

## Specific Learning Difficulties and Adult Literacy

Many perfectly able people have had difficulties in fully mastering the skills of efficient reading, writing and spelling because of dyslexia or another specific learning difficulty (SpLD).

However, their difficulties (with literacy) may go unrecognised in day-to-day life because they are otherwise very capable, intellectually able and articulate. Very often, those with SpLD can cope reasonably well with literacy tasks in ideal situations, but in other circumstances, time pressure, stress, fatigue or even environmental factors, such as lighting, noise or unfamiliar settings, can seriously impair their abilities.

SpLD are a range of neuro-developmental conditions that affect the individual's abilities to learn in normal contexts by traditional methods.

These conditions are distinct from global learning difficulties in that difficulties arise not from intellectual impairment but rather from particular processing differences and, typically, there will be a discrepancy between the individual's general intellectual abilities and their abilities in certain areas of learning (such as written language or number skills) or under certain circumstances.

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Dyslexia may be the most commonly recognised SpLD but dyslexia may result from, occur along with or be misdiagnosed for one of the other conditions. Equally, other SpLD can cause difficulties with reading writing or number and organisational skills.

A number of SpLD have been individually labelled because of certain features:

- dyslexia (difficulties with reading and/or spelling)
- dyspraxia (motor coordination difficulties)
- dyscalculia (difficulties with number concepts/calculation)
- dysgraphia (difficulties with handwriting)
- attention deficit (hyperactivity) disorder (concentration difficulties and impulsivity)
- autistic spectrum disorders (social communication difficulties)
- specific language impairment (language difficulties – without other obvious cause)
- Tourette Syndrome (vocal/physical tic disorder)

However, certain core problem areas can be identified as characteristic of SpLD. These include:

- difficulties with short-term memory and working memory.
  - organisational difficulties
  - orientation and coordination difficulties
  - environmental preferences
  - learning preferences
  - physical and mental issues
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## Short-term memory and working memory

Short-term memory is the temporary store for information before it is processed into long-term memory or forgotten. It has limited capacity (possibly 4 chunks of information) and requires attention or rehearsal or information will quickly decay.

New information overwrites information already in short term memory.

Working memory uses both short-term memory and long-term memory for temporary processing, such as mental calculation. It also has limited capacity and requires attention to be maintained.

Working memory includes the transfer of information into long-term memory and is important in learning. It has been shown to be a better predictor of academic achievement than measures of IQ.

Short term and working memory are independent of IQ and efficiency varies between individuals.

Those with SpLD are known to have short-term/working memory problems.

Certain factors will put stress on working memory causing failure:

- distraction will cause loss of necessary attention;
- rate of input can cause "overwriting" (new information replacing previous information before it can be processed) resulting in loss of information;
- amount of input can be greater than the individual's memory capacity;
- multitasking (e.g. listening and writing at the same time) reduces the working memory's capacity for each task.

In practice, these will affect activities such as taking notes, answering questions, problem solving and transfer of information into long term memory (learning).

Problems with working memory may go unrecognised and may be dismissed as lack of interest, motivation or lack of effort.

Stress on working memory will cause fatigue and can result in giving up, loss of interest or behavioural problems.

In work with those with SpLD, it is important that working memory problems are taken into consideration and that adjustments are made to prevent overload and failure. Adjustments might include giving written instructions, reducing the rate and amount of input, breaking down information into smaller chunks, reducing distractions.

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## Organisational Difficulties

Organisational difficulties are common across the range of SpLD and will manifest themselves in problems such as a chaotic lifestyle, difficulties with sorting ideas and separating important points from less important details, timekeeping, lateness and judging time needed to do things. Forgetting to do things and losing things are common features. Changes to routine can cause problems and lengthy tasks may overwhelm the individual.

To a certain extent, in work with those with SpLD, awareness and understanding of these problems is the most important adjustment, however, it may be possible to assist with putting organisational strategies in place.

- reminders (phone, texts, Postit notes)
- written information as well as spoken information
- use of mobile phone functions such as alarm, voice recorder
- index cards, colour coding, breaking tasks into smaller sections, using mindmaps.

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## Orientation and Coordination Difficulties

Orientation and coordination difficulties are associated with a number of SpLD. Common issues arising from this include:

- clumsiness and general awkwardness in movement – gross motor;
- handwriting may be untidy or excessively tiring – fine motor;
- confusion and stress in unfamiliar settings – losing direction;
- confusion with left/right, up/down;
- history of problems with e.g. tying shoelaces, riding a bicycle, catching a ball;
- accident prone – bumping into things, tripping;
- visual difficulties, such as tracking along lines of print or difficulties with eye-teaming (both eyes working correctly as a pair), can cause difficulties with reading and writing.

Again, understanding and allowance for difficulties is helpful, however adjustments can lessen these problems. Keyboard may be a better option than handwriting; use of big print in handouts (or adjustment of font size on screens); good signposting for directions and adjustments to the learning environment can reduce difficulties.

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## Environmental Considerations

The effects of SpLD can be subject to environmental factors. Crowded, cluttered, noisy settings which put pressure the senses can increase difficulties with organisational abilities, distraction, orientation and hypersensitivity to light and sound. Examples across the range of SpLD include:

- The effect of background noise on those with auditory processing difficulties;
- Unsuitable lighting conditions (too bright/too dim/artificial/natural) with visual processing problems
- Cluttered environment on those with attention deficit disorder/dyspraxia
- Crowded/social/group settings on those with autistic spectrum disorders/Tourette syndrome

Generally, hypersensitivity to external factors can put stress on a number of problem areas of SpLD and adjustments to the local environment should be considered:

- Lighting
  - Noise
  - Distractions – people, clutter, decoration (sensory overload)
  - Privacy and individual space
  - Respect for learners
  - Consistency
  - Informal (not cluttered) settings can reduce stress
  - Organised (not formal) settings
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## Learning Preferences

Learning styles are made up of a range of factors which include sensory preferences, learning environment, learning medium and style of teaching.

Preferred learning styles will be individual and possibly unusual. Preferences may change with subject matter.

It is important that materials and activities use different learning styles as these may vary with content of learning as well as from individual to individual.

Information is taken in through different sensory modalities: visual, auditory, touch and movement.

As above, different learners will have preferred modalities; this is particularly so in the context of SpLD, where one sensory pathway may be less efficient than it could be.

It is important that work with those with SpLD employs a multi-sensory approach. This increases the number of learning pathways and reinforces learning through a range of senses.

Type of input needs consideration – spoken; written material; images; diagrams; colour; movement/touch (e.g. keyboard or hands-on doing); discussion (talking and listening).

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## **Physical and Mental Issues**

Lack of self esteem is experienced by many people with SpLD and related conditions such as depression, anxiety and stress disorders can arise.

Allergies, asthma appear to be more common in those with SpLD (hypersensitivity)

The physical effect of coping with additional challenges presented by SpLD will result in increased fatigue – this in turn will have effects on the individual's ability to take in information.

Judging appropriate personal space reading of body language are frequently areas of difficulty in those with autistic spectrum disorders and inappropriate responses can be mistaken for rudeness or inconsiderateness.