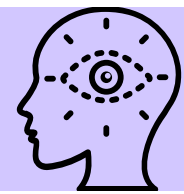


Visual Processing (Gv)



Visual processing refers to the ability to perceive, analyze, and interpret visual information from the environment around us. It involves a series of cognitive skills that allow us to make sense of what we see.

- Visual Discrimination: Distinguishing similarities and differences in visual stimuli.
- Visual Memory: Storing and recalling visual information (reading/following directions).
- Visual-Spatial Relationships: Understanding the position of objects in space (puzzles/ navigation).
- Visual-Motor Integration: Coordinating visual information with physical movements (handwriting/catching).
- Visual Closure: Identifying incomplete or partially hidden objects (reading / puzzle-solving).

Students may experience difficulties in accurately interpreting and making sense of the visual information they receive, despite having normal or corrected vision. This can lead to challenges in areas such as reading, writing, spatial awareness, and visual-motor coordination. Students may struggle with tasks that require them to quickly and accurately process visual information.

STRATEGY CATEGORY	DESCRIPTION
Multisensory Instruction	● Use manipulatives, models, or real-life objects along with verbal explanations and visual aids. ● Provide oral explanations for visual concepts ● Provide verbal labels for visual representations ● Provide written copies of oral instructions ● Review spatial concepts ● Opportunities to practice visual processing skills (puzzles, games)
Reduce Visual Clutter	● Use uncluttered worksheets, provide clear and organized notes, and limit decorations in the classroom. ● Using aids to support visual tracking
Colour Coding	● Use different colours to highlight important information, organize concepts, or differentiate between tasks. (Colour-code different parts of speech in a sentence or use colored overlays to help with reading). ● Use highlighting, sticky-note flags or different coloured font to draw attention to important information: directions, questions, etc.
Graphic Organizers	● Use mind maps, flow charts, or Venn diagrams to represent relationships or sequences.
Chunking Information	● Provide step-by-step instructions or divide lengthy texts into shorter sections.
Visual Aids and Mnemonics	● Use visual cues, images, or memory aids to help students remember and recall information. (Create acronyms, use picture associations, mnemonics or draw diagrams to represent concepts.) ● Visual aids (charts, diagrams) to help organize information/remember details ● Enlarge print for books, papers, worksheets, and other materials or can be commercially available or enlarged using a photocopier or computer
Explicit Instruction	● Provide direct and systematic teaching of visual processing skills, breaking down tasks into smaller steps.(Model and practice visual discrimination, visual memory, or visual-spatial skills.) ● Play games where they find the odd one out, find the hidden object, circle the same word in a text, do word searches, find words beginning with “t,” ending with “ing,” or containing “ou,” spot the difference, I-Spy

SKILL AREA	IMPACT OF Gv DEFICITS	EVIDENCE-BASED INTERVENTIONS
READING	● Trouble recognizing words or letters ● Skipping lines or losing their place ● Reversing letters or numbers (e.g., reading “saw” as “was”) ● Difficulty tracking words from left to right ● Difficulty remembering sight words and letter patterns. ● Trouble recognizing partially obscured or incomplete words.	● Multisensory Structured Language Instruction uses visual, auditory, kinesthetic, and tactile modalities ● Coloured overlays can reduce visual stress and improve visual discrimination ● Visual mnemonics and imagery, such as picture associations and mental visualizations, can aid memory and comprehension. ● Explicit instruction in discrimination/memory ● Using orthographic strategies for decoding ● “Window” made by cutting a rectangle in an index card to help keep relevant information in focus while blocking out distractions. Then move to using a ruler or straightedge as tracking improves and eventually, can have the student point to the word with a finger ● Use a model they can refer to (alphabet)
WRITING	● Poor handwriting or inconsistent spacing between letters and words ● Trouble copying from the board or a book accurately ● Difficulty organizing thoughts and ideas on paper ● Difficulty recalling letter shapes and sequences ● Trouble distinguishing between similar-looking letters. ● difficulty recognizing and processing the visual patterns of words	● Multisensory Handwriting Instruction uses visual, auditory, kinesthetic, and tactile modalities to teach letter formation and handwriting skills. ● Visual-Motor Integration Interventions aim to improve the coordination between visual perception and motor output ● Graphic organizers and visual aids to help organize thoughts and ideas before writing. ● Explicit instruction in discrimination/memory ● Graph paper to improve spatial organization, letter and word alignment, consistent sizing to enhance legibility and quality ● Highlighting margins during writing tasks ● Handwriting practice ● Make lines on paper darker and more distinct ● Use paper with raised lines to provide kinesthetic feedback ● Simplify worksheet structure and limit the amount of material per worksheet ● Use paper divided into large, distinct sections
MATH	● Difficulty aligning numbers in columns for calculations ● Difficulty recognizing patterns or sequences ● Challenges with spatial relationships & geometry concepts ● Difficulty understanding place value, aligning numbers in columns, and working with fractions and decimals. ● Difficulty recognizing numerals and operation symbols accurately. ● Difficulty recalling math facts and procedures. ● Difficulty identifying missing parts of equations or geometric shapes.	● The Concrete-Representational-Abstract (CRA) sequence uses manipulatives, visual models, and abstract symbols to teach math concepts ● Visual representations and graphic organizers, like number lines and fraction models, help students understand and organize mathematical information. ● Explicit instruction in visual-spatial skills, such as discrimination and memory ● Multisensory math instruction, using manipulatives and kinesthetic activities, can reinforce concepts and improve retention ● Graph paper to improve their spatial organization, alignment, consistent sizing, visual cues, and ability to visualize and represent mathematical concepts ● “Window” made by cutting a rectangle in an index card to help keep relevant information in focus while blocking out distractions. ● Use paper divided into large, distinct sections
ORGANIZATION	● Messy workspace or difficulty keeping materials organized ● Trouble following multi-step instructions or sequences ● Difficulty finding items in cluttered environments	● Visual organizers, such as checklists, schedules, or graphic organizers ● Using colour-coding systems, visual labels, and other salient visual cues ● Teach use of binders, folders, or digital organizational tools.

Benefits of providing evidence-based interventions

		
Academic Success Visual processing skills are essential for reading, writing, and math, which are the foundational academic areas. Targeted interventions can help mitigate the impact of visual processing deficits and support the development of literacy and numeracy skills, enabling academic success.	Skill Development Visual processing skills are necessary for tasks such as dressing, tying shoelaces, navigating environments, recognizing faces, and interpreting visual cues. Interventions that address visual processing deficits can help students develop these essential skills, promoting independence and self-confidence.	Lifelong Implications Difficulties with visual processing can impact vocational choices, job performance, and overall quality of life. Interventions that target these areas can help individuals develop strategies and compensatory techniques that can be applied throughout their lives, enabling them to reach their full potential.