

Cognitive Ability	Common Academic Weaknesses	Possible Implications	Recommendations
<b>Processing Speed</b> <ul style="list-style-type: none"> <li>• Rapid cognitive processing without higher order thinking</li> <li>• Attentiveness and fluency in processing</li> </ul>	<ul style="list-style-type: none"> <li>• Basic Reading Skills</li> <li>• Written Expression</li> <li>• Math Calculation</li> </ul>	<ul style="list-style-type: none"> <li>• Slow, or non, completion of work</li> <li>• Slow learning new tasks</li> <li>• Easily overwhelmed</li> <li>• Give up on tasks or on involvement</li> <li>• Reserved in group situations</li> <li>• Limited involvement in discussions</li> </ul>	<ul style="list-style-type: none"> <li>• Provide extended time</li> <li>• Emphasize quality over quantity in assignments</li> <li>• Use flash cards and timed drills</li> <li>• Teach skills to automaticity</li> </ul>
<b>Verbal Reasoning</b> <ul style="list-style-type: none"> <li>• Reasoning and comprehension using language</li> <li>• Verbal Expression</li> <li>• Vocabulary</li> </ul>	<ul style="list-style-type: none"> <li>• Basic Reading Skills</li> <li>• Reading Comprehension</li> <li>• Written Expression</li> <li>• Math Reasoning</li> </ul>	<ul style="list-style-type: none"> <li>• Difficulty communicating knowledge</li> <li>• Poor oral and written Comprehension</li> </ul>	<ul style="list-style-type: none"> <li>• Teach vocabulary</li> <li>• Relate new information to already learned information</li> <li>• Provide context and background</li> <li>• Semantic feature analysis and semantic maps – Word entomology, Greek and Latin derivative cards</li> </ul>
<b>General Information and Knowledge</b> <ul style="list-style-type: none"> <li>• Acquired knowledge</li> <li>• Long term memory</li> </ul>	<ul style="list-style-type: none"> <li>• Basic Reading Skills</li> <li>• Reading Comprehension</li> <li>• Written Expression</li> <li>• Math Calculation</li> <li>• Math Reasoning</li> </ul>	<ul style="list-style-type: none"> <li>• Difficulty communicating knowledge</li> </ul>	<ul style="list-style-type: none"> <li>• Teach vocabulary</li> <li>• Relate new information to already learned information</li> <li>• Provide context and background</li> <li>• Relate material to be learned to student interests and experiences</li> <li>• Read aloud to student</li> </ul>
<b>Fluid Reasoning</b> <ul style="list-style-type: none"> <li>• Inductive and deductive reasoning</li> <li>• Problem Solving on novel tasks</li> </ul>	<ul style="list-style-type: none"> <li>• Reading Comprehension</li> <li>• Written Expression</li> <li>• Math Calculation</li> <li>• Math Reasoning</li> </ul>	<ul style="list-style-type: none"> <li>• Difficulty grasping abstract concepts &amp; generalizing rules</li> <li>• Inflexibility of thinking</li> <li>• Poor transfer of learning</li> <li>• Poor inference</li> </ul>	<ul style="list-style-type: none"> <li>• Review and repeat material to be learned</li> <li>• Use manipulatives, sorting, grouping</li> <li>• Teach problem solving skills</li> <li>• Guide learning step by step, note taking at each step</li> <li>• Teach thinking flexibility</li> <li>• Teach strategy monitoring</li> <li>• Teach graphic organisers</li> <li>• Teach comparing new concepts to previously learnt or using analogies, metaphors or similes</li> </ul>



## Cognitive Implications

Cognitive Ability	Common Academic Weaknesses	Possible Implications	Recommendations
<b>Long Term Retrieval</b> <ul style="list-style-type: none"> <li>Storage and retention of information;</li> <li>Ability to retrieve and use previously stored information</li> </ul>	<ul style="list-style-type: none"> <li>Basic Reading Skills</li> <li>Reading Comprehension</li> <li>Written Expression</li> <li>Basic Math Facts</li> <li>Spelling</li> </ul>	<ul style="list-style-type: none"> <li>Learning and recalling information through association (facts, specific words, letter/sound relationships, speeches, poems)</li> <li>Pairing and retaining visual with auditory information</li> </ul>	<ul style="list-style-type: none"> <li>Review, repeat, overlearning</li> <li>Multisensory teaching/learning strategies</li> <li>Provide meaning</li> <li>Limit amount of new information</li> <li>Organizational strategies</li> </ul>
<b>Auditory Processing</b> <ul style="list-style-type: none"> <li>Discrimination, analysis, and synthesis of auditory stimuli</li> <li>Auditory attention, perception and discrimination despite background noise</li> </ul>	<ul style="list-style-type: none"> <li>Basic Reading Skills</li> <li>Written Expression</li> <li>Spelling</li> </ul>	<ul style="list-style-type: none"> <li>Reading Decoding</li> <li>Speech Perception</li> <li>Phonological knowledge</li> <li>Recognising sounds</li> <li>Understanding complex verbal instructions</li> </ul>	<ul style="list-style-type: none"> <li>Provide multisensory learning</li> <li>Provide class notes and study guides</li> <li>Use visual aids and graphic organizers</li> <li>Use semantic or mental mapping techniques</li> </ul>
<b>Phonemic Awareness</b> <ul style="list-style-type: none"> <li>Manipulation, analysis and synthesis of discrete sounds</li> </ul>	<ul style="list-style-type: none"> <li>Basic Reading Skills</li> <li>Spelling</li> <li>Written Expression</li> <li>Basic Writing Skills</li> </ul>	<ul style="list-style-type: none"> <li>Discriminating speech sounds</li> </ul>	<ul style="list-style-type: none"> <li>Teach phonemic awareness Rhyming, alliteration, blending, segmentation, sound discrimination</li> <li>Teach basic phonics rules</li> <li>Teach spelling with reading</li> <li>Emphasize patterns in words to be learned</li> <li>Songs, Imitation, Dr Seuss</li> </ul>
<b>Visual Processing</b> <ul style="list-style-type: none"> <li>Perception, analysis and synthesis of visual stimuli</li> <li>Storage and memory of visual stimuli</li> </ul>	<ul style="list-style-type: none"> <li>Not strongly related to achievement</li> </ul>	<ul style="list-style-type: none"> <li>Spatial Orientation</li> <li>Remembering visually presented material</li> <li>Using visual cues in spelling and reading</li> <li>Interpreting visual social cues</li> <li>Reading charts, maps, diagrams</li> </ul>	<ul style="list-style-type: none"> <li>Use manipulatives</li> <li>Teach verbal mediation of visual/spatial skills</li> <li>Copying, tracing, Construction, design</li> <li>Explicitly teach reading of chart, map, graphic organisers</li> </ul>
<b>Short Term Memory (Auditory)</b> <ul style="list-style-type: none"> <li>Processing and holding auditory stimuli in awareness</li> <li>Manipulating/using it within a few seconds</li> </ul>	<ul style="list-style-type: none"> <li>Basic Reading Skills</li> <li>Reading Comprehension</li> <li>Math Reasoning</li> </ul>	<ul style="list-style-type: none"> <li>Inattentive</li> <li>Distractible</li> <li>Reserved in group situations</li> <li>Limited involvement in discussions</li> <li>Place keeping</li> <li>Following instructions</li> <li>Task abandonment</li> <li>Sequencing</li> </ul>	<ul style="list-style-type: none"> <li>Review and repeat</li> <li>Teach memory strategies, chunking, mnemonics, note taking, asking for help, buddy</li> <li>Keep directions short</li> <li>Provide class notes</li> <li>Use audiotape recorder to record class notes</li> <li>Photograph work off board</li> <li>Teach independent strategies for student-notebook, cards, lists</li> </ul>