.

Through short, frequent assessments, data is collected on students' progress that is used to tailor each student's curriculum to their needs. RTI is superior in many ways to the old "wait to fail" method that looks for a discrepancy between ability and performance: in the older approach, a person who scores high on IQ tests but fails on tests of achievement is likely to be dyslexic. The discrepancy model misses some students, especially those who can "fake it" well enough to get by, and focuses on the test rather than the learner. It also requires that the student fail badly enough to create a noticeable discrepancy, thus missing crucial opportunities for early intervention, producing low self-esteem, and compounding the student's problems.¹⁷⁶

RTI was endorsed in the 2004 reauthorization of the IDEA because advocates argued that it would strengthen teachers' capacities to respond to struggling students and focus on students' classroom performance over time rather than their test scores. Hawaiian educator Edward Kame'enui emphasizes the importance of a coordinated approach to teaching at all three levels: "the kid gets kapakahi — 'mixed up' — when he's getting a little of this and a little of that."¹⁷⁷ The goal is systematic, focused intervention to prevent reading failure.

However, there are considerable obstacles to RTI's success. Teachers, upon whom many demands are already made, must be fully qualified to conduct the assessments properly. Administrators must provide adequate and timely support for the multi-tiered process throughout the school. Delays in assessment or in moving a faltering student through the 3 tiers could well mean that the student has to wait even longer than before to be considered for needed interventions. Highly intelligent children whose hidden disability is interfering with developing their potential may escape detection, since they are doing "well enough." A lack of training, funding, or administrative support can cripple RTI's efforts to reach and teach struggling readers.

- *Universal Design (UD)*

Universal Design is a way of designing products and environments so they are useful to the widest possible range of users. In

176 "RTI: A Safety Net for Students." *SPIN News* XXX no 1 (September 2013), pp. 1–2. <http://spinhawaii.org/> (accessed 9/30/17).

177 Edward Kame'enui, quoted in Sherman and Ramsey, *The Reading Glitch*, p. 166.

education, it means that instructional spaces, relationships, activities, and materials are widely accessible. Accessibility is increased when classrooms provide multiple means of representing information, engaging students, and allowing students to express their knowledge. Universal design can benefit many students: for example, captioning of videos enables students who are deaf, learning disabled, or second language learners to follow the material more easily; at the same time, it reinforces the audio presentation with visual material for all students. All readers potentially benefit from hyperlinks in texts to definitions of key terms, while students with weaker decoding skills or vocabulary range are most in need. While there may still be a need for targeted special services (e.g., a note taker for a dyslexic student), Universal Design (UD) makes classrooms maximally accessible to all students. UD is a way of building into education the requirements of the ADA and Section 504 of the Rehabilitation Act so that accessibility is “designed-in” for everyone rather than “added on” for some.¹⁷⁸

MODIFICATIONS AND ACCOMMODATIONS

The following arrangements will likely assist students with dyslexia in all areas of school, and are often useful for other students as well:

- Break assignments into small steps and provide examples.
- Check assignments frequently.
- Give simple oral directions and provide a written copy of the directions.
- Have students repeat the directions in their own words.
- Create a buddy system for understanding and remembering directions.
- Limit the amount of copying required by including information on handouts.
- Accept alternative tasks, for example, oral book reports in lieu of written book reports.
- Present information in a multisensory manner.
- Provide preferential seating in the front of the class and away from distractions.
- Mask or block off sections of work that the student has completed.

178 Sheryl Burgstahler, “Universal Design of Instruction (UDI): Definition, Principles, Guidelines, and Examples,” *The Center for Universal Design in Education* (2015) <http://www.washington.edu/doit/universal-design-instruction-udi-definition-principles-guidelines-and-examples> (accessed 10/17/17).

- Provide an environment that is structured and free of distractions.
- Assess performance by marking the correct and acceptable parts of the work, rather than by calling attention only to the mistakes.
- Give credit for oral participation and give some grades based on oral performance.
- Record lectures, directions, stories, or specific lessons.
- Maintain daily routines to establish expectations.
- Provide students with a graphic organizer or outline to fill in during presentations to help focus on key information and see relations among concepts.
- Use mnemonic devices (memory aids) to help students recall information or steps in a process.
- Provide an outline or notes on lectures.
- Encourage the use of assignment books or daily calendars to help students organize work.
- Display examples of successful work so that students can understand expectations.

The following arrangements may assist students with dyslexia in **reading**:

- Adjust the reading level of the materials as needed.
- Provide extended time.
- Utilize oral reading only for specific instructional reasons and avoid humiliating dyslexic students by requiring them to read aloud in front of peers.
- Utilize audio books to substitute for or supplement written text.
- Use optical character recognition software (providing adequate instruction and support can be provided) (see next section).
- Provide a textbook in which the student can highlight or underline important information and write notes in the margins.
- Encourage parents to read materials to the child, remembering that dyslexic learners' spoken and auditory vocabulary is often significantly more advanced than their reading vocabulary.
- Introduce new vocabulary by using the words in exercises that map to the written text and practice correct usage to retain meaning.
- Distribute reading materials early and encourage students to read the assignments more than once.

The following arrangements may assist dyslexic students in **spelling**:

- Use a word processor, spell checker and on-line dictionary.

- Employ a proofreader to call the student's attention to remaining errors, especially those not identified by spell checkers, such as homonyms (two or more words with the same pronunciation but different spellings and different meanings, such as *to*, *two*, and *too*).
- Provide extended time on tests.
- Omit spelling as a criteria on in-class assignments or pro-rate the spelling portion of the grade.
- Give the spelling of needed words to make writing easier when spelling itself is not being evaluated.

The following arrangements may assist dyslexic students in **writing**:

- Use a word processor
- Use a reading pen to scan notes directly into a computer.
- Utilize a proofreader.
- Utilize a note-taker and encourage note sharing so students can listen in class without the distraction of simultaneously taking notes.
- Record lectures (with the permission of the instructor) and encourage the student to listen to them later.
- Utilize a transcriber to write down the student's dictated work.
- Request alternative assignments utilizing other media, such as art, collage, diorama, film, music, etc.
- Give two grades — one for ideas and content and another for mechanics, including spelling, grammar, punctuation, sentence structure, etc.
- Use speech recognition software to allow students to dictate papers (see next section).

The following arrangements may assist dyslexic or dysgraphic students in **math**:

- Use a calculator.
- Reduce the quantity of problems assigned.
- Use graph paper to keep columns and lines straight in computation.
- Reduce need for copying problems from the board.
- Read word problems orally to the student.
- Provide a double set of textbooks so that one is available at home and the other at school.
- Use manipulatives (blocks, cards, etc.) to visually represent mathematical concepts.

- Use key words or signal words to assist in problem-solving by routinizing the language used in specific computations (for example, the word *of* frequently means multiply).
- Provide extended time.
- Teach the language of mathematical symbols with the same explicit, direct, step-by-step approach utilized in teaching reading, writing and spelling.¹⁷⁹

The following arrangements may assist dyslexic learners in **testing**:

- Provide extended time.
- Provide oral or recorded tests or other alternative formats for testing, such as open book, take-home, essays, etc.
- Arrange for minimal distractions in the test-taking environment.
- Provide a reader.
- Provide a scribe.
- Provide a word processor with no internet access or stored materials that might interfere with the test.

ASSISTIVE TECHNOLOGIES

The realm of assistive technologies is vast and rapidly changing. We list a few of the commonly used types of assistive technologies below, but we do not endorse specific products.

A few things to think about as you look at your options:

- Given the rate of change and the expansion of products, be sure to get up-to-date information.
- Start by assessing the needs of the specific people you are trying to help, including their strengths, weaknesses, and preferences.
- Identify the tasks they need to perform and the environment in which they will be working.
- Choose technology that is affordable for the family or institution purchasing it and useable for the learner.
- Anticipate problems and develop concrete plans for addressing them, including assessing the availability of technical support.
- Build in a school or workplace process to review and monitor the

179 Jenny W. Hamilton, "The Language of Math: Finding Common Ground" *Perspectives* vol 43 no 1 (Winter 2017): 47–52.

technology.¹⁸⁰

Be sure to try out expensive technologies before buying them, and get advice from someone who is not trying to sell you something. Often the Special Education Department in the College of Education at your local university, or the technology specialist at the university's disability program, will be able to provide information.

1. *Word processing tools*: Your computer or your child's computer probably already has an electronic dictionary, thesaurus, and spelling and grammar check. On your word processing system's main tool bar, click on "tools" to find these items. Remember that students must spell and write with sufficient accuracy that they can distinguish correct from incorrect answers.

2. *Audio books*: There are several services that provide audio books, including:

- *Bookshare* — a free service for students with qualifying disabilities to download books and periodicals. www.bookshare.org (accessed 9/30/17)
- *Librivox audiobooksfree* — classic audiobooks for free. www.youtube.com/user/audiobooksfree (accessed 9/30/17).
- *Open culture* — hundreds of free audio books. www.youtube.com/user/audiobooksfree (accessed 9/30/17).
- *Learning Ally* (formerly *Recording for the Blind and Dyslexic*) — a membership service charging a fee to download digitally recorded and downloadable audio textbooks and literature. <https://www.learningally.org/> (accessed 11/16/17).

3. *Speech to text and Text to speech*: There are many software programs and/or devices that type spoken words (turning speech into written text) or scan written text and read it aloud (turning written text into speech). Some may do both. They may contain editing tools or study guides. Your computer may already have such technology installed on it.

Look for text-to-speech programs or devices that have these features:

- Easy activation with good quality speakers
- Apps needed to support services you use, such as Bookshare
- Software that highlights the written text while narrating the text orally

Look for speech-to-text programs or devices that have these features:

- Adequate microphones

180 Linda Heckler and Ellen Urguhart Engstrom, "Technology that Supports Literacy Instruction and Learning," in Birsh, ed., pp. 662–663.

- Ability to exclude external noise
- Easy process of learning to “train” the software to recognize your voice and train yourself to give the needed information (such as when to capitalize a word) in the proper way. Speech that is too rapid, unclear, or heavily accented presents problems.
- Accessible support services

4. *Smart pens*: These are technologies that aid in note-taking and in reading and playing back spoken material. Smart pens or reading pens can scan notes directly into computers to avoid recopying.

5. *Graphic organizers*: Software programs that help the user generate, classify and organize ideas.

Any assistive technology will work better with adequate training and support from qualified personnel. Without such help, expensive technologies often sit on the shelf while students continue to struggle.¹⁸¹

181 Heckler and Engstrom, “Technology and Supports Literacy Instruction and Learning,” in Birsh, ed., p. 659.

Making transitions

Change is often frightening. It is particularly challenging for dyslexic learners and their families because new situations may trigger more intense problems with performance. A dyslexic child becomes a dyslexic teenager who becomes a dyslexic adult, and each transformation brings new demands and poses fresh dilemmas. Special educator Rick Lavoie has noted that families are often thrown into turmoil when new challenges unexpectedly re-invoke old fears.¹⁸² Dyslexic learners and their families are apt to feel a sense of panic or defeat: having come so far, it is disheartening to feel, “Here we go again.” Yet the skills and confidence gained with each successful transition are cumulative, forming a reservoir of resources that can be recruited to meet each new transformation.

It is important to examine alternatives and marshal available resources in assisting persons with dyslexia to transition through the educational system and into the workforce.¹⁸³

ENTERING PRE-SCHOOL, KINDERGARTEN, OR OTHER EARLY CHILDHOOD PROGRAMS

Most if not all learners flourish best in quality programs with small class size, run by caring professionals, offering stimulating, hand-on activities and utilizing multisensory approaches to learning. These traits are particularly important for children with learning disabilities.

An early childhood program that provides enriched opportunities for language development in the forms of art, music, conversation, stories and other forms of play will help a child who is having difficulty with the world of language. While specific diagnoses of dyslexia would probably be premature during early childhood, early recognition of risk factors enables parents and teachers to anticipate children’s needs. If dyslexia runs in your family, or if your child has significantly delayed speech, difficulty with rhyming or sequencing words, difficulty remembering names or functions of common objects, or significant problems with coordination, early assessment is especially helpful.

ENTERING ELEMENTARY SCHOOL

- If you suspect that your child is dyslexic, they can be tested as early as 5 years of age. Do not wait: early assessment is key to successful intervention.

182 Rick Lavoie, “On the Waterbed.”

183 “Planning and Preparing for Transitions,” *SPIN News* (July 2016): 1–3. <http://spin-hawaii.org/> (accessed 9/23/17).

- If your instincts tell you something isn't quite right with your child's learning, trust your feelings. Do not accept benign assurances that your child will "grow out of it."
- Talk to your child's teachers about how they teach reading. While children learn in many different ways, most learners benefit from acquiring basic phonics (correspondence between sounds and letters) and morphology (language structure). Stale debates about "whole language" versus phonics should not be allowed to get in the way of teaching every child to read, write, and spell in ways that are effective for that child.
- Pay attention to changes in your child's demeanor. If a formerly cheerful and upbeat child becomes morose and negative toward school, that child may be experiencing undetected academic problems. Dyslexic children can often "fake it" for the first 2 years of school by memorizing needed vocabulary words and substituting general knowledge for actual reading. By third grade, however, students are expected to cease learning to read and commence reading to learn; at this point it becomes impossible to memorize everything, and the dyslexic child falters. The child will probably not have the vocabulary or self-awareness to communicate these experiences directly. Parents and teachers need to pay attention to indirect communication, including body language and emotional expressions, as well as listen to the child's words.
- Look at all available educational alternatives within your community, including public schools, private schools, charter schools, home schooling, and tutoring programs. (See the section on Resources in Hawai'i at the end of this document.) Schools with excellent reputations may be good for some learners but not for others. Find the best match for your child.

ENTERING MIDDLE SCHOOL¹⁸⁴

- Anticipate logistical changes: your child will probably be required to change classrooms, respond to a larger number of teachers, negotiate a larger campus, utilize a locker, and arrive at classes on time.
- Take your child on a tour of the campus. Take a friend along so they can reinforce one another's recollections.
- Take advantage of available summer programs to create familiarity with the new school.
- Get a campus map and take your child to explore; practice moving

¹⁸⁴ This list is adapted from Nancy Firchow, "Smoothing Your Child's Transition to Middle School," *GreatSchools!* (June 15, 2009) http://www.lagunabeachschools.org/uploaded/4-EMS/About/Documents/Smoothing_Your_Childs_Transition_to_Middle_School.pdf (accessed 10/8/17).

between classrooms, dining hall, bathrooms, library, sports facilities, etc.

- Anticipate social changes: your child will probably be in a larger and more varied social situation and will be worried about making friends.
- Encourage your child to become involved in extra-curricular activities and invite friends home.
- Help your child with social skills such as making eye contact, joining a conversation without interrupting, being an attentive listener, and including others in activities.
- Anticipate academic changes: your child will face a more demanding curriculum and greater organizational stress.
- Stay on top of IEP procedures. Meet with the middle school IEP team during the preceding spring semester so they know about your incoming student and can select appropriate placements.
- Meet early with teachers to let them know what works with your child and what areas need help.
- Work on time management skills. Create a schedule that fits the child's and the family's needs.
- Assist with organization. Set up a system to keep track of and transport materials.
- Have high expectations, but do not overreact to grades.
- Familiarize yourselves with the school website, handbook, and other available information.
- Cultivate the distinction between supporting your child and doing their work for them. While parental support is critical in structuring the child's situation for success, it will not support the child in the long run if parents "help" by taking over the homework or intervening in problems without allowing the child to learn to solve them.

ENTERING HIGH SCHOOL¹⁸⁵

Many of the same concerns apply here as in transitioning to middle school, as academic work continues to grow more demanding and social situations can be more complex. Further, the question of "what next?" looms as graduation approaches.

- Be prepared for a heavier workload.

185 Melinda Pongrey, "Dyslexia and High School," *LD On-Line: The Educators Guide to Learning Disabilities and ADHD* (June 27, 2008) <http://www.ldonline.org/article/25150> (accessed 10/8/17); Eileen Bailey, "Supporting High School Students with Dyslexia," *ThoughtCo.* (May 21, 2017) <https://www.thoughtco.com/supporting-high-school-students-with-dyslexia-3111176> (accessed 10/8/17).

- Arrange a quiet place to study and a workable studying schedule.
- Talk with the principal, teachers, or counselors at the school to find out about their services and accommodations.
- Take advantage of school tours, freshman orientation, parent-teacher meetings, and other opportunities to become familiar with the school.
- Continue to be aware of school alternatives and tutoring resources within your community; remember that the “best school” is not necessarily the most prestigious school, but rather the best match for each particular student.
- Learn to type (full-fingered, not hunt-and-peck) and use word processing systems.
- Understand your own learning requirements and be willing to advocate for yourself. Do you need extended time on tests? Help with note taking? A quiet place to work? Assistance writing papers, including selecting topics, locating relevant information, taking notes, organizing material, writing a draft, revising, editing? Would it help you to record lectures so you can listen without taking notes? Does it help you to sit in the front of the room? Study with a buddy? Listen to an audio book while you follow along in the written text? Becoming familiar with your own best ways of learning are essential to success at all levels of education.
- Learn to be independent in planning, organizing, and completing your work. Learn to be realistic in assessing tasks and estimating the time and labor they will require. A planner, either paper or electronic, is fundamental to successful organization. After you buy it, be sure to use it.
- Remember there is more to school than classes. Clubs, sports, hobbies, volunteer work, and informal socializing are important, too.
- If you have not completed high school, consider enrolling in the General Educational Development (GED) Program to obtain your high school diploma. Consult the DOE website at for information about the GED and other Adult Education programs in Hawai'i.¹⁸⁶

ENTERING COLLEGE, UNIVERSITY, OR TRADE PROGRAMS¹⁸⁷

This change is often the most dramatic one so far in a student's life because the work is considerably more difficult while the degree of inde-

¹⁸⁶ The GED information on the Hawai'i DOE website can be found at <http://www.hawaiipublicschools.org/Pages/Search-Entire-Site.aspx?k=GED> (accessed 10/17/17).

¹⁸⁷ Much of this section is taken from “Transitioning from High School to College: Help for Students with Learning Disabilities,” *Just the Facts* (Baltimore, MD: IDA, 2013) <https://dyslexiaida.org/fact-sheets/> (accessed 10/8/17).

pendence expected from the students is unprecedented. Consider that university educators have coined the phrase “the freshman 15” to refer to the common weight gain that new students experience, when their eating, drinking, and sleeping habits are far less supervised than before.¹⁸⁸ Like challenges in healthy eating, comparable changes in academic work and personal life can be daunting.

- Start planning early. While still in high school, discuss your post-high school plans, analyze your skills and needs, and prepare for change.
- Consider alternatives such as trade schools, apprenticeships, on-the-job training, and other ways to prepare for independence. Many seniors and their parents may assume that everyone should go to college, but there are many vocations that offer financial independence and dignified, interesting work. Training for a skilled trade is often less expensive than college, takes less time, and may lead more directly to a job. Community colleges often offer two year (Associates) degrees in an array of skilled trades.¹⁸⁹
- Select the institution that is best for you. Consider what matters to you, including location, physical environment, size, cost, available academic specializations, extracurricular activities, housing, required course load, faculty acceptance of learning disabilities, and available services. While high school seniors and their parents often experience considerable anxiety surrounding college admissions, in fact there are many very good colleges and universities. Concerns about getting into the “right college” are often exaggerated. As with your K–12 education, the “best school” should be the best school for you.
- Set up an application system: support from family and school personnel is crucial to assisting students to keep track of the organizational challenge of multiple forms, transcripts, essays, and letters of reference, all while keep up with ongoing academic work.
- Communicate regularly with high school and college personnel to make sure your process is on track. Ask your high school counselor for a copy of your school’s official documentation of your learning disabilities, including all assessments and tests administered in relation to the provision of special services. Official documentation is necessary for acceptance to college or other post-high school services. This documentation may no longer be available once you leave high school or reach 21 years of age, so don’t put this off.

188 “Beating the Freshman 15,” *Teens Health* (January 2014) <http://kidshealth.org/en/teens/freshman-15.html#> (accessed 10/8/17).

189 David Greenberg, “Thriving in Trade School with a Disability,” Community for Accredited On-Line Schools (n.d.) <https://www.accreditedschoolsonline.org/vocational-trade-school/people-with-disabilities/> (accessed 1/8/18).

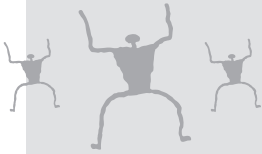
- Keep these documents in a file or binder and retain for future use. Have your parents keep a copy in case you lose yours.
- Find out the specific procedures for securing needed accommodations on the SAT and the ACT. They are required for entrance to many colleges. The tests are somewhat different, and are periodically revised, so you should consult your high school counselor as to which one might be better for you. It takes several months for a request for accommodations to be completed. The process requires your high school to submit documentation. (For more information, see the section above, Taking Standardized Tests.)
- Learn to type with all 10 fingers and use word processing systems. These are essential in college.
- Understand your own learning requirements. All the same questions dyslexic learners asked themselves in high school remain critical in college: you must know your requirements for successfully reading, writing, studying, researching, preparing, and performing academically. A clear understanding of your own needs as an effective learner will help you ask the right questions of college advisors.
- Prepare yourself to be independent in organizing your work, identifying your needs, locating the appropriate assistance, and taking advantage of available services. Buy a planner and use it. Learn to look at the “big picture” of your assignments and requirements, so you pace yourself and manage your workload.
- Practice independent living skills such as paying bills, doing laundry, filling prescriptions, organizing transportation, buying groceries, cooking, doing housework, and managing time.
- Understand that colleges and universities are not allowed to ask if an applicant has a disability. Disability therefore is not factored into the admissions decision. It is your decision whether or not to disclose your disability. In making that decision, consider the severity of the challenges you face, the requirements of the college's service program, and the extensiveness of needed accommodations.
- Investigate the admission requirements of the colleges or universities you are most interested in attending. In addition to minimum ACT or SAT scores, universities usually require successful completion of certain high school courses in math, science, and language and a specified grade point average. Community colleges, in contrast, are often “open door” institutions and may not require admissions tests, high school diploma, or GED.
- Find out how you qualify for disability services. Most colleges want to see assessment results for students after their 16th birthday. The documentation should be conducted by a credentialed professional and contain a clear and detailed diagnostic statement, informal and formal documentation, clear account of how the student's learning

is affected by the disability, recommendations from qualified professionals familiar with the student, change over time, and descriptions of past and current accommodations.

- Check out one of the college guides that specialize in resources for students with learning differences. Identify the services offered by the institutions that interest you and contact their disability student services office directly for more detailed information. Some schools will offer structured programs with a large selection of services and possibly a separate admissions process; some will offer coordinated services that can be used as needed by the student; and some will offer a minimal level of accommodations. To find out what is available, the questions you should ask include:
 - Is there a special program for dyslexic/learning disabled students?
 - How long has it been in existence; how many students does it serve?
 - Who staffs the program? Are they trained professionals? Full or part time? How many?
 - How will you access services? Will you be assigned to a particular staff member? Have regularly scheduled appointments?
 - Is there a counselor available to help deal with the stresses and pressures of college?
 - Can you speak with students who are veterans of the program?
 - What is the application process, including closing date and needed paperwork?
 - Is there a required summer program or other pre-admission requirement?
 - Are there any fees associated with the services?
 - Does the program have a computer lab where assistance is available? What are its hours?
 - Does the university accept documentation of prior testing or does it require new testing? If new testing is required, how is it arranged and how much does it cost? Where are the documentation papers kept?
 - Does the program offer note-takers, recorded texts, tutoring in various subjects, oral testing, extended time on tests, foreign language course substitutions and waivers, and assistance in communicating with professors?
 - What kind of tutoring is available (individual vs. group; professional vs. peer; free vs. fee)?
 - How hospitable is the rest of the university to dyslexic students?

How big are the classes? How accessible and cooperative is the faculty?

- What is the recommended course load? What is the minimum load you can take and still be eligible for financial aid? Still be included on your parents' health insurance policy?
- Should you also hold a job?
- Is there a student support group?



BIOGRAPHY BOX 13

WHERE DID THE TIME GO?

Jill worked hard in high school and compensated for her difficulties in reading comprehension by setting aside time to read everything twice: the first time to decode all the words, and the second time to grasp the meaning. She had accepted the fact that homework would take her longer than it took her friends, recognizing that everyone has their strengths and everyone faces some challenges. This system worked well until college, when the volume of assigned reading overwhelmed her ability to plan.

Jill's tutor worked with her to plan her major assignments a semester at a time. While an electronic planner would have been handier to carry, Jill needed a large paper calendar, organized by months, in order to visualize the available study time while recognizing other demands on her time, such as work, sports, errands, family activities, and housework. Filling out a monthly calendar required Jill to divide up her biggest assignments into identifiable parts and allow adequate time for each. As the semester proceeded, periodically returning to the calendar to reschedule neglected tasks forced Jill to set priorities. Looking ahead and adjusting the schedule allowed her to avoid desperate last-minute efforts and exhausting all-nighters.

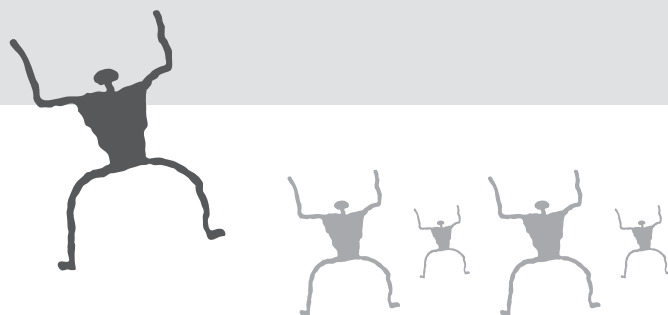
Once you are admitted to a college or university, work with their student services office to review your documentation and arrange for accommodations.

BIOGRAPHY BOX 14

HERE WE GO AGAIN

In his mid-twenties, Kahala took a job in a warehouse that involved rapidly sorting, evaluating, and properly disposing of a variety of objects. The job felt overwhelming. Kahala had gotten good multisensory structured literacy instruction starting in 2nd grade, had successfully completed both high school and college, and had become a voracious reader. Yet this new situation threw him for a curve. The task had to be done at a rapid rate for a long period of time. Several decisions had to be made simultaneously: "Is this piece flawed? Can it be repaired? Should it be thrown away?"

Kahala and his parents were initially distraught. They had come so far, only to be thrown back into the same panic, confusion and doubt of earlier stages. Yet, they were able to use the same principles to master the new situation that they had used in earlier contexts: break the problem down into its constituent parts; practice them slowly and deliberately; add them back together one at a time; gradually speed up as confidence is regained. Bring together the feel, sound and sight of the materials to gather maximum information about them.



ENTERING GRADUATE OR PROFESSIONAL SCHOOL¹⁹⁰

While graduate programs typically provide much less information about learning disabilities to prospective students than do undergraduate programs, most of the previous advice about college will apply to graduate and professional school as well. The GRE (graduate school), MCAT (medical school) and LSAT (law school) are required for admission. These tests, well as state and national certifying examinations, can be taken with accommodations.

Sometimes individuals who have successfully completed their earlier educations will discover their learning disability in graduate school or medical school, where intense requirements and high-stakes testing overwhelm their coping strategies. It may be particularly traumatic for these students to come to terms with their learning differences, if they have no personal history or resources upon which to draw. Services provided to undergraduates are available to graduate students as well. In addition, professional schools may have specific programs to assist learning disabled students, who are likely beset by fears that their professors and peers will think them less capable than they really are.¹⁹¹

ENTERING THE WORKPLACE

If you are an adult with a disability and are unemployed or underemployed, contact the Vocational Rehabilitation and Services division of the state Department of Human Services at <http://humanservices.hawaii.gov/vr/> (accessed 10/8/17). This is the primary office responsible for addressing employment issues for persons with disabilities in Hawai‘i.

If you need but do not have current documentation of your disability and you are over 22 years of age, seek a private assessment with a professional qualified to administer the needed tests for dyslexia. Visit the HIDA website for a list of qualified testers in your area.

Educate yourself about the provisions of the Americans with Disabilities Act (ADA), which prohibits discrimination against qualified individuals with disabilities in job application procedures, hiring, firing, advancement,

190 Doric Little and Celeste Lajala, “Learning Differences and Medical Students: What We’ve Learned,” *Journal for Minority Medical Students* 18 (1) (Fall, 2005): 33–35; “Succeeding in Graduate School with a Learning Disability,” *Gradschools.com* (n.d.) <https://www.gradschools.com/get-informed/surviving-graduate-school/study-skills-grad-school/succeeding-graduate-school-learning> (accessed 10/8/17). For more detail on applying for accommodations, see “Applying for Accommodations on Graduate School Entrance Tests,” *Just the Facts* (Baltimore, MD: IDA, 2017) <https://dyslexiada.org/fact-sheets/> (accessed 10/11/17).

191 Frederick Romberg, Bennet Shaywitz and Sally Shaywitz recommend a mandatory course for medical school faculty on dyslexia; see “How Should Medical Schools Respond to Students with Dyslexia?” *AMA Journal of Ethics* vol 18 no 10 (October 2016): 975–985.

compensation, job training, and other terms, conditions and privileges of employment. Employers are required to provide reasonable accommodations to qualified applicants or employees so long as such changes do not impose “undue hardship” on the operation of the business.¹⁹²

If you had help in school dealing with your dyslexia, revisit the techniques you learned and the advice you received. If you did not have any assistance during your education, consider securing a tutor to develop needed problem-solving skills. It is never too late.

Tax implications¹⁹³

With each transition, it is wise to check with your tax-preparer to determine if any of the expenses you will be incurring are tax deductible. Documentation papers are essential.

The U.S. tax code is currently in transition. As of this writing, IRS publication 3996, “Living and Working with Disabilities” in the Lifecycle Series <https://www.irs.gov/pub/irs-pdf/p3966.pdf> is still available (accessed 1/7/18).

192 “Facts About the Americans with Disabilities Act,” U.S. Equal Opportunity Employment Commission (September 9, 2008) <https://www.eeoc.gov/facts/fs-ada.html> (accessed 10/8/17).

193 HIDA and this booklet make no claim to offer advice on preparing taxes.

Interviews with teachers

Since 15–20% of the general population is dyslexic or has another language based learning disability, most teachers have encountered dyslexic students. Yet they often lack knowledge of reliable teaching strategies. Because the hands-on skills of multisensory structured language instruction are usually not included in the training of teachers, teachers must go out of their way to seek the knowledge they need to effectively teach dyslexic students.

Teacher #1 is a public school teacher who has found the resources available in Hawai'i to advance her training. Public school teachers #2 and #3 have not had access to these resources.

HIDA: How do you know if a student in your class is dyslexic?

Teacher #1: As a special education teacher for the Department of Education, the majority of students that I taught were identified as SLD or specific learning disabled. Most commonly the areas of difficulty were reading, writing, spelling and sometimes math.

Teacher #2: I don't know a lot about dyslexia but here are some things I have observed:

- difficulty with reading, writing and language skills
- reversals of letters like *b* and *d*
- verbal skills usually strong
- poor spelling-transposition of letters
- problems with memory and organizing skills

Teacher #3: I would know a student is dyslexic if given prior information, i.e. from parents, prior teacher or student records. I rely on the written records because I don't have specific criteria to apply and in any case I have many other students needing my attention.

HIDA: How do you help a dyslexic student in your class?

Teacher #1: I used the Orton-Gillingham approach to tutor my students [with dyslexia]. This approach is: simultaneous; multisensory (visual-auditory-kinesthetic-tactile); cumulative, and systematic. However, I modified the common one-to-one approach to use with a small group of students, usually 3 to 5. Organizational skills that include specific routines and written checklists are helpful tools that foster classroom management and student independence.

Teacher #2: I try to help a dyslexic student by having the student sit in the front of the classroom, take away any distractions, repeat directions, use spell check, tape things on their desk to remind them of “tricks” that

they would use, give lots of drill and practice, and use multisensory approaches. I would also use alternative methods of testing children who have dyslexia.

Teacher #3: I am not sure how I would help a dyslexic student. I need more information and training.

HIDA: How do you learn about dyslexia?

Teacher #1: I have completed extensive training from Fellows of the Academy of Orton-Gillingham Practitioners and Educators (AOGPE) to become a language therapist. As a member of the Hawai'i Branch of the International Dyslexia Association (HIDA) I receive the *Annals of Dyslexia* and *Perspectives* which both provide excellent up-to-date research in the field of dyslexia. I also attend workshops and conferences sponsored by HIDA and the Learning Disabilities Association [now Leadership in Disabilities and Achievement] of Hawai'i (LDAH). Networking with colleagues is also helpful. Listening to parents and their concerns and locating resources to assist them also broadens my knowledge base. Many resources (books, DVDs) are available to borrow at the HIDA office. Various websites are also helpful to obtain up to date information on dyslexia.

Teacher #2: I learned about dyslexia through colleagues, professional reading materials, LDAH, and through direct interactions with students.

Teacher #3: I would take a class, go on-line, borrow a book, or ask someone who works with dyslexic students. I am aware that there are resources available, but finding them takes time.

HIDA: What does it feel like to be the teacher of a dyslexic student?

Teacher #1: At times teaching dyslexic students can be a frustrating experience. The traditional structure of a classroom is generally not conducive to teaching a student with a learning difference. A lot of creative modification to the environment and curriculum is required in order to successfully teach these bright children. Also, educating colleagues and administrators can be time-consuming yet rewarding. When a child comes to me with eyes sparkling and a bright smile, exclaiming, "I read aloud in class by myself!" the joy I feel is indescribable!

Teacher #2: It makes me a better teacher. I'm there to provide them with tools that they can use to better deal with dyslexia.

Teacher #3: I feel frustrated. I do not have good strategies at my fingertips to help these students.

How can you learn to teach dyslexic students effectively?

To those untrained in structured literacy (SL) approaches, spelling in the English language often looks chaotic and arbitrary. Why do we write *igh* to say /i/ in *light*, for example, but add a silent *e* to make the same sound in *bite*? Why do we write the sound /ā/ as *ay* in *play*, *ai* in *rain*, *a-consonant-* in *Jane*, *igh* in *eight*, *ei* in *vein*, and *ea* in *steak*? Why do we double the *l* in *hill* but not in *heel*?

Despite appearances, however, English is largely a rule-governed language. Approximately 85% of the spelling patterns in our language can be accounted for by stable rules and consistent generalizations, leaving only about 15% that is truly irregular. Dyslexic learners need to know these rules and generalizations, because this information is their key to entering the world of written signs. Additionally, it is helpful to all learners to know this information because it makes our language more comprehensible and prepares even strong spellers and readers to be better able to spell unfamiliar words and puzzle out their meanings.

Reading failure often appears in children at about 3rd grade because at that level they are expected to cease “learning to read” and commence “reading to learn.” At that point, vocabulary increases rapidly, largely from exposure to words through reading. But the dyslexic child, who has not really learned to read, has probably been getting by through memorizing each word. At about 3rd grade, this strategy falters: there are simply too many words to memorize them all. The child must learn the basic patterns of the language.

Classroom teachers at all levels can adapt their pedagogies (teaching methods) to better include dyslexic students. In lower grades, early screening and identification are crucial. In upper grades, high school, and college, subject area teachers can include direct instruction about the vocabulary, reading materials, and writing projects expected in their disciplines. Content teachers cannot also be basic reading teachers, but they can teach the literacy skills required in their fields. Schools and DOE administrators should provide the professional development opportunities teachers need.¹⁹⁴

HIDA provides periodic professional development opportunities for teachers, tutors, and parents on O’ahu and other islands upon request. These programs also provide support for tutors and information for parents. In addition, we offer both scheduled and requested workshops on teaching writing, on understanding how dyslexic students experience conven-

194 Joan Sedita, “Adolescent Literacy: Addressing the Needs of Students in Grades 4–12,” in Judith R. Birsh, ed., *Multisensory Teaching of Basic Language Skills* (Baltimore, MD: Paul H. Brookes Publishing Co, 2011): 533.

tional education, on utilizing tips and strategies for life-long success, and other topics. Check our website for scheduled events or sign up for HIDA's free electronic newsletter (HI.DyslexiaIDA.org/about-us/). The State Department of Education (DOE) and some private schools also provide educational opportunities. See "Resources in Hawai'i" at the end of this *Resource Guide* for contact information.

What can we do?

The disadvantages associated with dyslexia could be ameliorated through better education. Dyslexia’s characteristic advantages could then blossom without the life-damaging obstacles that current educational systems often impose. These changes would be particularly effective:

ASSESS CHILDREN EARLY.

Every child should be screened in kindergarten or first grade, before the child has fallen behind in language arts, and the curriculum should be adjusted as needed. Kids who are poor readers at the end of first grade seldom fully catch up. Nine out of 10 children who are deficient in reading in first grade are still poor readers in 4th grade. Longitudinal studies (studies that take place over a considerable period of time) show that about $\frac{3}{4}$ of children who have a reading disability in the third grade will continue to read below grade level in the 9th grade.¹⁹⁵ It is unlikely that children will simply grow out of their problems.

TALK TO CHILDREN. LISTEN TO CHILDREN.

Immersing children in a rich language environment exposes them to a wide range of vocabulary and familiarizes them with the cadence and rhythm of language. Encourage children to talk to each other. Keep conversations going by listening actively and posing interesting questions. From toddler years through first grade, kids acquire approximately nine words per day; this acquisition has a significant impact on later listening comprehension, reading comprehension, and writing.¹⁹⁶ But this familiarity with language is not equally distributed: by 3 years of age, researchers find that “there is a 30 million word gap between children from the wealthiest and poorest families.”¹⁹⁷ Early inequality in exposure to spoken language persists in later disparities in reading. Children who are supported in verbal development at home often find it easier to adjust to the communication demands of classrooms.¹⁹⁸

READ TO CHILDREN.

Help them learn to handle books, to move their eyes across the page from

195 Birsh, “Connecting Research and Practice,” in Birsh, ed., p. 12.

196 Soifer, “Development of Oral Language and Its Relationship to Literacy,” in Birsh, ed., p. 72.

197 Laura J. Colker, “The Word Gap: The Early Years Make a Difference,” *Teaching Young Children* 7 (3) (February–March 2014), p. 1.

198 Soifer, “Development of Oral Language and Its Relationship to Literacy,” in Birsh, ed., p. 82.

left to right and top to bottom. Exposure to written language develops a child's impressions of "how print works and what it can do."¹⁹⁹ Hearing the works of Dr. Seuss or classic children's poetry read aloud helps to teach rhyming skills. Children exposed to nursery rhymes tend to develop stronger phonological awareness.²⁰⁰ Similarly, those who have been exposed to letters, sounds, and texts develop better vocabularies and have a head start on reading. While all children benefit from being read to, children who face difficulties in cracking the code are particularly in need of experiences in which they share the joy of the written word.

PLAY WITH CHILDREN.

Engage children in games that encourage them to organize, sort and name objects. Grouping objects in categories teaches children to group like with like. A bucketful of common objects can be organized into categories, such as sewing materials, writing tools, hair decorations, desk equipment, or cooking utensils. Invite the child to name the categories. Invite alternative organizing strategies, such as feeling (hard, soft, rough, smooth) or color. You and the child are making semantic maps. These contribute to the development of rich expressive and receptive language skills.²⁰¹ Plus, they're fun.

IMPROVE TEACHER EDUCATION.

We now have rigorous scientific research explaining dyslexia and establishing effective remediation, yet we face enormous resistance from schools and universities to changing their curricula and teaching methods. This resistance has continued for a long time. In 1994, Louisa Moats found that "even motivated and experienced teachers typically understand too little about spoken and written language structure" to be able to teach it effectively.²⁰² Moats also found that these same teachers, after taking a course on phonemic awareness and sound/symbol relations, "judged this information to be essential for teaching and advised that it become a pre-requisite for certification."²⁰³ In 2006, a study by the

199 Soifer, "Development of Oral Language and Its Relationship to Literacy," in Birsh, ed., p. 52.

200 L.J. Harper, "Nursery rhyme knowledge and phonological awareness in pre-school children," *The Journal of Language and Literacy Education* vol 7 no 1 (2011): 65–78. http://www.coa.uga.edu/jolle/2011_1/harper.pdf (accessed 3/6/18).

201 Nancy E. Hennessy, "Word Learning and Vocabulary Instruction," in Judith R. Birsh, ed., *Multisensory Teaching of Basic Language Skills* (Baltimore, MD: Paul H. Brookes Publishing Co, 2011): 347.

202 Louisa Moats, "The Missing Foundation in Teacher Education: Knowledge of the Structure of Spoken and Written Language," *Annals of Dyslexia* 44 (1994): 81.

203 Louisa Moats, "The Missing Foundation in Teacher Education: Knowledge of the Structure of Spoken and Written Language," p. 82.

National Council for Teacher Quality found that not much had changed, despite the National Reading Panel’s call in 2000 for “explicit, systematic teaching of phonemic awareness and phonics, guided oral reading to improve fluency, direct and indirect vocabulary building, and exposure to a variety of reading comprehension strategies.”²⁰⁴ In 2015, Native Hawaiian educator Dr. Edward Kame‘enui at the University of Oregon was still calling for schools to “adopt and implement the most rigorous science” of reading.²⁰⁵

Teacher preparation programs need to put aside tired old debates over “whole language” vs. “phonics.” Dr. Kame‘enui calls this stand-off a “terrible dichotomy.”²⁰⁶ Instead, teacher training programs need to recognize the value of both direct phonetic instruction and exposure to rich literature, and give pre-teachers practical, hands-on skills for teaching both. Colleges of Education need to cease arguing over the “one best way” to teach language arts and instead equip teachers to identify and respond to different ways of learning. Knowledge of the basic components of reading, the structure of language, and the most effective ways of teaching language are essential elements of teacher preparation.²⁰⁷

MAKE MULTISENSORY STRUCTURED LITERACY (SL) INSTRUCTION AVAILABLE IN EVERY CLASSROOM.

Most learners would benefit academically from understanding the phonetic and morphological structure of their language, even if they can read, write and spell without that knowledge. Language is more than a system of communication. It has a poetical aspect that shows itself in the less cognitive aspects of reading and writing, such as how many syllables a word has, where the accent falls, what vowel sounds it uses, and how it looks on the page.²⁰⁸ SL approaches teach students directly about the visual and auditory structures and processes of language.

Nearly all students who struggle with language, for whatever reason, would benefit substantially from structured literacy (SL) instruction using

204 Kate Walsh, Deborah Glaser, and Danielle Dunne Wilcox, *What Education Schools Aren’t Teaching about Reading and What Elementary Teachers Aren’t Learning*, National Council on Teacher Quality (May 2006) https://www.nctq.org/nctq/images/nctq_reading_study_app.pdf (accessed 10/10/17).

205 Edward Kame‘enui, “The Teaching of Reading and the Generosity of Readers,” *TEDxClaremontColleges* (August 10, 2015) <https://www.youtube.com/watch?v=gd8uoaFmMTs> (accessed 10/10/17).

206 Kame‘enui, quoted in Sherman and Ramsey, *The Reading Glitch*, p 157.

207 Birsh, “Connecting Research and Practice,” in Birsh, ed., p. 16.

208 See “Off the Page: Richard Ford,” *The Washington Post* (December 14, 2006) <http://www.washingtonpost.com/wpdyn/content/discussion/2006/12/05/DI2006120500715.html> (accessed 1/5/18).

multisensory techniques. Based on her lifetime of experience as both a tutor and a researcher, Dr. Judith Birsh is unequivocal on this point: “We now know, based on data from assessments of reading skills, at least 15%-20% of the school-age population is in need of explicit, systematic, evidence-based standard treatment protocols.”²⁰⁹ The people best able to deliver this to such a large percentage of students are classroom teachers, providing they have the needed training. Other students can and do learn to read, write and spell without SL instruction, but learning the fundamentals of language in this way would be an “added benefit” to their development.²¹⁰

According to G. Reid Lyon, former chief of the Child Development & Behavior Branch within the National Institute of Child Health & Human Development (NICHD) at the National Institutes of Health (NIH), the two biggest causes of reading failure in the U.S. are poverty and dyslexia.²¹¹ The rate of reading failure in schools with high percentages of students from low-income families is very high, as much as 60–70%.²¹² Fifty-five percent of the students in 4th grade across the U.S. who are eligible for subsidized school lunch are also poor readers, while less than a quarter (24%) of the other children are poor readers.²¹³ Multisensory structured literacy instruction helps poor readers who are not dyslexic as well as those who are.

LEARN FROM OTHERS.

The history of education is replete with efforts to create schools that nurture the creativity and intellectual freedom of children. Some of these reforms may hold enhanced promise for dyslexic learners.

In standard schools, dyslexic students fail early and often because the skills they have trouble developing are precisely the ones that are demanded in the first few grades, while the things they are good at often make a belated appearance (if at all). If there were more balance in the curriculum, if art, music, woodworking, machine building and repair, sewing, cooking, dancing, acting, athletics, and story-telling were as important as reading and writing in elementary school; if handling animals skillfully, speaking eloquently, thinking deeply, growing food well, developing independence, and interacting graciously with others

209 Judith Birsh, “Preface,” in Birsh, ed., *Multisensory Teaching of Basic Language Skills* (Baltimore, MD: Paul H. Brookes Publishing Co., 2011), p. xvi.

210 Birsh, “Preface,” in Birsh, ed., p. xvi.

211 G. Reid Lyon, “Why Scientific Evidence Must Guide Reading Assessment & Reading Instruction,” 2004 Pacific Basin Learning Disabilities, ADHD & Teen Conference, Waikiki Beach Marriott Resort (February 13–14, 2004).

212 Louisa Moats, “Basic Facts about Dyslexia, Part II: What Every Professional Ought to Know,” *Orton Emeritus Series* (Baltimore MD: IDA, 1999): 10.

213 Sherman and Ramsey, *The Reading Glitch*, p. 23.

were recognized and rewarded; if the conceptual side of mathematics came before the paper-and-pencil requirements of arithmetic: then dyslexic learners would be more likely to find their talents before the consequences of their weaknesses have done substantial harm. The Montessori school movement, the Modern Schools, John Dewey’s progressive school movement, the Summerhill School — these are a few of the available alternative education movements that could be plumbed for ideas about restructuring education.

Other fresh ideas could come from abroad. Finland, for example, has become famous for its educational successes. Teaching is a highly respected and independent profession there, education from kindergarten through university is free, educational structures are quite flexible, and children are not expected to learn to read until age 7.²¹⁴ Students do not need a formal diagnosis of a learning disability to qualify for extra help; instead they “receive immediate support when they begin to experience academic difficulty.”²¹⁵ Scholars comparing the U.S. and Finland find in the latter “a radical drop in the prevalence of learning disorders at the secondary-school level.”²¹⁶

Still other innovative ideas could come from reforms in other parts of the United States.²¹⁷ Pennsylvania, Washington, and several other states established pilot programs for early screening and intervention. The Washington program resulted in an increase from 17% to 40% passing grades on the reading section of the state exams for students participating in the intervention program.²¹⁸ Parent grassroots movements like Decoding Dyslexia have had successes in passing legislation mandating teacher training on dyslexia and in building partnerships among lawmakers, educators and parents.²¹⁹ A dedicated coalition of dyslexia advocates in Ohio succeeded in passing legislation that has trained university faculty members in structured literacy (SL) teaching.²²⁰ There is no need to keep repeating the classroom procedures that *do not work* for dyslexic learners when there are many available examples of changes that *have worked*.

214 Hank Pellissier, “The Finnish Miracle,” *Greatschools!* (March 7, 2016) <https://www.greatschools.org/gk/articles/finland-education/> (accessed 10/21/17).

215 Carol Kinlan, “Rethinking Special Education in the U.S.,” *The Hechinger Report* (January 21, 2011) <http://thehechingerreport.org/rethinking-special-education-in-the-u-s/> (accessed 10/21/17).

216 Kinlan, “Rethinking Special Education in the U.S.,” n.p.

217 For an overview of all 50 states see “Click Your State to Track Dyslexia Legislation,” (Baltimore MD: IDA, 2018) <https://dyslexiaida.org> (accessed 1/7/18).

218 Martha Youman and Nancy Mather, “Dyslexia Laws in the U.S.,” *Perspectives* vol 41 no 4 (December 2015): 16.

219 Julia Johnson and Deborah Lynam, “The Parent Grassroots Movement,” *Perspectives* vol 41 no 4 (December 2015): 25–28.

220 Charlotte Andrist and Ronald Yoshimoto, “Beyond Dyslexia Legislation,” *Perspectives* vol 41 no 4 (December 2015): 35–39.

EDUCATE THE PUBLIC.

While there is more accurate information about dyslexia available to the general public now than ever before, there is still much to be done to educate people about dyslexia's challenges and opportunities. Dyslexia is often associated with children, as though it were only a problem in school. Yet the broader costs of an educational system that is unfriendly to dyslexic ways of knowing last a lifetime and affect our society in countless ways. According to the National Adult Literacy survey, about half of Americans do not read for pleasure at all, not even one piece of literature in a year.²²¹ Alarming high numbers of Americans cannot read well enough to interpret literature, comprehend documents, or follow written instructions.²²² While no doubt many factors contribute to this "nationwide deficit in reading ability," dyslexia is one major cause.²²³

While many Americans imagine that the cost of higher education is the biggest barrier to achieving a college education, in reality lack of adequate preparation is more detrimental than inability to pay. Research by Greg Forster at the Manhattan Institute found that only 1.4 million 18 year olds in the U.S., out of a total of some 4 million in 2000, had the academic qualifications to apply to a 4 year college. At 18 years of age, fewer than 50% of Caucasian students, fewer than 25% of Latino students, and fewer than 20% of African American students can read well enough to succeed in college. More scholarships, while needed, will only do a limited amount of good if the K-12 system continues to fail so many people.²²⁴

EDUCATE GOVERNMENT OFFICIALS.

Dyslexia is a public health concern and economic liability as well as an educational problem. If children are assessed early and taught appropriately, costly and less effective special services will not be needed later. The National Center for Education Statistics concludes, "Although difficult to translate into actual dollar amounts, the costs to society are probably quite high in terms of lower productivity, underemployment, mental health services, and other measures."²²⁵ About 25% of adults in our society are functionally illiterate; the rates go up significantly among individuals who are incarcerated, single teenage mothers, and persons dependent on public assistance.²²⁶ Seventy-five percent of youth

221 Sherman and Ramsey, *The Reading Glitch*, p. 44.

222 Sherman and Ramsey, *The Reading Glitch*, p. 72.

223 Sherman and Ramsey, *The Reading Glitch*, p. 72.

224 Sherman and Ramsey, *The Reading Glitch*, pp. 70–72.

225 National Center for Educational Statistics, quoted in Sherman and Ramsey, *The Reading Glitch*, p. 74.

226 Hall and Moats, *Parenting a Struggling Reader*, p. 70.

who drop out of school report difficulties in learning to read.²²⁷ Dyslexic teens and adults who never learn to read, write, and spell are alarmingly over-represented in our nation's prisons. The executive summary of *Literacy behind Prison Walls* reported that "learning disabled people are disproportionately represented in the prison population."²²⁸ About 1/3 of inmates taking classes at Eastern Oregon Correctional Institution, where state law mandates literacy for inmates, are learning disabled.²²⁹ As many as 3/4 of young people in youth corrections facilities in Oregon have learning disabilities.²³⁰ It is much cheaper in the long run to fund programs for young children than to wait and deal with far *more* costly effects of poverty, violence, and crime.

CHERISH DIVERSITY.

Neuroscientist and educator Gordon Sherman and educator Carolyn Cowen, following the work of Stephen Jay Gould, suggest that we regard dyslexia as "a byproduct of cerebro-diversity."²³¹ There are many, many examples of great minds who think differently (see *Dyslexia through the Life Cycle*, above). The great French novelist Gustave Flaubert, for example, did not learn to read until after his ninth birthday. In his biography of Flaubert, philosopher Jean Paul Sartre recognizes that Flaubert's creative genius was enhanced by "com[ing] late into language."²³²

Successful professional and business leaders, looking back at their struggle with dyslexia in school, see it as a kind of "boot camp" for later challenges: "It fostered risk taking, problem solving, resilience." "Many times in business, different is better than better," says CEO Bill Samuels. "And we dyslexics do different without blinking an eye." Tiffany Coletti Titolo concurs, seeing her own success in management as part of her "dyslexia wiring" that enables her to "envision possibilities, think critically, and make decisions that realize goals and reach desired impacts." She concludes, "I appreciate that I am 'wired differently,' understanding that it produces innovative, diverse thinking that is required for success in the 21st century workplace."

227 Lyon, quoted in Sharman and Ramsey, *The Reading Glitch*, p. 194.

228 Karl O. Haigler, Caroline Harlow, Patricia O'Connor, and Anne Campbell, Executive Summary, *Literacy Behind Prison Walls* (Washington, D.C.: National Center for Education Statistics, 1994), quoted in Sherman and Ramsey, *The Reading Glitch*, p. 75.

229 Sherman and Ramsey, *The Reading Glitch*, p. 106.

230 Sherman and Ramsey, *The Reading Glitch*, p. 218.

231 Sherman and Cowen, p. 11.

232 See Kathy Ferguson, "Dyslexia Manifesto," in Barbara Arneil and Nancy Hirschmann, eds, *Disability and Political Theory* (Cambridge, UK: Cambridge University Press, 2018), pp. 137–160.

Despite the daunting struggles chronicled in this *Resource Guide*, dyslexia is not a disaster. It may be a gift. Diversity in types of brains and ways of thinking may be an evolutionary asset to the human race.

Recommended Websites

The internet contains a bewildering variety of sources about dyslexia. Readers need to check the scientific credentials of those posting information on web sites and to be aware that some sites are trying to sell products. In general, websites whose addresses end in “edu” are universities and are usually reliable sources of valid information.

Among the forest of available websites, these stand out as providing up-to-date, valid, and reliable information:

- *Hawai'i Branch of the International Dyslexia Association (HIDA)*
HI.DyslexiaIDA.org
- *International Dyslexia Association (IDA)*
DyslexiaIDA.org
- *Understood for Learning and Attention Issues*
Understood.org
- *National Center for Learning Disabilities (NCLD)*
NCLD.org
- *Decoding Dyslexia: A Parent-led Grassroots Movement for Dyslexia*
DecodingDyslexia.net
- *The Yale Center for Dyslexia and Creativity*
Dyslexia.Yale.edu
- *LD On-line: The Educators' Guide to Learning Disabilities and ADHD*
LDOnline.org

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9. Writing Twice to Write Well 88

10. Adapting Multisensory Methods to the Workplace 94

11. To Disclose or not to Disclose? 98

12. Re-living School Failure through Your Kids 102

13. Where Did the Time Go?131

14. Here We Go Again..... 133

Glossary

504 Modification Plan: An individual education plan that modifies what the student is expected to demonstrate due to a disability. Section 504 of the Rehabilitation Act protects individuals with disabilities from discrimination due to disability by recipients of federal financial assistance. A 504 Modification Plan may include changes in instructional level, content, and performance criteria, may include changes in test format, and includes alternate assessments.

Accommodations: Techniques and materials that may help children with reading and writing difficulties to complete regular classroom curriculum. Examples: audio books for reading or use of a note taker or word processor for writing.

Accommodations for testing: Changes in the administration of tests that allow individuals with dyslexia to complete tasks with greater ease and effectiveness but do not substantially alter what the tests measure. Examples: changes in presentation format, response format, test setting, or test timing.

Affixes: A letter or group of letters added to the beginning (a prefix) or the end (a suffix) of a base word or root. The addition of the affix changes the meaning and/or changes the part of speech of the base word.

Alphabetic principle: The basic organizing principle for the English language and for any language in which written symbols (graphemes) represent speech sounds (phonemes) and in turn speech sounds are combined to create spoken words. In English, the 26 letters of its orthography, either singly or in combination, make up the 44 sounds in the language.

Americans with Disabilities Act (ADA): A federal law giving civil rights protections to individuals with disabilities. It guarantees equal opportunity for individuals with disabilities in public accommodations, employment, transportation, telecommunications, and state and local government services.

Analytic-synthetic principle: The relationship between spelling and reading in the coding process. We *analyze* (break apart) spoken words into individual sounds in order to spell. We *synthesize* (blend together) discrete sounds to form words in order to read.

Assessment: On-going evaluation which compares individuals' current abilities to their former abilities, or compares individuals to others, to evaluate learning.

Assistive technology: Equipment that enhances a person's abilities to perform tasks more successfully.

Attention-Deficit/Hyperactivity Disorder (ADHD): A set of behavioral disorders including poor concentration, difficulty focusing on tasks, difficulty paying attention and/or impulsivity.

Auditory discrimination: The ability to hear likenesses and differences in phonemes or words (assuming normal hearing acuity). For example, the ability to hear the /t/ in *bat* as compared with the /d/ in *bad*.

Auditory memory: Long-term auditory memory is the ability to remember something heard some time ago. Short-term auditory memory is the ability to recall something heard very recently.

Auditory Processing Disorder: Difficulty accurately processing and interpreting sounds.

Autism: The most common condition in a group of developmental disorders called autism spectrum disorders. Autistic persons have difficulties with social interactions, problems with verbal and non-verbal communication, and tendencies toward repetitive or obsessive behaviors.

Automaticity: Automatic and correct responses to linguistic stimuli without conscious effort.

Base word: A word to which affixes may be added to create related words. Base words in English are frequently from Latin and are called roots.

Blending: Fusing the segmented speech sounds represented by contiguous graphemes (written letters) into a sound continuum; combining separate sounds (phonemes) to make a whole word.

Breve: The curved diacritical mark (shaped like a smile) above a vowel indicating a short sound; for example /ä/ marks the sound made by the letter *a* in *apple*.

Comprehension (reading): Understanding the meaning of written expression.

Comprehensive evaluation: A comprehensive series of tests administered by one or more testers that determines the source of a reading difficulty and outlines effective strategies for remediation.

Consonants: The letters of the alphabet that are not vowels. *Y* can be a vowel, as in *fly* or *candy*, or it can be a consonant, as in *yard*. *W* is usually a consonant, but combines with a vowel to produce a vowel sound, as in *aw* or *ow*. Consonants are letters whose sound is usually blocked or influenced by the lips, tongue, teeth, or other articulators.

Consonant blend: Two or three adjacent consonant letters that flow smoothly together; for example, *bl-* and *-nd* in *bland* or *str-* in *strong*. The consonant blend may appear at the beginning or the end of the word.

Consonant digraph: Two adjacent consonant letters in the same syllable representing one sound; for example, *sh* in *ship*, *th* in *think*, *ch* in *church*, *wh* in *whale*.

Cursive: Joined, rounded handwriting in which words are written as single units without raising the pencil from the paper.

Decoding: Reading; the process of recognizing unfamiliar written words by sequentially segmenting the sounds represented by the letters of the word, then blending the sounds into meaningful words or into syllables which are then combined into words.

Diacritical mark: A distinguishing mark added to a grapheme (written letter or letter combination) to indicate a specific pronunciation. These marks are especially helpful in clarifying the correct speech sounds represented by letters having more than one speech sound. Macrons, representing the long sound of a vowel (for example, the */ā/* in *shade*), and breves, representing the short sound of a vowel (for example, the */ă/* in *trap*), are the two most common diacritical marks in English.

Diagnostician: A professional, often a psychologist, trained to analyze, diagnose and provide recommendations about an individual's specific areas of weakness or strength using diagnostic achievement tests.

Digraph: Two adjacent letters representing a single speech sound. Consonant digraphs are two adjacent consonant letters that combine to form a single consonant sound; for example, *sh* or *th*. Vowel digraphs are two adjacent vowel letters that combine to form a single or blended vowel sound; for example, *ee* or *oo*.

Diphthong: A phoneme that begins with a vowel sound and then glides into another vowel sound; for example, *ou* in *ouch* or *oy* in *boy*. In teaching dyslexic students, the term diphthong is modified to include specified vowel digraphs as well as true diphthongs.

Direct instruction: A teaching practice in which the teacher informs the students of the *what*, *why*, and *how* of the material covered in the session. Instruction is structured, modular, and sequential, moving from the simple to the complex and from the concrete to the abstract. Direct instruction stresses practice and mastery, provides frequent positive feedback, and structures the learning situation so that the student experiences success.

Dyscalculia: Difficulty in learning to calculate or to remember easily and work accurately with number facts.

Dysgraphia: Difficulty in learning the physical act of writing.

Dyslexia: Difficulty in using and processing language, including spoken language, written language, and language comprehension. May be called a learning disability, a learning difference, or a specific learning disability.

Dyspraxia: Difficulty in performing motor tasks or coordinating movements.

Encoding: Spelling; the process by which students segment sounds of a word, translate each phoneme (sound unit) into its corresponding letter or letters, then spells the word. For example, the student hears the word *check*, identifies the 3 sounds (*/ch/ /ě/ /k/*), translates each sound into the proper letters, and writes the word. Encoding requires knowledge of sound-symbol correspondences and spelling rules.

Executive function: The ability to organize cognitive processes; a set of mental skills that allows us to pay attention, manage time, organize tasks, and get things done.

Expressive channel: The visual, auditory, and kinesthetic/tactile channels that enable the perception and processing of out-going stimuli.

Expressive language: The ability to communicate with others through speaking, writing and other visual and non-verbal means.

Family Educational Right to Privacy Act (FERPA): A federal law protecting the privacy of students' educational records.

Figurative language (idioms): Language that uses word pictures to compare or describe, and that is not meant to be taken literally. For example, "It was raining cats and dogs."

Finger spelling: A multisensory spelling technique in which students use the fingers of their non-writing hand to count out the sounds or syllables in a word, moving from left to right to reinforce the movement of the eyes across a line of text.

Fluency: Accurate, automatic reading with comprehension; reading smoothly without needing to stop and identify (decode) a word.

Free and Appropriate Public Education (FAPE): A requirement of the IDEA that all children with disabilities must receive special education services at no extra cost.

Grapheme: A single letter or letter combination that represents a phoneme (sound).

Graphic organizer: A pictorial device that helps students organize ideas.

Homonyms: Words that sound the same but have different spellings and different meanings. For example: *sail* and *sale*.

Individuals with Disabilities Educational Improvement Act (IDEA): Passed in 1997 and reauthorized in 2004, this federal law aims to improve education for children with disabilities.

Individualized Educational Program (IEP): An IEP is required under federal law for any student in special education; it contains an educational program, based upon multidisciplinary assessment, deemed appropriate for meeting the individual needs of the student. An IEP is developed by school representatives through a process providing parents and professionals with an opportunity to review and discuss the program before its approval. An IEP outlines educational goals, identifies specific services that will be offered to help a student achieve those goals, and formulates a plan for how and when a student's progress will be assessed.

Kinesthetic memory: A remembered pattern of voluntary movement; an integrated pattern of activity which the student can recall after repeated practice and training. Kinesthetic memory can be trained to enhance an individual's cognitive memories of sounds or words.

Kinesthetic perception: Sensory experience derived from muscles, tendons, and joints, which is stimulated by body movements and tensions. It is often applied to the student’s feeling of letter shapes while moving parts of the body through space without reliance on visual guidance.

Language: A complex and dynamic system of conventional symbols that is used in various modes for thought and communication. Contemporary views of human language hold that (a) language evolves within specific historical, social, and cultural contexts; (b) language, as rule-governed behavior, is described by at least 5 parameters — phonologic (sound system), morphologic (structure of words), syntactic (sentence formation), semantic (meaning), and pragmatic (context); (c) language learning and use are determined by the interaction of biological, cognitive, psychosocial, and environmental factors; and (d) effective use of language for communication requires a broad understanding of human interaction including such associated factors as nonverbal cues, motivation, and sociocultural roles.

Learning Disability (LD): A disorder that affects people’s ability to interpret what they see and hear or to link information from different parts of the brain. Also called a learning difference.

Literacy: The ability to read, write, comprehend and produce texts.

Long-term memory: Involves the encoding, storage, and retrieval of sensory information. It lasts over a long period of time and has great storage capacity. See also short-term memory, auditory memory, and visual memory.

Long vowel: The sound made by a vowel when it says its own name. This is often caused by a silent e at the end of the word; for example, the /ā/ in *cane*. The letter y, when used as a vowel, may represent the long vowel sound /ī/ as in *my* or /ē/ as in *pretty*. Several paired vowel letters also represent long vowel sounds; for example, the long vowel sound /ā/ in *rain* or /ē/ in *green*.

Low frustration tolerance: The inability to withstand much frustration without either blowing up or withdrawing.

Macron: A straight line diacritical mark above a vowel indicating a long sound; for example, the /ō/ in *stone*.

Mnemonic: Pertaining to memory. Teachers can enhance students’ memory by using mnemonic devices; for example, the word *HOMES* helps learners remember the names of the Great Lakes: **H**uron, **O**ntario, **M**ichigan, **E**rie, and **S**uperior.

Monosyllable: A single syllable. For example: *cub* is a word containing a single syllable.

Morpheme: The smallest unit of meaning in a word, including prefixes, root words, and suffixes. Morphemes are usually derived from Latin or Greek and inherit their meanings from these ancient languages. A morpheme can stand alone, as in the word *port*, meaning *carry* in Latin. A

morpheme can also be bound to a root word, as in the prefix *re* (meaning again or back) and the suffix *ed* (indicating past tense) in the word *reported*.

Morphology: The study of the structure of words; the component of grammar which includes the rules of word formation, including derivation, inflection, and compounding (different ways of combining base words and affixes).

Multisensory: Using many sensory channels to learn sounds; the use of visual, auditory, and kinesthetic-tactile (sometimes called VAKT) pathways to reinforce learning in the brain.

Neurological: Referring to the brain and central nervous system, especially in relation to its structures, functions and abnormalities.

Non-phonetic words: Words whose spelling or pronunciation is irregular; that is, it does not conform to the usual letter-sound correspondences in English and cannot be sounded out. For example, *said* or *was*. Approximately 15% of the words in English are non-phonetic and must be memorized. These are sometimes called red flag words.

Orthography: The total writing system of a spoken language. The term also refers to the established spelling rules of a written language.

Orton-Gillingham (OG): An approach to teaching reading, writing, and spelling that is multisensory, sequential, cumulative, cognitive, and flexible.

Perception: A process involving the reception, selection, differentiation, and integration of sensory stimuli. Proper instruction of dyslexic individuals teaches the student to attend actively and consciously to aspects of the perception process until it becomes automatic.

Phoneme: Smallest unit of speech that serves to distinguish one utterance from another; for example, the word *sham* contains three phonemes: /sh/ /ă/ /m/. The English language contains 44 phonemes.

Phonemic awareness: The understanding that spoken words and syllables are composed of a specific sequence of individual speech sounds.

Phonemic segmentation: The process of sequentially isolating the speech sounds (phonemes) that comprise a spoken word or syllable. For example: identifying the sounds /k/ /ă/ and /t/ in *cat*.

Phonetics: The study of speech sounds, how they are produced (articulatory phonetics), how they are perceived (auditory phonetics), and what are their physical properties (acoustic phonetics).

Phonics: A teaching approach which gives attention to letter-sound correspondences in the teaching of reading and spelling. Phonics is a teaching approach that instructs the student in how to sound out words. It should not be confused with phonetics, which is the study of speech sounds.

Phonogram: A letter or letter combination that represents a sound (phoneme).

Phonological awareness: The ability to hear similarities and differences among phonemes (sound units) and to perceive syllables and the number and order of sounds within a syllable. Phonological awareness enables individuals to identify and manipulate the individual speech sounds (phonemes) in words; for example, substituting /b/ for /k/ in *cat* to make *bat*; substituting /d/ for /t/ in *bat* to make *bad*; substituting /ě/ for /ă/ in *bad* to make *bed*. Strong phonological awareness results in the ability to rhyme, to list words that begin and end with the same sound, to break words into individual phonemes, and to blend phonemes together to make a familiar word. Phonological awareness is essential for learning to read.

Phonology: The sound system of language; the part of grammar that includes the inventory of sounds and rules for their combination and pronunciation; the study of the sound systems of all languages.

Pragmatics: The study of how context influences the interpretation of meaning.

Prefix: A letter or group of letters added to the beginning of a base word or root which changes the meaning somewhat; for example, *un* in *un-load* or *e* in *emerge*.

Prosody: The study of the stress and intonation patterns that convey meaning in spoken language.

Reading: A complex process in which an individual brings graphic, phonological, orthographic, semantic, and syntactic knowledge to bear on written or printed material in order to understand the meaning or meanings conveyed in written words.

Receptive channels: The visual, auditory, and kinesthetic/tactile channels that enable the perception and processing of in-coming stimuli.

Receptive language: The ability to comprehend the spoken word.

Regular words: Words whose spelling or pronunciation can be correctly produced by sounding out the parts of the word and applying relevant spelling rules and generalizations. Approximately 85% of the words in English are regular.

Remedial program: A program designed to provide instruction and practice in skills that are weak or nonexistent in an effort to develop/strengthen these skills.

Remediation: Process by which an individual receives instruction and practice in skills that are weak or nonexistent in an effort to develop/strengthen these skills.

Response to Intervention (RTI): Authorized in the IDEA, RTI screens children and documents their responses to research-based interventions in order to identify and remediate difficulty learning to read.

Rett's Disorder or Rett Syndrome: A pervasive developmental disorder, usually occurring in girls, in which head growth decelerates a few months after birth, motor functions and purposeful hand movement is lost, and serious mental retardation often occurs.

Root: The basic element of a word which conveys the heart of the meaning. Prefixes or suffixes may be added to the root to alter the meaning or the grammatical function of the word. Also called the base word or the stem, the root sometimes stands alone as a complete word in English (for example, the word *form*, meaning form or shape) and other times requires an affix (for example, the root *dict*, meaning speak, in *predict* or *dictation*).

Segmenting: Breaking words into syllables and sounds.

Semantics: The study of the linguistic meaning of words and sentences; the science of written signs.

Sequencing: Remembering a series in its proper order, such as sounds that make up a word, letters in a word, days of the week, months of the year, and directions involving more than one action.

Short-term memory: Memory that lasts only briefly, has rapid input and output, and is limited in capacity. In the area of language, short-term memory stores and processes language information temporarily. Some part of this information may go on to storage in long-term memory; if not, it is lost.

Short vowel: A vocalic sound. The common vowel letters in the alphabet each represent at least two sounds. In phonics programs, these are called short and long vowel sounds. The short sounds of vowels are the /ă/ in *apple*; the /ĕ/ in *Ed*; the /ĭ/ in *igloo*; the /ŏ/ in *ox*; the /ŭ/ in *up*. Short vowel sounds are frequently confused by dyslexic learners and must be directly taught in the early stages of instruction.

Special Education: Services offered to children who have one or more disabilities.

Specific Learning Disability: A disability category under Individuals with Disabilities Educational Improvement Act (IDEA); a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written language that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell or to do mathematical calculations.

Spelling: The conversion of the separate speech sounds of words or syllables into their letter names (oral spelling) or into their corresponding graphemes, or written forms (written spelling).

Standardized achievement test: Provides measures for an individual that can be compared to the performances (norms) of a larger group using techniques of statistical inference.

Syllable: A word or a piece of a word containing a single vowel sound.

There are different kinds of syllables and knowledge of them can help students learn to spell and write. Short words are made up of a single syllable; for example, *goat* or *drive*. Longer words are made up of two or more syllables; for example, *baseball* (two syllables), *umbrella* (three syllables), and *combination* (four syllables).

Syllable division: The process of breaking longer words into separate syllables in order to decode (read) and encode (spell); for example, *base-ball*; *um-brel-la*; *com-bin-a-tion*. The ability to hear and reproduce syllables is important for spelling, writing, and reading comprehension.

Syntax: The rules of sentence formation.

Therapeutic environment: The total learning environment to be established by the clinician or teacher, in accordance with established psychological or clinical protocols, which fosters healing and promotes cognitive, emotional, and social growth.

Universal Design (UD): A framework for making education more accessible to accommodate different kinds of learners.

Visual memory: Involves the encoding, storage, and retrieval of visually presented information.

Visual discrimination: Assuming normal visual acuity, the ability to distinguish slight differences in visual stimuli, especially in letters and words having graphic similarities.

Visualization: A teaching technique to increase reading comprehension by teaching readers to form images or pictures in their minds to help retain important points in a text.

Vocabulary: Words that a person knows.

Vowel: Letters of the alphabet that are not consonants. In English the vowel letters are *a*, *e*, *i*, *o*, *u* and sometimes *y*. Each vowel letter has a short and a long sound. The letter *w* may function as a vowel in combination with a vowel letter such as *aw* in *saw*, *ew* in *grew*, and *ow* in *snow* or *plow*. Vowels pair up to form diphthongs (for example, *oi* in *coin*; or *ou* in *ground*) and vowel digraphs (for example, *ee* in *feed* or *oa* in *boat*).

Vowel digraph: Two adjacent vowel letters in a single syllable which represent a single long sound, such as *ea* in *eat*, *ue* in *argue*, or *ui* in *fruit* (also called a vowel team or vowel pair).

Working memory: The ability to hold on to information long enough to do something with it.

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HIDA contact information and mission statement

The Hawai'i Branch of the International Dyslexia Association (HIDA) is a 501 (c) (3) non-profit organization whose mission is to increase awareness of dyslexia in our community, provide support for dyslexics, families, and educators, promote teacher training and improve literacy for struggling readers.

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