**RELATIVE STRENGTHS AND WEAKNESSES**

|  |  |
| --- | --- |
|  |  |
| FINE MOTOR | GROSS MOTOR |
|

|  |  |
| --- | --- |
|  | Rapid alternating movement (22) |
|  | In hand manipulation |
|  | Eye hand coordination |

HANDWRITING

|  |  |
| --- | --- |
|  | Writing Posture  |
|  | Pencil grasp |

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|  |  |
| --- | --- |
|  | Balance (23) |
|  | Flexors (24) |
|  | Extensors (24) |
|  | Muscle Tone (25) |
|  | Coordination (26) |

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|  |  |
| VISUAL SYSTEM

|  |  |
| --- | --- |
|  | Figure ground (7) |
|  | Shifting gaze (left/right) (8) |
|  | Fixation (9) |
|  | Fixation/head movement (9) |
|  | Convergence (10) |
|  | Divergence (11) |
|  | Tracking H pattern (12) |
|  | Tracking O pattern (12) |

COGNITIVE/MEMORY

|  |  |
| --- | --- |
| Sequencing (ordered) | X Steps (27) |
| Processing (non-ordered) | X Steps (28) |

 | SIDEDNESS

|  |  |
| --- | --- |
| Dominance | Right/Left/Ambidextrous  |
| right | EYE |
| right | EAR  |
| right | HAND |
| right | FOOT |

REFLEXES

|  |  |
| --- | --- |
|  | TLR (3) |
|  | ATNR (1) |
|  | SPINAL GALANT (4) |
|  | STNR (2) |
|  | PALMAR REFLEX (5) |
|  | MORO (6) |

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BODY AWARENESS AND SENSORY

|  |  |
| --- | --- |
|  | Verbal praxis (Following verbal directions) (13) |
|  | Visual sequencing (Visually copying movements) (14) |
|  | Postural Praxis (Visually copying static position) (15) |
|  | Oral Praxis - Copying tongue movements (16) |
|  | Tactile awareness (touch) (1 point = ) (2 point = ) (17) |
|  | Vestibular (movement registration) = Hyper-sensitive. Hypo-sensitive (18) |
|  | Grading movement (erratic vs smooth) (19) |
|  | Crossing midline (20) |
|  | Body awareness in space (kinesthetic praxis) (21) |

**Legend**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Area of Difficulty |  |  | Mild Impairment  |  |  | Relative Strength |

**Handwriting**

*INSERT WRITING SAMPLE HERE*

**The following handwriting areas of difficulty were noted**:

|  |  |
| --- | --- |
| qDoes not start on the left side of the pageqDoes not stay within boundaries of the page (runs out of room on right)qDoes not stay within the boundaries of the coloring/drawing area or writing lineqDoes not space evenlyqReverses letters/numbersqDifficulty writing their nameqDifficulty with letter/number formationcopying/writingq Sacrificed speed for accuracy | qDoes not maintain space when qDoes not copy entire word or multiple words without frequent glancing at modelqFrequently stops or looks up when copyingqDifficulty with dot-to-dot tracingq Poor punctuationq Poor spellingq Perseverationsq Hand fatigueq Did not anchor page with other handq Did not rotate paper correctly |

**Difficulty with prewriting strokes or shapes**:

q| q- q0 q+ q/ q\ qX qsquare qtriangle qdiamond

**Pressure**: qhigh q low

**Letters/numbers** qtoo big qtoo small

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Letters Per Minute (29)** |  | **Words Per Minute (30)** |

**Grasp used**: (select letter from image below):

****

**Writing Posture**

qHead is not upright and/or slightly forward
qForearms are not resting on the desk
qBack is not straight and/or supported
qHips, knees, and elbows are not at 90 degrees
qFeet are not flat on the floor

**Glossary of Terms**

Retained reflexes can affect all function:

(1) **Asymmetrical Tonic Neck Reflex (ATNR):** is often related to difficulties with handwriting (eg, difficulty writing on the non-dominant side of the page), bilateral integration, eye-hand coordination, lateral eye movement, reading and laterality (do not have a dominant side of the body).

(2) **Symmetrical Tonic Neck Reflex (STNR):** ability will be essential for being able to read without losing the words at the middle of the line and to visually follow the moving hand when writing.Other symptoms include poor posture, tendency to slump when sitting, particularly at a desk, poor hand-eye coordination, messy eating, clumsiness, problem catching balls and slow at copying from blackboard.

(3) **Tonic Labyrinthine Reflex (TLR):** difficulty with balance, muscle tone, poor posture, tendency to walk forward on toes, weak at ball skills, and poor articulation.

(4) **Spinal Galant**: bedwetting, difficulty concentrating, short-term memory issues, or fidgeting

(5) **Palmar Grasp Reflex**: poor fine motor skills, sticks out tongue when concentrating or speech problems, poor handwriting and reversing letters when writing.

(6) **Moro**: known as the startle reflex, if a child retains this reflex, he may become over sensitive and over reactive to sensory stimulus resulting in poor impulse control, sensory overload, anxiety and emotions and social immaturity. Some additional signs of a retained Moro reflex are motion sickness, poor balance, poor coordination, easily distracted, unable to adapt well to change, and mood swings.

A key need for school and sport function is a strong visual system:

(7) **Figure Ground**: the ability to visually see one item in a field of multiple objects

(8) **Shifting gaze**: the ability to look from one object to another (e.g., reading from left to right).

(9) **Fixation**: the ability to keep looking at an object (with or independent of head movement).

(10) **Convergence**: the simultaneous inward movement of both eyes to work together to look at nearby objects (i.e., experience difficulty reading/writing, double vision, become tired or experience difficulty concentrating).

(11) **Divergence**: simultaneous outward movement of both eyes away from each other to look at far away objects (i.e., experience difficulty reading/writing, double vision, become tired or experience difficulty concentrating).

(12) **Tracking (H O)**: the ability of both eyes to follow vertical, horizontal and circular movements to visually track an object.

Sensory function summary:

(13) **Verbal Praxis**: The ability to listen and follow a teacher’s verbal directions (e,g., hearing and executing a teacher’s oral instructions).

(14) **Visual** Sequencing: The ability to observe and follow a teacher’s visual directions (e.g., copying multiple items from a board).

(15) **Postural Praxis**: The ability to copy body posture (e.g., learning a dance or playing sports).

(16) **Oral Praxis**: The ability to plan and execute tongue movements (e.g., speaking, swallowing, as well as a good indicator of ability to coordinate body movements).

(17) **Tactile Awareness**: The ability to identify 1-2 point touch without vision (e.g., to comb hair, buttoning or find items in a backpack without vision).

(18) **Vestibular**: This test gives us information about how a child can orient themselves upright against gravity, their ability to stay alert, and how they combine sensory information to understand where they are in space (e.g., visually follow the teacher and her directions as she walks in front of the room while talking, sitting upright at a desk to complete seatwork, and paying attention in school).

(19) **Grading Movement**: the ability to use the appropriate amount of force to complete motor skills (e.g., too little/much pressure when writing).

(20) **Crossing Midline**: The ability to move body from one side to the other (e.g., visually track from left to right or reach toward the left using the right hand).

(21) **Kinesthetic Praxis:** Body awareness in space: a person's ability to sense and understand the position, movement, and orientation of their body parts in relation to each other and the surrounding environment without relying on visual cues. A student with body awareness difficulties may present themselves as restless because they need to constantly move to know where they are in space. They may also have difficulty with handwriting and sports.

After a child develops sensory processing skills, they progress on to developing Gross Motor skills (large muscle movement) and fine motor skills (small muscle movement):

(22) **Rapid Alternating Movement (RAM):** The RAM test assesses hand coordination by prompting individuals to swiftly touch each finger with their thumb on both hands, evaluating rhythm and any discrepancies between hands. Students who have difficulty with this skill may have difficulties with: Balance and coordination problems, Poor coordination of hands, arms, and legs., Slurring of speech., Difficulty with writing and eating., Slow eye movements.

**(23) Balance**: reduced balance may affect your child’s ability to sit or walk. Children with balance difficulty may have difficulty with sports and school function.

**(24) Extensors/Flexors**: may appear distractible because they’re focusing more on staying upright, present with poor seated endurance, may have sloppy handwriting due to poor posture or appear clumsy.

**(25) Muscle Tone**: affects a student’s ability to hold, grasp and maintain posture (e.g,. floppy or hyper-extending body parts).

**(26) Coordination**: the ability to coordinate different parts of the body.

Cognition represents a variety of skills. Here, we address only memory and processing of information that is stored in memory:

(27) **Sequencing**: arranging and recalling information in a particular order.

(28) **Processing**: recalling information stored in memory in an order different from the order it was memorized in. Students struggle with this type of memory with new information.

(29) **Letters per minute**: Handwriting speeds vary by grade level, gender, and handwriting style. Average speeds for children:

Grade 1: Girls average 21 LPM, and boys average 17 LPM

Grade 2: Girls average 36 LPM, and boys average 32 LPM

Grade 3: Girls average 50 LPM, and boys average 45 LPM

Primary school

Average writing speeds for children in primary school are:

Age 6: 3.6 words per minute

Age 7: 5.6 words per minute

Age 8: 7.2 words per minute

Age 9: 9 words per minute

Age 10: 10.4 words per minute

Age 11: 12 words per minute

(30) **Words per minute**: Students were instructed to write as fast as they could without making errors

Grade.  Av. WPM - copying using Handwriting.

1                4

2                7

3                10

4                13

5                15

6                17

7                20

8                23

9                24

Graham, Beringer, Weintraub & Schafer, 1998