

# LDMH: A Handbook on Learning Disabilities And Mental Health

**int-gra**

POWERED BY CHILD DEVELOPMENT INSTITUTE

Designed by Integra Program staff  
As part of our Community Education & Engagement (CEE) Program



The Integra Program by Child Development Institute is funded by  
Ontario's Ministry of Children and Youth Services

## Table of Contents

Foreword .....	2
Introduction to the Handbook on Learning Disabilities and Mental Health .....	3
Introduction to Learning Disabilities .....	4
What are Learning Disabilities (LDs)?.....	4
How are LDs Identified?.....	5
How Common are LDs? .....	5
What Causes LDs? .....	5
What is the difference between Learning Disabilities and Learning Disorders?.....	5
The Relationship between Learning Disabilities and Mental Health (LDMH).....	6
What is Mental Health? .....	6
The Continuum of Mental Health .....	6
What is the Relationship between Learning Disabilities and Mental Health? .....	6
Experiential Avoidance .....	7
Fight, Flight and Freeze.....	8
LDs Complicate Mental Illness .....	8
LDs and Emotion Regulation.....	9
The Impact of LDs on Social Relationships .....	10
LDMH: A Framework for Understanding Challenging Behaviours .....	11
LDs Reflecting challenges with Executive Functioning .....	13
LDs Reflecting challenges with Phonological Processing .....	17
LDs Reflecting challenges with Language Processing .....	20
LDs Reflecting challenges with Memory.....	22
LDs Reflecting challenges with Visual-Spatial and Visual-Motor Processing.....	25
LDs reflecting challenges with Processing Speed .....	28
Conclusion .....	30
Helpful Resources .....	31
Integra Handbook on LDMH References .....	35

## Foreword

In October 2014, Integra Foundation amalgamated with Child Development Institute (CDI), bringing together two like-minded, accredited children’s mental health organizations, and strengthening Integra’s therapeutic services for children and youth with learning disabilities and mental health issues (LDMH).

The Integra Program of CDI is the only accredited children’s mental health agency in Canada to provide mental health services exclusively to children and youth whose mental health issues (MH) are complicated by learning disabilities (LDs). We provide family-centred, evidence-informed direct clinical services to children and youth with diagnosed LDs ages 8 to 18 years in the Toronto region. Eligible to Ontario residents, Integra also operates Towhee, a three-week residential summer program for children and youth with LDs, located in Halliburton, Ontario. We provide community education and training on topics pertaining to LDMH to audiences in the province and beyond.

The Community Education and Engagement (CEE) Program at Integra was developed to promote a community-wide understanding of the mental health needs of children and adolescents who have learning disabilities. Through public education, workshops, staff training series and consultation, the program disseminates current information about learning disabilities and evidence-informed, best practice in related mental health fields. Our aim is to dispel myths and improve societal attitudes toward individuals with learning disabilities and mental health issues (LDMH). It is our position that widespread understanding of LDMH will contribute to healthier communities for children and families. We work collaboratively with organizations to tailor our education to the particular audience.

This handbook is designed to complement participation in our CEE workshops and training programs. The Integra Handbook on Learning Disabilities was first developed in 2007 by Dr. Barb Muskat to complement our flagship workshop “Walk a Mile in My Shoes,” which we adapted with permission from workshop ideas of Dr. Richard Lavoie. This handbook was revised in 2009 by Dr. Marjory Phillips, Melissa Rowbotham, and Helen Hargreaves. This third revision, reflecting our focus on Learning Disabilities and Mental Health issues (LDMH) was drafted by Dr. Jen Scully, Kate Cressman, and Dr. Marjory Phillips in 2016. Our flagship workshop is the Integra Walk-A-Mile in My Shoes workshop, originally developed by Dr. Barb Muskat, and updated and revised by Integra staff including Melissa Rowbotham, Dr. Marjory Phillips, Helen Hargreaves, Kate Cressman, and Dr. Jen Scully. The workshop provides participants with an opportunity to experience the emotional impact of having learning disabilities while also gaining an understanding of the nature of the challenges. Research on the efficacy of the Walk a Mile workshop suggests that participants gain empathy as a catalyst for implementing practical changes and accommodations (Milligan et al., 2010).

We welcome any questions or comments. For more information about the CEE program, including a list of upcoming workshops or to book a workshop or training series for your school or agency, please contact the Integra Program (416-603-1827, press 3) or visit our website at [www.childdevelop.ca/programs/integra-program/workshops-and-training](http://www.childdevelop.ca/programs/integra-program/workshops-and-training).

## Introduction to the Handbook on Learning Disabilities and Mental Health

The relationship between Learning Disabilities and Mental Health is complex. Persons with Learning Disabilities (LDs) have unique patterns of processing information and individual learning styles. Moreover, these learning styles change with development, and the impact of Learning Disabilities varies as a child grows and develops. It can be hard to ‘show what you know’ when you have LDs, and sometimes it can be hard to make sense of certain things, such as social interactions. In response to the challenges of having LDs, children and youth often experience social and emotional stresses, including feelings of frustration, worry, or loneliness.

At the Integra Program, we also see children and youth with LDs who experience significant difficulties with anxiety or depression, or with managing strong emotions. It is our view that in order to support children and youth with Learning Disabilities AND mental health issues (LDMH), we need to understand how the learning profile fits in with the child or youth’s mental health. For example, difficulties in concentration may reflect specific learning issues (such as understanding language, remembering what one hears, or attention), or mental health issues (such as worry, anxiety, or sadness), and most often, a combination of both factors.

Our hope for this Handbook is to provide information about Learning Disabilities and Mental Health to illustrate how these two complex presentations may intersect. Being able to understand strengths, challenges and behaviours from the dual lenses of LD and MH provides adults who work with these children and youth with a greater repertoire of strategies and tools to support good mental health and wellbeing.

The LDMH Handbook is structured to provide a useful reference guide. In the first section, we provide general information about the definition of Learning Disabilities and about the relationship between LD and Mental Health. In the second and largest section, we deconstruct each type of cognitive or psychological process, to explain terms and what challenges with that cognitive process might look like. Although each child or youth is unique, we provide a case example for each cognitive process to illustrate one way in which Learning Disabilities may intersect with Mental Health issues. In the appendix, we provide links and references to useful websites or more information.

Our goal is to provide the reader with more ideas to answer the questions, ‘what might this behaviour be?’ and ‘how can I support this child or youth to develop strengths and wellbeing?’ We encourage readers to contact the Community Education & Engagement department of the Integra Program, Child Development Institute, for more information: [integra@childdevelop.ca](mailto:integra@childdevelop.ca)

## Introduction to Learning Disabilities

### What are Learning Disabilities (LDs)?

LDs are a group of neurological or brain-based problems that affect one or more ways that a person takes in, stores or uses information (LDAO, 2002). By definition, persons with LDs are smart and can learn: they have specific challenges in one or more areas of learning. LDs are life-long conditions that affect people differently depending on the situation.

The Learning Disabilities Association of Ontario (LDAO) defines Learning Disabilities as:

“A variety of disorders that affect the acquisition, retention, understanding, organisation or use of verbal and/or non-verbal information. These disorders result from impairments in one or more psychological processes related to learning, in combination with otherwise average abilities essential for thinking and reasoning. Learning disabilities are specific not global impairments and as such are distinct from intellectual disabilities.”

<http://www.ldao.ca/introduction-to-ldsadhd/what-are-lds/official-definition-of-lds/>

The Ontario Ministry of Education defines a Learning Disability as:

“One of a number of neurodevelopmental disorders that persistently and significantly has an impact on the ability to learn and to use academic and other skills that:

- Affects the ability to perceive or process verbal or non-verbal information in an effective and accurate manner in students who have assessed intellectual abilities that are at least in the average range;
- Results in (a) academic underachievement that is inconsistent with the intellectual abilities of the student (which are at least in the average range) and/or (b) academic achievement that can be maintained by the student only with extremely high levels of effort and/or with additional support;
- Results in difficulties in the development and use of skills in one or more of the following areas: reading, writing, mathematics, and work habits and learning skills;
- May typically be associated with difficulties in one or more cognitive processes
- May be associated with difficulties in social interaction
- Is not the result of a lack of acuity in hearing and/or vision that has not been corrected; intellectual disabilities; socio-economic factors; cultural differences; lack of proficiency in the language of instruction; lack of motivation or effort; gaps in school attendance or inadequate opportunity to benefit from instruction.

<http://www.edu.gov.on.ca/extra/eng/ppm/ppm8.pdf>

Common to both LDAO and PPM8 definitions, LDs are associated with difficulties in one or more of the following psychological or cognitive processes:

- Language processing (understanding and expressing information using words)
- Visual-spatial processing (perceiving or organizing visual information)
- Visual-motor processing (carrying out hand-eye activities)
- Phonological processing (identifying and manipulating speech sounds)
- Processing speed (speed of taking in, using or pulling out information)
- Working memory (holding information in mind while also using the information)
- Executive functions (planning and organizing)

## **How are LDs Identified?**

LDs are identified or diagnosed most commonly as an outcome of a comprehensive psychological assessment. Using a number of standardized tests that have been given to thousands of people, psychologists will assess how that child or youth thinks, problem-solves, remembers, understands and expresses information.

## **How Common are LDs?**

Learning Disabilities (LDs) are very common and affect 5 to 10 percent of Canadians. Learning Disabilities are the largest category of education exceptionalities in Ontario: 43% of students in Ontario who have been identified with education exceptionalities have Learning Disabilities.

## **What Causes LDs?**

Learning disabilities are due to genetic, other congenital, and/or acquired neurobiological factors. They often run in families. LDs are not caused by factors such as cultural or language differences, inadequate or inappropriate instruction, socio-economic status, or lack of motivation, although any one of these and other factors may compound the impact of learning disabilities. Frequently learning disabilities co-exist with other conditions, including attentional, behavioural and emotional disorders, sensory impairments, or other medical conditions.

## **What is the difference between Learning Disabilities and Learning Disorders?**

Within the school system, students with special education learning needs are identified with Exceptionalities through an Identification, Placement, and Review Committee (IPRC) process. There are currently 12 categories of exceptionalities, including Learning Disability. According to Ministry of Education guidelines (PPM8), identifying learning disabilities requires the use of information from multiple sources, including standardized psychological assessments.

Within the psychiatric and psychological community, the Diagnostic and Statistical Manual of Mental Disorders: Fifth Edition (DSM-5; 2013) is a classification system published by the American Psychiatric Association and is commonly used to diagnose a wide range of disorders. The DSM-5 includes diagnostic criteria and features of a Specific Learning Disorder.

There are differences in the criteria for LDs across the DSM-5, PPM8, and LDAO definitions. Psychologists may utilize criteria from the LDAO or from DSM-5 to diagnose Learning Disabilities or a Specific Learning Disorder. The criteria for school identification is more closely aligned with LDAO: children with a DSM-5 diagnosed Specific Learning Disorder may not meet criteria for a school exceptionality.

For more information, please see a position paper drafted by the LDAC (“To Revise or Not To Revise”, March 2015) [http://www.ldac-acta.ca/downloads/pdf/media\\_release/LDAC-DSM-5-Statement-March-2015-FINAL-CL.pdf](http://www.ldac-acta.ca/downloads/pdf/media_release/LDAC-DSM-5-Statement-March-2015-FINAL-CL.pdf)

## The Relationship between Learning Disabilities and Mental Health (LDMH)

### What is Mental Health?

Mental health is part of our overall health and includes:

- How we feel, think, and behave
- How we cope with the ups and downs of everyday life
- How we feel about ourselves and our life
- How we see ourselves and our future
- How we manage stress and its impact
- How we manage the negative things that can happen in life
- Self-esteem or confidence

(CMHO, <http://www.kidsmentalhealth.ca>)

### The Continuum of Mental Health

We all experience mental health challenges from time to time. Emotions like sadness, worry, anger, fear, and grief are understandable reactions to negative events in our lives and don't typically last very long.



One way to think of it is to consider mental health on a continuum. In the green zone is good mental health in which we feel positive, confident, and well able to manage our feelings.

The yellow zone reflects stress/distress. These may reflect typical responses to common life stresses, such as a job loss, marital distress, worries about relationships, or school stress. Most of us experience periods of time in which we feel in the 'yellow zone'.

The red zone reflects mental health challenges that are more serious. The symptoms may be more severe, intense, and long-lasting and typically significantly interfere with everyday functioning. Often, 'red zone' problems are managed best with intervention, which may include therapy or counselling and sometimes medication.

### What is the Relationship between Learning Disabilities and Mental Health?

We know that persons with LDs are two to three times more likely to experience mental health challenges (Wilson et al., 2009). When it is hard to 'show what you know', it is understandable that we might see higher rates of school-related stress (Sparks & Lovett, 2009) and more school drop-out. Individuals with LDs are more likely to experience anxiety, depression and suicidal ideation (Svetaz, Ireland, & Blum, 2000). We know that persons with LDs have higher rates of mental health challenges and stress than do individuals without LDs (Vedi & Bernard, 2012).

## The Impact of LDs on Mental Health



Children and youth with LDs typically experience repeated failure. In school, they may work incredibly hard but the outcome may not reflect the effort. Over time, it can be more difficult for a child to keep trying and often, we see behaviours that are identified as ‘non-compliant’ or ‘oppositional’ yet which may reflect an understandable coping strategy of avoidance or hopelessness. This may lead to a lower sense of mastery and fewer opportunities to feel competent at something or to achieve success. Children and youth with LDs may feel like they’re not meeting others’ expectations, that they’re letting down their parents and teachers, and not working hard enough when they’re trying so hard. This can all lead to the experience of negative feelings, including worry, anger, frustration, and sadness.

### Experiential Avoidance

Most of us do not enjoy experiencing difficult emotions. It is an understandable reaction to want to avoid experiencing hardship. Children and youth learn that it may be ‘better to be bad than look stupid’, and may act out to distract from or avoid the challenging situation, or may self-medicate, or engage in strategies to avoid experiencing negative emotions and stressors. This may complicate their readiness to accept help, accommodations or to engage in therapy. In the short-term, experiential avoidance reduces distress but in the long-term, this is a maladaptive strategy. By not staying with and tolerating intense negative emotions, individuals miss out on opportunities to gain mastery and skills to self-regulate and to cope, and to develop resilience.



## Fight, Flight and Freeze

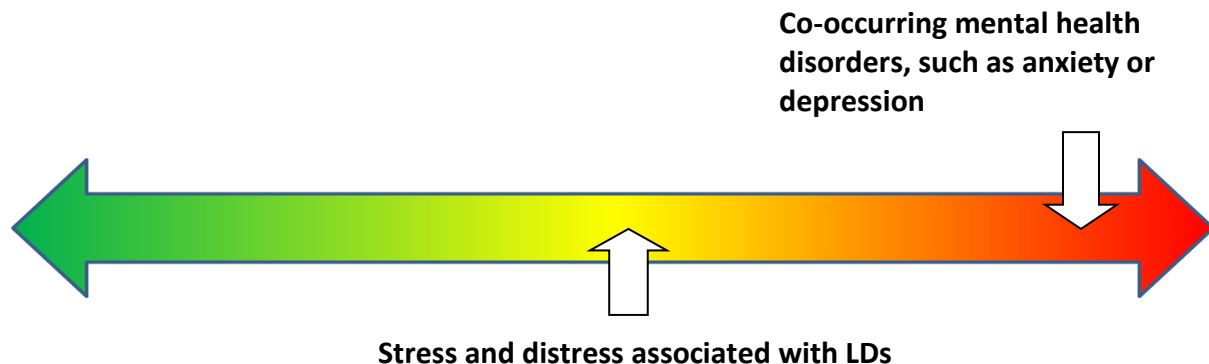


At times of perceived stress or threat, our hard-wired reaction is to experience increased autonomic nervous system arousal. Our bodies go into fight, flight or freeze: We experience a physiological response when faced with a threat as a means of survival. Think of our ancestors fighting a sabre-tooth tiger in a cave. It was adaptive to experience either a 'fight' reaction (responding to a perceived threat with aggression) or a 'flight' reaction (outrunning the threat). We are predisposed to react to perceived threat by turning on our activation systems, yet in today's world, the threat is usually not life-threatening, such as anticipating an exam or giving a public speech. Often, we have 'go to' ways of responding. For some, they may have angry outbursts or may go on the offensive when anxious. Others may retreat and avoid. Still, others may freeze and become stuck.

A good first step is to learn to recognize when we are in 'fight', 'flight' or 'freeze' by learning our individual indicators and body reactions. Then developing more adaptive coping strategies to manage stressful or perceived challenging situations can be helpful.

## LDs Complicate Mental Illness

When we consider the continuum of mental health with respect to Learning Disabilities, most children and youth with LDs would experience 'yellow zone' levels of stress and distress. However, a number of children and youth may also experience significant mental health issues that interfere with day to day functioning, putting them into the 'red zone'. These children and youth with **Learning Disabilities/Mental Health issues (LDMH)** and their families may need intervention to engage in school successfully, to navigate peer relationships, and to manage intense emotions and behaviors.



Having mental health challenges or disorders, such as anxiety, depression, and explosive reactions, in addition to LDs, can complicate the picture for diagnosis and treatment. For example, a youth with depression and LDs might struggle with a slower rate of thinking and difficulties with concentrating, which could reflect either the depression or the LD, or both. Evidence-based treatment for anxiety, such as cognitive behavior therapy (CBT) for example, might include demands for reading and writing that might be difficult for a child with LDs. The pace of manualized treatments may not be tailored to meet the particular learning needs of the child or youth. Having LDs can also complicate the child or youth's ability to cope with stress, such as getting stuck in problem solving or having difficulties regulating emotions.

***We see and understand the behaviours and issues better when we can look through the lenses of both Learning Disabilities and Mental Health (LDMH).***

## **LDs and Emotion Regulation**

For children and youth with LDMH, regulating (or managing) emotions is particularly difficult (Milligan, Badali & Spiriou, 2013). The prefrontal cortex (the same part of the brain that is involved in executive functioning) has a role in moderating the amygdala (a part of the brain that processes intense emotions). When the connection between the prefrontal cortex and the amygdala is not working well, we see emotion dysregulation (Banks et al, 2007; Gyurak et al, 2011).

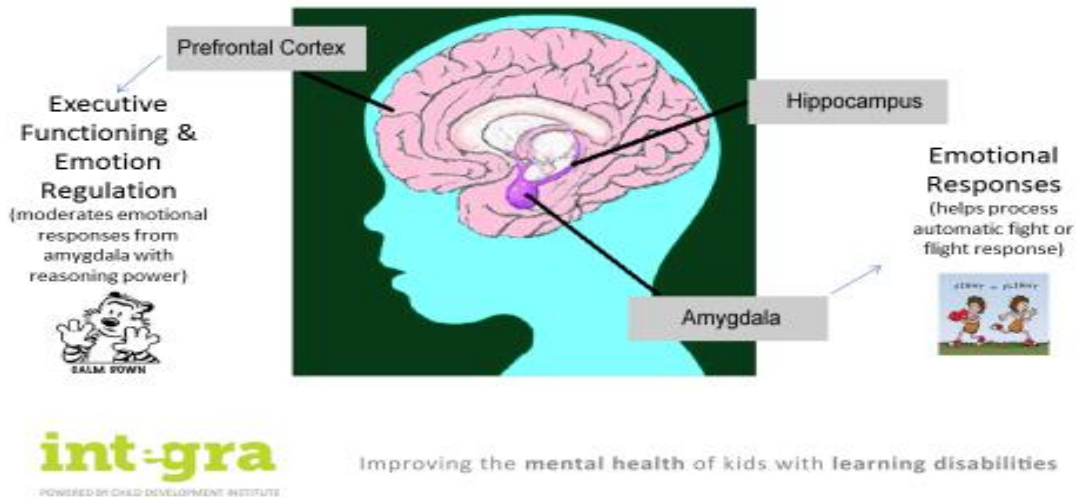
### **Under-regulation**

Children and youth who have trouble containing intense emotions may seem stuck in the 'on' position and may have trouble exerting control over their emotions and behaviors. Under-regulators may tend to be in the 'fight' response of the fight, flight or freeze reactions, or may need help from others to manage intense emotions. We may see behaviors including meltdowns, low tolerance for frustration, overreaction, quick temper, and difficulties in calming down.

### **Over-regulation**

Sometimes children and youth have difficulty managing intense emotions and they keep the emotions tightly within. This may reflect a 'flight' or 'freeze' response to perceived threat. Behaviors for this group may include withdrawal, avoidance, becoming easily upset, or shutting down.

## Emotion Regulation & The Brain



### The Impact of LDs on Social Relationships

75% of children with LDs experience difficulties with social relationships (Kavale & Forness, 1996). Children and youth with LDs are more likely to report peer victimization and bullying (Baumeister, Storch & Geffken 2008; Mishna, 2003) and social rejection (Bryan, Burstein & Ergul, 2004).

Social competence refers to the ability to successfully and independently engage in social interactions, to establish and maintain relationships with others, and to have one's needs and desires met across diverse contexts (Stichter, O'Connor, Herzog, Lierheimer and McGhee, 2012). Social competence is more than having good social skills; it is actually a complex and interconnected set of skills and competencies that include understanding social context and social rules, reading non-verbal communication, and being able to regulate behaviour and emotions. Social competence encompasses many areas of our functioning, all of which can be impacted by the presence of a learning disability:

1. Cognitive: affects social knowledge, information processing, perspective taking, executive functioning
2. Emotional: affects self-regulation, emotion regulation
3. Behavioral: affects social skills, moral development, self-efficacy

The relationship between LDs and difficulties with social competence may reflect in part the nature of the individual's information processing challenges (Milligan, Phillips & Morgan, 2015). For example, if we have trouble interpreting abstract language and words with multiple meanings, we might miss sarcasm or struggle to figure out if the communication is intended to flirt or to mock. Memory problems can get in the way of keeping track of social information. Children or youth with executive functioning difficulties may get stuck in social problem solving or have trouble letting go of ideas. This can affect the ability to manage conflict with peers or to negotiate group projects at school. Many of the cognitive processes affect our ability to follow and participate in a group conversation. For individuals with slow processing, they may think of a great idea to contribute to the conversation but it is three topics too late.

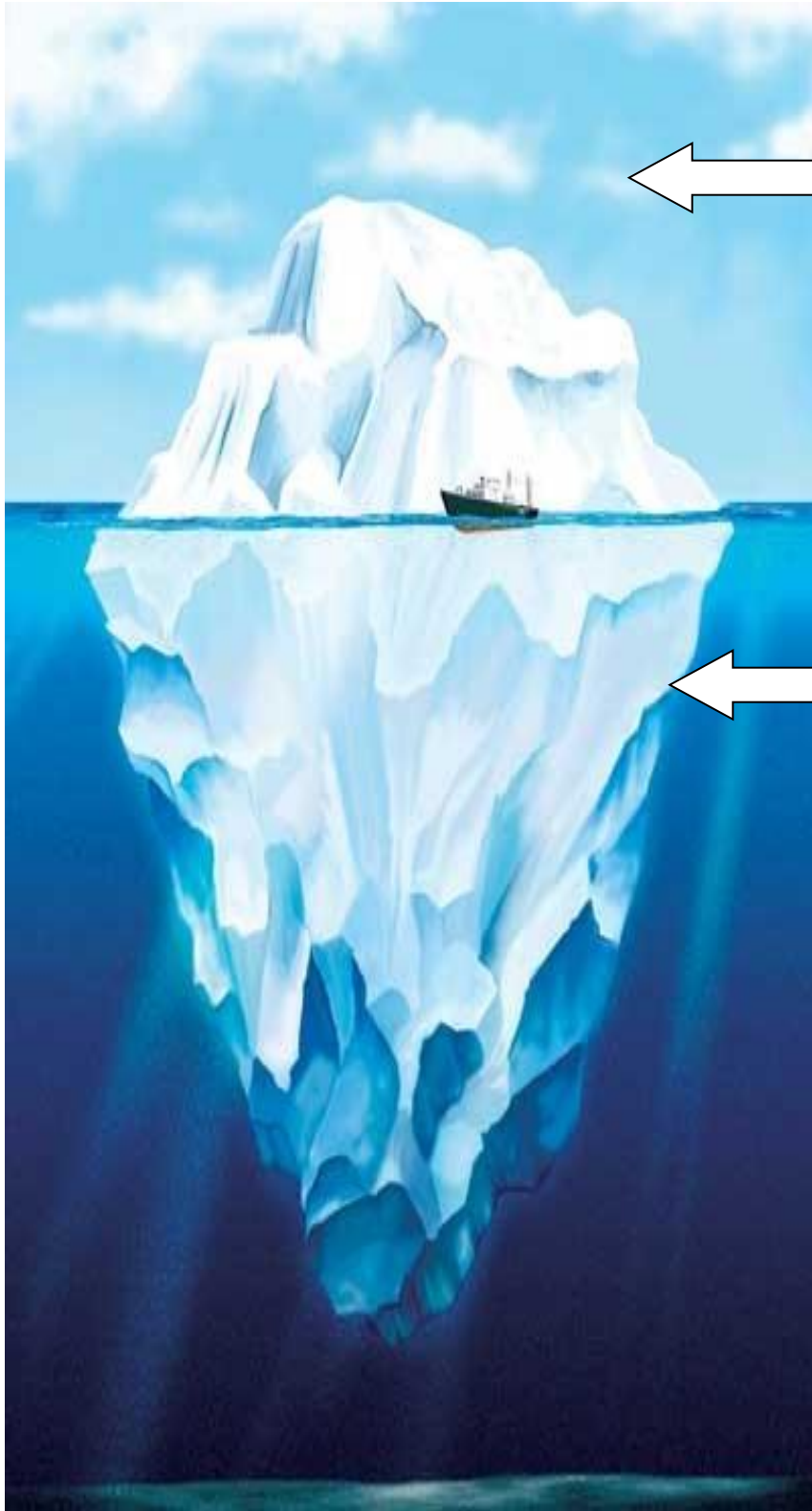
***For many children with learning disabilities, social competence does not “come naturally” but must be taught, much like another child might learn a second language***

### **LDMH: A Framework for Understanding Challenging Behaviours**

There is a wide range of reasons why we may see challenging behaviours in a child or youth, particularly those with LDMH. For example, what might look like stubbornness or oppositional behaviour might actually reflect a child with LDs in slow processing and executive functioning, as well as anxiety, who needs more time to process instructions, to get started on an activity, and who freezes up when faced with something new or unpredictable. In addition to learning disabilities and mental health considerations, other factors that may contribute to the behaviour we are seeing on the surface may include physical issues such as sensory integration problems (i.e. too much noise in classroom) or a child who is tired or hungry, environmental considerations (e.g., conflict or recent change in the home or learned behaviours), or social challenges (e.g., bullying, exclusion, or conflict with peers). In children and youth, behaviour is also often a form of communication that something else is happening.

***Behaviours for children and youth with LDMH may be more complicated than they appear on the ‘surface’. When we can ask “what else might be going on underneath the behaviour?” or “what is this behaviour communicating?”, we can start to develop a richer understanding of the behaviour and therefore possible solutions.***

One helpful analogy is to think of the behaviour as the tip of the iceberg (what we see on the surface) and the various factors contributing to the behaviour as the portion of the iceberg that is underwater and out of sight. In order to help a child or youth with the ‘behaviour’, we have to try to understand what is ‘under the surface’ and come up with a plan to address lagging skills or behaviors.



A child is being **non-compliant** in the classroom: not listening to instructions, breaking classroom rules, not completing work, and having occasional meltdowns

**Diagnosed LDs** – impact of language processing, memory, and executive functioning. Is the child having trouble understanding instructions, remembering the rules at the right time, inhibiting impulses and emotions?

**Mental Health** – Is the child avoiding tasks or situations that trigger anxiety, frustration, or negative feelings about herself? Is there an anxiety disorder, depression, trauma present?

**Attention-Deficit Hyperactivity Disorder (ADHD)** – Is the child having trouble sustaining attention on tasks, keeping instructions in mind while executing them?

**Physical Issues** – Is the classroom too noisy to concentrate on the work or absorb the information?

**Environmental Issues**- Has the child learned to cope with big emotions through meltdowns? Is there additional stress at home right now?

**Social Issues** – Is the child having a hard time focusing in class because she is being bullied?

**Other** – Does the child feel the teacher understands her? Is she getting in trouble even though she is trying to do well? Is there a sense of learned helplessness?

## LDs Reflecting challenges with Executive Functioning

Some children with LDs have challenges with tasks of executive functioning, a set of higher order skills that control and regulate other abilities, behaviours, and emotions. These skills develop and improve with maturity and become more important as expectations increase with age. These skills can vary in different settings, depending on the demands of that environment (e.g., rules, expectations, level of structure, in a classroom versus home setting). In addition to academics, executive functioning challenges can also impact a child socially, emotionally, and behaviourally. Weaknesses in this area are often associated with Attention Deficit Hyperactivity Disorder (ADHD) (see textbox below for more details).

<b>Executive Functioning</b>	
<b>Application (it can be harder to ...)</b>	<b>Strategies/supports that may be helpful</b>
<p><b>Pay attention</b></p> <ul style="list-style-type: none"> <li>- Focus: especially attending to multiple things at once (e.g., listening to instructions while getting materials)</li> <li>- Sustain attention or concentrate on a task</li> <li>- Pay attention to some activities (e.g., instructions, working on a task) while ignoring other activities, thoughts, or feelings (i.e., distractibility)</li> <li>- Shift focus from one task to another (may hyper-focus)</li> <li>- Regulate energy (e.g., child may be fidgety, restless, “on the go,” talk excessively, impulsive, interrupt, and have difficulty waiting their turn)</li> </ul> <p>*Note: Ability to pay attention is dependent on the type of task, level of interest or relevance, day, time, etc. A good assessment is recommended, as attention challenges can be secondary to other challenges, for example, cognitive or emotional (anxiety, perfectionism)</p>	<ul style="list-style-type: none"> <li>- Ensure the child is listening or not engaging in another task when giving instructions. Maintain eye contact, have child paraphrase</li> <li>- Keep directions short and clear, repeat as necessary</li> <li>- Use visuals if helpful</li> <li>- Present material in novel and creative ways (i.e., interesting and engaging), and hands-on, if helpful</li> <li>- Provide structure for activities and social interactions</li> <li>- Provide frequent feedback for behaviour</li> <li>- Lower expectations for sustained attention</li> <li>- Limit distractions (e.g., noise, visuals, etc.)</li> <li>- Develop a subtle cue to redirect attention</li> <li>- Provide breaks (e.g., physical) as needed</li> </ul>

<b>Application (it can be harder to ...)</b>	<b>Strategies/supports that may be helpful</b>
<p><b>Shift/ Be Flexible</b></p> <ul style="list-style-type: none"> <li>- Transition between tasks, behaviour, activities, strategies, focus, emotions, etc.</li> <li>- Be 'easy going' –may get 'stuck', be 'rigid', or have a hard time adjusting to change, which may lead to meltdowns or negative behavior</li> </ul>	<ul style="list-style-type: none"> <li>- Develop clear, consistent routines for tasks and transitions (e.g., visual schedule may help)</li> <li>- Provide multiple warnings and ample transitional warning time (e.g., 2-minute warning, use a timer)</li> <li>- Provide more time and assistance when transitioning</li> <li>- If youth appears 'stuck,' brainstorm alternative strategies and assist in implementing them</li> </ul>
<p><b>Control Emotions</b></p> <ul style="list-style-type: none"> <li>- Manage or regulate emotions in different settings (e.g., frustration, anger, worries or anxiety, sadness, and even excitement)</li> <li>- May be described as 'moody'</li> <li>- Some children can be under-regulated- e.g., have intense reactions (outbursts), be impulsive</li> <li>- Some children can be over-regulated - e.g., risk averse, avoidant, tune out, withdrawal</li> </ul>	<ul style="list-style-type: none"> <li>- Monitor variables such as hunger, sleep, etc.</li> <li>- Assist in identifying emotions and early warning signs (e.g., anger, sadness, anxiety) and with problem-solving/coping strategies</li> <li>- Provide warning if certain situations may be more difficult (e.g., transitions, ending a fun activity, not getting to be 'first')</li> <li>- Front load expectations and rules ahead of time</li> <li>- Provide down time as needed</li> </ul>
<p><b>Initiate</b></p> <ul style="list-style-type: none"> <li>- Get started on activities or problem-solving strategies</li> </ul>	<ul style="list-style-type: none"> <li>- Ensure child knows how to do a task before assuming it is a problem with initiation</li> <li>- Break task into smaller more manageable 'chunks'</li> <li>- Cue and prompt child to get started</li> <li>- Assist with starting tasks until child is comfortable or engaged in the task (e.g., ask what the first step may be and monitor their progress initially, provide frequent feedback)</li> </ul>
<p><b>Plan</b></p> <ul style="list-style-type: none"> <li>- Manage current and future tasks</li> <li>- Prioritize and manage time</li> <li>- Set goals and meet them, follow timeline, estimate how long things will take</li> </ul>	<ul style="list-style-type: none"> <li>- Help identify goals and create step-by-step plans</li> <li>- Write steps down, assist with monitoring progress, provide frequent feedback</li> <li>- Help with estimating time needed for tasks (e.g., walking to an activity)</li> </ul>
<p><b>Self -Monitor</b></p> <ul style="list-style-type: none"> <li>- Check to make sure performance or behavior is 'on track' (e.g., recognize mistakes, ask for help, check work, impact on others)</li> </ul>	<ul style="list-style-type: none"> <li>- Provide frequent feedback about behaviour</li> <li>- Use subtle cues to encourage self-monitoring</li> <li>- Review challenges and plans for future successes</li> </ul>

<b>Application (it can be harder to ...)</b>	<b>Strategies/supports that may be helpful</b>
<p><b>Organize</b>                      - Information or work (i.e., orally, written, multi-stepped math), belongings, materials, play space (e.g., may lose or forget things or be scattered)</p>	<ul style="list-style-type: none"> <li>- Help organize information, work, belongings</li> <li>- Direct instruction – teach how to do it themselves (hint: ask questions), instead of telling or doing it for them</li> <li>- Visual checklist of steps or items needed</li> </ul>
<p><b>Inhibit thoughts and behaviour</b>                      - Resist impulses or put on the brakes                      - Delay gratification                      - Stop, when told to stop                      - Think before acting or speaking (may interrupt), wait for turn, keep hands to self                      - Control emotions – may 'fly off the handle'                      *this skill is important to be able to use the other executive functions</p>	<ul style="list-style-type: none"> <li>- Cue child ahead of time about activities that may inspire impulsivity</li> <li>- Encourage child to monitor behaviour and identify when to stop and think</li> <li>- Use subtle cues to remind child to stop and think</li> <li>- Get child to 'try it again' if they have acted impulsively</li> <li>- Provide immediate reinforcement and praise for positive behaviour</li> </ul>
<p><b>Use working memory</b>                      - See Memory section for more detail</p>	

**What are the differences between LDs with executive functioning problems and Attention Deficit Hyperactivity Disorder (ADHD)?**

ADHD is one of the most common childhood psychiatric disorders, occurring in 3 to 7% of the population. It is defined as a persistent pattern of problematic symptoms that include difficulty staying focused and paying attention, difficulty controlling behavior, and/or hyperactivity (over-activity). For diagnosis, ADHD has to be present from an early age and evident in at least two settings (e.g., home and school) and it has to be causing significant functional impairments to daily life.

ADHD is technically not a learning disability but it can interfere with learning and it co-occurs in people with LDs up to 40% of the time. By definition, people with ADHD have problems with executive functioning.



## Executive Functioning and Implications for Mental Health

- There is increasing evidence to show the relationship between executive functioning deficits and challenges with emotion regulation (Gyurak et al, 2012). When a child struggles with Executive Functioning skills, such as inhibiting impulses, goal-directed behaviour, and cognitive flexibility, it becomes harder to adequately control emotional responses as they arise in triggering situations.
- Children who struggle to regulate their emotions may be “under-regulated” (e.g., easily flooded with emotions, appear to go from 0-100 quickly, have meltdowns or outbursts) or may be “over-regulated” (e.g., withdrawal, avoid difficult situations, freeze up)
- Children with executive functioning challenges may also struggle to adapt to change, to engage in problem-solving, or to use positive self-talk, making it harder to cope with adversity. These skills can be taught through direct instruction and may also develop with maturity, so adjusting expectations for those who are lagging developmentally can also be helpful.
- Keep in mind that emotional challenges may also be contributing to the behaviours you are observing. For example, if a child is disorganized, having trouble focusing and constantly distracted, or having problems with decision-making, this could be a result of anxiety or depression, for example, as well as executive functioning.

## What Can Executive Functioning Problems Look Like for a Child in the “Red zone”?

Purnima is a ten-year-old girl who is full of fun ideas and a lot of energy. She is likeable and has a good sense of humor. However, Purnima’s teachers have complained that she never listens in class, has trouble focusing on her work, and cannot sit in her seat without disrupting the other kids. Purnima’s classmates sometimes think she’s funny, however she can easily annoy others by interrupting them, not knowing when to stop, and quickly calling situations unfair that don’t go her way. Purmina really wants to fit in with her peers, but is often excluded from activities at recess and doesn’t have a lot of friends. Recently, Purmina’s teachers have noticed that she is complaining of stomachaches at school and asking to call her parents to go home.

At home, Purnima gets into trouble because she doesn’t stop and think of the consequences. Her mother worries about her safety and feels that she needs to watch Purnima more than the others in the family. Purnima’s siblings complain that she is always the first to choose activities and to make the rules. Purmina has explosive outbursts at home, usually around periods of transition such as bedtime, which have recently started to happen every evening and can sometimes last for more than an hour at a time. Her parents are also having a hard time getting her to go to school in the mornings. Purmina complains that she is not feeling well and asks to stay home, which has increased the stress in the home and leads to conflicts on a daily basis.

### Questions for Consideration:

- What do you think puts Purnima in the “red zone” on the mental health continuum?
- Using the iceberg analogy (see pages 11-12), what might be contributing to Purmina’s challenges at school and home (think about information processing – executive functioning and beyond, mental illness, and other factors)?
- What are some next steps that the school, parents, student, and/or other support person could take to support Purmina and help decrease her “red zone” symptoms?

## LDs Reflecting challenges with Phonological Processing

Some children with LDs have challenges with phonological processing. Specifically, many children who have trouble learning how to read (may also be called dyslexia) have challenges in this area (although influences are multifactorial and also involve weaknesses in other oral language skills and processing speed; Peterson & Pennington, 2015).

Phonological processing is an auditory processing or oral language skill (i.e., does not involve written letters) that allows us to detect and manipulate sounds at the phoneme, syllable, or word level. When skills in phonological processing are weak, the child may have challenges connecting the sounds of oral language to letter or letter combinations when reading and spelling. Phonological processing includes 3 components that are important for reading success, phonological awareness, phonological memory, and rapid naming.

<b>Phonological Processing</b>	
<b>Application (it can be harder to ...)</b>	<b>Strategies/supports that may be helpful</b>
<p><u>When child is young:</u></p> <ul style="list-style-type: none"> <li>- Hear similar sounds in words (e.g., might confuse bag and back)</li> <li>- Pronounce similar sounds in words when speaking (e.g., free instead of three)</li> <li>- Perceive order or sequence of word sounds</li> <li>- Learn the alphabet song</li> <li>- Identify and make up rhymes</li> <li>- Clap for the number of words in sentences, syllables in words, or sounds in words (e.g., b-a-t)</li> </ul> <p><u>When child is older:</u></p> <ul style="list-style-type: none"> <li>- Develop letter to sound skills (decoding) for reading</li> <li>- Develop sound to letter skills (encoding) for spelling (so spelling may be 'inventive' or rely on memory of sight words)</li> <li>- Learn a second language</li> <li>- Remember 'patterns' (word families) for reading and spelling</li> <li>- Read fluently (read quickly and accurately, with appropriate expression)</li> <li>- Spell fluently</li> </ul>	<ul style="list-style-type: none"> <li>- Find a balance between remediation and accommodation (Balance teaching to read with reading to learn, i.e., read material to child)</li> <li>- Provide visuals along with written material</li> <li>- Preview material that will be read (e.g., explain new terms, highlight what is most important)</li> <li>- Talk about what has been read to enhance comprehension</li> <li>- Use reading material linked to prior hands-on experience, real-life experiences or specific areas of interest (e.g., high-interest books, comic books, magazines)</li> <li>- Have kids take turns reading with an adult or read together</li> <li>- Offer material in a different way (e.g., e-books, podcasts)</li> </ul>

### **More on Supporting Reading LDs in Children and Youth:**

A good assessment is important to determine which areas of phonological processing the child struggles with, and depending on the age and challenges, what intervention is recommended. In general, approaches that feature systematic, explicit instruction in phonological awareness and phonetic decoding skills are needed. Supports that teach children to use their strengths (e.g., visual cues, manipulatives) and interests may help in improving challenges, as well as assistive devices (e.g., text-to-speech technology).

#### Phonological processing:

- [www.readingrockets.org/helping/target/phonologicalphonemic](http://www.readingrockets.org/helping/target/phonologicalphonemic)
- [www.readingrockets.org/teaching/reading101/phonemic](http://www.readingrockets.org/teaching/reading101/phonemic)
- [www.readingrockets.org/article/phonemic-awareness-young-children](http://www.readingrockets.org/article/phonemic-awareness-young-children)
- [www.understood.org/en/learning-attention-issues/child-learning-disabilities/reading-issues/phonological-awareness-what-it-is-and-how-it-works](http://www.understood.org/en/learning-attention-issues/child-learning-disabilities/reading-issues/phonological-awareness-what-it-is-and-how-it-works)

#### Reading programs:

- [ldatschool.ca/literacy/commercial-reading-programs-for-learning-disability-populations-examining-the-evidence-base/](http://ldatschool.ca/literacy/commercial-reading-programs-for-learning-disability-populations-examining-the-evidence-base/)
- [www.readingrockets.org/article/reading-intervention-programs-comparative-chart](http://www.readingrockets.org/article/reading-intervention-programs-comparative-chart)
- [www.nichd.nih.gov/publications/pubs/nrp/documents/report.pdf](http://www.nichd.nih.gov/publications/pubs/nrp/documents/report.pdf)
- [www.edu.gov.on.ca/eng/document/reports/reading/help.html#successful](http://www.edu.gov.on.ca/eng/document/reports/reading/help.html#successful)

## **Phonological Processing and Implications for Mental Health**

- When reading requires large amounts of effort that is not reflected in the output, it is expected that we may see signs of frustration, anxiety about not being able to meet expectations, or negative feelings about oneself.
- Overtime, these children may learn to cope by avoiding the tasks or situations that cause them to experience stress or negative emotions (this is called experiential avoidance), which makes it harder to learn to tolerate these feelings in the long-term.
- If other mental health challenges are present in addition to challenges with phonological processing, such as anxiety, depression, or disruptive behaviours, the emotional impact may be exacerbated or complicated by these additional factors (see pages 6-8 on LDMH).

## What Can Phonological Processing LDs Look Like For a Child in the “Yellow Zone”?

Ben is a bright, creative, and motivated student in grade three. From a young age, his parents noticed that he picked up many things quickly, especially solving puzzles and building intricate structures. However, he took a little longer to speak and now in learning to read. He is an enigma to his teacher because he is still unable to read. Ben can decode words, but he takes a long time to sound out each word. As a result of slow and labored decoding, Ben is unable to understand what he reads.

In his grade three year, Ben has become increasingly self-conscious about his reading difficulties. He says he feels stupid and no longer wants to go to school. His parents are having more challenges at home when it comes to homework with Ben taking a long time to complete his work, whining and complaining about doing it, and being easily distracted. His teachers have noticed that Ben seems more distracted in class as well and hesitant to participate in group activities or to answer questions in front of others.

### Questions for Consideration:

- What do you think puts Ben in the “yellow zone” of distress on the mental health continuum?
- What steps could you take to support Ben in decreasing his level of distress?
- What coping strategies is Ben currently using when faced with reading challenges? Are they effective? If not, what may be more effective in the long-term?

## LDs Reflecting challenges with Language Processing

Some children with LDs have challenges with language processing. Specifically, many of those with language-based LDs, for example, have trouble understanding spoken language (receptive) and expressing themselves verbally. Many factors can underlie these challenges, including an underdeveloped vocabulary, a more concrete or literal style of thinking or problem solving, difficulties with listening comprehension related to working memory, or difficulties in organizing or retrieving and expressing one’s thoughts, for example. Along with academic challenges in the areas of language (listening and expression), reading, writing, and math, language based LDs can impact children socially, emotionally, and behaviorally.

<b>Language Processing</b>	
<b>Application (it can be harder to ...)</b>	<b>Strategies/supports that may be helpful</b>
<p><u>Receptive language:</u></p> <ul style="list-style-type: none"> <li>- Understand vocabulary, directions or instructions, stories, perspectives, etc.</li> <li>- Interpret abstract language, such as metaphors, understand humor, sarcasm, expressions (may interpret more literally)</li> </ul> <p><u>Expressive language:</u></p> <ul style="list-style-type: none"> <li>- Use appropriate vocabulary, grammar and syntax</li> <li>- Organize words into sentences</li> <li>- Give directions, tell stories, reason with words (e.g., if this then that)</li> <li>- Retrieve words - children might know more than can express (e.g., they might talk around topic, say “um” or I don’t know)</li> </ul>	<ul style="list-style-type: none"> <li>- Slow down when presenting language (allowing for “think time”)</li> <li>- Use clear, concrete, “short and sweet” language when communicating with child, and stress keywords</li> <li>- Repeat, review information as needed</li> <li>- Give child time to listen, understand, and respond</li> <li>- Notice if the child is looking confused or having trouble following instructions. Encourage them to ask for clarification.</li> <li>- Check in for understanding (ask specific questions as you speak, have child repeat in own words)</li> <li>- Help child understand sarcastic comments (e.g., don’t rush, I have all day to wait for you), multiple meanings, or inferences</li> <li>- Write down or draw main concepts on paper (for child to refer back to)</li> <li>- Use visuals/demonstrations (diagrams, pictures, models) or concrete examples to help explain words</li> <li>- If child knows more than they can express (word retrieval) or has challenges with expression, provide cues or structured response options (multiple choice, yes or no, this or that, etc.)</li> <li>- Encourage child to describe the word they are looking for and give them plenty of time (i.e., do not rush)</li> <li>- Build vocabulary through visuals, games, explaining ahead of time</li> <li>- Pre-teach - introduce key vocabulary and concepts prior to the lesson, access to lecture notes, slides, PowerPoint presentations, etc.</li> <li>- Use of assistive technology to assist with reading and writing</li> </ul>

<ul style="list-style-type: none"> <li>- comprehend what they read (make inferences, predictions, read “between the lines”)</li> <li>- Express ideas in writing</li> <li>- Understand math word problems</li> </ul>	<ul style="list-style-type: none"> <li>- Provide warning and practice before child is required to speak in front of class</li> <li>*Note: It may be helpful to consult with a speech and language pathologist for intervention strategies</li> </ul>
---	--

### Language Processing and Implications for Mental Health

- Language processing challenges may impact children socially, emotionally, and behaviourally
  - Socially: turn taking, maintaining relevance, monitoring comprehension of listener
  - Emotionally: expressing how you feel using words (e.g., frustration)
  - Behaviourally: paying attention to parent or teacher, following rules, using manners, staying on topic (might be seen as noncompliance)
- Co-occurring mental health or emotional issues (anxiety, depression, and disruptive behaviour) may also be contributing to the behaviours you are observing. For example, if a child presents as oppositional or noncompliant, this could be a result of anxiety, in addition to language LDs.
- In mental health treatment, it may be helpful to spend more time on behaviour and emotions than thoughts (e.g., breathing instead of self-talk) or assist with scaffolding (e.g., prompt with questions or give choices).

### What Can Language Processing Problems Look Like for a Child in the “Red Zone”?

Naomi is a friendly, kind-natured 12-year-old girl who loves animals. Naomi’s teachers report that she struggles to understand instructions and to follow conversations. It often seems as though she’s not listening. In loud or chaotic settings, she sometimes doesn’t notice if someone is talking to her or asking her to do something. For as long as her parents can remember, she’s had a difficult temperament - she cries easily, takes a long time to soothe, and gets easily overwhelmed when there are a lot of people around. Now Naomi is often flooded with anxiety in busy social situations and occasionally has panic attacks where she becomes very fearful, runs away from those around her, and cries uncontrollably.

Naomi is friendly but sometimes has trouble maintaining friendships. The girls in her class spend a lot of time sharing secrets and telling stories, and Naomi has a hard time joining in these activities. Sometimes when Naomi doesn’t understand she acts silly because she is worried that the other girls will think she is dumb. This can get Naomi in trouble with teachers and can annoy the other kids. Naomi has a few friends who are younger than she is. She enjoys playing active games and sports with them.

**Questions for Consideration: See page 16.**

## LDs Reflecting challenges with Memory

Some children with LDs have challenges with their memory. For example, they may have trouble learning and remembering what they hear or see (e.g., verbal or visual memory, long-term or short-term), retrieving what they know from memory (e.g., cannot “recall” when asked but may be able to recognize when given choices), or holding ideas or steps in mind while “working with them” (e.g., working memory). Trying to understand a child’s memory strengths and challenges may give us insight on how they learn and remember best (e.g., what supports and accommodations might help). For example, some children learn best in one modality, such as verbally or visually, others with meaningful information (e.g., connected to their knowledge, interests, or past experiences), whereas others do best with repetition and review (e.g., math facts). Memory challenges not only impact people academically, but can also have significant social, emotional, and behavioural implications.

<b>Memory</b>	
<b>Application (it can be harder to ...)</b>	<b>Strategies/supports that may be helpful</b>
<p><b>Verbal memory</b></p> <ul style="list-style-type: none"> <li>- Remember letters/sounds/words and what they mean</li> <li>- Remember a story, a lecture, trivia facts, a schedule, etc.</li> <li>- Remember sequences (days of week, months of year, seasons, etc.)</li> <li>- Retrieve information on demand (word finding): you know but cannot ‘get it out’</li> <li>- Remember numbers, math facts (times tables), formulas, the order of operations, etc.</li> <li>- Socially: wait your turn (want to “say it before I forget!”), remember others’ names, remember rules for a game, remember what to say</li> </ul> <p><b>Visual memory</b></p> <ul style="list-style-type: none"> <li>- Remember how letters (e.g., b, d, p, g), and words (e.g., sight words like where vs. were) look when reading or spelling</li> <li>- Remember visual concepts in math (fractions, graphs, pie charts), science (diagram of photosynthesis)</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- A quiet learning environment, limited distractions, preferential seating</li> <li>- Ensure child is paying attention (e.g., eye contact) before providing information</li> <li>- Keep instructions, demonstrations, short and clear, one at a time (‘chunk’), repeat if necessary (repeat words or show again)</li> <li>- Have child put into own words (paraphrase) or teach what they know to others</li> <li>- Review and rehearse frequently</li> <li>- Preview what will be learned ahead of time. (e.g., get topic and learn about it in your area of strength: read about it, talk about it, watch it on youtube, etc.)</li> <li>- Limit new information (facts, words, concepts) presented at a time</li> <li>- Link new information with well learned /understood information</li> <li>- When a lot of new information is given for child to remember, highlight/underline/asterisk what is most important</li> </ul>

<ul style="list-style-type: none"> <li>- Remember locations on a map in geography or how to get around school, for example, to get to the washroom, to the gym, to the office</li> <li>- Picture or imagine things (e.g., whereabouts of your belongings, how a place setting looks at the table)</li> <li>- Remember ‘how to’ demonstrations (e.g., tie shoelaces)</li> <li>- Remember faces; notice what someone is wearing, new haircut, etc.</li> </ul> <p><b>Working memory</b></p> <ul style="list-style-type: none"> <li>- Multi-task, or think about and carry out more than one thing at a time</li> <li>- Complete math in your head (mental math) e.g., figure out how much to tip</li> <li>- Listen – integrate new information with prior knowledge</li> <li>- Comprehend what you are reading while you are focusing on decoding words (keep track of plot, characters, etc.)</li> <li>- Remember your thoughts/ideas while writing, if you are focusing on letter formation, organization, etc.</li> <li>- Take notes while listening at same time</li> <li>- Keep track of conversations with peers in a group setting, for example</li> </ul>	<ul style="list-style-type: none"> <li>- Provide information in multiple ways (speak it, show it, create opportunities to do it)</li> <li>- Reading: learn word families, underline, highlight, read text more than once to comprehend</li> <li>- Spelling: use spell check</li> <li>- Writing: jot down ideas first, use a framework, use word processor and other assistive technology</li> <li>- Math: use a number line, calculator, math fact grid</li> </ul> <ul style="list-style-type: none"> <li>- Use external aids (visuals, sticky notes, checklists, etc.) so child can use them for as long as needed (vs. oral information or visual demonstrations which are transient)</li> <li>- Make information ‘meaningful’. For example, make into a story, relate to areas of interest or personal relevance, past experiences or knowledge, make it emotional, humorous, if helpful.</li> <li>- For tests: use reference sheets (math formulas, science terms, etc.)</li> </ul> <p><b>Specific strategies for working memory</b></p> <ul style="list-style-type: none"> <li>- Break information/instructions/tasks into individual steps (‘chunk’) and one at a time</li> <li>- Have child work on one step at a time and then check in before moving to next step</li> <li>- Practice routines and make things automatic as much as possible to ‘free up space’ e.g., practice typing, learn math facts, learn word families, etc.</li> <li>- Use technology that reduces demand, such as word processors, spell check, etc.</li> </ul> <p>*Goal is to reduce demand because only so much ‘space’ or so many ‘balls to juggle’</p>
--	--



### **Using a Child's Strengths:**

Since children with LDs have many strengths, it can be helpful to find ways to help them utilize their strengths to help compensate for areas of weakness. Here are some examples of how you might do this with memory challenges.

#### **If visual memory is strong and verbal memory weaker**

- Turn words into pictures, graphs, charts, diagrams, imagery, etc.
- Use visual organizers (e.g., Inspiration) to teach new concepts and group material to be remembered

#### **If verbal memory is strong and visual memory weaker**

- Label/describe visuals with words
- Have youth sub vocalize (whisper quietly or in head).
- Use analogies, rhymes, songs, etc. (e.g., 30 days in September ...)
- Use verbal organizers to teach new concepts (e.g., Draftbuilder) and group material to be remembered

## **Memory and Implications for Mental Health**

- There are many reasons why a child may struggle with memory (think of the iceberg analogy from pages 11-12). It is important to try to figure out where memory issues are coming from. For example, a child may struggle with memory or forgetfulness as a result of challenges with information processing (e.g., LDs), mental health issues (e.g., anxiety, depression, and trauma may all compromise memory), environmental or physical issues (e.g., not getting enough sleep, food or nutrients). For those with LDMH, it is typically a combination of information processing (LDs) and mental health issues (MH).

## **What Can Memory Problems Look Like for a Child in the “Yellow Zone”?**

Alejandra is a bright and energetic student in grade eleven. She enjoys arts and drama, and has a main part in the school's musical this year. Alejandra has always struggled to keep up in school, particularly in math, and has worked hard to do so. In grade five, she didn't know her math facts and needed to use her fingers or a discrete counter system to add, subtract, or multiply. In high school, she is allowed to use a calculator for math, which allows her to showcase her strengths in math problem-solving and conceptual understanding. However, sometimes she is too embarrassed to use the calculator or remind the teacher of her accommodation in front of others.

Alejandra's teachers and parents often think she is not paying attention when she doesn't follow instructions. In class, she appears to “zone out” and the teachers think she is daydreaming instead of listening to the lesson. Sometimes Alejandra gets easily overwhelmed and frustrated when she is learning new information and ends up playing on her phone or doodling instead of trying to remember it all. Recently she has fallen behind in math class because she has not been completing her homework. She has occasionally stopped coming to class, and has skipped school altogether a couple of times to avoid feeling stupid.

**Questions for Consideration: See page 19.**

## LDs Reflecting challenges with Visual-Spatial and Visual-Motor Processing

Some children with LDs have challenges in the **visual-spatial** area (sometimes called perceptual or nonverbal reasoning). That is, it may be more difficult for them to understand and organize visual-spatial information into meaningful patterns. Sometimes these children find it easier to learn and remember by hearing, thinking with words, and talking (they have verbal strengths). Some professionals talk about youth who have this profile, along with social and emotional regulation challenges, as having a Nonverbal Learning Disability.

Other children with LDs have challenges in the **visual-motor** area (sometimes called graphomotor or perceptual motor skills, or dysgraphia). It may be more difficult for them to coordinate their eyes (what they see) and hands to plan and produce physical movements (fine/small and gross/large). Some professionals talk about children who have this profile as having a Developmental Coordination Disorder.

<b>Visual-Spatial</b>	
<b>Application (it can be harder to ...)</b>	<b>Strategies/supports that may be helpful</b>
<ul style="list-style-type: none"> <li>- Understand, extract needed information, and solve problems with visual information (e.g., puzzles, maps, graphs, charts, diagrams, tables, etc.)</li> <li>- Find way around (i.e., may often get disoriented or lost)</li> <li>- Imagine or ‘picture’ things in your mind (e.g., abstract visual information)</li> <li>- Discriminate between visuals –e.g., see similarities or differences between objects, symbols, shapes, numbers, letters, etc. (e.g., d and b, p and q)</li> <li>- Judge space, distance, and size (e.g., arranging furniture), time, left from right, north from south</li> <li>- Understand rating scales (e.g., rate on a scale from 1-10) or feelings thermometers in therapy (e.g., measure how much anger you are feeling)</li> <li>- Pay attention when distracted with too much visual information (e.g., a busy - worksheet)</li> <li>- See how parts fit together to make a</li> </ul>	<ul style="list-style-type: none"> <li>- As much as possible, limit or reduce the use of visual information (e.g., webs, diagrams, charts, etc.).</li> <li>- When visuals are being used, “chunk” or structure worksheets and assignments</li> <li>- When there are visual information and demonstrations, help child learn and solve problems by also providing verbal explanations and instructions</li> <li>- Teach child to use verbal mediation to talk themselves through visual or spatial work</li> <li>- Practice, in a fun way, the “hard” stuff, e.g., building models, puzzles, “Where’s Waldo” books, arts and crafts, drawing, coloring, mazes, board games, etc.</li> <li>- Write out schedules or instructions clearly, step by step</li> <li>- Keep schedules as predictable as possible, with advanced notice in changes</li> <li>- Some children may find it helpful to have the big picture to preview beforehand so they know what to expect and can fit in details as they are learned</li> </ul>

<p>whole and when seeing whole, notice the parts or details (e.g., when putting together a Lego model)</p> <ul style="list-style-type: none"> <li>- Create art</li> <li>- Reading: track words on page, reverse or misread letters or words, comprehend (e.g., read between the lines or ‘get’ the big picture)</li> <li>- Spelling: remember letter formation and patterns</li> <li>- Writing: organize space on a page, keep within lines</li> <li>- Math: reverse or misread numbers, understand visuals, geometry, imagine objects rotating in space</li> <li>- Socially: read and accurately interpret body language and other social cues (facial expressions, body language, personal space)</li> </ul>	<ul style="list-style-type: none"> <li>- Reading: provide tracking tools (ruler), audio books, etc.</li> <li>- Writing: alternatives such as dictating and typing, use organizers that do not rely on visuals (e.g., Draftbuilder is a good, less visual, tool)</li> <li>- Limit or reduce “high demand” activities like taking notes from board or text, etc.</li> <li>- Math: do math problems on graph paper to keep numbers in line</li> <li>- Social: assist child with aspects of communication that are observed and noticed (e.g., facial expressions, body language, tone of voice, etc.)</li> </ul>
--	---

<b>Visual-Motor</b>	
<b>Application (it can be harder to ...)</b>	<b>Strategies/supports that may be helpful</b>
<ul style="list-style-type: none"> <li>-Grip pencil and complete paper and pencil tasks (writing, drawing, mazes, dot to dot)</li> <li>- Cut and paste (and other arts and crafts)</li> <li>- Thread a needle, use utensils, or put up a tent</li> <li>- Spelling and Writing: control size and spacing of letters on page</li> <li>- Math: line up numbers in columns</li> <li>- Gym: coordinate and balance body in space (e.g., dancing), hand-eye coordination (e.g., catch a ball, hit a ball), or ride a bicycle</li> <li>- Put together models, Lego, Ikea furniture</li> <li>- Dress self (buttons, zippers, etc.), tie shoes</li> </ul>	<ul style="list-style-type: none"> <li>-See above: practice, in a fun way, the ‘hard stuff’ that involve visual motor skills</li> <li>- Provide modeling, scaffolding, and support. Verbal instructions may be helpful.</li> <li>- Emphasize and reward effort or process over product</li> <li>- Provide copies of notes instead of copying. If copying required, do not time or require speed.</li> <li>- Allow alternatives to written output: scribe, text-to-speech, word processor to type answers, templates to ‘fill in’ (e.g., fill in blank, yes or no, multiple choice, etc.)</li> <li>- Math: do math problems on graph paper to keep numbers in line</li> <li>- Choose activities like hiking, bicycling, martial arts, weightlifting, camping, swimming, etc.</li> </ul>

\*Note: It may be helpful to consult with an Occupational Therapist (OT) for intervention strategies. OT's can be helpful with motor planning skills, coordination, handwriting, and organization

## Visual-based or Non-verbal LDs and Implications for Mental Health

- Visual-based LDs (or Non-verbal LDs) can often impact a child's social functioning. For example, if it's harder to read another person's facial expressions or body language, it can be more difficult to understand their intentions or meaning (e.g., joking versus "making fun") or know when to stop when someone is upset. Or, if you are clumsy and uncoordinated, it can be harder to participate in sports or other activities that require visual-motor skills.
- Problems in these areas can lead a child or youth to feel embarrassed, overwhelmed, lost, confused, anxious, or frustrated, amongst many other emotional responses that may be expected given the stress these children may experience in situations demanding the skills that are hard for them.
- If these challenges are present and overlapping with other difficulties in information processing and/or mental health issues (LDMH), the social-emotional impact can be further exacerbated or complicated (e.g., visual-spatial processing, slow processing speed AND anxiety combined may make social interactions increasingly more difficult).

## What Can Visual Problems Look Like For a Child in the "Red Zone"?

Mark is a 16-year-old boy who is described by his parents and teachers as a "loner". Lately, Mark has been feeling depressed and anxious and he says that this is because no one likes him. He often appears untidy and physically awkward and his locker and knapsack are always a mess. Mark's teachers report that he has problems interacting with others. They note that he does not seem to understand or use appropriate social skills and feel that this is the cause of his social problems. At school, Mark struggles with written assignments, despite having a large vocabulary and an ability to speak with adults. His written work is disorganized and poorly structured. His most notable academic difficulties are with math problem-solving. Mark's parents and teachers are concerned about his social and emotional well-being.

### Questions for Consideration:

- What do you think puts Mark in the "red zone" on the mental health continuum?
- Using the iceberg analogy (see pages 11-12), what might be contributing to Mark's challenges academically, socially, and emotionally (think about information processing – visual challenges and beyond, mental illness, and other factors)?
- What other information processing challenges may Mark have that are overlapping with his challenges in visual-spatial and visual-motor processing?
- What are some next steps that the school, parents, student, and/or other support person could take to support Mark and help decrease his "red zone" symptoms?

## LDs reflecting challenges with Processing Speed

Some children with LDs need more time to process information. It may take them longer to take in, think about or organize, or respond to information. Often children have great ideas but need more time to produce or “show what they know”. This can make it harder to keep up and can feel like things take you longer than others. Along with academic challenges in the area of fluency (e.g., takes longer to listen, follow instructions, read, express self orally or in writing), slower processing speed can impact children socially, emotionally, and behaviorally.

<b>Slow Processing Speed</b>	
<b>Application (it can be harder to...)</b>	<b>Strategies/supports that may be helpful</b>
<ul style="list-style-type: none"> <li>- Sustain attention (i.e., stay focused when things moving too fast)</li> <li>- Take it 'all' in</li> <li>- Think on one’s feet</li> <li>- Quickly make sense of what you hear (make connections, decisions)</li> <li>- Quickly retrieve your knowledge and express yourself (e.g., when called on in class)</li> <li>- Quickly complete fine-motor tasks. For example, writing (copying from board, assignments and tests) and other activities (tying shoelaces)</li> <li>- Quickly read (this can impact comprehension) and complete math (e.g., math minute)</li> <li>- Manage time</li> <li>- Keep up in group work</li> <li>- Keep track of what is happening in speeded competitive sports</li> <li>- Quickly get ready for school, for bed, etc.</li> <li>- Connect socially with peers, as this often requires quick understanding of verbal and nonverbal information and responding</li> </ul>	<ul style="list-style-type: none"> <li>- Present information at a slower pace</li> <li>- Give youth enough time to listen and understand (e.g., wait ... count to 10 in your head) and respond</li> <li>- Cover less material and one ‘chunk’ at a time</li> <li>- Check in for understanding</li> <li>- Help youth make connections (relate to their knowledge, experiences)</li> <li>- Be specific in telling youth exactly what you want them to do</li> <li>- Assist youth in beginning activity</li> <li>- Teach time and time management (schedules, timers, clocks, etc.)</li> <li>- Monitor 'overload' and how youth is coping, e.g., frustration, anger, inattention/tuning out, fatigue, avoidance, mood, anxiety, 'behaviour' such as a meltdown</li> <li>- Adjust work/homework. Emphasize quality and effort/process over quantity</li> <li>- Reduce/eliminate copying and re-writing tasks e.g., copying from the board - instead, provide notes or photocopies, etc.</li> <li>- Extra time to complete written work</li> <li>- Alternative ways to assess knowledge other than with writing such as oral presentation, multiple or forced choice, scribe, use of a computer, etc.</li> </ul>

## Slow Processing Speed and Implications for Mental Health

- There are a number of different reasons why a child or youth may be slow to process information (e.g., taking in what they hear or see, responding to questions, or organizing their ideas on a page) (think of the iceberg analogy from pages 11-12). It is important to try to figure out where the slow processing speed is coming from. For example, someone may be slower to process information when they are depressed or anxious (“freezing” in an anxiety provoking situation, for example), or because of information processing deficits in processing speed. For those with LDMH, it is typically a combination of information processing (LDs) and mental health issues (MH).
- Slow processing speed can have a number of social implications for children and youth who struggle in this area. For example, they may have a hard time keeping up with a conversation, contributing to a conversation in a timely manner, or responding to a joke quickly. This can cause stress, anxiety, frustration, and leave a child feeling left behind or excluded.

## What Can Slow Processing Look Like for a Child in the “Yellow Zone”?

Noah is a nine-year-old boy who is described as being sweet, having a good sense of humor, and enjoying swimming and computer games. His parents described him as being a 'dawdler' who 'takes forever' to 'get going', especially in the morning. This can cause arguments with his parents. At school, his teachers report that he is often quiet during lessons and will often 'check out.' Noah said that he usually doesn't raise his hand in class if he knows the answer, as it takes him too long to 'get the words out.' He described feeling frustrated about this, as he cannot keep up in social conversations at recess or during group work in class. When asked questions, Noah often replies with "I don't know", as he feels that it takes him too long to make connections and to respond. Noah once described “feeling like a driver in a car going 60 km/hour while the cars around him were going 100 km/hour”. Although Noah's printing is relatively neat, he hates writing because it takes him a long time to get his thoughts on paper. Noah sometimes refuses to complete in-class assignments or homework and on a few occasions this has resulted in him being sent to the office at school. Noah is able to read but reads at a much slower pace and so does not like reading out loud. Noah worries that others do not think he is smart and is beginning to wonder that himself.

### Questions for Consideration:

- What do you think puts Noah in the “yellow zone” on the mental health continuum?
- What steps could you take to support Noah in decreasing his level of stress?
- Are there other reasons why Noah may be taking longer to take in, think about, organize, and respond to information? (i.e. information processing deficits or mental health)
- What coping strategies is Noah currently using when overwhelmed with too much

## Conclusion

Children and youth with LDMH have tremendous potential and we all have an opportunity to support the resilience of this group. By seeking to understand a child's learning strengths, to empathize with the challenges, and to foster the development of lagging skills and opportunities for success, we create an environment for positive well-being.

Protective factors for positive mental health and well-being include developing knowledgeable and accommodating communities to support a sense of belonging; fostering supportive relationships with at least one caring adult; developing 'islands of strength' to improve self-esteem; supporting self-advocacy in children and youth and empowering caring adults to respond to self-advocacy efforts; directly teaching lagging skills and providing evidence-informed therapy interventions that are tailored to the child or youth's learning needs.

For more information about how to support children and youth with LDMH, or to arrange to bring workshops and training to your organization or community, please contact Community Education and Engagement at the Integra Program, Child Development Institute.

[integra@childdevelop.ca](mailto:integra@childdevelop.ca)

<http://www.childdevelop.ca/programs/integra-program/workshops-and-training>

## Helpful Resources

### Learning Disabilities (General):

#### Books

- *A Mind At A Time: America's Top Learning Expert Shows How Every Child Can Succeed* (2002) - Mel Levine

#### Websites

- Learning Disabilities Association of Ontario  
[www.ldao.on.ca](http://www.ldao.on.ca)
- LD@School: Learning Disabilities Association of Ontario  
[ldatschool.ca](http://ldatschool.ca)
- Understood- For Learning and Attention Issues  
[www.understood.org](http://www.understood.org)
- LD OnLine  
[www.ldonline.org](http://www.ldonline.org)
- National Center for Learning Disabilities  
[www.nclld.org](http://www.nclld.org)
- Smart Kids with Learning Disabilities: An information site for parents of children with learning disabilities  
[www.SmartKidswithLD.org](http://www.SmartKidswithLD.org)

#### Videos

- *Lessons Learned: Personal Stories of Learning Disabilities, Resilience and Mental Health* – Integra Foundation & Toronto Catholic District School Board  
[www.ldotschool.ca/social-emotional-development/lessons-learned-personal-stories-of-learning-disabilities-resilience-and-mental-health/](http://www.ldotschool.ca/social-emotional-development/lessons-learned-personal-stories-of-learning-disabilities-resilience-and-mental-health/)
- *Learning Disabilities and Discipline: Richard Lavoie's Guide to Improving Children's Behaviour* (1996)
- *Learning Disabilities and Social Skills with Richard Lavoie: Last One Picked... First One Picked On* (1994)
- *Understanding Learning Disabilities: How Difficult Can This Be? The F.A.T. City Workshop with Richard Lavoie* (1989)

### Executive Functioning:

#### Books

- *Executive Functions: What They Are, How They Work, and Why They Evolved* (2013) - Russell Barkley
- *Executive Skills in Children and Adolescents: A Practical Guide to Assessment and Intervention* (2010) - Pat Dawson & Richard Guare
- *Late, Lost, and Unprepared: A Parent's Guide to Helping Children with Executive Functioning* (2008) - Joyce Cooper-Kahn & Laurie Dietzel



- *Smart but Scattered: The Revolutionary “Executive Skills” Approach to Helping Kids Reach Their Potential* (2009) - Pat Dawson & Richard Guare, 2009
- *Smart but Scattered Teens: The “Executive Skills” Program for Helping Teens Reach Their Potential* (2013) - Pat Dawson & Richard Guare

#### **Websites**

- Executive Functioning 101 E-book: National Centre for Learning Disabilities  
[www.ncl.org/images/content/files/executive-function-101-ebook.pdf](http://www.ncl.org/images/content/files/executive-function-101-ebook.pdf)

### **Reading LDs:**

#### **Books**

- *Overcoming Dyslexia: A New and Complete Science-Based Program for Reading Problems at Any Level* (2003) -Sally Shaywitz

#### **Websites**

- The International Dyslexia Association Ontario Branch  
[www.idaontario.com](http://www.idaontario.com)
- The Yale Centre for Dyslexia and Creativity  
[dyslexia.yale.edu](http://dyslexia.yale.edu)

### **Visual-Based LDs/Non-Verbal LDs:**

#### **Books**

- *Understanding Nonverbal Learning Disabilities: A Common Sense Guide for Parents and Professionals* (2007)- Maggie Mamen
- *Helping a Child With Nonverbal Learning Disorder or Asperger's Syndrome* (2007)- Kathryn Stewart

#### **Websites**

- NLDline!: Dedicated to improving awareness among professionals and parents about Nonverbal Learning Disabilities  
[www.nldline.com](http://www.nldline.com)

### **Processing Speed:**

#### **Books**

- *Bright Kids Who Can't Keep Up: Help Your Child Overcome Slow Processing Speed and Succeed in a Fast World* - Ellen Braaten PhD

#### **Websites**

- Understood- For Learning and Attention Issues  
[www.understood.org/en/learning-attention-issues/child-learning-disabilities/information-processing-issues/processing-speed-what-you-need-to-know](http://www.understood.org/en/learning-attention-issues/child-learning-disabilities/information-processing-issues/processing-speed-what-you-need-to-know)

## Attention-Deficit Hyperactivity Disorder (ADHD)

### Books

- *ADHD and the Nature of Self Control* (2005) - Russell Barkley

### Websites

- ADHD Resource Centre–Sick Kids Hospital  
[www.aboutkidshealth.ca/en/resourcecentres/adhd](http://www.aboutkidshealth.ca/en/resourcecentres/adhd)
- Attention Research Update, a web-site administered by David Rabiner, Ph.D Senior research Scientist, Duke University  
[www.helpforadd.com](http://www.helpforadd.com)
- Children and Adults with ADHD (CHADD)  
[www.chadd.org/](http://www.chadd.org/)

## Autism Spectrum Disorders (ASD)

### Websites

- Geneva Centre for Autism  
[www.autism.net](http://www.autism.net)
  - Autism Ontario <http://www.autismontario.com/>

## Mental Health and Well-being

### Books

- *Screen-Smart Parenting: How to Find Balance and Benefit in Your Child's Use of Social Media, Apps, and Digital Devices* (2015) - Jodi Gold, MD
- *The Explosive Child: A New Approach for Understanding and Parenting Easily Frustrated, Chronically Inflexible Children*(1998) - Ross Greene
- *Keys To Parenting Your Anxious Child* (1996)- Katarina Manassis
- *Helping Your Anxious Child: A Step-by-Step Guide for Parents* (2008) - Ronald M. Rapee, Ann Wignall, Susan H. Spence, Vanessa Cobham & Heidi Lyneman

### Websites

- About Kids Health: Trusted Answers from the Hospital for Sick Children  
[www.aboutkidshealth.ca](http://www.aboutkidshealth.ca)
- Canadian Mental Health Association  
[www.cmha.ca](http://www.cmha.ca)
- Centre of Excellence for Child and Youth Mental Health: Resources for Service Providers  
<http://www.excellenceforchildand youth.ca/resource-hub>
- Children's Mental Health Ontario  
[www.kidsmentalhealth.ca](http://www.kidsmentalhealth.ca)
- Kids Help Phone  
[www.kidshelpphone.ca](http://www.kidshelpphone.ca)

- Lives in the Balance: Changing the Conversation About and With Behaviorally Challenging Kids (Dr. Ross Greene’s website on the Collaborative Problem Solving model)  
[www.livesinthebalance.org](http://www.livesinthebalance.org)
- Teen Mental Health – Dr. Stan Kutcher’s website  
[teenmentalhealth.org](http://teenmentalhealth.org)
- The ABC’s of Mental Health (Hincks Dellcrest Centre)  
<http://www.hincksdellcrest.org/ABC/Welcome>

## School-Based Information

### Books

- *Lost at School: Why Our Kids with Behavioral Challenges Are Falling Through the Cracks and How We Can Help Them* (2008) - Ross Greene
- *Learning Disabilities and Challenging Behaviors: A Guide to Intervention and Classroom Management* (2001) - Nancy Mather & Sam Goldstein

### Web-based

- Alberta Education: Diverse Learning Needs  
[education.alberta.ca/admin/supportingstudent/diverselearning](http://education.alberta.ca/admin/supportingstudent/diverselearning)
- CanLearn Society: Take Ten Spotlight Series: Strategies & Tools for Teaching Students with Learning Disabilities/ADHD  
[canlearnsociety.ca/resources/take-ten-series](http://canlearnsociety.ca/resources/take-ten-series)
- LD@School: Learning Disabilities Association of Ontario  
<http://ldatschool.ca/>
- Ontario Ministry of Education, Special Education Web Site  
[www.edu.gov.on.ca/eng/general/elemsec/speced/speced.html](http://www.edu.gov.on.ca/eng/general/elemsec/speced/speced.html)
- Ontario Ministry of Education, Program Policy Memorandum Number 8: Identification Of and Program Planning for Students with Learning Disabilities  
<http://www.edu.gov.on.ca/extra/eng/ppm/ppm8.pdf>
- Ontario Teacher’s Federation: Teachers’ Gateway to Special Education  
[www.teachspeced.ca](http://www.teachspeced.ca)
- People for Education  
[www.peopleforeducation.ca](http://www.peopleforeducation.ca)
- Teach ADHD  
[www.teachadhd.ca](http://www.teachadhd.ca)
- The ABC’s of Mental Health: Teacher Resource  
[www.hincksdellcrest.org/ABC/Teacher-Resource/Welcome](http://www.hincksdellcrest.org/ABC/Teacher-Resource/Welcome)
- When Something’s Wrong: Strategies for Teachers by the Canadian Psychiatric Research Foundation  
[www.kidsmentalhealth.ca/documents/res-cprf-teachers-2007.pdf](http://www.kidsmentalhealth.ca/documents/res-cprf-teachers-2007.pdf)

## Integra Handbook on LDMH References

- Banks, S., Eddy, K. Angstadt, M., Nathan, P. & Phan, K.L. (2007). Amygdala–frontal connectivity during emotion regulation. *SCAN*, 2, 303–312
- Baumeister, E. A., Storch, E. & Geffken, G. (2008). Peer Victimization in Children with Learning Disabilities. (*Child Adolesc Soc Work J* 25:11–23
- Bryan, T., Burstein, K. & Ergul, C. (2004). The social-emotional side of learning disabilities: A science-based presentation of the state of the art. *Learning Disability Quarterly*, 27, 45-51.
- Gyurak, A., Gross, J. & Etkin, A. (2011). Explicit and implicit emotion regulation: A dual-process framework. *Cognition and Emotion*, 25(3), 400-412.
- Kavale, K & Forness, S. (1996). Social Skills Deficits and Learning Disabilities: A Meta Analysis. *Journal of Learning Disabilities*, 29 (3), 226-237.
- Mishna, F. (2003). Learning disabilities and bullying: Double jeopardy. *Journal of Learning Disabilities*, 36, 336-348.
- Milligan, K., Badali, P. & Spiriou, F. (2013). Using Integra Mindfulness Martial Arts to address self-regulation challenges in youth with Learning Disabilities: A qualitative exploration. *J. Child Fam Studies*, published online Nov 23 2013.
- Milligan, K., Phillips, M., & Morgan, A. (2015). Tailoring Social Competence Interventions for Children with Learning Disabilities. *J. Child Fam Studies*, published online Sep 3 2015.
- Sparks, R. & Lovett, B. (2009). College Students with Learning Disability Diagnoses: Who Are They and How Do They Perform? *Journal of Learning Disabilities* Volume 42, Number 6,
- Stichter, J.P., O'Connor, K.V., Herzog, M., Lierheime, K. & McGhee, S. (2012). Social Competence Intervention for Elementary Students with Aspergers Syndrome and High Functioning Autism. *J Autism Dev Disord*, 42:354–366
- Svetez, M., Ireland, M. & Blum, R. (2000). Adolescents with learning disabilities: risk and protective factors associated with emotional well-being: findings from the National Longitudinal Study of Adolescent Health. *J. Adolescent Health*, 27(5):340-8.
- Vedi, K & Bernard, S (2012). The mental health needs of children and adolescents with learning disabilities. *Current Opinion in Psychiatry*, vol 25, no. 5, pp. 353-358
- Wilson, A., Armstrong, C., Furrie, A., & Walcot, E. (2009). The Mental Health of Canadians With Self-Reported Learning Disabilities. *Journal of Learning Disabilities*, 42(1), 24-40.