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SpeechPathology.com
Virtual Conference**

**Topics in Autism Spectrum
Disorders and Asperger Syndrome**

*In cooperation with the University of
Wisconsin-Eau Claire*



**Autism and My
Sensory-Based World**

Presented By:

**Temple Grandin, Ph.D.
Linda Schreiber, M.S., CCC-SLP
Kristine Retherford, Ph.D., CCC-SLP**

Moderated By:

Amy Hansen, M.A., CCC-SLP, Managing Editor, SpeechPathology.com

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EARNING CEUS

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New! from SpeechPathology.com



Nancy McKinley
LECTURE SERIES
on Autism Spectrum Disorders and Asperger Syndrome

With...
Temple Grandin
Elisabeth Wügg
Carol Westby
Sylvia Diehl
Emily Rubin
Rhea Paul
Michelle Winner

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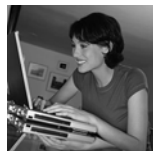
Peer Review Process

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APPLY TODAY!

- 3+ years SLP Clinical experience Required

- **Contact:** Amy Natho at anatho@speechpathology.com

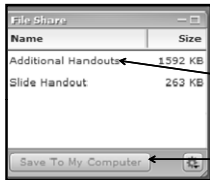


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Type question or comment and click the send button

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Click Save to My Computer

Autism and My Sensory Based World



Temple Grandin



- A good teacher is gently insistent
- Early intervention essential
- Minimum 20 hours weekly

Sensory processing disorder occurs with many other disorders (co-morbid)

- Autism spectrum
- Dyslexia
- Learning problems
- ADHD
- Asperger
- Head injury
- Oppositional defiant
- Many others

Child blocks ears because certain sounds hurt



Little Rainman by Karen Simmons

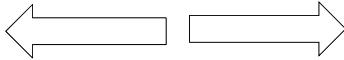
Auditory Threshold Normal



- Hearing auditory detail is impaired
 - Stretch out and enunciate consonants
 - Hearing may be like a bad mobile phone connection
 - Occurs with many disorders
- Echolalia increases as receptive language becomes worse*
Jacqueline Roberts 1997

Attention shifting slowness occurs with many disorders

Takes longer to shift back and forth between two different things

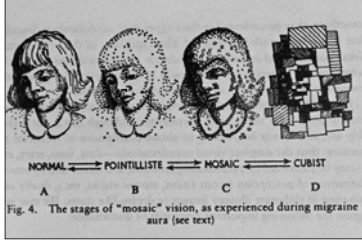


Viewer with Autism (Red Line)
Normal Comparison Viewer (Yellow Line)



Ami Klin

Visual images break up and fragment



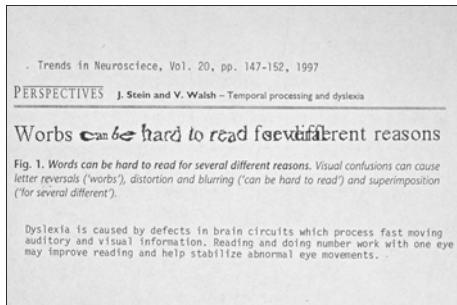
Oliver Sacks

Signs of Visual Processing Problems

- Finger flicking near eyes
- Tilts head
- Hates escalators
- Hates fluorescent lights
- Difficulty catching a ball
- Eye exams may be normal



Words vibrate and jiggle on page



Interventions for Visual Processing Problems

Incandescent lamp by desk



Block fluorescent lights with a hat

Laptop computer



Gray, tan, or pastel paper

Irlen lenses or pale colored glasses



Balancing games- sit on ball

Prism glasses- Developmental Optometrist



Severe Sensory Problems

- o Background noise problems
- o Mono-channel
- o Body boundary problems
- o Often an auditory thinker
- o Best book

*How Can I Talk If My Lips Don't Move:
Inside My Autistic Mind*
by Tito Rajarshi Mukhopadhyay

What Have Scientists Learned?

Sensory problems are real

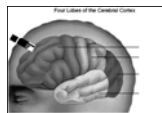
Immature lower brain areas

Abnormal circuits between different brain regions



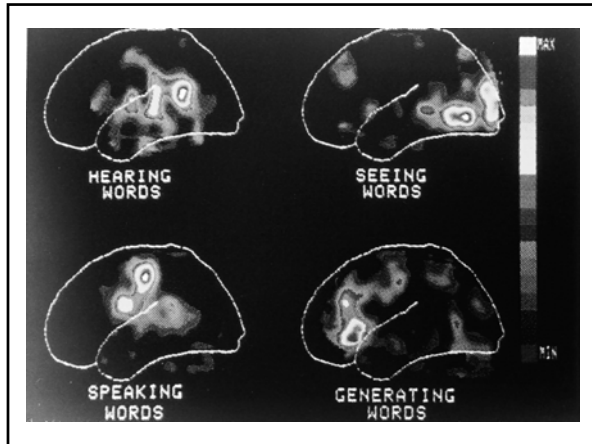
Sensory problems are variable

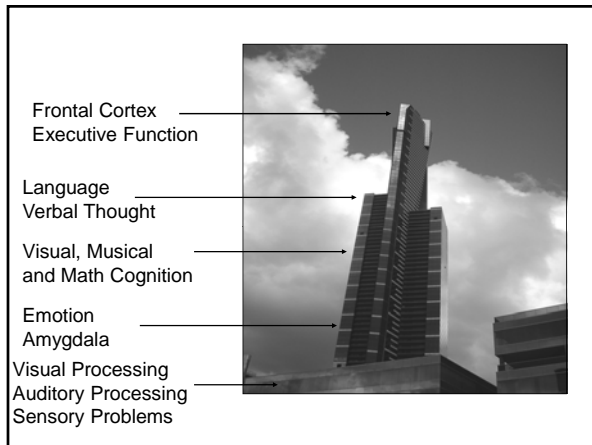
Many word based tasks are processed in visual areas of the brain

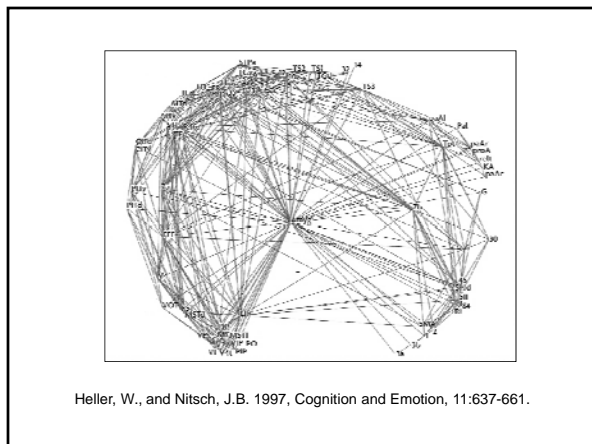


Frontal cortex is used less because it has missing circuits

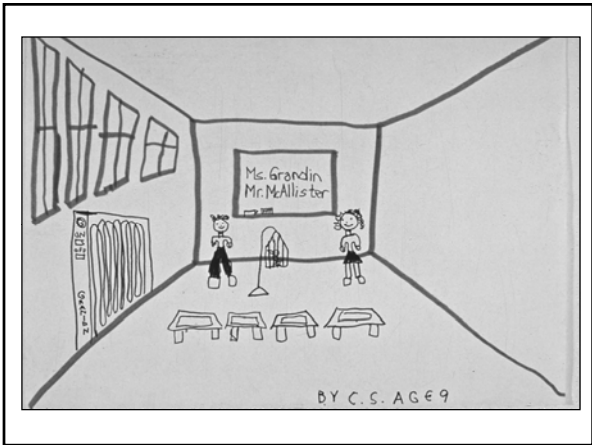
Eric Courchesne, Nancy Minshew, Margaret Bauman







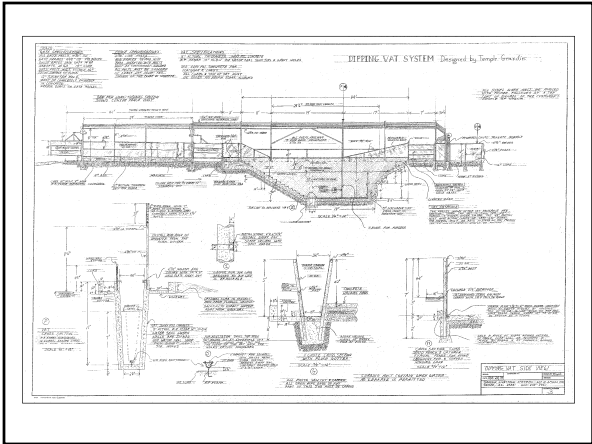












I realized my thinking was different when I asked other people to think about church steeples

**Most people see in their imagination a generalized generic steeple**

I see only specific pictures of steeples I have observed.

They flash into my memory like a series of still Googled pictures

My childhood church
First category under steeples



Local churches in Fort Collins
Secondary category under steeples



Famous Steeples
Mormon Temple, Washington, D.C.
Third category under steeples



Famous Steeples
Old North Church - Boston
Third category under steeples



Famous Steeples
Notre Dame
Third category under steeples

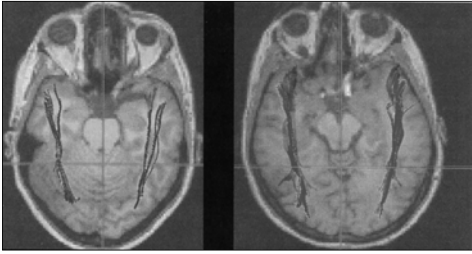


Famous Steeples
Westminster Abbey



Brain Scans

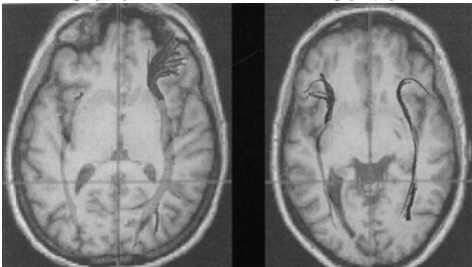
Control T. Grandin



Humphreys, Minshe, Behrmann, and Cibu, 2006

Brain Scans


T. Grandin Control



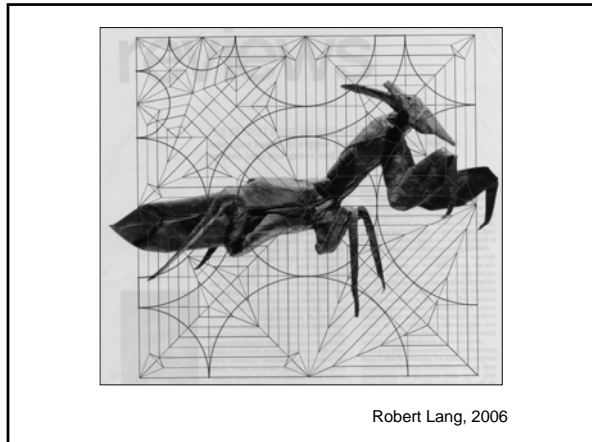
Humphreys, Minshe, Behrmann, and Cibu, 2006

Develop Talents in the Individual's Specialist Brain

1. Photo Realistic Visual Thinking – Poor at algebra
2. Pattern Thinker Music and Math – Poor in reading
3. Verbal Facts Language Translation – Poor at drawing
4. Auditory Thinker – Visual perception fragmented



There can be mixtures of these thinking types



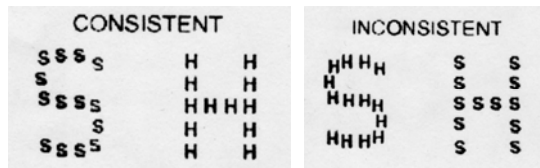


- All my thinking uses specific examples to create concepts
- It is bottom up thinking and not top down thinking
- I learned ALL concepts using specific examples

Play games with categorizing many objects to learn concepts such as color, shape, bigger than, smaller than, clothing, food, etc.



Details are Attended to Instead of Whole Gestalts



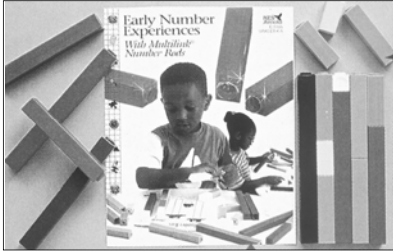
- Autism faster response time to small letters
- Attend to details of faces instead of the whole

Behrmann et al., *Neuropsychologia* 2005



Is autistic learning just memorization? It is memorization and scripting, but as more information is memorized, it can be assembled into more and more categories which will help thinking to become more flexible.

Make number concepts real with objects the child can manipulate



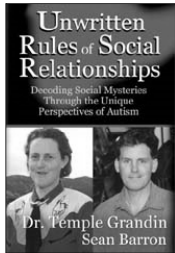
Base Ten Blocks work well



Teach Number Concept Generalization

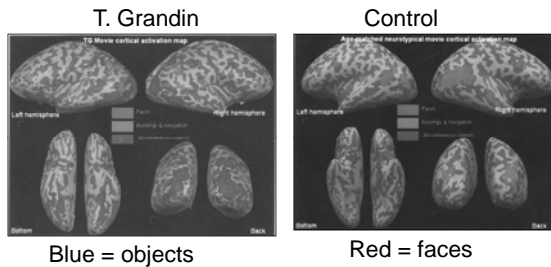
- Count a variety of different kinds of objects
- Addition and Subtraction - Teach with many objects
- Fractions – Teach by cutting up fruit and paper circles





I am what I do more than what I feel. Social skills can be taught but social emotion relatedness may remain absent or weak.

Objects are More Interesting than Faces



Humphreys, Minshew, Behrmann, and Cibu, 2006

Social Interaction Through Shared Interests

- School Clubs
- Hobbies
- Careers
- Classes that really interest an individual



Categorize Behavior Problems

- Is it **biological**?
 - Sensory over sensitivity
 - Hidden painful medical problem

- Is it **behavioral**?
 - Frustration because cannot communicate
 - Get attention
 - Escape from a task

Sensory and Neurological Problems That May Need Accommodations

- ❖ Screams when the fire alarm rings
- ❖ Tantrums in a supermarket
- ❖ Cannot tolerate scratchy clothes
- ❖ Poor handwriting
- ❖ Tantrums or hyperactive under fluorescent lights
- ❖ Difficulty multitasking
- ❖ Difficulty with long verbal directions

My 1950's upbringing taught me many important social and job skills. Everything was learned by categorizing specific examples into these concepts:

- ❖ Turn taking in conversation and activities
- ❖ Being on time
- ❖ Do things I was asked to do
- ❖ Doing things that pleased other people
- ❖ Saying *please* and *thank you*
- ❖ Social mistakes were instantly corrected by telling me what to do

Bad Behavior Was Not Tolerated When I was a Child

- ❖ Being rude
- ❖ Bad table manners
- ❖ Manipulating a teacher by having a tantrum
- ❖ Poor grooming and sloppy clothes
- ❖ Laughing at an overweight woman
- ❖ Swearing

- ⦿ Eccentric is acceptable; being dirty and rude is not.
- ⦿ Do not try to de-geek the geek!



Rule System

1. Really bad things
2. Courtesy rules
3. Illegal but not bad
4. Sins of the system

Teach Values One Concrete Example at a Time



My childhood 1950's TV heroes had clear values of right and wrong



Kids today see too many grownups behaving badly

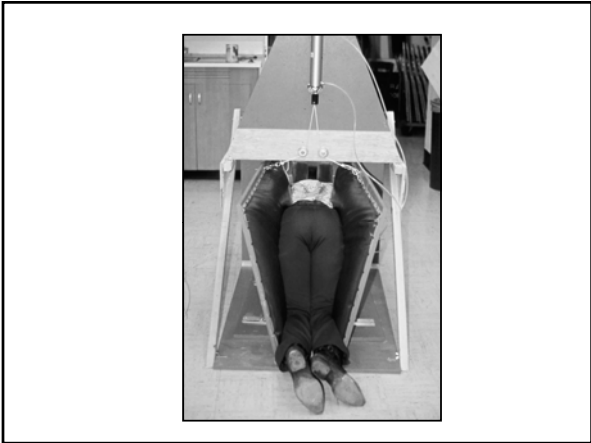
Hidden Painful Medical Problems in Non-Verbal Individuals That Can Cause SEVERE Behavior Problems

- Acid Reflux heartburn (most common). Not always obvious.
- Constipation
- Urinary tract infection
- Yeast infection
- Ear infection
- Bad tooth
- H pylori (stomach, ulcer bug)



The squeeze machine helped reduce anxiety and panic attacks

Fear is the main emotion in Autism



Using pressure to calm the nervous system during therapy



Sometimes speech is easier when the child is swinging



Sitting on a ball and wearing a weighted vest helps concentration. Use for 20 minutes then take off for 20 minutes.



It is important to desensitize touch sensitive autistic children so that they will enjoy affection. Feeling the good feelings of being held helps to develop feelings of kindness.



Preparing for Employment

1. Jobs for teenagers
2. Mentors
3. Visit work place
4. Trade journals
5. Wall Street Journal
 - Make portfolio - people respect talent
6. Sell your skill, not yourself



I was a poor student but I learned lots of valuable work skills in high school. I did building projects that other people appreciated

Before



After



LEGO® MINDSTORMS™ & LEGO Technic

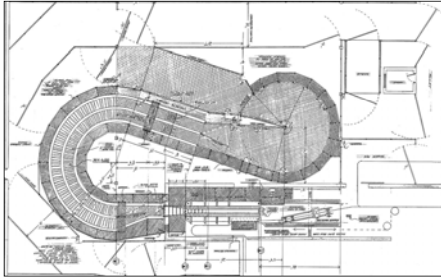


TECH

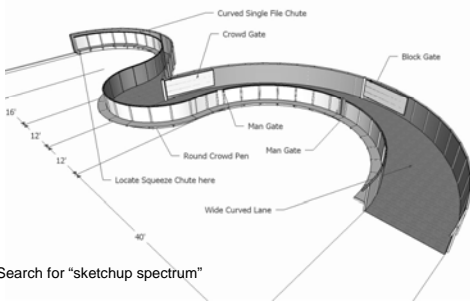
Teaching an Old Toy Some Cool New Tricks

or tomorrow left you with the impression that all digital toys are brain dead. Lego's Mindstorms could change your mind. This fall the venerable plastic building blocks will come with sensors, screens, an analog computer controller, enabling kids to create dancing, thinking, learning robots. Developed with MIT's Media Lab, the new Lego Mindstorms robot does (or their parents) under a computer programming language before they can bring the toys to life. With 700 pieces, the set should keep kids busy for days before they hit the household.

People Were Impressed With My Drawings



My Design in Google SketchUp



Educational Resources

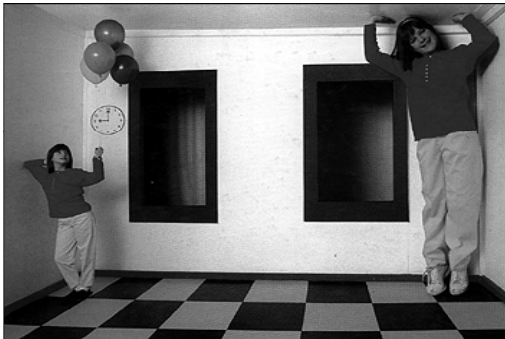
- Community Colleges
- Technical Schools
- On-line Learning
- University Courses



Science Websites

- U.S. National Science Digital Library Project
- The Science Prize for Online Resources in Education (SPORE)
- Physics Education Technology PhET
- Open Course Ware Consortium

Show Kids Interesting Things



Autism.org

800-3-AUTISM

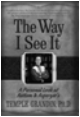
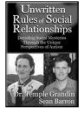
grandin.com

Future Horizons

<http://www.fhautism.com/>

Autism Asperger Publishing

Books by Temple Grandin



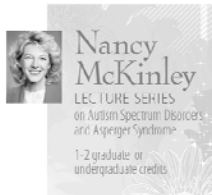
Thinking in Pictures
Developing Talents
Animals in Translation
Unwritten Social Rules
Emergence Labeled Autistic
The Way I See It
Animals Make Us Human



Conference Schedule

- Monday:** 12:00pm EST Temple Grandin, Ph.D; Linda Schreiber, M.S., CCC-SLP; Kristine Retherford, Ph.D., CCC-SLP
- Tuesday:** 12:00pm EST Carol Westby, Ph.D., CCC-SLP
3:00pm EST Michelle Garcia Winner, M.A., CCC-SLP
- Wednesday:** 12:00pm EST Sylvia Diehl, Ph.D., CCC-SLP
3:00pm EST Rhea Paul, Ph.D., CCC-SLP
- Thursday:** 12:00pm EST Emily Rubin, M.S., CCC-SLP
3:00pm EST Elisabeth Wiig, Ph.D., CCC-SLP
- Friday:** 12:00pm EST Round Table with Sylvia Diehl, Emily Rubin, Carol Westby, and Elisabeth Wiig

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