"To sit down with a blank piece of paper and write was the most traumatic thing that had ever faced me in life," he recalls. "I had ideas in my head, but I could not get the stuff down. It was a crushing time." - Charles Schwab
What is Dysgraphia?

“Dysgraphia is a learning disability that affects writing abilities. It can manifest itself as difficulties with spelling, poor handwriting and trouble putting thoughts on paper.”

- (National Center for Learning Disabilities)

Dysgraphia, or disorders of written expression, qualify as specific learning disabilities under the IDEA (Individuals with Disabilities Education Act)
Different Types of Writing Problems

- Messy Handwriting
- Slow Handwriting
- Poor Writing Endurance
- Unrecognized Visual Problems

- Problems Organizing Ideas
- Problems Retrieving Ideas
- Visual / NonVerbal Thinkers
- Working Memory Overload

- Emotional Stresses of Writing
- Perfectionism, Low Frustration Tolerance
Very common in gifted children, especially boys. Often in context of dyslexia, sensory processing disorder, or visual problems (extremely common).

May present as very messy, or very slow handwriting.

Slow handwriting (most common presentation in girls) often goes unrecognized, and usually presents as difficulty completing work, poor work output, or work resistance.

Often most easily diagnosed in comparison to oral output.

Writing difficulties often extremely emotionally distressing.
Writing Problems of Gifted Students
Impaired Letter Automaticity

- No regular kinesthetic 'template' for letters
- Letters vary in shapes and sizes
- Letter confusions – g & j, s & c
- Dyslexia, mild birth stress, spatial talent

Middle school

Gifted Teen in College
Letter confusion with alphabet
Writing Problems of Gifted Students
Impaired Letter Automaticity

Control

Cerebellar Degeneration
(Critchley)

2E Child with Cerebellar Findings

Fingers don't make the same movements every time

May Avoid Fingers
Treatment and Accommodations

Occupational Therapy
Motor & Sensory Therapy
6 months

- Strengthening – Fine motor, upper body muscles
- Sensory Diet – Improving feedback to muscles
- Multi-sensory Training: Air writing with large movements, Imagery Work, Verbal Mediation
- Dictate Work, Begin to Keyboard
Writing Problems of Gifted Students
Unrecognized Visual

Mazes

Sloppy Handwriting
Careless Mistakes

“Sure I see double. In fact I can see 2 of my hand, now!”

'Clumsy'
Flipped Over Handlebars on Bike
Interrupts Conversations

Dev Optometrist
Doubling Out to 48”
Divergent Strabismus
Convergence Problems
Dysgraphia

Don’t treat handwriting as the narrow route along which all a child’s work must pass

• Never let handwriting problems prevent progress in other areas!
• Accommodations like written notes, alternative forms of output (e.g. keyboarding, scribing, oral presentations) can keep children with dysgraphia learning to their full capacity.
• Practice handwriting as its own separate discipline.
Writing Problems of Gifted Students
Organization, Visual Thinking, Retrieval

- Creative – Lots of Ideas
- Voracious Intellect – Lots of Information

- Trouble Narrowing Topics
- Trouble Prioritizing & Selecting
- 'Big Picture' – No Words or Sequence
- Point-Counterpoint – Analysis Paralysis
- Never Really Finished, No Time!

Hate open-ended writing prompts....
Writing Problems of Gifted Students
Organization and Retrieval

Conquering the Blank Slate

- Writing from Imitation – Rhetoric
- Refutation Writing
- Dialectical / Conversational Writing
- Discuss Ideas
- Central Metaphor or Analogy
- Transdisciplinary topics
- Visual Organizers / Mind Mapping / Powerpoint
- Sticky Notes
Writing Problems of Gifted Students
Visual Thinking, Sensory Perceptions

• Non-Verbal Thinking Essential for Nearly All Creative Work
• Visual Images, Bodily Sensations, Feelings, Associations
• Difficult to Translate into Words

“Everything began with images, a faun carrying an umbrella, a queen on a sledge, a magnificent lion.” - C.S. Lewis

“It's all visual...the character of the answer...I try to get the Pictures clearer, but in the end the mathematics can take over And be more efficient...” - Richard Feynman

“...an almost tactile way to imagine the physical situations” - Stanislaw Ulam
Writing Problems of Gifted Students

Visual Thinkers – Thinking with a Pencil

Idea Generation, Revision, Sequence

Urban planner communicating his ideas about the creative process

Author sketching ideas for a story

Young Visual Thinkers May Not Yet Be Able to Think With a Pencil

Engineer thinking about a mechanism
Writing Problems of Gifted Students
Visual Thinking, Sensory Perceptions

Getting the Words Out

- Dramatization – Acting out stories
- Multimedia Approaches to Storytelling
- Poetry, Key Words, Mind mapping
- Write dialogue – Dialectical writing...
- good for strong personal memory learners
Writing Problems of Gifted Students
Working Memory Overload

Working Memory ≠ Long Term Memory
Gifted Kids (and Adults) Can Have Small Working Memory

How much can you juggle at once?

- Plan what I want to say
- Select and retrieve words
- Organize them into sentences
- Organize sentences into paragraphs

- Organize paragraphs
- Grammar, Spelling Conventions
- Write the words

Lucas, brehm, sentence form
Emotional Consequences of Dysgraphia

“His teacher would let him take his work home, but it would take two or three hours...”

“I told her I wasn't finished, but she just took my paper away...”

“We found he had crumpled up his papers and hidden them at the bottom of his backpack...”

In a chart review in our clinic of 7 year olds with dysgraphia, being gifted increased 3-fold the likelihood that a child had said he or she wanted to die...

'Explosive' Behavior Withdrawal Depression
Accommodations for Young Students with Dysgraphia

- Reduce writing by hand
- Strengthen muscles, improve coordination
- Encourage dictation
- Consider learning to keyboard
- Separate the mechanical aspects of writing
- from creative or ideational parts

7 yo who reached superior adult II on Stanford Binet

“I'm depressed, I can't draw on my own...”
Accommodations for High School and College Students with Dysgraphia

- Keyboarding
- Handouts
- Do not require note-taking
- Listen in Class – Use Note Takers, Note Co-ops
- Study buddy – talk over information & papers
- Podcasts or Other Recorded Lectures
- 'Smart Pens' – e.g. Live Scribe
- Reduced Courseloads, Summer Classes
- Options to test orally
- Plan Early Deadlines