Insights into how your vision and brain work together to strengthen your visual intelligence

This resource has two sections:

- Insights into Visual Intelligence
- Training Your Brain and Vision

Insights into Visual Intelligence

Visual intelligence is a relatively new area of study with two major components: visual-spatial and visual-object.

Visual-spatial ability is widely accepted as a dimension of intelligence and is included in most tests that measure intelligence.

Visual-object ability continues to be studied and may also have the attributes required to be characterized as a dimension of overall intelligence.

As an Aside


- suggests the ability to think in different, more abstract, and more perceptually oriented ways, as our linear logic fails us in the presence of overpoweringly beautiful, violent, or political images.
- implies an integrated perceptual awareness of mediated visual messages – one which permeates all of our thinking – and a mental alertness to the role of media within the whole spectrum of experience.

As an Aside

Neurons continue to grow throughout one’s life. For years, scientists and doctors thought that brain and neural tissue couldn’t regenerate. Now, neurogenesis (the birth of new neurons) is re-shaping the way science studies brain functions.
Everything you see is your brain’s interpretation of reality. For instance, your brain may determine that a shiny, fresh apple sitting on the kitchen table is edible. Your brain may also determine that a painting of that same apple is not edible.

The fact that you can tell the difference between these two apples is a reflection of visual intelligence.

The brain processes associated with visual intelligence are so integral to human functionality and survival that they occupy nearly half of the cerebral cortex. Your brain automatically processes and interprets what you see based on your lifetime of experiences.

If, as a small child you were bitten by a large black dog, then as an adult you may feel uncomfortable when you see a large black dog.

This is your visual intelligence (and common sense) telling you to be careful.

**Training Your Brain and Vision**

You can enhance visual intelligence by challenging your brain to find alternate perceptions beyond the obvious and to identify more than one reality in a single image.

The process of drawing offers lots of fun ways to strengthen visual intelligence.

For instance, optical illusions help you notice when your brain switches to a different perception of reality.

Examine the box in Figure 1:

- Is the white square in the middle closer to you than the four sides?
- Or are the four sides closer to you than the square in the middle?

With practice, you can visually alternate between different perceptions of reality.

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**As an Aside**

From their 2010 research exploring visual ability and intelligence, Olesya Blazhenkova and Maria Kozhevnikov describe:

- **Visual intelligence**: one’s ability to process information about the visual appearances of objects and their pictorial properties (such as shape, color and texture).

- **Visual-spatial ability**: represents a number of related subcomponents (such as spatial visualization, spatial relations) that have to do with how individuals deal with materials presented in space, or with how individuals orient themselves in space.

This research provides “insights” into “Eye-Q”!
The textures and patterns you see around you every day are just waiting to be explored.

At first glance, you may see a texture as a texture and a pattern as a pattern. However, you can train your brain to identify completely different imagery.

Examine a drawing of a wood grain pattern in Figure 2. Can you see more than a pattern? How about familiar objects? Try relaxing your body and squinting your eyes.

Figure 3 shows drawings of a few images that stood out in Figure 2. Needless to say, the hair, eyes, and teeth are a bit of a stretch.

**Challenge!**

Find a pattern or texture and try to visualize images that your brain doesn’t immediately recognize.

Try this whenever you see mountains, tree trunks, fabrics, flooring, rocks, wood grain, and anything else patterned or textured.

With practice, you can easily find hidden images wherever you go.

It’s a fun way to amuse yourself and enhance your visual intelligence at the same time!

**Challenge!**

Use your favorite search engine to check out the paintings of Joanna Braithewaite (b. 1962).

At first glance, you see traditional, realistically-rendered artworks of animals and figures. But when you look closer, realism quickly falls away, and you find yourself in Joanna’s zany and imaginative world.

Doodling is another fantastic exercise for your visual intelligence.
The simple doodle in Figure 4 has a book, banana, man’s facial profile, bunny, and boy with spiked hair (Figure 5) hidden within the lines and shapes.

Create doodles every chance you get. The fun begins when you look for shapes created by your doodle scribbles.

The best part of all is turning those shapes into drawings!

Your brain also gets an excellent workout when you analyze one side of a symmetrical subject while rendering its mirror image. Many drawing subjects, such as goblets, wine glasses, and frontal views of faces look more believable when drawn symmetrically (or almost symmetrically) as in Figures 6 and 7.
Another way to exercise your brain is to draw a subject while looking at it upside down or sideways (Figure 8).

A right-side-up view of a contour drawing of a familiar object simply looks like the object.

But when you turn the image sideways or upside down, you can better focus on the way the lines angle and curve and how they create shapes and spaces within the boundaries of your drawing paper.
Following are a few more exercises for enhancing your visual intelligence:

- **Mirror Writing**: Visualize a number between 1 and 9 or a letter from the alphabet. Visualize how the number or letter would look if viewed in a mirror and draw the image you see in your mind.

- **Maintain a Sketchbook**: Render at least one drawing of an actual object or person every day from memory (Figure 9).

- **Dream Drawings**: Keep a sketchbook and pencil beside your bed. When you wake up, try to remember an image from a dream and capture it as a drawing.

- **Accidental Drawings**: Render a page of doodles or scribbles and identify unintentional faces and patterns within its lines and shapes.

- **Draw Mental Images**: Imagine an object or living being and draw what you’re visualizing in as much detail as possible.