

Brains wired differently: Supporting the Complexities of Twice Exceptional Learners

Susan Baum, Ph.D.

Bridges Graduate School for Cognitive Diversity in Education

Studio City, CA 91606

www.bridges.edu



Neurodiversity
is Coming of
Age

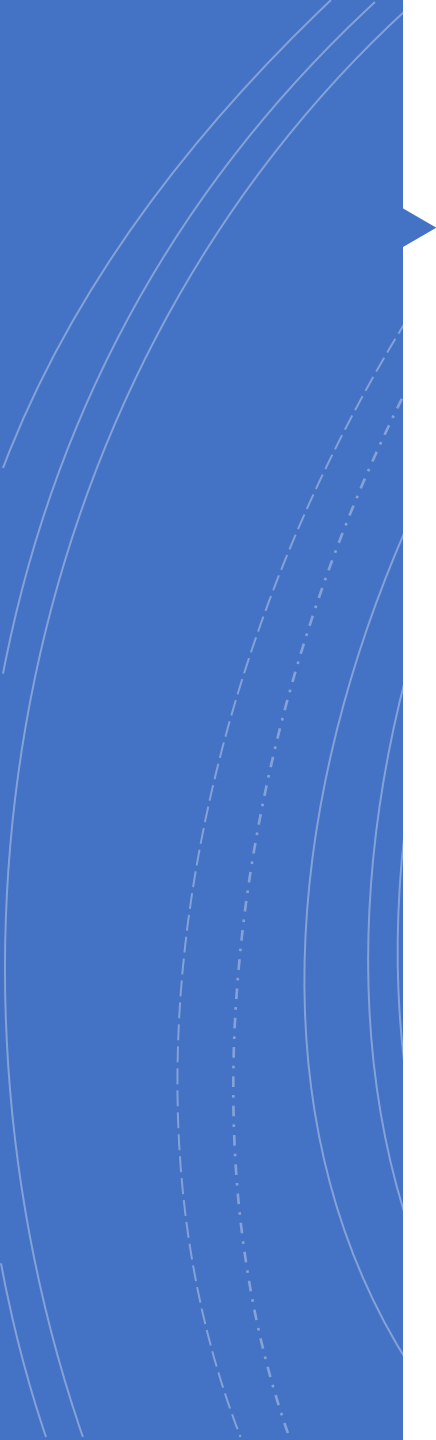
By Liz Attebery



Diane
Swonk,
Founder of
Swonk
Economics



Elon Musk,
Autism
Spectrum
Disorder

- 
- **Growing up,** “the social cues were not intuitive,”
 - “I would just tend to take things very literally ... but then that turned out to be wrong — [people were not] simply saying exactly what they mean, there's all sorts of other things that are meant, and [it] took me a while to figure that out,” he recalled.
 - "To anyone who I've offended [with my Twitter posts], I just want to say I reinvented electric cars, and I'm sending people to Mars in a rocket ship. Did you think I was also going to be a chill, normal dude?"
 -



George
Cicci,

I would never amount to anything until I could “Sit down, shut up and being quiet”

My brain is wired differently----it needs stimulation and will create it

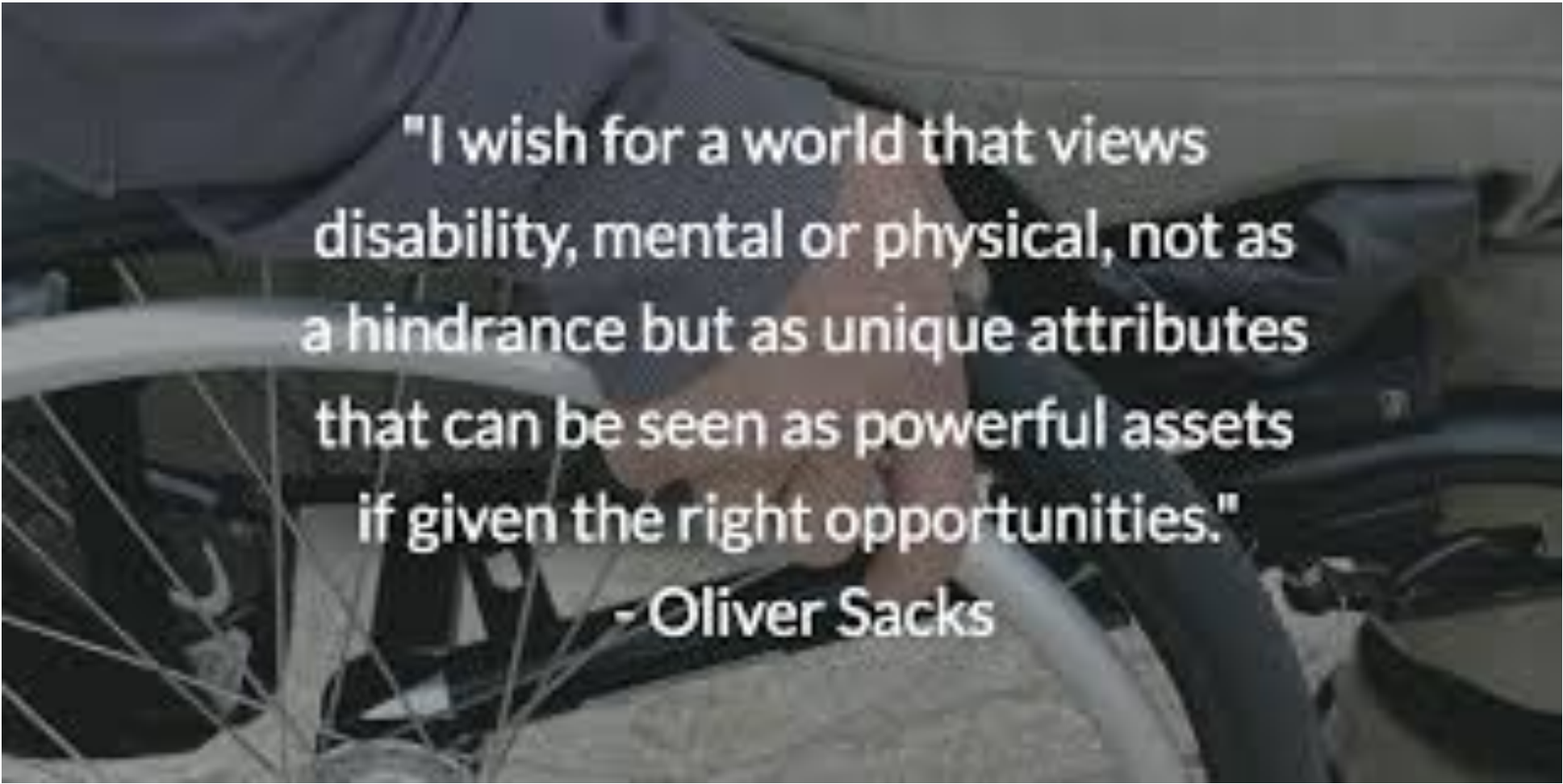
- **Race car brain and bicycle brakes**
- Learn to harness the energy– the world needs this brain.
- **Impulsivity, ingenuity, risk taking-**





Treatment is not
just fixing what is
broken; it is
nurturing what is
best.

(Seligman & Csikszentmihalyi, 2000)

A grayscale photograph of a person sitting in a wheelchair, with their hands resting on the wheels. The image is slightly blurred and has a dark, moody tone. Overlaid on the center of the image is a white text quote.

"I wish for a world that views disability, mental or physical, not as a hindrance but as unique attributes that can be seen as powerful assets if given the right opportunities."

- Oliver Sacks



Dyslexic Wiring



Challenges:

Trouble decoding
written language

Poor spelling
and handwriting

Difficulty with rote
memorization of facts
and remembering details

Strengths:

Can be metaphorical
thinkers. Because they
make connections
between and among
disciplines, they can see
things that others miss.

Seeing 3-D spatial
perspectives is easy for
them. For example, they
may think like architects,
engineers, or builders.

Excellent at narrative
reasoning—recalling stories,
episodes, and concepts.
They profit from
experiential learning.

What did you observe?

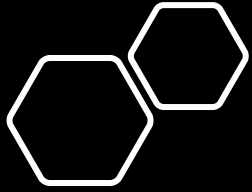
What should there be more of in the classroom

- Visual access to content
- Arts integration
- Creative thinking
- Big ideas

What should be less of in the classroom?

- Reading
- Writing
- Memorization of facts

How dyslexics learn

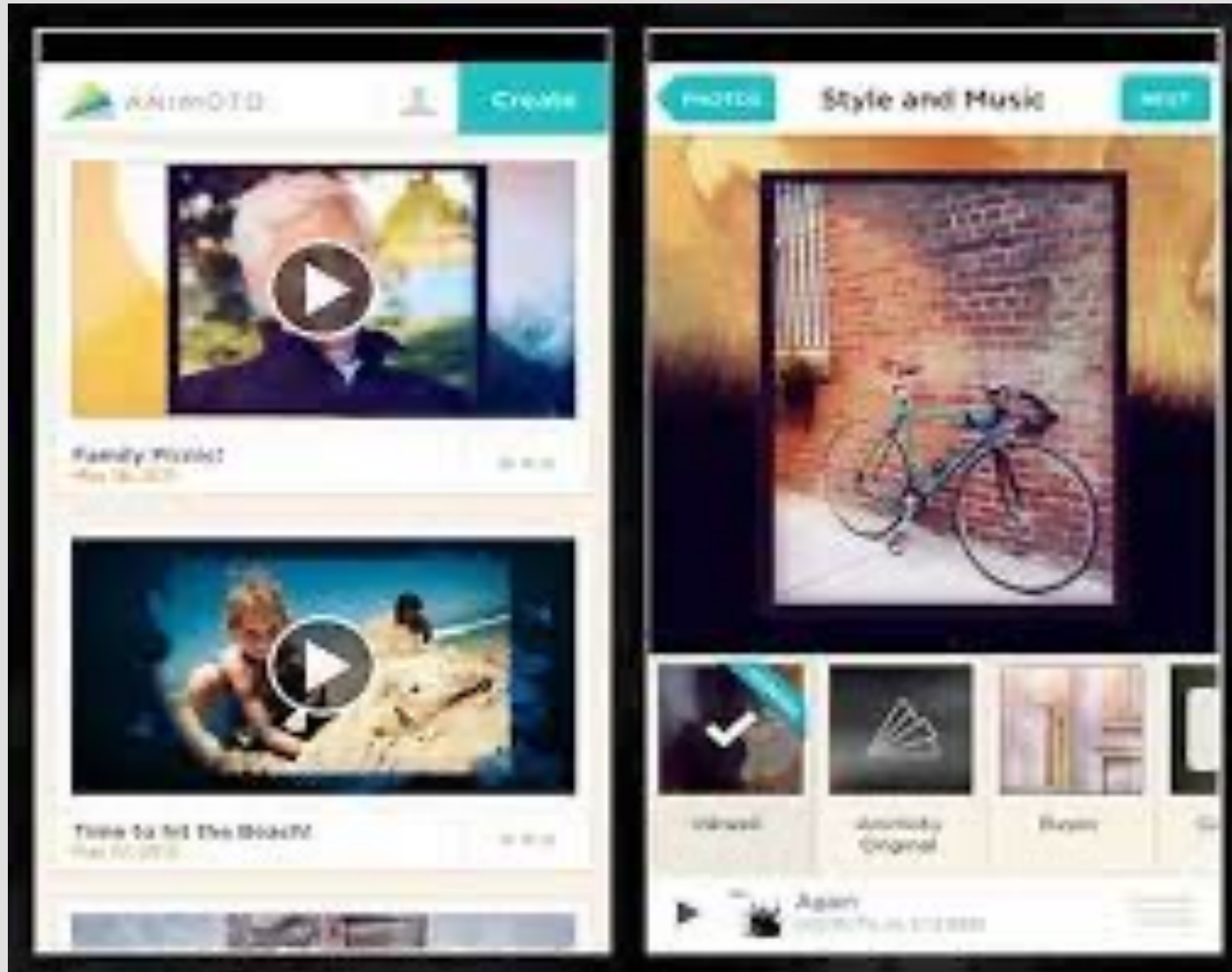


Graphic novels



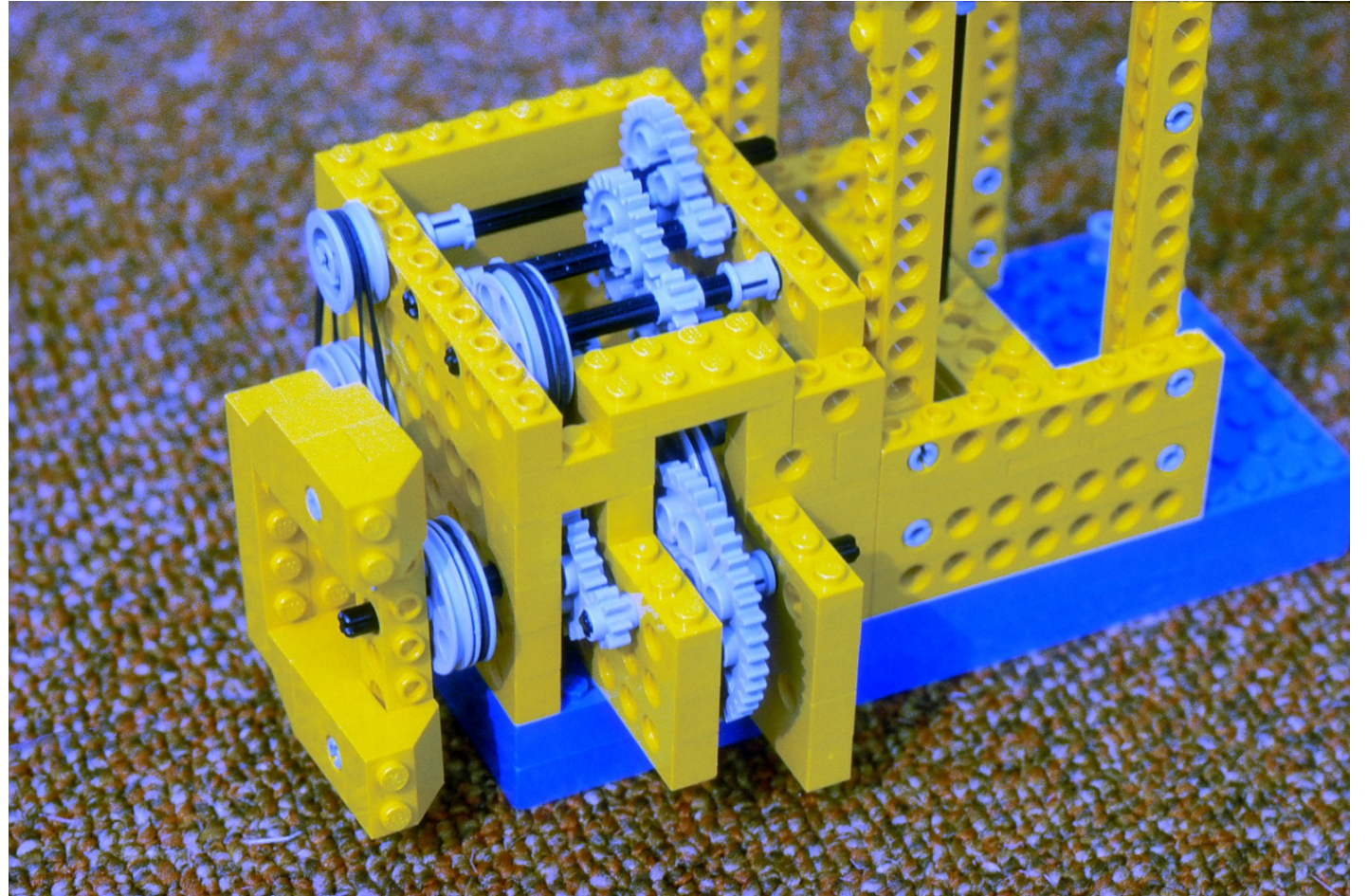
Audio books





Animoto and
other video
making apps







Cartoons as metaphors for elements
in the periodic table

Is dyslexia a disability or a gift?

Dyslexia is an ability within the sensory mechanism of the nervous system to perceive the world with a multidimensional view. When properly trained and informed, a dyslexic can use their natural abilities to shift perceptions, enhance creativity, refine thinking, and improve physical performance.



ADHD Wiring



Challenges:

Easily distracted,
selectively attentive,
difficulty completing tasks

Hyperactive,
needs stimulation
and movement

Impulsive
and disorganized

Strengths:

Often creative,
intuitive thinkers with
a flair for innovation and
out-of-the-box thinking

Can have high energy
and enthusiasm

May be risk takers,
adventurous spirits,
seek novelty, and
show curiosity

What did you observe?

What should there be more of in the classroom

- Movement
- Performing arts
- Creative thinking
- Novelty and choice
- Project based learning

What should be less of in the classroom?

- Sitting
- Writing
- Repitition

- Research says that sitting and listening and paying attention is developmental.
- The amount of minutes is related to age up to 15.
- 10 minutes and attention starts to drift if information is boring monotonous
- Digital kids listen faster
- 2E students especially those with ADHD think better when moving



u16490945 fotosearch.com





+ scratched his head
+ dance
+ jumping up and down
+ bounced like a kangaroo
- scratched his armpit
+ woo ha ha ha woo ha
+ laugh - some + sharp teeth
necklace
- funny
- silly
+ mean - sometimes he looked
hurt us angry
+ scratch us

At school today we saw
a ~~dancing~~^{angry} monkey. Sometimes

he looked mean. We were
afraid that he might hurt
us and scratch us. But when

he was jumping up and down
like a silly kangaroo, he

he was jumping up and down
like a silly kangaroo, he
made us laugh. But 'then
he made this strange
noise, woo ha ha ha woo ha
and scratched his head. He
looked like he was thinking.
He was thinking he would have
us for supper! Beware of his sharp teeth.

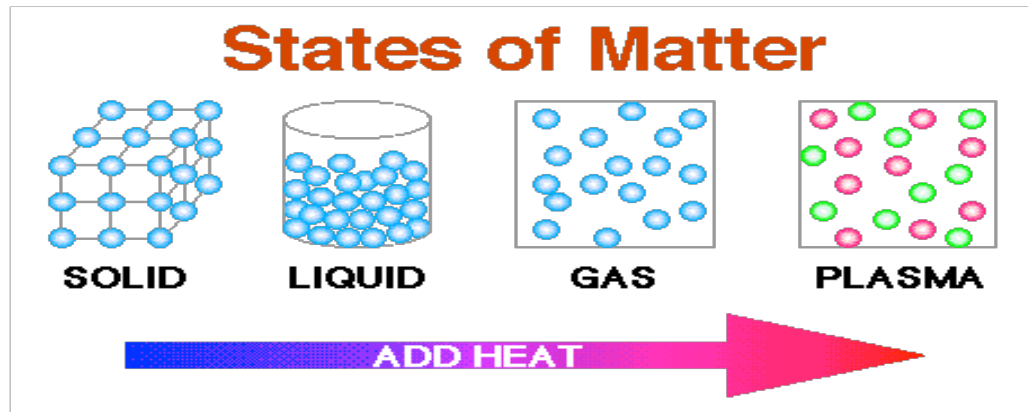
So if you see this monkey
monster, run for your life!

- Then, you face the wrath of the Lizarii.'
- The creature dropped its cloak, revealing it's scaly body. It stood to its full height, slightly taller than a grown man. Its blue-green skin and yellow abdomen reflected the sunlight, but people didn't tend to notice this. They looked at either its long claws or its head, which was elongated and the long mouth had dozens of sharp teeth protruding from it.

- Threddy, April, 2008

Provide opportunities for movement within curriculum

Distance = rate x time



Opposite Board







Moving to think— -Thinking lane in or outside

Synecdotics: Making the Strange Familiar and the Familiar strange

one of the pictures below to fill in the first blank. Use the second blank to explain
that picture.

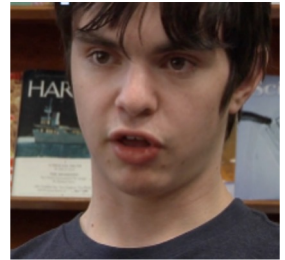
native assessment is like _____ because _____



- 
- A large, solid orange circle is positioned on the left side of the slide, partially cut off by the edge.
- Simply put, ADHD can be best understood as a brain with a very low boredom threshold. People who have it chafe against the mundane and routine, and yet they excel in chaotic situations.
 - (Archer, 2015, p. xv1).
- 
- A yellow dashed line is located in the bottom right corner of the slide, consisting of several short, curved segments.



ASD Wiring



Challenges:

Inability to grasp the big picture or read between the lines

Social awkwardness, a lack of social skills and social awareness

A need for predictability. Often overwhelmed by exposure to sensory stimuli

Strengths:

Can be knowledgeable, skilled, and passionate in a particular area and highly motivated to pursue that area

Has the ability to focus intently on details of things and situations

Tends to be logical (very helpful in decision-making where emotions may interfere). Sees the world in black and white and communicates with total honesty

What did you observe?

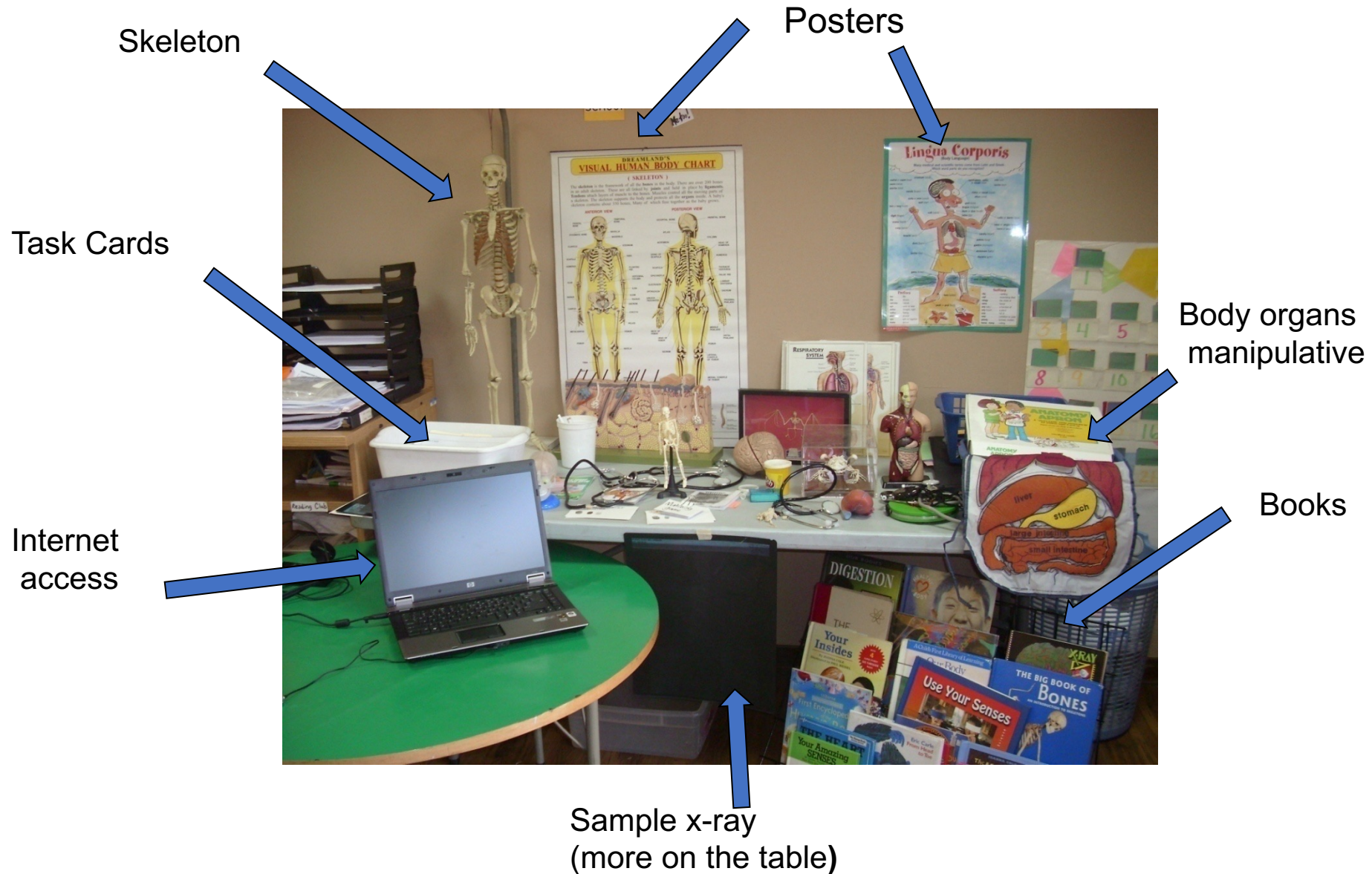
What should there be more of in the classroom

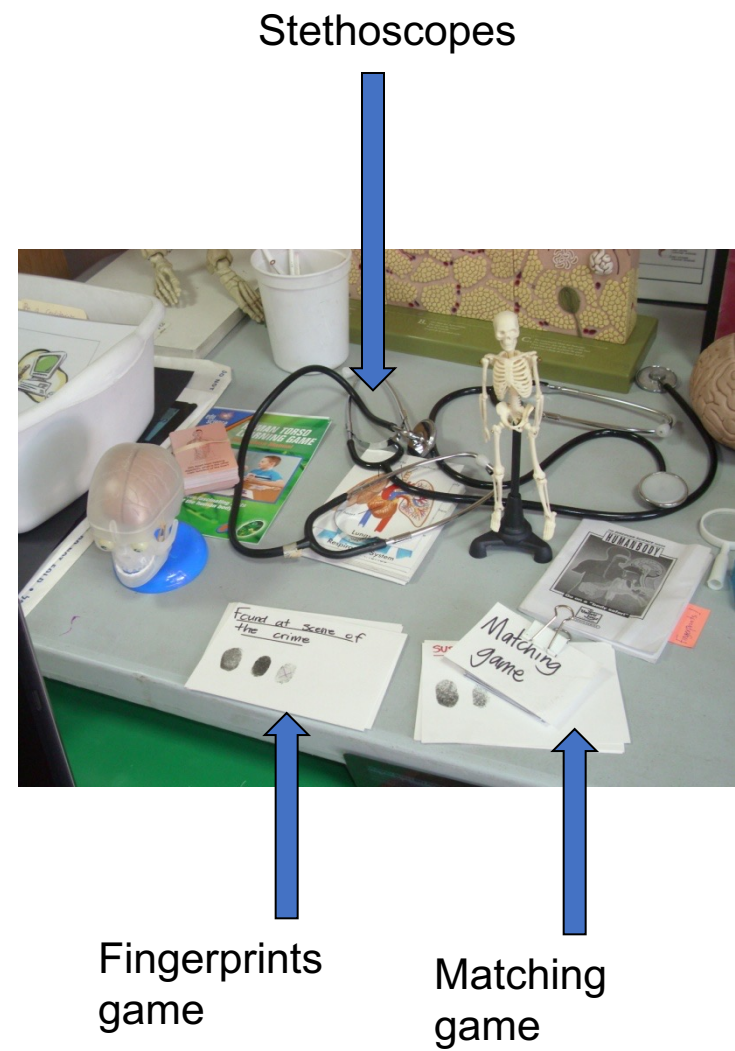
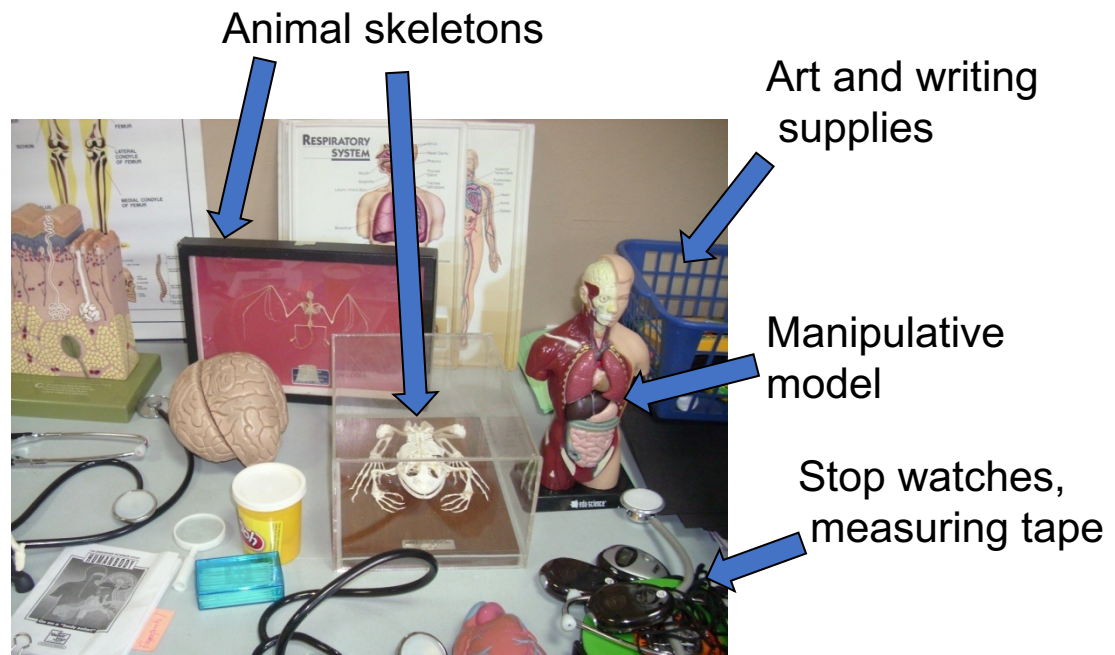
- Quiet zones
- Headsets
- Asking the student to develop fact sheet for information and facts
- Time to pursue topics in depth
- Interest peers or pair share

What should be less of in the classroom?

- Forced group work
- Open-ended assignments

The Interest Center





Resources

- Various books – non-fiction and fiction, interactive
- Magazines, journals, some to be cut up
- Human skeleton model
- Stethoscope
- Charts, posters , diagrams of body organs
- Measuring tape, timer
- X-rays of bones
- Writing and art supplies, stamp pads, fasteners, glue, chalk, poster board, construction paper, butcher paper etc.
- Computer with internet access
- Hand lens
- Model of human skin

Task Card

Be a Cardiologist!



A cardiologist is a heart doctor. A cardiologist uses a stethoscope to listen the hearts of patients. A stethoscope allows the cardiologist to listen to the heart very clearly.

The challenge:

Find out what kinds of activities make your heart beat fast or slow.

Find the stethoscope and the timer at the center. Use the timer to do one of the activities on the data sheet for 3 minutes. Then listen to your heart for 1 minute and record how many times your heart beats. Do 4 more activities and record the number of times you heart beats in a minute right after the activity.

Use the data sheet to make a graph showing which activities make your heart beat faster and which activities don't and compare the results of the activitie

Why do you think you had those results?



Task Card



The Hip Bone' s Connected to the...

Look at the video at this link

<http://www.youtube.com/watch?v=x2ABc5LINCY> Hanna Montana sang a song to remember the names of the bones in the body. The Hanna Montana song is accurate.

The challenge:

Make another version of the first song, or learn the song as it is.

Find materials that tell you the names of the bones in the human body. Using the information from the books and the chart, write your own song that tells the names of the bones.

OR write down the words to the song, and learn it.

Maybe you can even come up with a dance to go with the song that you can perform!

Task Card

Life Size Art!



Throughout the past and the present artist have made many kinds of models of the human body. Sometimes they used clay, sometimes they paint or draw, or sometimes they use other materials like crumpled paper or string.

The challenge:

You will make a life size 3 dimensional model of the human body

Find the white butcher paper as the center. Have a friend lay down on the sheet and trace the outline of their body. Be accurate.

Next use a book or a diagram that shows the different organs in the body. Make a life size model of the human body. using the art supplies at the center and using the books and charts as a reference.

Use the other art supplies to make your model as real looking as possible.

*"There needs to be a
lot more emphasis on
what a child can do
instead of what they
cannot do."*

Temple
Grandin



“I discovered that being a little bit different actually sets you aside in show business; it makes you special. You always try to turn your negative into a positive.”

I had wonderful teachers. I would not be in show business without them. I remember Mrs. Hawke, my English teacher, who said to me, 'You know, you're always telling jokes in the hall, why don't you write some of those stories down and maybe you can tell them to the class?' It would have never occurred to me to do that, because that just seemed like homework. And for the first time in my life, homework was actually enjoyable. I'd write something down, and then cross it out, saying now that doesn't sound right, and then write it again. And then she'd have me stand up in front of the class and have me read these stories and I realize now that they weren't very good, but at the time I got a few laughs and she said, 'Maybe you could be a comedy writer or something like that.' It was an eye-opener. It was something I've always been grateful for."

- And hang in there he did, shaping his career according to his strengths. “I realized that I was not going to be an accountant or a banker, and so what am I good at? Well, I’m pretty good at talking and telling silly stories. I had always assumed I’d go into sales like my dad because you have to do things to amuse customers, but I took it to the extreme. But that’s what it is: you find out what your strengths are and what your weaknesses are and you play to your strengths.”

**Because not all great
minds think alike**

Programs

- Certificate in Twice-Exceptional (2e) Education
- Master of Education (M.Ed.) in Cognitive Diversity
- Doctor of Education (Ed.D.) in Cognitive Diversity



2e News and Variations <https://www.2enews.com/>

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Home for Educators For 2e Kids in Public Schools

As people notice the variety with just the modest with multiple exceptions, it becomes increasingly important for everyone to advocate.

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