

# **Learning Disabilities Initiative**

## **Project Report**

**Funded by:  
Ministry of Training Colleges and Universities  
National Literacy Secretariat**

**Sponsored by  
Ontario Association of Adult and Continuing  
Education School Board Administrators**

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## Acknowledgements

During the course of this project I had an opportunity to speak with or read written material from a number of people who work in school board LBS programs. These included both managers and practitioners. I would like to thank them for sharing their expertise with me so that I could make it available to others. The information that they shared is spread throughout the report, as you will see when reading through. These are the people who helped me in my mini interviews:

School Board	Contact
Hamilton Wentworth District School Board	Richard Patz
Hamilton Wentworth Catholic District School Board	Roberta Broughton, Michelina Paventi, Luc Didionede, Linda Greenland, Rita Mancini, Rose Pye
London District Catholic School Board	Jill Slemmon
Niagara Catholic District School Board	Tina DeLuca
District School Board of Niagara	Shirley Henley
Ottawa Carleton Catholic District School Board	Trudy Lothian
Ottawa Carleton District School Board	Christine Pinsent-Johnson
Toronto Catholic District School Board	Susan Lefebvre
Toronto District School Board	Erin Little
Upper Grand District School Board	Barbara Crawley
Waterloo Catholic District School Board	Helen Watt
Waterloo Region District School Board	Ann Kelland

I would also like to thank the members of the Reference Group for offering ideas, giving me feedback and participating so helpfully in our meetings. They are people who have much expertise and experience in the area of learning disabilities.

Jane Barber	Consultant
Karen Burwell	Durham District School Board
Cherry Bacik	Simcoe Muskoka Catholic District School Board
Suzan Gerber	Consultant
Ann Kelland	Waterloo Region District School Board
Cheryl Kempenaar	Lakehead District School Board
Mary Anne Myers	Simcoe County District School Board
Dalia Taylor	Peel District School Board
Helen Watt	Waterloo Catholic District School Board

I would like to offer a special note of thanks to Wendy Oliver, Project Coordinator for CESBA for her support and guidance.

Donna Zener, Project Consultant

## Introduction to Learning Disabilities

### **What will I find in this report?**

There are two parts to the Learning Disabilities Initiatives Project. Part one is to research and analyze some of the recent resources on learning disabilities and adult learners that are available in order to determine whether some are more appropriate than others to use within the framework of the school board LBS environment. The second part is to use the models of good practice that these resources support and find examples of their successful application already in use by our sector. At the same time, the Practitioner Training Strategy (for school boards) is being developed. It contains a module for working with learning-disabled adults for practitioners and will closely connect to this report.

My report contains a framework of procedures for working with a learner who may possibly have a learning disability. Based on the research that I have done, I have made recommendations for the processes that the staff in the LBS program should be using from intake, placement, observation, screening for further evidence of learning difficulties, appropriate instruction strategies and accommodation, and evaluation of progress. I have included information about resources that I feel are extremely useful for any LBS program to have. One difficulty that I found however was that several good resources that were produced with limited one time funding in Ontario were not widely distributed and now are not readily available. That is unfortunate. So I decided to broaden my research to the Internet where a number of excellent resources are available. Many of these were developed through coordinated government funding initiatives in the United States. Several states maintain websites dedicated specifically to adults with learning disabilities and appropriate literacy programming. I have included Internet Links to this type of site. They are spread throughout the report in the most appropriate section. These sites offer resources that can be browsed online and they also have material that can be downloaded for use. For those who want to investigate further, I am also including other Internet Resources that I feel are noteworthy. I have included those at the end of the appropriate section under the heading: **I want to learn more...**

### **An Important Note about the Internet**

You will be reading this report as an Adobe PDF document. Many of you also may be reading online in a network environment with security precautions including a firewall. Protocols to access the Internet may vary from network to network and from one computer environment to another and you may think that the links are not correct or current. If the links that I have included do not work for you it may be necessary to contact your technical support staff for assistance. You can also cut and paste the links into your browser directly. I am sorry for this inconvenience, but as security everywhere tightens, what was once simple and straightforward has become much more complicated for all of us.

## Common Themes

Most research in the area of adults with learning disabilities is very recent. And by volume, it is much smaller than the area of learning disabilities as it relates to children. There were a number of excellent resources produced, some of which have been funded by our own Ministry of Training, Colleges and Universities along with the National Literacy Secretariat. The more I researched, the more I found that there appears to be agreement on the best approaches to use and so the material from different sources is very similar and familiar themes quickly emerged. And not surprisingly I also heard those themes echoed when I spoke to people about their “best practices” working in the LBS school board programs. Those themes were:

1. Learning disabilities come in many shapes and forms. The characteristics that people exhibit are different and often inconsistent. Take your time in order to understand your learners. It pays off.
2. There is no one magic technique that can be applied in all cases. But the teaching strategies that the research supports are all examples of good teaching methodology that all practitioners should be using.
3. Practitioners need to be flexible and patient and be willing to try different strategies until they find the ones that are successful for each individual.
4. Learners must feel comfortable in the learning situation. They can become successful learners if they learn strategies that they can apply in many situations.

As I spoke with LBS colleagues in the school board sector, it was evident that those who felt they had good practices in place were well aware of all of the above themes. Small groups and individual attention were commonly cited as important factors leading to the success of their LD programming. The following chart outlines the typical steps that take place when students come to LBS programs. I think that by comparing the steps for working with the LBS learner who may have a learning disability to the learner who does not have a learning disability illustrates the above themes.

<u>Steps</u>	<u>Learner with no LD</u>	<u>Learner with possible LD</u>
Step 1: Intake	<p>Intake process to gather information re background, education, goals.</p> <p>Academic assessment to determine placement within LBS level.</p> <p>Questions to help instructor understand learning style preferences for all learners are often included at intake.</p> <p><a href="#">One school board reports that their general assessment tool includes many questions similar to LD screening. It</a></p>	<p>Intake process to gather information re background, education, goals and possibly learning styles.</p> <p>Academic assessment to determine placement within LBS level. Some inconsistencies may appear at initial intake to suggest learning difficulties may be present. Instructor is given a “heads up” to observe learner more carefully over time.</p> <p>(Sometimes the learner will</p>

	often gives the instructor a “heads-up” as to the possibility of learning difficulties and preferred learning styles.	offer information about a possible LD from school experiences or will have diagnostic testing results.)
Step 2: Placement	Appropriate placement in LBS program	Appropriate placement in LBS program. Most school boards report placement is based on “most convenient” location for the learner rather than a dedicated class for special needs.
Step 3: Training Plan Classroom experience begins	Training Plan development begins. Instructor begins working with learner to give best teaching/learning experience.	Training Plan development begins. Instructor begins working with learner to give best teaching/learning experience.
Step 4	Instructor observes progress being made and makes adjustments as necessary. One board reports that a handbook is distributed to all instructors to help them “understand learning strengths”.	Instructor observes progress and notes difficulties and possible signs that could signal the presence of LD.
Step 5	Learner progresses at appropriate pace for abilities	Instructor notices “barriers to progress that become evident over time”. She arranges or carries out screening for possible LD. (other types of referrals may be necessary also) Diagnostic testing may be an option for some.
Step 6	Learner attempts demonstrations to indicate progress. Training plan goals are re-visited	Instructor explains to learner that he/she may learn in different ways according to results of the screening. Instructor does not use the term “Learning Disability”. If diagnostic testing has been done by qualified professionals, a report is made available.
Step 7	Learning in LBS continues until goals are attained.	Instructor then modifies the teaching/learning environment to meet the needs of student according to his/her strengths. One practitioner reported that

		“a lot of trial and error may be necessary to find the best program. The learner’s training plan may have to be revised or modified more than once.” Training Plan is simpler, broken into smaller blocks.
Step 8		Instructor observes how the learner is responding to the revised strategies and makes adjustments accordingly.
Step 9		The learner may now be ready to attempt some demonstrations that reflect his/her goals. The instructor decides how to modify a demonstration so that the student’s strengths are recognized.
Step 10		Training Plan goals are examined again.

## It Takes Time

As you can see from this simplified process, the timeframe for determining successful strategies and then applying them in the classroom environment with learners who have LD is significantly longer than that for other learners. I have not presumed to put a specific number of weeks or months. That would be impossible. Even if a person arrives with previous diagnostic testing reports, LBS staff has indicated that it may not be applicable to the LBS program. I think that one of the most important comments that I have heard from several LBS practitioners is that there is no quick solution or easy answer when helping LD learners. A learner may appear to be making progress in some areas while experiencing difficulty in others. In fact this inconsistency is something that I will describe in a later section.

## **It Takes Time (continued)**

Time is required to assess needs and implement a program modified to fit learning strengths. It is not uncommon for instructors to try several teaching strategies before they find something that works effectively with a particular learner. There is an added challenge for the school board sector when working with adults who have a learning disability and that is that LBS programming is typically offered in multi-level classroom settings. However, identifying the presence of a learning disability and determining a student's learning preferences must be done on an individual basis since every learner is different. This takes time- more time than would normally be spent with a learner who enters and begins to make timely progress. Once information is received about learning style preferences (usually through the screening process, but sometimes at intake) and appropriate teaching strategies are identified, then a classroom instructor can begin to work successfully with an LD learner by teaching to his/her strengths. The "best practice" solutions are not achieved overnight. The process is time consuming and challenging and we must recognize this and accept that it is necessary for success.

Please note that I have not included details of other types of possible testing or referrals since the focus of this report is learning disabilities. During the screening process other issues may become evident. We understand that adults in the LBS programs have challenging lives in many areas and as educators we must be ready to provide the necessary supports and contacts in our own communities.

Please note: Throughout the report I have used both masculine and feminine pronouns to refer to practitioners and learners. I have also used the terms "students" and "learners" interchangeably.

## Understanding Learning Disabilities

In order to help adults who may have a learning disability, we should be aware of exactly what learning disabilities are and conversely what they are not. At this point I would like to include the current definition of learning disabilities used by The Learning Disabilities Association of Canada. It is found on their website.

### **Official Definition of Learning Disabilities**

Adopted by the Learning Disabilities Association of Canada, January 30, 2002

“Learning Disabilities” refer to a number of disorders which may affect the acquisition, organization, retention, understanding or use of verbal or nonverbal information. These disorders affect learning in individuals who otherwise demonstrate at least average abilities essential for thinking and/or reasoning. As such, learning disabilities are distinct from global intellectual deficiency.

Learning disabilities result from impairments in one or more processes related to perceiving, thinking, remembering or learning. These include, but are not limited to: language processing; phonological processing; visual spatial processing; processing speed; memory and attention; and executive functions (e.g. planning and decision-making).

Learning disabilities range in severity and may interfere with the acquisition and use of one or more of the following:

- oral language (e.g. listening, speaking, understanding);
- reading (e.g. decoding, phonetic knowledge, word recognition, comprehension);
- written language (e.g. spelling and written expression); and
- mathematics (e.g. computation, problem solving).

Learning disabilities may also involve difficulties with organizational skills, social perception, social interaction and perspective taking.

Learning disabilities are lifelong. The way in which they are expressed may vary over an individual’s lifetime, depending on the interaction between the demands of the environment and the individual’s strengths and needs. Learning disabilities are suggested by unexpected academic under-achievement or achievement which is maintained only by unusually high levels of effort and support.

Learning disabilities are due to genetic and/or neurobiological factors or injury that alters brain functioning in a manner, which affects one or more processes, related to learning. These disorders are not due primarily to hearing and/or vision problems, socio-economic factors, cultural or linguistic differences, lack of motivation or ineffective teaching, although these factors may further complicate the challenges faced by individuals with learning disabilities. Learning disabilities may co-exist with various conditions including

attentional, behavioral and emotional disorders, sensory impairments or other medical conditions.

For success, individuals with learning disabilities require early identification and timely specialized assessments and interventions involving home, school, community and workplace settings. The interventions need to be appropriate for each individual's learning disability subtype and, at a minimum, include the provision of:

- specific skill instruction;
- accommodations;
- compensatory strategies; and
- self-advocacy skills

## **A Learning Disability is Different from a Developmental Disability**

Do not confuse a learning disability with a developmental disability. Here is an accepted definition of developmental disability:

It is a severe, chronic disability of a person which:

- is attributable to a mental or physical impairment or combination of mental and physical impairments;
- is likely to continue indefinitely;
- results in substantial functional limitations in three or more of the following area of major life activity:
  - self-care
  - receptive (understanding) and expressive language
  - learning
  - mobility (ability to move)
  - self-direction (motivation)
  - the capacity for independent living
  - economic self-sufficiency
- reflects the person's need for a combination or sequence of special, interdisciplinary, generic services, individual supports, or other forms of assistance which are of a lifelong or extended duration and are individually planned and coordinated.

## **Are Learning Disabilities Related to Differences in the Brain?**

The National Institute of Mental Health (U.S. Department of Health and Human Services) published the following information about LD and the brain:

*In comparing people with and without learning disabilities, scientists have observed certain differences in the structure and functioning of the brain. For example, new research indicates that there may be variations in the brain structure called the planum temporale, a language-related area found in both sides of the brain. In people with*

*dyslexia, the two structures were found to be equal in size. In people who are not dyslexic, however, the left planum temporale was noticeably larger. Some scientists believe reading problems may be related to such differences.*

*With more research, scientists hope to learn precisely how differences in the structures and processes of the brain contribute to learning disabilities, and how these differences might be treated or prevented.*

## **More General Information about Learning Disabilities**

A learning disability (LD) is a hidden handicap unlike blindness or paralysis. It is not possible to tell that someone has a learning disability simply by looking at him or her. It affects people's ability to either interpret what they see and hear or to link information from different parts of the brain. **Learning disabilities cannot be cured and do not go away.** They can affect many parts of a person's life such as school or work, daily routines, family life and even friendships. People with LD *can* learn to adapt and lead full lives. If adults are given the right type of educational experiences, they have a remarkable ability to learn. However, like many other learning situations in life, it becomes more challenging the older we get. It will probably take longer and require more repetitions and it may require more diverse teaching methods than in childhood. But one thing that works in favor of adults is the wealth of life experience they bring to any learning situation. LBS practitioners should maximize those experiences when teaching.

Adults with learning disabilities have average or higher than average intelligence. Their general intelligence is not impaired. They are not slow learners. They just learn differently. They learn at a slower speed and through different methods than most of us. Learning disabilities often first manifest themselves in school because our school system is based on reading, writing, speaking, listening and math and if one has a learning disability in any of these areas, the inability to keep pace will become apparent. It is our responsibility as educators to provide appropriate and effective instruction to all learners in our classes. We must be aware of the variety of learning styles or preferences that exist in all groups of students and then offer learning opportunities for all of those types. All LBS instructors need the breadth and depth of teaching skills to allow them to offer instruction in a variety of methods.

## **Many Different Characteristics of Learning Disabilities**

There is no single cause of learning disabilities and therefore no single set of characteristics that all LD learners have. However it is important for practitioners to recognize the most commonly observed characteristics of learning disabilities so that they can begin to work more successfully with their LD learners. Every person who has a learning disability will exhibit different characteristics. They will also have different learning strengths. Inconsistent patterns are one of the key indicators that experts suggest indicate the presence of a learning disability. LD adults are a challenging group of learners to work with because there is no one program or one intervention that will work for all. Practitioners often try a variety of techniques and approaches before they find one

that is successful with a particular learner. And that technique does not necessarily work with the next LD learner who comes along. There is no “quick fix” for this group. I was hoping that the research would lead to some hidden treasure somewhere that would unlock the secret to successfully working with all adults with learning disabilities but the more I searched the more I realized that practitioners who work with learning disabled adults will have ongoing challenges. That does not mean they will not be successful, but they will have to spend time personalizing material and trying different approaches to find the one that works best.

There *are* recognized teaching strategies and techniques that have been successful with different types of LD and they *can* be used in a group setting. Because we in LBS see such a large percentage of adults who appear to have varying degrees of learning disabilities, it is extremely important that LBS practitioners have knowledge of the accepted techniques for working successfully with this group of learners. These techniques for good teaching along with specific strategies for working with a particular learning style are found in later sections of the report.

An important consideration that practitioners should not lose track of is the importance of assisting students to become independent adults. That also applies to adults who may have learning disabilities. Assisting them to develop their own coping strategies that can be used after they leave the LBS class is perhaps the most important thing that we can offer.

### **I want to learn more...**

The Workforce Development Council for Seattle-King County has a website containing all of their procedures for working with LD adults. It is called the Learning Disabilities Project. I am including the link to the “Understanding Learning Disabilities” at this point. There are a number of excellent articles at the website. At the end of each article are links to the other topics included. The information is useful without too much detail.

<http://www.seakingwdc.org/ld/understand.htm>

## Identifying Adults with Learning Disabilities

<p><b>Previous diagnostic testing</b></p>	<p><b>What We Can Do to Help LD Learners</b></p> <p>It is not uncommon for adults to come to an LBS class without a specific diagnosis of a learning disability. But school board staff also report that many adults do come to the LBS program with the knowledge that they have a learning disability. It was most probably diagnosed when they were in school as children. The information or report that they bring may or may not be relevant to the LBS class. Some of the reports are a number of years old and may not accurately represent the current abilities of the adult and the LBS staff probably is not equipped to “translate” all of the psycho-educational data that the report contains.</p>
<p><b>Take time to know the learner</b></p>	<p>Conversely, even after participating in the intake process, developing a training plan and actually entering a class, there may not be specific evidence of a learning disability. As I wrote earlier, inconsistencies of behavior and performance are often indicators of a learning disability. This will only become known over time. <u>Careful observation of a learner over a period of time is very important.</u> This was made clear to me both in the resources that I reviewed and from discussions with staff in LBS programs. One of the first things that LBS practitioners should have available is a list of some of the characteristics that can be observed that could suggest the possibility of a learning disability. There are a number of these lists available.</p> <p><b>Observable Characteristics of Adults with Learning Disabilities</b></p>
<p><b>Characteristics of Learning Disabilities</b></p>	<p>One of the characteristics of having a learning disability is the inconsistency of performance from one subject to another and from one day to the next. Therefore LBS instructors should be observing the learners in their classes daily and especially watching the adjustment of a new learner to the teaching/learning process. Knowing the signs of possible learning disabilities is a valuable tool for all LBS instructors to have. But it is important not to jump to conclusions about whether or not a learning disability is present. Many of us exhibit any number of the characteristics of potential learning disabilities from time to time. Checklists are handy but should not be considered as an ultimate authority.</p> <p>Below I have included some of the signs that could be observed in an LBS classroom. The presence of some or all of these signs would suggest that there is a possible learning disability and the instructor may decide that it is appropriate to discuss screening with the learner if that option is available. <u>But be aware that conclusions should not be made based on simply observing any or some of these characteristics on one occasion.</u> Experienced LBS staff have said that patience is important and observation over a period of time is necessary.</p>

## **Some Signs of Learning Disabilities**

### Attention

- easily distracted
- can't focus on a task
- impatient

### Hyperactivity

- finds it difficult to sit for long periods of time
- fidgets continually to the annoyance of others

### Hypo activity

- displays an unnatural state of inactivity
- tires easily and accomplishes little

### Reasoning and Processing

- can't recognize mistakes
- tasks take longer
- appears disorganized
- makes impulsive decisions or judgments

### Memory

- can't remember information easily
- has difficulties recalling instructions and following directions

### Oral Communication

- omits or uses words inappropriately
- mispronounces words
- makes grammatical errors
- trouble expressing thoughts concisely

### Listening Difficulties

- has difficulty perceiving slight distinctions in words
- has difficulty understanding abstract concepts
- has difficulty processing large amounts of spoken language

<p><b>Inconsistency of performance is often prevalent with adults with learning disabilities.</b></p>	<p><u>Reading</u></p> <ul style="list-style-type: none"> <li>• trouble reading applications and forms</li> <li>• reverses letters, words and phrases</li> <li>• avoids reading out loud</li> <li>• reads words or syllables backwards</li> <li>• cannot use basic phonics</li> <li>• reads haltingly without comprehension</li> </ul> <p><u>Writing and Spelling</u></p> <ul style="list-style-type: none"> <li>• poor handwriting, spelling</li> <li>• writes letters or numbers upside-down, backwards</li> <li>• cannot remember spelling patterns</li> <li>• spells the same words differently in one document</li> <li>• mixes lower and upper case inappropriately</li> <li>• has difficulty applying grammatical rules</li> <li>• difficulty expressing thoughts</li> <li>• whispers to self while writing</li> </ul> <p><u>Mathematical Calculation and Application</u></p> <ul style="list-style-type: none"> <li>• can't do written calculations</li> <li>• difficulty copying numbers or working in columns</li> <li>• trouble with left/right orientation</li> <li>• reads numbers backwards</li> <li>• cannot follow sequential procedures and problems with multiple steps</li> <li>• Difficulty managing money</li> </ul> <p>Adults who have learning disabilities may exhibit one, two, or all of the above characteristics or different characteristics altogether or different ones at different times. Often an adult with LD will function very well in certain subject areas and then experience a great deal of difficulty with another subject. For example a person may have good verbal skills but have difficulty putting thoughts in writing. This performance inconsistency in academic subjects is also a good indicator that a learning difficulty may be present. It is also an indication that the individual is not just a “slow learner”. Difficulty in all subject areas on an ongoing basis is more likely to indicate a developmental disability.</p> <p>I think that the following checklists of “LD characteristics” are user friendly and I would recommend that practitioners have at least one on hand.</p>
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<p><b>Check lists for LD characteristics</b></p>	<ul style="list-style-type: none"> <li>• <i>If Only I Could Read Write Spell</i>, Tennessee Literacy Resource Centre. It is available as a PDF file to download. The entire file is well worth reading but for this reference I am suggesting that the checklist in the appendix is quite useful. This is a brief check list that was developed as part of an “action research” group of practitioners who met, tried techniques and reported back to each other about what worked well with their literacy students. This link is to the entire file, but the checklist is Appendix 2. <a href="http://slincs.coe.utk.edu/pdf/Read-Write-Spell.pdf">http://slincs.coe.utk.edu/pdf/Read-Write-Spell.pdf</a></li> <li>• <i>The Learning Disabilities Association of Canada</i> has a brief introductory article to learning disabilities and adults including a brief list of characteristics. The link to the article is below: <a href="http://www.ldac-taac.ca/english/indepth/adults/adultld.htm">http://www.ldac-taac.ca/english/indepth/adults/adultld.htm</a></li> <li>• Another excellent list from the <i>Bridges to Practice</i> website is presented as a PDF file for downloading. It is an excellent list of characteristics presented in an educational perspective. The characteristics are described by reading, writing, speaking, listening, math, thinking and “other” difficulties such as relating socially. It is very helpful for the LBS practitioner. Here is the link: <a href="http://www.floridatechnet.org/inservice/bridges/tables.PDF">http://www.floridatechnet.org/inservice/bridges/tables.PDF</a></li> <li>• <i>Learning Disabilities Best Practice and Innovations</i>. A series of bulletins for literacy programs published by the Ontario Literacy Coalition, spring 2001. The list of “Possible Signs” is on page 9. I think that this bulletin is useful for all literacy instructors because it gives an excellent overview of the kinds of issues that need to be addressed. It is not too large to be intimidating for the average LBS instructor.</li> <li>• <i>Learning Differently: A Learning Disabilities Resource Guide</i> by Sheila Marshall for Community Literacy of Ontario, November 2001, page 6. Sheila Marshall includes a list of characteristics that were originally developed for Destination Literacy by the Learning Disabilities Association of Canada.</li> <li>• <i>Target Literacy A Learning Disability Resource Guide</i>. Pat Hatt &amp; Eva Nichols. Learning Disability Association of Ontario.1992. The checklist is called “Some Obvious Signs of Learning Disabilities” and it is found on page 28.</li> </ul>
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<p><b>Screening LBS learners for possible learning disabilities</b></p> <p><b>What can screening accomplish</b></p> <p><b>Screening vs. Diagnostic Testing</b></p>	<p><b>What do we do if we suspect a Learning Disability?</b></p> <p>If an LBS instructor suspects that there is a student in the class with a learning disability, then screening is probably the appropriate step to take. Screening is the process of gathering relevant information about an individual through a variety of methods. It generally includes observation, interviews, self-reporting and the use of a screening tool. This is <i>not</i> the same as diagnostic testing and it does <i>not</i> have to be done by a qualified professional such as a psychologist. Screening will not definitively answer the question “Does this person have a learning disability?” Only diagnostic testing can answer that. Screening will give substantial evidence about the likelihood of a learning disability. And it may then be used as the basis for recommending that diagnostic testing should take place. Screening can usually be done within the framework of the LBS program and it can give valuable information about the individual that will help the instructor provide an appropriate LBS environment. It will also give the instructor the information needed about the person’s preferred learning styles, which will then allow the instructor to modify his/her teaching strategies. The screening process can usually be done in 1-2 hours at no extra cost to the student. It may be all that is required, depending upon the goals of the learner. Diagnostic testing typically takes much longer because a battery of psycho educational standardized tests are administered which are then interpreted by a professional who may charge approximately \$1000 per client.</p> <p>It is important to be clear with the learner who is being screened exactly what he/she can expect from the process. The screening process:</p> <ul style="list-style-type: none"> <li>• should be a non-threatening interview in a quiet place</li> <li>• will ask questions of the learner that will help LBS program staff to develop a learning program that suits his needs</li> <li>• will be confidential</li> <li>• may indicate that a person should be referred for diagnostic testing in some situations</li> <li>• only be done if a learner agrees</li> </ul> <p>It is generally not necessary to screen every learner who comes to the LBS program. Several school board contacts told me that their intake process is a one-on-one interview, which is very similar to an LD screen. This is done particularly where the program is relatively small. There is no question that it is a time consuming procedure, so for many school board programs it makes sense that a screening process would be used only in situations where it appears to be the best step to take for a particular learner. This further indicates how important it is for the LBS instructor to observe the learners in the class on an ongoing basis in order to monitor their progress and to be fully aware of the signs that may show the presence of a learning disability.</p>
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<p><b>Successful Screening procedures used by school boards</b></p> <p><b>Ask the right questions</b></p> <p><b>Gather good information</b></p>	<p>There are several screening tools that are used successfully by school board LBS programs. I have found that they are variations on the same theme. One might appeal more to your staff than another. They each require intensive one-to-one time spent with an individual but they provide valuable information. It is probably the only way that your LBS staff will really get to know the learner and be able to set up a successful LBS learning program for him/her. One LBS contact told me that the more questions that she asks about education and work history, the more helpful it is. She suggested that by structuring the questions carefully, you can learn a lot about learning styles. Much of the written documentation that she has received from previous testing is not that useful to LBS practitioners, especially if they are not psychologists. Therefore she feels that it is more useful to ask the questions herself and encourage the learners to self-identify any difficulties they have experienced.</p> <p>The screening process should gather information in a variety of ways.</p> <p><u>Interview with the student.</u> The purpose of the interview is to gather as much relevant information as possible in the following areas.</p> <ul style="list-style-type: none"> <li>• Family background</li> <li>• Health issues</li> <li>• Education history including subjects that he/she was good at, subjects he/she disliked, special help received</li> <li>• Employment history including types of jobs done and goals for future employment</li> <li>• Reading abilities</li> <li>• Writing and spelling abilities</li> <li>• Mathematical abilities</li> <li>• Memory issues</li> <li>• Strengths and learning style</li> <li>• Compensatory strategies used currently</li> </ul> <p><u>Informal Academic Assessment</u> This assessment would be different from the intake assessment. It would focus on specific tasks that are difficult for individuals with LD.</p> <ul style="list-style-type: none"> <li>• Reading attitudes</li> <li>• Decoding tasks such as letter identification , phonetic patterns, word recognition</li> <li>• Listening comprehension tasks</li> <li>• Reading comprehension tasks</li> <li>• Attitudes towards writing</li> <li>• Writing assessment</li> <li>• Spelling assessment followed by an analysis of spelling errors</li> <li>• Attitudes towards math</li> <li>• Math assessment including everyday math tasks</li> </ul> <p><u>Close observation</u> during the assessment process to look for attention issues and self- esteem.</p>
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<p><b>Recommended Screening Tools</b></p>	<p>I have reviewed the following screening tools. They provide a great deal of information about an individual who is suspected of having a learning disability. Once the information is collected, the results are then shared with the learner and the instructor in the LBS class. It is very important for all staff in an LBS program to maintain the highest degree of confidentiality around any type of records pertaining to their learners. Adults who may have a learning disability are particularly sensitive and should be reassured about the security and confidentiality of any information about them.</p> <p>The one tool that is recommended by school board LBS staff most frequently comes from <i>Destination Literacy</i>. It is also the most thorough. One practitioner told me that her school board has modified a version of the <i>Destination Literacy Screening Tool</i>. It takes between 1-2 hours to complete. But she feels that more helpful information is now transferred to the practitioners so that they get an excellent start in really understanding their learners.</p> <ul style="list-style-type: none"> <li>• <b><i>Destination Literacy: Identifying and Teaching Adults with Learning Disabilities</i></b>. Ottawa: Learning Disabilities Association of Canada 1999.</li> </ul> <p>This screening tool includes guidelines to the interview process, a screening questionnaire, and guidelines for interpreting the information gathered. Also included in the book are Informal Academic Assessments on reading, writing, spelling and math. They are presented within the framework of developing an inventory of the learner’s strengths in order to prepare the best program for him/her. The material is very thorough and provides excellent information if a program has enough time to administer and interpret the results.</p> <ul style="list-style-type: none"> <li>• <b><i>Target Literacy: A Learning Disabilities Resource Guide</i></b> by Pat Hatt and Eva Nichols. Toronto 1992.</li> </ul> <p>The screening information contained in this book is presented as a step by step interview process, although not in questionnaire format. Your program would have to design its own forms following the interview questions. There are spelling lists and some reading selections to choose from.</p> <ul style="list-style-type: none"> <li>• <b><i>Learning Differently, Students with Learning Disabilities</i></b> by Helen Woodrow and Frances Ennis. Educational Planning and Design Associates, St. John’s Newfoundland.</li> </ul> <p>This book contains “useful questions” for the screening interview. Again the LBS program would design their own questionnaire based on the questions, which are very thorough.</p>
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<p><b>A case for Diagnostic Testing</b></p> <p><b>A variety of tests are used</b></p> <p><b>How to make the test results useful</b></p>	<p><b>Diagnostic Testing, a Best Practice Example</b></p> <p>One school board manger reported a unique diagnostic testing process in operation that may offer some new ideas for other boards to consider. Not every LBS learner is recommended for diagnostic testing. They are careful to observe initially to make sure that the person who may be having difficulties is not simply a “slow learner”. The board has established critical links with other literacy servers in the community. They have “banded together and obtained funding to employ psychologists and various psycho educational workers to identify LBS learners with LD and to provide specific information about how people learn.” The manager felt that it was important for learners to understand their own strengths and what techniques work best for them. They are then able to explain this to families, teachers or workplace contacts.</p> <p>Even if there is a report that was done when the learner was in school, there could be significant changes in the nature of the learning problem so new tests could be very helpful. She stresses that if you are investigating the possibility of diagnostic testing you should make sure that a broad range of tests are going to be administered. These include an IQ test, a Reading Comprehension test, a reading test, a listening comprehension test, a writing test, memory test, achievement test, decoding tests, mathematics tests and possibly an ADHD test. This in-depth testing often takes about 8 hours. It is also crucial that the learner understands the results of the tests, so that he/she can explain them to the LBS practitioner. So it is important to establish the parameters of the debriefing process. If possible it would be helpful to include an LBS staff person in the discussion of the report with the learner but this isn’t always possible.</p> <p>One recommendation was to make sure some specific areas are included in the report so that it is useful for LBS. These areas are:</p> <ul style="list-style-type: none"> <li>• Areas of strength</li> <li>• Areas for improvement</li> <li>• Recommendations for reading, writing and mathematics</li> </ul> <p>In another school board interview, where a diagnostic testing process was in place, I was told that each learner received a report that included good teaching techniques to use as well as a personal learning plan. This however is not the norm, so you should be prepared to request it when arranging for diagnostic testing and reporting.</p>
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<p><b>Self screening as a tool for the learner</b></p>	<p><b>Self Screening by the Learner</b></p> <p>Some of the research suggests that self-screening can be a valuable process for the learner to experience. I have found several examples of “self screening” that I think are worthwhile for an LBS environment. People know a great deal about themselves but often a person with a learning disability cannot express himself clearly enough to help an instructor understand how to help his learning. These learning inventories are not difficult to administer and in fact may be useful for all LBS learners if the general intake assessment doesn’t gather some kind of learning preferences information. A number of school boards routinely use a “learning preferences” checklist. Some boards report using learning style checklists in their initial intake. One popular learning preferences checklist is from CABS, developed by Literacy Link of Eastern Ontario. The information gathered in this type of questionnaire is worthwhile for instructors to have so that they can tailor their teaching to their learners’ needs regardless of whether or not a learning disability is present.</p> <p>Here are some suggestions for self screening tools:</p> <p><i>Analyzing my Learning Strengths and Struggles. Keys to Effective LD Teaching Practice funded by Tennessee Department of Human Services. Produced by the Knoxville Centre for Literacy Studies, University of Tennessee.</i></p>
<p><b>Learning Style Checklists for Learners</b></p>	<p>This checklist is part of a larger document that is available as a PDF file and can be downloaded from the National Institute for Literacy, Southern LINC site. It is 7 pages of questions asking students to answer many of the same questions that a screening interview would ask. The topics are on strengths/abilities, health factors, reading, writing, spelling, math, attention, organization and social characteristics. It is presented in a user friendly manner with large font and lots of white space so it should not be too challenging for learners to work on it unassisted. Below is the link to the checklist. It can be found in <b>Appendix 2</b> of the PDF file.</p> <p><a href="http://cls.coe.utk.edu/pdf/LD_Teaching_Practices.pdf">http://cls.coe.utk.edu/pdf/LD_Teaching_Practices.pdf</a></p> <p><i>Learning Styles Checklist and Multiple Intelligences, Northwest Territories Literacy Council.</i> I found that this website had some very user friendly checklists for learning styles and multiple intelligences. They are suitable for some good information gathering about learners in any LBS classroom and not specifically for adults who may have learning disabilities. Here is the link to the home page. Go to the adult literacy section for their information about learning styles and multiple intelligences.</p> <p><a href="http://www.nwt.literacy.ca/">http://www.nwt.literacy.ca/</a></p>

During the school board interviews, 2 other self screens were recommended which are probably already in most LBS programs.

*“Way to Go” Bulletin 4. Ontario Literacy Coalition, June 2001.* The self screen is only 1 page, and instructors can quickly use it with all learners. I [have included it as Appendix 1](#). Several people in the best practice interviews suggested this self screen.

*Common Assessment of Basic Skills, “CABS” from Literacy Link Eastern Ontario (LLEO).* A number of school board practitioners have reported using the “learning styles” checklist from this resource. It is a self screen for learners although not specifically developed for LD

### **Screening Information Enhances Understanding of Learning Disabilities**

Once a screening process has taken place, the LBS program should have a great deal of information about how a person learns and where his strengths and difficulties lie. A good screening tool will help the learner and staff in the LBS program understand what kind of learning differences may be present. Although the results of the screening tool will not give a “learning disability” diagnosis, it is helpful for us in LBS programs to understand what the most common type of learning disabilities are.

The following article was used by Pat Hatt in the Learning Disabilities Literacy Project. It is available on the Internet at the Learning Disabilities Association of Ontario Site. I have included it here because I feel that it is important to have a good understanding of learning disabilities in order to be able to help the adults in LBS classes who exhibit these problems.

### **A Listing of Learning Disability Groupings**

From An Introduction to LEAP and Learning Disabilities, 1999, L.D.A. of Ontario

Most learning disabilities relate to language usage and language processing. Research indicates that over 80% of persons with learning disabilities have language processing difficulties. In many cases, learning disabilities result in people not understanding and/or remembering the written or unwritten rules or patterns that govern the things that we do. These may range from the rules of reading, spelling or grammar to the rules of social behaviour and the way we do our jobs. Often such rules are not taught to people in a direct manner. It is assumed that having seen or heard something once, they will know how to apply the rules or systems in another somewhat similar situation, that is, how to generalize from a specific situation or how to apply some general skills in a series of specific situations. Persons with a learning disability can learn these things provided they receive direct instruction, have the opportunity to practice the skills and can apply any needed accommodations or coping strategies.

## Visual problems

These problems relate to information received through the eyes. However they are not the usual problems of the eyes, such as shortsightedness which are correctable with glasses:

- **Impaired visual perception** leads to difficulties in seeing the difference between similar things, such as similarly shaped objects, including letters, such as b and d.
- **Poor visual memory** results in people not remembering things that they have seen often before. This can include things such as people's faces, words, their own name in written form, and the street corner at which they need to turn to get home.
- **Figure-ground discrimination** problems are a particularly complex form of a visual perception problem. A person who has this kind of learning disability is unable to identify a specific thing when it is surrounded by similar things. For example, the person does not see the traffic light or the stop sign on a busy street. It can also include many things related to reading or writing. For example, not being able to find the place to write one's name on an application form can be extremely aggravating for someone trying to apply for a job.
- **Reversal of letters, words and numbers** is the most commonly recognized sign of a learning disability. People who experience reversals tell us that it is extremely frustrating, because it doesn't happen always. Sometimes 41 will appear as 14 and sometimes not. They have no consistent way of knowing which is correct. As a result they can only deal with written material, and especially numbers, extremely slowly and carefully, constantly checking themselves for accuracy.
- **Visual tracking problems** affect a person's ability to follow the lines on a page. People who have this disability explain that the words move around or slip off the edge of the page.

## **Auditory problems**

Auditory problems relate to information received through the ears. While the person who has auditory learning disabilities may appear hearing impaired, the difficulties do not relate to the volume of the sounds which the individual is attempting to hear. In other words, shouting at the person with auditory learning disabilities will not help. If anything, it may make the problems worse, due to the distortion of shouting.

- **Impaired auditory perception** means that the person will not hear everything said or hears it incorrectly. For example, they may have difficulty with syllables that are not accented- seven and seventy may sound the same. Similarly, they cannot distinguish between words that sound somewhat alike- for example, how and who.
- **Poor auditory memory** results in a person having difficulty remembering what has been said. Short term and/or long term memory may be affected, they may remember things said in the past, but not recall their own words from just a moment ago. Or they may have no long term memory for things they have heard.
- **Poor auditory sequencing skills** interfere with a person's ability to follow instructions. This is an extreme form of poor auditory memory. It can cause significant difficulties on the job or in social situations.
- **Poor listening skills** mean that the person has difficulty selecting the sounds to listen to. He may hear a confusing jumble of unsorted sounds, rather like having the television, radio and vacuum cleaner all running at the same time.

Children acquire listening skills at a very early age, and the skills of selective listening, (knowing what to focus on and what to tune out) are reinforced as they mature. A person with poor listening skills may appear uncaring or uninterested, rather than just confused.

## **Speech problems**

These problems are considered a learning disability, when the difficulty lies with the words used, the sentence structure, the style. Difficulties with pronouncing specific words are not usually included. Yet, people who have this kind of learning disability may consistently mispronounce common words, saying "bisghetti" for spaghetti or "hopsital" for hospital.

They may also mix up their sentences, such as saying "start and restop" instead of "stop and restart". Many will consciously choose simple words when they are speaking although they understand and can write correctly more suitable and complex words. The reason for these difficulties may relate to any of the auditory difficulties described above.

## **Motor problems**

Motor problems relate to the body's neuro-muscular or sensorimotor or sensory integrative functioning. The individual who has these difficulties is not in any way physically impaired, but may appear clumsy and uncoordinated.

- **Eye-hand coordination difficulties** will show up in difficulties with handwriting and activities, such as using certain tools. It is interesting to note that 11% of the general population is left-handed and therefore may have difficulties with using the tools of an essentially right handed world. On the other hand, left-handedness occurs twice as often (approximately 25%) among those who have learning disabilities.
- **Small muscle control difficulties** may result in awkwardness such as misjudging where to place things.
- **Large muscle control difficulties** will show up in clumsiness, awkwardness, difficulties with certain physical activities such as dancing and sports.

## **Organizational problems**

These problems relate to an individual's ability to manage time, space, certain functions and generally ordering the necessary tasks of daily living.

- Difficulties with managing time results in not meeting deadlines and having a poor or virtually no sense of elapsed time. Such people may be late or very early for appointments. This may be because they do not know how much time to allocate for tasks.
- Difficulties with organizing tasks results in not understanding the logical sequence of steps required to carry out a specific task. These may be simple things such as getting dressed, or cooking a meal such that the meat, vegetable and potatoes are all cooked at the same time. Or they may be complex tasks such as planning a party or a move or dealing with the demands of the workplace.
- Difficulties with organizing space such as a closet, desk or the kitchen cabinets results in the individual living and functioning in a state of disorder and never being able to find things quickly and efficiently.
- The skills of what are called executive functions are often impaired in people who have organizational learning disabilities. These skills are needed to plan, manage and evaluate things in everyday life as well as in the work place.

## **Conceptual problems**

Conceptual problems relate to people's ability to understand abstract ideas, consequences and many other important functions in their daily lives which are not usually taught directly but are acquired incidentally. Common signs include:

- Difficulty in judging nonverbal language such as facial expressions or body language.
- Difficulty in understanding figures of speech such as idioms, metaphors or similes. For example, a person with this difficulty might take an expression like "It's raining cats and dogs" absolutely literally, and expect to see animals falling from the sky.
- Difficulty in anticipating the future or predicting consequences. The individual may do something without considering its consequences for others. This kind of difficulty leads some people with learning disabilities into trouble with the law. In fact, two out of three offenders manifest some form of a learning disorder, usually a specific learning disability. However, this does not mean that most of the people with learning disabilities are at risk for criminal behaviour.
- Predisposition to rigid thinking or functioning, where a person may be unable to see that flexibility is required to deal with a situation. Or even if recognizing the need, is unable to practice flexibility.
- Poor social skills and social relationships may result from conceptual learning disabilities. Some examples are: lacking the "social graces", not maintaining eye contact during a conversation, standing too close to another person, using an inappropriate tone of voice or language. Good social skills are very important for success in employment as well as in daily life situations.

It is important that we do not fall into the trap of assuming that everyone who has poor social skills or who is rude has a learning disability. Similarly, we should never excuse inappropriate behaviour saying that this person probably has a learning disability.

<p><b>A Handy Reference Guide for Practitioners</b></p>	<p><b>Non-verbal learning disabilities</b></p> <p>Nonverbal learning disabilities have only been recognized in the last few years. People who have these difficulties often have excellent verbal skills, but have problems with visual-spatial and certain conceptual tasks. These tend to result in problems with mathematics. Others have social skill difficulties.</p> <p><b>Attention deficit hyperactivity disorder</b></p> <p>While Attention Deficit Hyperactivity Disorder (ADHD) is not a learning disability in itself, this condition is very common among people with other learning disabilities. In fact, over 75% of those who have attention deficit disorder have accompanying learning disabilities and about 30% of those who have learning disabilities have an accompanying attention deficit disorder.</p> <p>ADHD is a syndrome which is characterized by serious and persistent difficulties in at least two of the following specific areas:</p> <ul style="list-style-type: none"> <li>• Attention span</li> <li>• Impulse control</li> <li>• Hyperactive behaviour</li> </ul> <p>Some people who have attention deficit hyperactivity disorder use medication to assist them with paying attention. The medication, most commonly Ritalin, does not directly affect the learning disability. However, by improving the person's ability to pay attention, he or she can cope with the learning disability more effectively.</p> <p>© Learning Disabilities Association of Ontario  <b>Learning and Employment Assessment Profile (LEAP)</b></p>
	<p>The purpose for including the above article is to help our understanding of people who have learning disabilities. Better understanding of our learners will help us become better instructors. Remember our goal is not to attach a label to someone. <b>In fact, it is vital that we do not tell anyone that they have a learning disability based on screening results.</b> Our responsibility is to explain to a learner that he/ she may learn differently and that we will try to help him/her work on techniques that will help him. We should explain that we will help him use his learning strengths in order to compensate for his difficulties.</p> <p>In 2000 Pat Hatt wrote <i>Special Needs Assessment Procedures</i> with funding from MTCU and the NLS. I am including the link to the pages concerning adults with learning disabilities. It is a short guide for practitioners who do not have a lot of time but would appreciate some guidance when dealing with adults who may have LD. It is very user-friendly and only 4 pages if you want to print it.</p> <p><a href="http://gear.torque.net/~bpd/dev/snap/learning.htm">http://gear.torque.net/~bpd/dev/snap/learning.htm</a></p>

## In the Classroom

### Teaching Techniques and Accommodation

Research stresses that good teaching methods applied in the correct circumstances will help students with learning differences to succeed. The teaching methods that are recommended for particular learning needs are also good teaching methods for all types of learners. By varying teaching techniques, the instructor can help “all of the people some of the time”. But by being aware of the learning needs of specific learners and by matching the best teaching strategies to those needs, there is a greater chance of success for learners with LD who may only learn successfully when their learning *strengths* are used. In fact, lack of flexibility in learning style is a characteristic of people who have learning disabilities. This doesn’t mean that the instructor has to learn “extra” or “different” approaches. Most students with LD can improve after minor adjustments or modifications to teaching are put into place. Those “good” strategies that I will cover in this section are good for all learners in the class.

### Classroom Considerations

We should keep in mind also that within the school board sector we *will* be working in a classroom environment. The size of the class will vary from one board to the next. In many boards there are not designated classes only for people who have learning disabilities. However, from conversations with LBS staff in the school boards it is evident that certain special arrangements often exist. In interviews with school board staff who feel that they are working successfully with their LD learners, the class size typically is kept under 10 learners. However, even with that number of people in the group there will be all types of learning preferences present. People who have learning disabilities are a heterogeneous group, meaning they have different disabilities and exhibit different characteristics. They cannot all be treated in the same way. The school board practitioner must vary his/her teaching strategies routinely so that everyone’s needs are met. Assisting special needs learners without ignoring the rest of the class is an ongoing responsibility and challenge of the classroom practitioner. Some school board practitioners have reported success when they can combine a small group of learners who have similar learning styles. Flexibility on the part of the instructor is essential according to numerous interviews and tailoring the material according to individual needs is very common.

Initially, I feel it is helpful to look at a list of good teaching practices. Then we can address strategies to use for specific types of learning disabilities

## Good Classroom Teaching for All Kinds of Learners

The following list is adapted from two sources:

1. An excellent website called “*hello friend*”. (<http://www.hellofriend.org>) is the website of the Ennis William Cosby Foundation. Ennis Cosby, the son of Bill Cosby, was an educator with learning disabilities himself. He was killed several years ago and this foundation, in his memory, is devoted to helping people with learning disabilities. This information is part of the excellent material found in the “teaching” section of the site
2. The list that was developed by the LBS managers during the Learning Disabilities Project discussion groups at the LBS Day in December 2002. These good teaching techniques are currently in use in many school board LBS programs.

### A) Establish a classroom that promotes learning

- All students can become capable and improve in an area of weakness
- There are many different ways to learn
- It is not how quickly but how well you learn
- Mistakes are okay
- Good students learn how to learn
- Encourage learners to communicate their needs through a learning journal and self advocacy
- Permit movement around the classroom

### B) Send a clear message

- Establish eye contact
- Speak clearly
- Reduce background noise
- Use multisensory supporting material
- Give copies of material that is on the board or on overheads.
- Use large fonts and lots of white space
- Understand that remembering and following directions is difficult for some
- Give sufficient time for students to process, be willing to repeat

### C) Teach for Understanding

- Let students know why you are teaching something
- Organize what you are teaching
- Help students see rules, structure and patterns
- Establish connections by using linguistic markers such as “in conclusion”, “there are three main things...”
- Use real life examples, practical applications and personal experiences
- Explain and practice difficult material in meaningful chunks
- Provide frequent opportunities to review, and summarize
- Reinforce understanding by applying skills to new or related contexts.

D) Use Multi-sensory Teaching Techniques

- Use more than one modality, encourage active involvement
- Materials should be clear, focused and well organized so that students understand their purpose
- Use visual techniques for students who learn better with material that they can see
- Verbalize and give learners opportunities to hear themselves and each other in order to address the needs of those who learn by hearing. Teach note taking skills and active listening.
- For those who learn by doing offer role-play, demonstrations, physical models of concepts.
- Help students understand that there are different ways of learning and help them to recognize which are most effective for themselves
- Use a computer for writing to help those who have difficulty with print

E) Provide Clear Structure

- Use visual organizers
- Provide a written lesson plan or guideline
- Connect daily lessons to short and long term goals
- Give assignments orally and in written form
- Establish consistent routines

F) Provide Meaningful Feedback

- Recognize that individual needs require different amounts of practice
- Give frequent feedback
- Help learners understand the strengths and weaknesses of their work
- Teach students self-evaluation
- Keep student work in an organized file so that progress can be seen

G) Teach Skills that are Embedded in the Material

- Don't make assumptions about what learners know
- Teach how to use memory strategies
- Teach students how to be organized
- Teach essential skills to make them as automatic as possible

H) Offer Alternatives

- Allow different types of assignments and tests
- De-emphasize the role of speed of performance
- Allow students to move to a quiet area to work if it is helpful to their needs

I) Involvement and Respect Students as Partners in Learning

- Involve students in creating a respectful classroom atmosphere
- Give learners opportunities to question, explain, clarify
- Encourage students to connect what they are learning to their daily lives
- Teach learners how to set realistic goals
- Individualize assessment

J) Intervene Effectively with the Learner who is Experiencing Difficulty

- Develop techniques to monitor students' understanding as material is presented
- If a learner doesn't do his/her work, take active steps to understand the reasons
- Break material into smaller chunks
- Provide opportunities to succeed

## **Direct Instruction**

The term "direct instruction" has appeared in several resources that I have reviewed. The following model was adapted from *Instruction: A Models Approach* (Gunter, Estes & Schwaab, 1995).

### **Provide Objectives, Establish Expectation, and Introduce the Skill**

- A. Activate background knowledge
- B. Involve all students
- C. Relate to real life
- D. Label the learning and set goals

### **Instruction: Introduce and Model the Skill**

- A. Teacher does it. (students use eyes and ears)
- B. Teacher does it; students help. (students use eyes, ears, and voices)
- C. Students do it; teacher helps. (students use eyes, ears, voices and pencils)
- D. Students do it; (students use pencils)

### **Guided Practice with Feedback**

Students have the opportunity to practice their new skills under the teacher's supervision. This is a good opportunity for peer tutoring or cooperative learning, especially in the context of word problems.

### **Closure**

- A. Tell me what you have learned.
- B. Show me what you have learned
- C. Do one more.

### **Independent Practice and Generalization**

- A. Have the students practice new skill independently
- B. Have students review skill daily
- C. Be sure to apply this skill to home and work

Even though the LD learners may have different learning strengths, they will benefit from this direct approach to instruction because it helps them to process information using different senses. Mutisensory approaches to teaching are widely recognized as the best way to succeed with people who are having difficulty learning.

## Clarifying Terms

Making adjustments in order to facilitate learning is the underlying theme when working with LD adults. The terms “accommodations”, “adaptations” and “modifications” are often used. It is important to know what each term means in this context and to use them consistently

Accommodations enable the learner. In some situations they are mandated by law if the person has had an official diagnosis of LD. Adaptations may be the same as accommodations but if there has been no official LD diagnosis they are not required. In the case where we have an LBS learner who has been screened and has exhibited many characteristics of LD, they may be very helpful to the learning process.

## Making Accommodations or Adaptations in the LBS Class

The list that I have provided here is adapted from two main sources however variations of these accommodations can be found in most learning disabilities teaching references. They are presented according to the type of learning difficulty a person may exhibit. The accommodation can help that type of learner succeed in the classroom.

1. *Keys to Effective LD Teaching Practice. University of Tennessee Literacy Centre.* Downloadable as a PDF file from Southern LINCS Learning Disabilities Special Collection. The link to this resource is found at the end of this section.
2. *LBS Managers' Discussion Groups; Focus on Learning Disabilities Initiatives on December 4, 2002*

### Auditory Processing Difficulties: Accommodations or Adaptations

- Offer an optional quiet space to work for those who need it
- Reduce background noise, perhaps headphones could be a filter
- Break a lesson into manageable chunks
- Use a chalkboard or chart paper
- Use visual supports
- Provide printed outlines of lessons
- Use a tape recorder so the learner can listen again, stopping when necessary
- Use computers with voice synthesizers
- Encourage reading aloud or planning with a partner
- Extended time for completing a task

### Visual Processing Difficulties: Accommodations or Adaptations

- Reduce visual distractions
- Provide oral instructions
- Write on alternate lines
- Use colored overlay plastic sheets on top of printed material (yellow or light blue works well)
- Use colored pens to highlight and underline
- Using large print and lots of white space
- Use a ruler or blank sheet of paper to help learner identify what line he is working on
- Limit the amount of copying
- Work with a partner who will read material
- Use computers with magnification hardware
- Using legal pads turned on the side to give columns for math
- Allow extended time for completing a task
- Use organizational aids such as day planners, color-coded material
- Use assistive technology such as calculators, books on tape, spell checkers, text readers, software for speech recognition

Attention Deficit Disorders are not precisely learning disabilities but are often grouped with them. I found a good list of accommodations at the ADD/ADHD Learning Resource Website. The link to the “Behavior Prescriptions” is <http://www.iser.com/ECS-faq.html>

Instructors may find it useful since it is a short chart that is to easy follow. Here is an example:

<b>When you see this behavior...</b>	<b>Try this accommodation</b>
Difficulty following through on instructions from others.	Break up task into workable and obtainable steps Provide examples and specific steps to accomplish task.

Another resource that I believe has a clear and concise approach to teaching strategies is *Learning Differently: A Learning Disabilities Resource Guide for Tutors and Staff*. Sheila Marshall, Community Literacy of Ontario, November 2001. The book is available from the Community Literacy of Ontario Office. Sheila participated in the Practitioner Training for Successful Acquisition of Literacy Skills for Adults with Learning Disabilities project. Several school board representatives were also part of this initiative.

Modification means you have changed what is to be learned to make it simpler. Critical skills may be missing. The learning outcome is not the same as a full program. This is **not** necessary for someone with a learning disability.

Knowing when to apply the correct teaching technique to the appropriate learning style is the key to helping the adults in the LBS program who have learning disabilities. A

standardized program or “learning disabilities program” is not recommended by any of the resources that I have researched. The resource book that has been recommended frequently by those who feel that they are working successfully with their LD learners is *Destination Literacy* from the Learning Disabilities Association of Canada. I have already suggested that it has an excellent screening tool. I have found another resource to be excellent as well. It is called *Keys to Effective LD Teaching Practice* which I sited in the previous section for the learner self-checklist. Like *Destination Literacy*, it is very in-depth and may be considered by some to be too detailed for an LBS instructor who is managing a multi-level class with many different kinds of students, both LD and non LD. In this report I feel it is useful to include some of the material about appropriate teaching strategies from both of these references. You can then make an informed decision as to whether they are the correct resource for your situation.

### **More Examples of Good LBS Practices in School Board Classes**

During phone interviews a number of examples of good teaching practice emerged that assist learners who may have LD. They combine a number of special services including dedicated LD classrooms, special assessment and diagnostic testing opportunities provided by other community agencies or specialized staff and individual instruction opportunities for limited time periods each week.

One instructor told me that the first step when working with LD students is to make them feel comfortable. She found that learners responded well when they used the computer for writing. This was in part due to the fact that most had not had much experience using a computer. It didn't have any negative connotation for them and they had not experienced failure previously on a computer.

Another recommendation was to increase the individualized assistance provided by the practitioner or through peer tutoring or classroom volunteers. It was stressed that many opportunities to practice a new skill and more structured learning situations were important.

In another conversation, an instructor said that she always used the same color paper when giving assignments that were going to be handed in. The color key of blue for example then reminded learners with organizational difficulty that they had an assignment to complete.

One practitioner explained that once you know what difficulties are present and you have found common strengths, you can form small groups who can work together. This is very helpful for situations where the instructor has too large a group to help everyone individually.

Most practitioners re-enforced the fact that they adapted existing materials in order to meet the needs of their LD students. They did not have specially purchased “LD material”.

One practitioner reported that when working with learners who had visual processing difficulties, she found they often had more success with a phonetic approach to learning basic reading skills. (I have included more information about teaching reading skills in a separate section.) The practitioner also said learners were encouraged to read aloud even when working on math. These learners usually worked in an area where they didn't disturb others.

Another good suggestion for assisting learners to be successful outside of the classroom was to encourage them to pick their own "editors for life". Teach learners that it is not cheating to have supports in real life.

### **I want to learn more...**

Here is the link to *Keys to Effective LD Teaching Practice* for those who may wish to read further:

[http://cls.coe.utk.edu/pdf/LD\\_Teaching\\_Practices.pdf](http://cls.coe.utk.edu/pdf/LD_Teaching_Practices.pdf)

Another link that I think is helpful is at the National Institute for Literacy Site. This article is called *Techniques: Working with Adults with learning Disabilities*. It is basically as list of good techniques under the following headings:

- Goal setting
- Introducing instruction
- Effective teaching
- Fostering self esteem

The material is in the public domain and reproducible.

<http://www.nifl.gov/nifl/ld/archive/techniqu.htm>

I have already mentioned the *Bridges to Practice* initiative in some of my previous links and suggestions. But there are so many good resources that evolved from it that I want to suggest it again. This link is to the state of Florida's web based training for literacy instructors dealing with adults with learning disabilities. It is presented in a clear straightforward way and contains many useful printable lists for intake and classroom staff. Any of your literacy staff that is willing to take the time to go to this sight will find it time well spent I'm sure.

<http://www.floridatechnet.org/in-service/bridges/orient.html>

The following site is entitled *Learning Disabilities Adaptations and Accommodations Guide*. It was created by the Virginia Adult Learning Resource Center, Virginia Commonwealth University. The link will take you to the title page where you choose the *Table of Contents*. You will see a number of instructional strategies and checklists. They are all very clearly laid out and are designed to help a practitioner choose the most appropriate accommodation or teaching technique suited to the particular learning disability of the student.

<http://www.aelweb.vcu.edu/publications/LDGuide/index.htm>

## Teaching Reading Skills

When beginning to help learners improve their reading skills, it is important to know exactly what area of reading is causing them problems. I found a helpful chart that I have reprinted below. It is from *Keys to Effective LD Teaching Practice University of Tennessee, Knoxville Centre for Literacy Studies*. I have referred to this resource already but I am including the link again. It is a downloadable PDF file, however it is a large volume and I know that not all LBS instructors will have the time to study the entire document. Instead I have chosen to highlight the best, most classroom friendly sections for people who want just the basics.

<b>Finding the problem</b>	<b>Teaching strategy</b>
Can she decode the words?	If not, she probably needs an intensive decoding and syllabication program.
Is she decoding words slowly, but failing to read fluently enough to grasp the meaning?	If she decodes slowly and has much better listening comprehension than reading comprehension, she may need intensive work with measures that improve fluency. She may benefit from intensive instruction and practice with all cueing systems (syntactic and semantic as well as grapho- phonic) so she can better monitor the accuracy of what she is reading.
Does she decode well and read with some fluency, yet have poor memory or understanding of what she reads?	If so, she may need: <ul style="list-style-type: none"> <li>• Assistance in learning to visualize what she is reading</li> <li>• A method of relating what she's reading to her prior knowledge</li> <li>• A learning strategy to help her remember steps in comprehension strategies</li> <li>• A graphic organizer for understanding how the pieces fit together into the whole</li> </ul>

Here is the link to the chart above. It can be found on page 66.

[http://cls.coe.utk.edu/pdf/LD\\_Teaching\\_Practices.pdf](http://cls.coe.utk.edu/pdf/LD_Teaching_Practices.pdf)

## Multi-sensory Reading Techniques

Teaching reading skills through multisensory techniques is generally considered the best way to assist a variety of learners who may be in any given class. I have found some excellent examples of using multisensory techniques to teach a variety of reading skills.

In answer to the first section of the above chart, here is a suggestion for helping with decoding. One well known technique that has been employed in a number of American school systems has been very successful. It is known as the Orton Gillingham technique or Wilson Reading System. Both systems endorse a multisensory one- on-one approach with dyslexic children. It was adapted for a classroom by Beth Slingerland. Teachers who use this method obtained certification through intensive workshops. The system stresses phonemic awareness through a multisensory approach. Color coded cards are used for each phoneme to gain automaticity. It is highly structured, explicit and direct. These are basic principles for LD appropriate instruction according to *Bridges to Practice*. Reading (decoding) and spelling (encoding) are taught together. Blending sounds for reading and pulling apart sounds to separate them for spelling are done through a hands-on approach with the teacher and the learner. Action Research groups in the United States, working with adults in literacy classes found that significant modifications were required in order to be successful with this type of system. The very nature of the adult literacy class-open entry, multi-level, and inconsistent attendance- was often at odds with this highly structured approach. I found an excellent article by Gladys Geertz, who has further adapted these techniques for adults who are reading at very low levels and who may have learning disabilities. This article is published in an online bulletin from Harvard University's Faculty of Education Department called *Focus on Basics*. (<http://ncsall.gse.harvard.edu/fob/2001/geertz.html>)

A typical reading lesson would include the following components according to Geertz:

- Using oral language skills
- Learning a sound-symbol relationship, and using cards to review the relationship
- Decoding
- Vocabulary enrichment
- Phrase reading
- Structured reading
- Story reading using comprehension skills.

A complete lesson plan is provided in the article.

Reading comprehension skills can also be taught using a multisensory approach. Once again I would like to refer you to the *Keys to Effective LD Teaching Practice* file. The section on Reading Comprehension beginning on page 66 includes several different suggestions including mapping in group settings to be used as a pre-reading activity. Another comprehension strategy is called KWL. It guides a learner through specific steps that he can use. The letters stand for: what I already **K**now, what I **W**ant to know and what I **L**earned from the reading.

Below are some other examples of reading skills that can be taught through multisensory approaches.

Reading Skill	Sample of Activity	Learning Style Targeted
Decoding sounds	<ul style="list-style-type: none"> <li>Practice reading words beginning with same sound</li> </ul>	Auditory learning
	<ul style="list-style-type: none"> <li>Use a colored marker to highlight the initial sound</li> </ul>	Visual learning
	<ul style="list-style-type: none"> <li>Teach learners to associate vowel sounds with a visual image (u, umbrella)</li> </ul>	Visual learning
	<ul style="list-style-type: none"> <li>Teach sound families</li> <li>Make up a memory aid</li> </ul>	Auditory learning
Developing sight vocabulary	<ul style="list-style-type: none"> <li>Teach learner to look for small words inside larger words. (moth in mother)</li> <li>Have learner keep a small personal “dictionary” in a notebook with his own important words. Stick figure drawings can help give a visual clue.</li> </ul>	Visual learning
	<ul style="list-style-type: none"> <li>Present words in related groups. For example: develop a poster <u>with learners</u> of “emotion” words. Make it visible in the classroom.</li> </ul>	Auditory learning
Practicing function words such as <i>the, from</i>	<ul style="list-style-type: none"> <li>Develop a language experience story using the learner’s words and have him circle the function words in the story</li> </ul>	Visual learning
	<ul style="list-style-type: none"> <li>Trace the function words with plastic overlay, or use felt letters to trace</li> </ul>	Kinesthetic learning
Teaching Structure- prefixes and suffixes	<ul style="list-style-type: none"> <li>Make a list of common prefixes and suffixes and their meanings for learner.</li> <li>Isolate the affix by boxing or highlighting</li> </ul>	Short term memory aid  Visual learning  Visual learning

	<ul style="list-style-type: none"> <li>Practice adding prefixes to words to show how meaning changes (<i>do, undo</i>)</li> </ul>	Auditory learning
	<ul style="list-style-type: none"> <li>Practice adding different suffixes to root word swim, swimming, swimmer, then read aloud</li> </ul>	Auditory learning
Using Context Clues (or cueing strategies)	<ul style="list-style-type: none"> <li>Teach students to:</li> <li>Use background knowledge about the material</li> <li>Look for picture clues to help predicting</li> <li>Look for meaning by understanding the context of the story</li> <li>Think about structure/grammar in order to choose a word that makes sense.</li> <li>Look for sound/symbol correspondence to support a guess at the word</li> </ul>	
Comprehension	<ul style="list-style-type: none"> <li>Pre-reading activities should help learner prepare for major themes. Encourage prediction.</li> </ul>	Auditory learning
	<ul style="list-style-type: none"> <li>Use a graphic organizer.</li> <li>The visual display provided by a graphic organizer helps learning.</li> </ul>	Visual learning
	<ul style="list-style-type: none"> <li>Read passage in chunks. Ask student to confirm what he has read then predict what is going to happen next.</li> </ul>	Memory aid for ADHD

### **I want to learn more...**

If an instructor is looking for a specific approach to teaching reading comprehension, a step-by-step lesson plan for using the method called Collaborative Strategic Reading can be found at the website called Learning Disabilities OnLine. This method is good for groups or classroom teaching because it is done cooperatively as the name suggests. The link is:

[http://www.ldonline.org/ld\\_indepth/teaching\\_techniques/collab\\_reading.html](http://www.ldonline.org/ld_indepth/teaching_techniques/collab_reading.html)

This is an example of teaching students about phrases in order to improve reading comprehension. Like other web sites it includes a step by step lesson plan that is appropriate for the LBS classroom. The article is called *Learning about phrases to improve fluency and comprehension*. Here is the link:

[http://www.resourceroom.net/beyond\\_decoding/phrasing\\_dec2001.asp](http://www.resourceroom.net/beyond_decoding/phrasing_dec2001.asp)

For an interesting article about teaching vocabulary using multisensory techniques, here is the link;

<http://www.resourceroom.net/myarticles/vocabulary.htm>

I have previously suggested the resource called *If Only I Could Read, Write, Spell...Identifying and helping adults who find learning difficult*. (Centre for Literacy Studies, University of Tennessee). It is an easy to read resource that was developed by an “action research group” of literacy instructors. Basically, they tried different techniques with their learners and reported back to the group about their successes or failures. The chapter on instructional strategies has some good suggestions for reading. Here is the link:

<http://slincs.coe.utk.edu/pdf/Read-Write-Spell.pdf>

## Writing and Spelling Strategies for LD learners

<b>Dysgraphia</b>	<b>Handwriting Strategies</b>
	<ul style="list-style-type: none"> <li>• Encourage learners to outline thoughts.</li> <li>• Practice keyboarding skills. It may be slow at first but eventually it will be faster and neater than handwriting.</li> <li>• Practice handwriting. There are times throughout life when it is necessary.</li> <li>• Allow students to talk as they write, providing auditory feedback to themselves.</li> <li>• Allow more time for written tasks.</li> <li>• Consider alternatives for learning to ease the demands of handwriting.</li> <li>• Allow students to dictate some assignments to a volunteer scribe.</li> <li>• Do not grade on neatness.</li> <li>• Encourage abbreviations. This helps learners with note taking.</li> <li>• Allow students to use the writing instrument that is most comfortable for them.</li> </ul>
<b>Principles of writing instruction</b>	<b>Writing Strategies</b>
	<p>In the resource guide called <i>Learning Differently</i>, Mary Norton sets out several principles that I think are very important to consider when LBS instructors teach writing. She suggests that you should:</p> <ul style="list-style-type: none"> <li>• Encourage students to write regularly</li> <li>• Focus first on <u>fluency</u>, then on <u>clarity</u> and finally on <u>accuracy</u></li> <li>• Teach skills that are related to student needs.</li> </ul>
<b>Planning</b>	<ul style="list-style-type: none"> <li>• The concept of “<u>direct instruction</u>” has already been introduced as a good teaching strategy. When applied to writing, instructors should begin by teaching the concept of creating a “draft” copy as the first working copy. This may be done using a different color paper. I can remember when I went to school; we always did our “rough work” on newsprint and never got the better quality paper until we were ready to write our final or “good” copy.</li> <li>• Try grouping similar ideas on separate sheets of paper that can then be physically manipulated to order and organize information. Another suggestion to achieve the same effect is to use highlighters to quickly provide visual links to similar ideas. You can then use these similar ideas to teach the concept of creating a paragraph.</li> <li>• Don’t forget to give feedback!</li> </ul>
<b>Editing</b>	<p>It is also important for the learner to have some strategies to do some self-checking. An instructor could have an “editing checklist” so that learners can do their own monitoring. A good example of a proofreading checklist comes from “<i>How do we measure up?</i>” Written by adult literacy instructors from the North York Board of Education. I have included it as <a href="#">Appendix 2</a>.</p>

	Where computers are available, be sure to teach learners how to keyboard and then to use the “spell check” option of the word processor. Don’t assume they know how to use it and make sure they understand what it can and cannot do.
<p><b>Spelling requires visual clues, auditory processing and memory.</b></p> <p><b>Try to determine the type of errors</b></p>	<b>Spelling Strategies</b>
	<u>Research indicates that spelling is the area that presents the greatest difficulty for people with learning difficulties.</u> That is because it involves visual clues, auditory processing and memory. People with learning disabilities cannot easily transfer from one type of processing activity to another. For example being able to read a word will not automatically mean that an individual with LD can then spell it correctly. Whereas reading involves recognition, spelling involves recall. If we were to generalize we would imagine that as instructors it is important to teach people how to look for patterns in words.
	For a practitioner, it helps to know the kind of spelling errors that a learner makes. That will give clues as to what the individual’s difficulties are and also where his strengths lie. For example an auditory learner often tries to spell phonetically, or by “sounding out”. Usually they have difficulty with visual processing. In contrast a visual learner may have trouble spelling phonetically or recalling sounds in order. The auditory difficulties that they have cannot be overcome simply by drilling the sounds over and over again. They must be taught different strategies. Below are some examples of specific teaching strategies to use.
	<b>More Spelling Strategies</b>
	<ul style="list-style-type: none"> <li>• Teach auditory learners to exaggerate syllables or sounds.</li> <li>• Teach visual learners to write words in segments</li> <li>• Teach auditory learners to write in segments also so that their auditory skills can pick up the rhythm and sounds of the word.</li> <li>• Teach mnemonics. In fact some LD adults will invent their own mnemonic or clue because it is more meaningful.</li> </ul>

I thought it was worthwhile to include the following list of spelling strategies that are written expressly for students with learning disabilities. The complete list comes from the education website of the University of Tasmania in New South Wales, Australia. The link is included at the end of the list if you want to see the entire list of strategies.

## Spelling

Although spelling problems tend to be very persistent in adults with learning disabilities, there is still much that can be done to improve spelling if you are prepared to put time and thought into it. Below is a range of useful spelling strategies. Many of them are taken from Montgomery (1997).

- Learn to use a variety of strategies so that you can pick an effective one each time you have a specific spelling problem. Remember, the strategies you make up yourself are likely to be ones you will remember best.
- Focus first on learning how to spell your personal ‘demons’, those words you consistently have trouble with, and on learning key words, which are important in your field of study. Pronounce the word very carefully, emphasizing each syllable. For example, hos-pi-tal.
- Say the word aloud, pronouncing even the letters which are normally not pronounced. For example, gov-ern-ment.
- Say the word incorrectly, to help remember how to spell a difficult part. For example, Wed-nes-day, or Don’t get your k-nick-ers in a k-not.
- Break the word into syllables and carefully sound each syllable. Those not used to this strategy may need to learn to count and ‘beat’ out or clap the syllables.
- Many English words do not follow regular phonics rules. However, if you give each sound in a word an accurate letter or letters, others are more likely to understand what word was intended.
- Buy a grammar or spelling book that lists basic spelling rules. Revise the common rules such as ‘i before e except after c’, or when to use a silent e. Remember, however, that almost all the rules in English have exceptions.
- Think of words as occurring in families with common parts. For example, tele—means far, and is spelt the same way in words such as telescope, telephone and television.
- Compare the problem word with a similar word you can already spell easily. For example, if you have trouble remembering how to spell who, but no trouble remembering why, say the phrase Who is he and why is he there? To remind yourself that both words start with wh-.

## References

Montgomery, D 1997, Spelling: Remedial Strategies, Cassell, London

Below is the link to “Opening all Options II”, a website with a variety of resources for students at the University with Learning Disabilities. At the web site, click on the button on the left called “learning strategies”. It will offer several choices in different subject areas including spelling from which the above list was taken.

<http://student.admin.utas.edu.au/services/options/index.htm>

## Help learner to be organized

Helping learners to be organized is beneficial in all content areas. When it comes to writing, a mnemonic that has met with success is POWER.

**P**-plan your work

**O**-organize your thoughts

**W**-write your draft

**E**-edit your work

**R**-revise your work to make the final copy

**I want to learn more....**

On the Internet at the Learning Disabilities OnLine website there is an article that is designed to be a handout for students. It is entitled *Five Guidelines for Learning to Spell and Six Ways to Practice Spelling* by Susan Jones. Some instructors may find it helpful for the students in their class. The link is:

[http://www.ldonline.org/ld\\_indepth/teaching\\_techniques/spelling\\_studying.html](http://www.ldonline.org/ld_indepth/teaching_techniques/spelling_studying.html)

Another spelling lesson comes from the Resource Room web site. Here is a lesson for those who want the step-by step approach to teaching doubling the last letter in a word rule

<http://www.resourceroom.net/Spelling/doubling.html>

A good article on dysgraphia can be found at the following link:

<http://www.as.wvu.edu/~scidis/dysgraphia.html>

## Teaching Math to LD Adults

Mathematics or numeracy instruction seems to take a back seat to reading, writing and spelling in literacy classes but I spent some time looking at the research in order to determine what strategies, specifically directed to math for adults with learning disabilities, exist. Learners who exhibit difficulties with math may, in fact, have language-processing problems, visual –spatial confusion, memory or attention deficits that interfere with math skills meaning that they exhibit problems with math but their actual disability is not specifically in the field of math. For our purposes of course, instructors should attend to the skill that requires improvement and use the appropriate teaching strategy. As we have suggested earlier, it may not be possible or necessary to do diagnostic testing for a learning disability in every case. But LBS instructors should understand in what areas students need help and then teach to their learning strengths. This is true for all students in the class. The most common problems related to math seem to be the inability to recall basic facts and the unreliability of written computation.

### **Good Teaching Strategies**

Some general strategies for teaching math are listed below. They are not targeted towards a particular math skill; rather they are a group of good strategies that should be employed by good instructors remembering what learning strengths are best for their learners. The accommodations that they use for language teaching should also be used for numeracy and math lessons so many of these have been included in earlier sections of this report.

These strategies are a compilation from 2 different sources:

<http://www.aelweb.vcu.edu/publications/LDGuide/Sec8/Teaching%20Math.htm>

<http://gseweb.harvard.edu/~ncsall/fob/2000/kenyon.html>

- Provide extra time when teaching new skills.
- Teach new concepts in manageable chunks. Give lots of practice.
- Do not teach new concepts until the previous skill is understood.
- Build retention by providing review soon after a new skill is learned.
- Focus on understanding not just memorizing.
- Teach the learners to use a calculator. Encourage them use it to check work.
- Teach the learner to look for key words in a math problem such as *total*, *difference*, *how many more* that signal the math operation that is required.
- Apply real world problems when teaching computation.
- Encourage learners to read aloud.
- Teach the components of algorithms and strategies.
- Encourage drawings to help visualize math problems. Use auditory examples for those who have a preference for learning by hearing information.
- Use graph paper to help keep numbers in line.
- Do not put too much information on worksheets- avoid clutter.
- Encourage students to track their own progress.

I found an interesting article called Math Learning Disabilities by Kate Garnett at the ldonline website. This website has a number of excellent articles on many areas of learning disabilities. The link below is to the homepage. Go to the section called “For Teachers”, then scroll down on the left side to find the articles on mathematics. Here is the link for the home page:

[www.ldonline.org](http://www.ldonline.org)

I thought it might be useful to include the following list of suggestions for instruction in learning number facts from the article about math learning disabilities. The entire article is well worth reading however.

Kate Garnett, Ph.D.

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Division for Learning Disabilities Journal of CEC.

November 1998

- ▶ **Interactive and intensive practice with motivational materials such as games**  
...Attentiveness during practice is as crucial as time spent
- ▶ **Distributed practice, meaning much practice in small doses**  
...For example, two 15-minute sessions per day, rather than an hour session every other day
- ▶ **Small numbers of facts per group to be mastered at one time**  
...and then, frequent practice with mixed groups-
- ▶ **Emphasis is on “reverses,” or “turnarounds” (e.g.,  $4 + 5/5 + 4$ ,  $6 \times 7/7 \times 6$ )**  
...In vertical, horizontal, and oral formats
- ▶ **Student self-charting of progress**  
...Having students keep track of how many and which facts are mastered and how many more there are to go
- ▶ **Instruction, not just practice**  
...Teaching thinking strategies from one fact to another (e.g., doubles facts,  $5 + 5$ ,  $6 + 6$ , etc. and then double-plus-one facts,  $5 + 6$ ,  $6 + 7$ , etc.).

Students with dyslexia may also have trouble learning math concepts, symbols and vocabulary. Research suggests that the most successful approach helps the learner by starting with concrete, manipulative material, moving gradually to the symbols of math (+, -, =) and finally to abstract thinking using math concepts. As with reading research, it has been suggested that sometimes using a background color such as cream may assist learners when they are working on math exercises.

## Conclusions and Recommendations

### **The Importance of Time**

I stated it in the introductory section of this report but because I think it is such an important consideration, I will remind you again of the importance of time when dealing with adults who may learn differently. Taking the time to get to know them and to understand their learning needs is one of the keys to having success with this group of learners. I had the luxury of time while working on this report. And by spending a great deal of time sorting through material and choosing only that which I think will work for LBS classes, I made suggestions that I hope will save those of you in the field some time. That was one of the requests from the LBS Managers' Meeting on December 4, 2002. There aren't fabulous shortcuts, nor are there quick fixes, but there are good solid research based methods for working with adults who learn differently. As evidenced in my conversations with LBS staff around the province, those methods are already in place in many school board LBS programs.

I found particularly valuable information in the areas of:

- Screening and Identification
- Teaching Strategies and Accommodations
- Teaching Techniques for Reading, Writing and Spelling

### **Mathematics**

Mathematics was an area that seemed to have very little written for adults, especially targeting those with learning disabilities. It is an area that would benefit from more attention and documented examples of successful strategies.

### **Assessment and Evaluation**

As well, next to nothing has been written about assessment and evaluation as it relates specifically to the LBS field. Therefore I didn't include a section on this topic since there was nothing to review. Interviews with LBS staff indicated that although no special demonstrations had been developed for learners with LD, there were, of course, good practices in place. Recommendations included:

- Be careful to measure the learner in a practical way. That is, in a way that applies directly to problem solving in everyday life.
- Be sure to give extra time if necessary.
- Break the demonstration down into smaller chunks as was discussed in the "good teaching techniques" section.

A project on Demonstrations is currently being developed by the Learning Disabilities Association of Ontario. It was not available for review at this time.

## Recommendations

One problem that I encountered was that good resource material, developed in this province is often not in use in the field. Why? It appears that only a limited number of print versions were supported by the original funding. Once those were distributed, other people could not access them.

- My strong recommendation is that this type of good resource needs to be available online so that everyone in the LBS field can access this material. We now take for granted that we can access the virtual library of the Internet and it is unfortunate that some recent, excellent material is not available at an LBS site where there is a focus on learning disabilities.
- Closely connected to material being available online is the need to be able to update that material regularly. When websites and Internet links are included in documents such as this, we run the risk that these links may not be available indefinitely. Also, new, related material is being developed and it would be valuable to readers of this document to have links to new resources. It would be useful to have a system in place where regular updates can be inserted into documents in order to keep them current.
- Feedback that I received when speaking with LBS staff indicated that it would be helpful to have one location where they knew they could locate good, reliable resources that targeted their needs in LBS.

School board LBS Managers at the December 4, 2002 also made some important recommendations that I think have a place in this report. I have summarized them as follows:

- There appears to be a larger than average number of adults with possible learning disabilities in LBS classes when compared to the general population. Perhaps we are simply becoming more aware of learning disabilities as they relate to adults. Perhaps more adults with learning disabilities are coming forward, looking for help than they had in the past. But it is evident that more practitioners in the LBS field are facing more learners who have learning difficulties. They are looking for more support in order to serve their learners better. More qualified resource staff and specialists on LD issues are needed in the programs.
- There is a high turnover of practitioners in LBS programs so professional development in the area of learning disabilities is an ongoing need.
- Classroom sizes should be kept to fewer than 10 learners if a practitioner is going to be able to successfully work with adults who have learning disabilities. All the research stresses that people with learning disabilities are not alike. Individualized programming is the key to success.
- Several school boards have developed some outstanding partnerships with other community agencies. Some of these are supported through funding from the

Ministry of Training Colleges and Universities. Don't hesitate to discuss innovative ideas with Ministry Field Consultants. Pilot programs based on sound strategies and partnerships may develop.

In conclusion, I would like to remind the LBS managers and supervisors, who tend to be the recipients of new information and recently produced resource material, that they need to be diligent and to make sure that the practitioners in the classrooms, who work with the learners every day, are aware of and have access to all the material that is received. Many of the charts with teaching techniques or classroom accommodations that I have included in the Internet links are easy to download and copy for distribution to staff at meetings or professional development workshops. Frequently I have been told by practitioners that limited copies of resources are available and online access is restricted. The success that they have working with special needs learners will be limited if they are not aware of the excellent resources that I have found. I know that it is not an easy task, but I think that you will find that the resulting success will be well worth the effort.

Working with learners who may have learning disabilities is not an easy task. But it can be very rewarding for those who help individuals who may have been struggling to succeed. I have had the privilege of speaking with a number of these dedicated and resourceful people who are currently working in the school board sector. They deserve recognition for a job well done. We need to continue to support our staff by providing them with the best resources that we can. I hope that my small contribution of helpful strategies for working with adults with learning disabilities reaches the LBS staff who can most benefit from them.

Donna Zener  
Consultant  
April, 2003.

## References

- Bridges to Practice: A Research-based guide for Literacy Practitioners Serving Adults with Learning Disabilities* (1999). The National Adult Literacy and Learning Disabilities Center, Washington, DC. Guidebooks 1-5. Print and Online versions available.
- Crux, Sandra (1991). *Learning Strategies for Adults*, Wall and Emerson Inc. Toronto, ON
- Destination Literacy: Identifying and Teaching Adults with Learning Disabilities* (1999). Learning Disabilities Association of Canada, Ottawa, ON.
- Johnson, Janet (1996). *Adults with Learning Disabilities*, Sureen Publishing & Productions, St. Catharines, ON.
- Hatt, Pat, Nichols Eva, (1992). *Target Literacy: A Learning Disability Resource Guide*, Learning Disabilities Association of Ontario, Toronto, ON.
- Hatt, Pat. *Learning Disabilities: Best Practices and Innovations*, Issue 3 of3, 2001, Ontario Literacy Coalition, Toronto, ON.
- Marshall Sheila (2001). *Learning Differently: A Learning Disabilities Resource guide for Tutors and Staff*, Community Literacy of Ontario, Barrie ON.
- Where Do We Go From Here? Adult Basic Literacy/Numeracy Toolkit*, (1996), North York Board of Education, Toronto, ON.
- Woodrow, Helen & Ennis, Frances (1993). *Learning Differently: Students with Learning Disabilities*. Educational Planning and Design Associates, St. John's, Newfoundland.

## **Consolidated List of Links to Internet Sites used in this Report**

Workforce Development Council for Seattle-King County: Learning Disabilities Project.

This link is to the article entitled “*Understanding Learning Disabilities*”.

<http://www.seakingwdc.org/ld/understand.htm>

*If Only I Could Read Write Spell; Identifying and helping adults who find learning difficult*. Tennessee Literacy Resource Centre. This is an action research project available in PDF format to download.

<http://slincs.coe.utk.edu/pdf/Read-Write-Spell.pdf>

Learning Disabilities Association of Canada. This link is to an introductory article about learning disabilities and adults including some characteristics of LD.

<http://www.ldac-taac.ca/english/indepth/adults/adultld.htm>

The list of characteristics of learning disabilities at this website is specifically designed for use by a practitioner in a classroom setting. It is from the *Bridges to Practice* website. The Florida Tech website is also a treasure trove of excellent information.(the second link above) Take the time to explore if you can.

<http://www.floridatechnet.org/inservice/bridges/tables.PDF>

<http://www.floridatechnet.org/inservice/bridges/orient.html>

*Keys to Effective LD Teaching Practice* funded by Tennessee Department of Human Services. Produced by the Knoxville Center for Literacy Studies, University of Tennessee. This is a large PDF document that is found at the National Institute for Literacy, southern LINCS site. Many sections have excellent information and teaching strategies.

[http://cls.coe.utk.edu/pdf/LD\\_Teaching\\_Practices.pdf](http://cls.coe.utk.edu/pdf/LD_Teaching_Practices.pdf)

Northwest Territories Literacy Council website. This is a link to their home page. There is some very good material included here in the adult literacy section.

<http://nwt.literacy.ca>

*Special Needs Assessment Procedures* by Pat Hatt. The link is to the pages concerning learning disabilities.

<http://gear.torque.net/~bpd/dev/snap/learning.htm>

Hellofriend is the website of the Ennis William Cosby foundation. The teaching section of the site has some excellent classroom focused ideas.

<http://www.hellofriend.org>

This link is to the ADD/ADHD Learning Resource Centre website. The “behavior prescriptions” chart is very neatly presented.

<http://www.iser.com/ECS-faq.html>

The National Institute for Literacy site is huge and an incredible amount of material. This link is specifically to an article entitled: Techniques: Working with Adults with Learning Disabilities.

<http://www.nifl.gov/nifl/ld/archive/techniqu.htm>

Focus on Basics is an online bulletin supporting many types of basic literacy. It is from Harvard University’s Faculty of Education Department. This link is to an article about teaching reading to adults using multisensory techniques.

<http://ncsall.gse.harvard.edu/fob/2001/geertz.html>

Learning Disabilities OnLine –this site is not specifically for adults but there is a teaching section that has many worthwhile strategies for classrooms. It is worth spending some time there to look at specific articles.

[www.ldonline.org](http://www.ldonline.org)

Resource Room- filled with articles and activities. Once again this website is not specifically for adults but there is a lot of very good material there for practitioners. In the section on Teaching Reading I gave the link to articles on decoding and vocabulary.

[www.resourceroom.net](http://www.resourceroom.net)

This link is to the education website of the University of Tasmania at New South Wales, Australia. It is called Opening all Options II and it is a resource and information site for students with learning disabilities. The learning strategies section is very helpful.

<http://student.admin.utas.edu.au/services/options/index.htm>

A good article on dysgraphia can be found at the above link.

<http://www.as.wvu.edu/~scidis/dysgraphia.html>

The math resources that I found useful were from the preceding websites.

<http://www.aelweb.vcu.edu/publications/LDGuide/Sec8/Teaching%20Math.htm>

<http://gseweb.harvard.edu/~ncsall/fob/2000/kenyon.html>

Learning Disabilities Association of Ontario. Pat Hatt’s Literacy Project articles and handouts are all available online.

[www.ldao.on.ca](http://www.ldao.on.ca)

Dyslexia Adults Link (a British site) has a number of interesting articles.

[www.dyslexia-adults.com](http://www.dyslexia-adults.com)

The following site is entitled *Learning Disabilities Adaptations and Accommodations Guide*. It was created by the Virginia Adult Learning Resource Center, Virginia Commonwealth University. The link will take you to the title page where you choose the *Table of Contents*

<http://www.aelweb.vcu.edu/publications/LDGuide/index.htm>

## **Video Resource**

*How Difficult Can This Be?* The F.A.T. city workshop by Richard D. Lavoie. With supporting documents. This workshop was developed to help parents; teachers and support workers understand what it is like to have a learning disability by putting them in situations where they feel Frustration, Anxiety, Tension. It translates very well to an adult education situation.

## Appendix 1: Checklist

### **What's your learning style?**

Check the boxes beside those statements that describe you. Then add up the check marks you've made for each learning style.

#### **Learning through seeing**

- I remember something better if I write it down.
- I enjoy doodling. I draw pictures or doodles in my notebooks.
- I find it hard to understand what a person is saying when background music is playing
- I get more work done in a quiet place.
- I get lost if someone tells me directions and I didn't write them down.
- I am good at remembering faces.
- It's much easier for me to add three simple numbers if I write them down rather than add them up in my head.

TOTAL: \_\_\_\_\_

#### **Learning through hearing**

- I understand instructions better that someone tells me, rather than reading them.
- I'm good at remembering names.
- I'm good at remembering what other people say.
- I say the numbers to myself when I do math.
- When I'm listening to someone give a talk, it's better for me to just listen, and not take notes
- When I'm trying to remember what I've learned, I usually ask myself questions out loud.
- I'd rather listen to the news than read a newspaper.

TOTAL: \_\_\_\_\_

#### **Learning through doing**

- I think best when I can move around. I don't like sitting at a desk very long.
- I like to do crafts or repairs where I get to use my hands.
- I need lots of breaks when I'm learning.
- I don't get lost very often, even in a new place.
- I remember recipes after I make the dish once or twice.
- I don't like to stop to read the directions. I'd rather just figure something out by doing it.
- I learn best when the teacher explains things using models or experiments.

TOTAL: \_\_\_\_\_

## Results

Do you have more check marks for one of the learning styles? Which one?

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What might that tell you about HOW you like to learn?

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## Appendix 2: Proofreading Tool

### Instructions

- Read the questions below to help you proofread your own work.
- Read each question, and then check your own work.
- Place a checkmark under “yes” or “don’t know” until all questions are answered.
- Attach this form to your work before you hand it to your teacher.

Proofreading checklist	Yes	Don't Know
Is there a capital letter on the first word of each sentence?		
1. Is there a period, question mark, or exclamation mark at the end of each sentence?		
Is there a capital letter on all proper nouns or other words that need it?		
2. Are there commas, apostrophes, hyphens, and quotations marks where needed?		
Have you check for spelling mistakes?		
Is every sentence complete?		
Is every sentence one complete idea?		
Is each paragraph separate?		
Does each paragraph have a topic sentence?		
3. Does each sentence in the paragraph tell about the main idea?		
Do the subjects and verbs agree?		
Are the verb tenses consistent?		
Did you use plurals correctly?		
4. Did you cross the t's and dot the i's?		

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