



CONSTRAINTS AND POTENTIALS TABLE

| Within-learner(person) | Within-operating-environment |
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| <ul style="list-style-type: none"> ● Perceptual (sound-based): <ul style="list-style-type: none"> ○ 'Catching' speech sounds and holding them in memory for short periods of time (short-term phonological memory; Cain, 2010) ○ Accuracy of the representations of speech sounds in memory (Vowels perception) ● Perceptual (visual): <ul style="list-style-type: none"> ○ Visual attention span – capturing 'snapshot' visual information ○ 'form constancy' – seeing something as the same from different perspectives/interpreting different fonts in text. ● Perceptual /cognitive (other processes): <ul style="list-style-type: none"> ○ Rapid automatised naming (involves naming letters or numbers at speed) ○ Word-finding (remembering the names of things) ○ Reflective habit of mind (explicitly considering own performance in order to inform future actions/learning) ○ Coping strategies – using experience to develop ways around barriers to performance. ● Working memory – consider the verbal, visual and spatial aspects: <ul style="list-style-type: none"> ○ Following instructions or procedures ○ Flexible attention – memory resilient to interruption or switching of attention during tasks ○ Filtering of task relevant information from irrelevant information ○ Monitoring tasks ● Long term memory: <ul style="list-style-type: none"> ○ Phonemic knowledge - forming lasting and automatic knowledge of grapheme to phoneme and phoneme to grapheme links ○ Vocabulary (receptive/expressive) | <ul style="list-style-type: none"> ● Learning environment characteristics¹: <ul style="list-style-type: none"> ○ Encourages the consideration of different perspectives ○ Encourages participation to be intrinsically rewarding. ○ Learning frameworks are productive – allow learners to gain new knowledge by applying current knowledge ○ Enables learners to learn about how they think and learn ● Structure of learning: <ul style="list-style-type: none"> ○ Routines – established ways of practising and consolidating key information ○ Provision of a predictable structure to sessions and tasks (preview/review – checklist to monitor progress with task/s) ○ 'Metacards' – a means of summarising new understanding/information ○ Terminological clarity - explicit instruction in key terminology of the subject area ○ Discovery – high level of person-centred engagement – key information is discovered not 'told'. Involves sculpting the learning context ○ Feedback: <ul style="list-style-type: none"> ▪ Competence based so that clear performance enhancement indicators are known – self-efficacy ▪ Attribution – focus on skills necessary to attain competence ▪ Enhances autonomy of learner/person ● Language enhancement: <ul style="list-style-type: none"> ○ Dialogue (meta-language; self-efficacy; debating skills etc.) ○ Language enrichment opportunities ● Teacher/therapist knowledge-base, teaching methods and conceptualisation |

¹ See Malone, T. W. (1981). Toward a theory of intrinsically motivating instruction. *Cognitive Science*, 4, 333-369.

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| <ul style="list-style-type: none"> ○ Terminology: <ul style="list-style-type: none"> ▪ Everyday lexicon (level and quality of language experience) ▪ Academic register ▪ Metalinguistic knowledge ○ Retention of facts (instrumental versus relational understanding) ○ Semantic knowledge ● Analytical skills: <ul style="list-style-type: none"> ○ Lexical/sub-lexical analysis (syllable structure). ○ Morphological analysis (meaning units within words) ○ Syntactic analysis (grammar) ○ Orthographical analysis (how speech is represented in written form) ○ Textual analysis (comprehension of text) ● Affective factors: <ul style="list-style-type: none"> ○ Self-efficacy (self-perception as competent at particular tasks) ○ Motivation (conation – resilience) | <p>of literacy and language learning as a multi-faceted process</p> <ul style="list-style-type: none"> ● Learnability of language: <ul style="list-style-type: none"> ○ Transparency/opacity – are the links between the symbols and the sounds simple or complex? ○ Speech dynamics – how phonemes change in speech streams, use of stress within words and sentences, elision (e.g. Danish language versus Swedish language) ○ Agglutinative languages – meaning units clear but words very long. |
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ADULT DYSLEXIA Cognitive Processing¹ Checklist

| Affected Area of Performance | Definition | May Cause Difficulties In... | How Often Are These Difficulties Seen In Learners? |
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| Phonological awareness tasks | <ul style="list-style-type: none"> • Perception of sounds within words. • Mapping of speech sounds to letters. • Manipulating speech sounds. | <p>Whole Word Handling:</p> <ul style="list-style-type: none"> • Identifying words or sound segments that rhyme. • Generating words that rhyme with an example word (e.g. responding 'cat' when the word 'mat' is said). <p>Phonemic Awareness:</p> <ul style="list-style-type: none"> • Identifying the sequence of sounds within words. • Splitting words into sub-units e.g. onset-rime (e.g. c-at, d-og), individual phonemes (c-a-t, d-o-g) etc. • Isolating vowel sounds from complex syllable openings (e.g. sch-o-p, str-i-m). • Identifying alliteration in text. • Aural identification of individual phonemes (e.g. /p/) or blends (e.g. /st/). • Matching graphemes (e.g. <s> to the phoneme /s/). <p>NB: Some adult learners will have learnt to read without some of these skills – the absence of the skills need not necessarily be targeted for support in such cases.</p> | <p>Difficulties sometimes apparent in adult learners where literacy development is significantly delayed. This can be because of the lack of experience of reading (e.g. lack of educational opportunity) rather than the cause of reading difficulty (Rice & Brooks, 2004).</p> |
| Short- term phonological | The type of memory used when the learner needs to catch verbal | Being able to repeat back unknown words or strings of sounds immediately i.e. no time to rehearse the information. | Difficulties sometimes apparent. |

¹ Cognition is the umbrella term for the faculties we possess that track happenings in the world and register our feelings, thoughts and motivations. These cognitive processes collectively have to determine the significance of all these external and internal sources of information and guide us to make appropriate and effective responses. Examples of cognitive processes include: "attention, perception, memory, language, problem-solving, reasoning and thinking." (Eysenck & Keane, p.1, 2005).

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| <p>memory</p> | <p>or sound information and repeat it back immediately.</p> | <ul style="list-style-type: none"> • Ability to retain new key subject vocabulary in memory (terminology). | |
| <p>Verbal working memory</p> | <p>The type of memory used when a learner needs to monitor and use incoming information for a task at the same time.</p> | <ul style="list-style-type: none"> • Switching attention from one task to another without information being 'lost' from memory during the interruption to concentration. • Multi-tasking ability is often poor – many academic tasks require the learner to switch attention between tasks frequently or to do several tasks at once – e.g. listening to a lecture and taking notes. • Limits the chunks of information that can be held in working memory at any given time (typically three chunks). This leads to problems sequencing information as the order of items further burdens memory – the order of the items and the items themselves have to be remembered separately. • Following instructions. • Remembering what has been heard. • Acquiring new terminology and advanced vocabulary. • Rote learning of information. • Remembering mathematical procedures and vocabulary. • Deepening mathematical understanding. • Processing spoken or written information for relevance. • Developing understanding in new subject areas if the new information is not related to what has already been taught. • Auditory discrimination (noticing slight differences in items of sound-based information) – because the comparison of the items can overload the working memory system. • Near and distance copying (e.g. from lectures/presentations) during lectures/seminars and when revising etc. • Comprehension of (or retention of) meaning from long passages of text – working memory is not sufficiently flexible to allow the efficient integration of meaning. | <p>Difficulties almost always apparent.</p> |

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| | | <ul style="list-style-type: none"> • Ability to summarise information. | |
| Visual memory | Remembering information by capturing it in memory in a visual format. | <ul style="list-style-type: none"> • Noticing slight differences between images, symbols, other clusters of information that are visually captured (visual discrimination). • Recalling details of visual information. • Visual attention span (the number of letters/symbols that can be processed at a glance) | <p>MIXED</p> <ul style="list-style-type: none"> • Sometimes difficulties apparent in this area. • Sometimes strengths apparent in this area. |
| Visio-spatial skills | Perception of items within space and size. | <ul style="list-style-type: none"> • Interpretation of text layout (understanding the significance of italics, sub-headers etc.). • Visualising information – ‘picturing things’ in the mind’s eye. • Handwriting is slow, irregular, difficult to decipher. • Judgements of relative size and of the location of objects. • Diagram and map work. • General problems with areas of maths e.g. geometry, graphic work, co-ordinates etc. • Geometrical pattern processing (e.g. in mathematics when isometric paper is used). | <p>MIXED</p> <ul style="list-style-type: none"> • Sometimes difficulties apparent in this area. • Sometimes strengths apparent in this area. |
| Visio-motor (or hand-to-eye coordination) | Co-ordination of vision with movement. | <ul style="list-style-type: none"> • Handwriting can be slow, irregular, difficult to read. • Activities that involve accurate location of targets, balance, co-ordination of one side of the body with the other etc. | <p>MIXED</p> <ul style="list-style-type: none"> • Sometimes difficulties apparent in this area. • Sometimes strengths apparent in this area. |