



Gibson Test of Brain Skills

Every student should have a vision and hearing exam to ensure these processing systems are working properly.

Parents need to know if their child needs glasses or has a hearing issue.

What about how well the brain is processing stimuli. This impacts learning effectiveness.

Previously, there was no cost-effective method available to measure cognitive skills. Now, there is.

What are cognitive skills?

- Cognitive skills are generally thought to be the way in which the brain organizes itself to be able to process stimuli and make sense of the world
- One common model to define cognitive skills is the **Cattell–Horn–Carroll theory**
 - https://en.wikipedia.org/wiki/Cattell–Horn–Carroll_theory
- General cognitive skills include memory, attention, visual processing, auditory processing, and logic and reasoning
- Memory for example can be further broken down into short-term memory, long-term memory, working memory, visual memory and auditory memory

What do cognitive skills do? How do they develop?

- Cognitive skills empower everything we do
- For example, they empower remembering, seeing, hearing, planning, movement, driving, reading, listening to music, learning, speaking, playing sports, etc.
- Age 0-5 is the most dramatic brain development stage. We continue to strengthen skills until a certain age (20-30) and then decline. There is still a debate about the ability to improve cognitive skills past a certain age.
- Life experiences and interactions with stimuli develop cognitive skills. The better the interactions, the stronger the skills in most cases.
- Students need a strong set of foundational cognitive skills in order to learn effectively



Learned skills vs. cognitive skills

- Cognitive skills process stimuli to empower learning
- What we learn from stimuli becomes a learned skill
- Listening to teachers, reading books, watching videos are ways students are exposed to content
- Based upon the quality of instruction and curriculum, students learn how to read, how to do math, how science works, history, languages, etc.
- Skiing, swimming, carpentry, riding a bike, welding, etc. are also learned skills

Measuring cognitive skills

- Scientists have developed ways to measure cognitive skills through various testing methods
 - The Woodcock Johnson IV battery of cognitive skills is commonly used in schools
 - Most tests are administered in person individually by qualified personnel, so the testing is resource intensive
- Results have been standardized by age so a score for a student provides a percentile rank comparison to the standard group. The score can also be expressed by age comparison up to age 18.
- There may be up to 70 different cognitive skills, but tests usually only measure a core group that have a direct impact on learning effectiveness, such as memory, auditory processing, visual processing and logic and reasoning

How do weak cognitive skills impact learning?

- If a student scores below their age percentile average, or below their age level that means that skill is not as efficient at processing stimuli/information
- The lower the score, the more inefficient that skill works, the harder it is for a student to learn
- They may still be able to learn, but learning will be slower, harder and in some cases, very difficult
- All students can benefit from certain types of training to build and maintain cognitive skills

The Gibson Test of brain skills

- LearningRx is a clinical brain training company with centers worldwide
- They built and validated a manual cognitive skill test for licensed practitioners which was used for over 70,000 clinical students
- Starting in 2006, they developed and validated an online version
 - <https://www.thegibsonstest.com/#>
- The test is available in 20 languages and is in use worldwide in clinics

Taking the Gibson Test

- The test is taken online, 2nd grade and above
- It takes about 1 hour to complete and should be taken in one sitting; each subtest is time limited
- Results are available immediately upon completion
- High speed internet with a reliable and updated computer is required
- Best if a mouse is used
 - Can be taken on a tablet
 - Best not to use a trackpad on a laptop as a trackpad does not allow you to complete required tasks quickly
- Test should be taken in a quiet situation without disruptions

Summary

- Knowing if a student has any weak cognitive skills is important to help ensure each student has the best skills possible to help them achieve their full potential
- The Gibson Test is a proven and validated resource
- It is cost effective and easy to administer
- Similar to an eye or hearing test, every parent should want to know the cognitive skill capacity for their student