

Look and Draw:

A Path to Better Brain Development
and Improved Learning Skills

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Goals Today

- ❖ Give you an overview of brain research.
- ❖ Let you experience drawing activities.
- ❖ Motivate you to spend time teaching your students to draw.
- ❖ Inspire you!

Research on Drawing and the Brain

- ❖ How Perception Develops (Jensen, 2001)
 - Your eyes do not see like a camera.
 - Your brain interprets what it sees.
 - Active process using multiple areas
 - Both sides of brain and body (Posner & Raichle, 1994)
 - Integrates what you see with memory.

- Developmental stages over years of childhood
 - Lines, edges, contrast (cat experiment)
 - Movement and speed
 - Size and distance
 - Depth Perception
 - (Healy, 1994) Kids *need* outdoor time!

❖ Brain Plasticity

- Experience activates neurons.
- Leads to changes in brain structure.
 - New neurons and synapses grow.
 - New networks and pathways grow.
 - Many networks strengthened.
 - Some networks die out.

- Plasticity occurs throughout life (Barbas, 1995; Benes, 1994).
- Therefore, looking and drawing, because of what it involves, can change brain structure and make it easier for children to learn.

- Dr. Daniel J. Siegel (Siegel, 1999), UCLA
 - Theory that it is the interaction between caregiver and child that is most important!
 - No direct research, but experts in many fields agree.
 - Brain circuits that develop control social and emotional growth.

- ❖ Specific research about drawing
 - Mooney & Smilansky study (1973)
 - Preschool and Kindergarten students
 - Two countries – Israel and US (Ohio)
 - Different kinds of disadvantaged children
 - Results: The most cognitive growth occurred when students were taught observation and drawing techniques.

- Susan Rich Sheridan and the Scribble Hypothesis (2010)
 - Scribbling develops attention, eye-hand coordination in a feedback loop using both brain hemispheres.
 - Scribbling causes groups of cells and individual cells to fire in the visual cortex (line and shape).

- Scribbling lets children develop patterns of thinking.
- Scribbling (especially if acknowledged and discussed) prepares children for literacy.

What You Can Do in the Classroom

- ❖ Honor children's first drawings.
 - Trace child's drawing with your finger.
 - Discuss the drawing – derive meaning.
- ❖ Start with non-threatening training.
 - Use directed step-by-step drawing.
 - Teacher models on the board.
 - Students trace in the air.
 - On rug, students draw on own whiteboards.

- On rug, students draw on own paper.
- Allow other, “free drawing” time.
- Individual step by step drawing using books
 - Be positive – no perfection needed.
 - Have the child trace the line with finger or in air.
 - Draw the line on a scratch paper.
 - Help by drawing one of the main lines and having child put in the other lines.

- ❖ 2D step by step vs. 3D observational methods
- ❖ Activities with drawing books or real objects:
 - Teddy Bear Day, Bunny Day (and integrate subjects)
 - Touch object or trace line with finger.
 - Draw the “Student of the Week”.
 - Draw in journals (student choice).

- Draw in response to teacher prompt or paper.
- Draw a page in a sentence pattern book.
- Draw using a “blinder”.
- Draw upside down for self or another.
- Draw things around the room.
- Draw objects of nature.



Observe, draw, outline, and color. Tell something different (than everyone else) about what you observed.



Draw from drawing books or stuffed animals, outline, color, cut out animals for Ag Fair mural.

❖ Other ideas

- On all drawings, have child trace with marker, then color.
- Make up songs and movements as needed.
- Integrate drawing into many subjects.

❖ ESL/ELD Learning Strategies for ELLs

- Build vocabulary through pictures.
- Improve English through discussion.

- Improve expression and comprehension through sequential drawings, or response drawings.
- Use movement, language while drawing.
- Use drama about drawings to increase learning.
- ELL students forget to be self-conscious!

- Have Writers' or Artists' Club – Students:
 - share pictures and writing – partner/group;
 - learn to give and receive positive feedback;
 - learn to give and receive kind, constructive ideas;
 - learn to listen;
 - gain confidence and value their work.

- Get parents involved
 - Homework and workshops
 - Art show in room and school





❖ Results and Benefits from my Experiences

- Visual perception greatly improves.
 - Students see line, shape, form better.

- Students learn letters, numbers, words faster – visual perception and memory.
- Eye-hand coordination greatly improves.
 - Large muscles improve with large movements used to draw main form.
 - Small muscles improve when child adds the details.
 - Neater printing, less frustration

- Therefore, the eye-hand feedback loop develops new connections in the brain.
- Students develop the ability to visualize when reading.
 - Improves comprehension.
 - Passive vs. active visualization
- Ability to concentrate and to remember improves.

- Creativity and emotional expression helps to center children.
- Increased skill and motivation to speak
- Self-motivation develops.
- Differentiation in classroom and ESL
- Confidence, self-assurance, willingness to try improves.

- Appreciation for nature, science, and art develops when children learn to really look at things.

❖ Recommendations

- Take time for drawing in the classroom.
- Read books and research.
- Share information and results with students, parents, colleagues, and superiors.

- Believe in the importance of the arts in the development of the whole child.
- Have fun!

