

Cognitive Skills 101: Strengths & Weaknesses

Cognitive skills are the foundation of learning. Similar to a computer's processor, they are always running in the background and allow us to take in, process, store, and retrieve information. Weaknesses in cognitive skills are often the root cause of learning and performance challenges in many areas of life. The good news is that all cognitive skills can be made strong by focused and deliberate cognitive skills training. Below are some of the most common indicators of performance in each skill. A weakness in a particular skill can manifest in various ways and even be compensated for by strength in other skills. Keep in mind that not all symptoms of a weakness must be present for someone to be low in a cognitive skill.

SHORT TERM MEMORY:

The ability to retain information for short periods of time while processing or using it.

WHEN WEAK:

- Difficulty following multi-step instructions
- Needs information to be repeated
- "In one ear and out the other" syndrome
- Trouble concentrating
- Gets off task easily or zones out
- Frequently frustrated
- Difficulty completing tasks in a timely manner
- Challenges with note-taking
- Struggles copying information from board to paper
- Often misdiagnosed as ADD/ADHD

WHEN STRONG:

- Quick to understand new ideas
- Picks up multi-step instructions with ease
- Great note taker
- Able to keep pace and stay engaged with lectures and conversations
- Skilled at holding concepts and associated details of a passage while reading

PROCESSING SPEED:

The ability to quickly process information and perform mental tasks when speed is required.

WHEN WEAK:

- Has a hard time completing classwork in school
- Easily distracted or zones out
- Prone to frustration
- Experiences test anxiety, especially when timed
- Homework takes longer than it should
- Slow reader
- Performs poorly on math facts tests
- Performance does not match ability
- Often misdiagnosed as ADD/ADHD

WHEN STRONG:

- Finishes tasks in appropriate amount of time or quicker than expected
- Stays focused
- Does well with timed tests
- Can make decisions quickly and with ease
- Learns new concepts quickly

LONG TERM MEMORY:

The ability to store and recall information for later use.

WHEN WEAK:

- Seems to prepare adequately or understand material, but still performs poorly on tests
- Grades don't reflect effort
- Needs multiple repetitions to retain information
- Anxious about tests
- Missing assignments at school
- Remembers things they enjoy, but forgets academic material

WHEN STRONG:

- Recalls information promptly and with ease
- Performs well on tests
- Feels comfortable and confident demonstrating what they know
- Has the ability to carry concepts from one topic to the next

VISUAL PROCESSING:

The ability to perceive, analyze and think in visual images – the mind's eye.

WHEN WEAK:

- Has difficulty making mental movies or pictures
- Struggles visualizing information in word problems
- Likes movies/video games more than imaginative play
- Reading comprehension may be weak
- Spatial awareness is challenging – poor judge of distance
- Does not enjoy reading for pleasure

WHEN STRONG:

- Creative
- Enjoys and is skilled at games, puzzles, or sports
- Great with imaginative play
- Can become engrossed or lost in a book
- Strong reading comprehension

LOGIC AND REASONING:

The ability to reason, problem-solve, and plan.

WHEN WEAK:

- Writing, word problems or reading comprehension may be challenging
- Responses don't always fit with questions/discussion
- Can feel overwhelmed when presented with a new problem
- Frequently says, "I don't get it."
- Struggles to make inferences or read between the lines

WHEN STRONG:

- Grasps new concepts with ease
- Skilled at negotiating and/or problem solving
- Participates in conversations with ease
- Able to organize thoughts in a clear and concise manner in written and spoken communication

AUDITORY PROCESSING:

The ability to hear and distinguish different sounds and make sense of verbal information.

WHEN WEAK:

- Asks for instructions to be repeated
- May be a choppy reader or weak at spelling
- Mispronounces words
- May resist reading out loud
- Poor reading comprehension
- Does better with visual cues while learning
- Poor note-taker
- Frequent ear infections when young

WHEN STRONG:

- Great decoding and spelling skills
- Tracks verbal information well
- Strong reader
- Good note taker
- Picks up verbal information rapidly and accurately

ATTENTION:

The ability to stay on task, switch between tasks, and ignore distractions.

WHEN WEAK:

- Slow to complete tasks
- Difficulty tuning out distractions
- Challenges with quickly jumping between tasks
- Short attention span
- Can sometimes be impulsive

WHEN STRONG:

- Has good impulse control
- Can stay on track for long periods of time
- Is able to stay focused even when distractions are present
- Multi-tasks with ease

NEUROPLASTICITY:

“Neuro” as in neuron or brain and “plasticity” as in plastic or moldable and bendable; the brain’s ability to reorganize itself by forming new neural connections throughout life.

BENEFITS OF IMPROVING ONE OR MORE COGNITIVE SKILLS:

- Increased attention and focus in and out of the classroom
- Increased enjoyment and ease of learning
- Improved self confidence
- Decreased homework struggles
- Improved test performance
- Ability to complete assignments with greater speed and efficiency
- Improved problem solving and strategy
- Reduction or elimination of medications
- Resolution of learning challenges or disabilities
- Recovery from concussion/TBI
- Increased competitive edge
- Higher IQ

COGNITIVE SKILLS AVERAGE GAINS

Based on 100 hours (20 weeks) of training

SKILLS	PERCENTILE POINT INCREASE	AGE EQUIVALENCY # OF YEARS INCREASE
SHORT TERM MEMORY	27.7	3.36
LONG TERM MEMORY	38	7.8
VISUAL PROCESSING	40.25	7.98
LOGIC & REASONING	48	7.44
PROCESSING SPEED	31.6	2.89
AUDITORY PROCESSING	45.83	7.36

IQ (GIA) INCREASE = +17

NOTES:



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