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Visual Intelligence

Howard Gardner in Frames of Mind (1983), and Multiple Intelligences (1993), identified many kinds of intelligence including: verbal-linguistic, mathematical-logical, visual-spatial, bodily-kinesthetic, musical, interpersonal, intrapersonal, and naturalist. Gardner states, “Intelligences always work in concert, and any sophisticated adult role will involve a melding of several of them.” (Gardner & Walters, 1993, p.17)

Visual literacy refers to comprehension and use of images, including the ability to think, learn, and represent ideas in visual form. The development of visual literacy leads further, as Barry (1997) states, to a lifelong orientation that utilizes visual intelligence.

Visual intelligence... may be described as a quality of mind developed to the point of critical perceptual awareness in visual communication. It implies not only the skilled use of visual reasoning to read and to communicate, but also a holistic integration of skilled verbal and visual reasoning, from an understanding of how the elements that compose meaning in images can be manipulated to distort reality, to the utilization of the visual in abstract thought. (p. 6, italics in original)

It is upon this background of research, that the two “new” strands of Viewing and Representing have been included in our renewed English Language Arts Curriculum.

Viewing: ELA Strand

RESOLVED, that the National Council of Teachers of English through its publications, conferences, and affiliates support professional development and public awareness of the role that viewing and visually representing our world have as a form of literacy.
(NCTE in Childers, Hobson, & Mullin, 1998)

No longer do we live in a world where images embellish written texts. In popular media and through the growth of technology, the situation has been inverted. In contemporary and popular culture, visual texts are embellished with written text. People no longer just read books or newspapers—they read the world, often visually.

It is necessary, therefore, to understand the structures and potentials of visuals and combined forms of text (illustrated books, videos, television, computer technology, etc.), in order to learn how to move between different expressive forms. Students need to learn to view and represent a variety of expressive forms effectively, and to combine them in effective ways.

Visual texts are often taken for granted, because “seeing” is a perceptual task that is performed in the course of everyday living. Because seeing is a perceptual “filtering activity” directed by each person’s inner designs, we may not give consideration to details that our inner perceptual screens do not deem significant. That is, perception is selective. There are many aspects of visual texts that require critical analysis in order to detect, to understand, and to learn to apply. These elements include design elements, expressive forms, the audience, voice, effect and purpose. “To see”, therefore, is not the same as “to critically view”.

Viewing as a form of literacy acknowledges that visual information in our world exists as a vast array of communicative meaning structures. Neurologically, we access basic gestalts and schema through direct perception—and often through visual means. Before we develop language, we gather data through perceptual systems. Once we develop language, *we continue to gather information and formulate inner designs through sensory systems*. Viewing alone can convey meaning without language as a mediating

symbol system. Viewing communicates meanings that are sensory and “polysensory”—that is, in our neurological processing centers, we interpret visuals and can evoke other sensory information including taste, smell and sound. Visual effects can be subtle, dynamic, and range from very pragmatic statements to poetic visions, or take a persuasive or rhetorical stance. Those who favour visual thinking have thought systems that access patterning and higher level abstract thought, including metaphor and analogy.

The artifacts of human culture are visual chronicles of experiences, thoughts, symbols systems, and beliefs throughout the ages. From anthropology, and art history, visual forms have provided a window upon the past that describes the evolving human condition: illustrates beliefs, reveals interpretations, and demonstrates connections (i.e., logical, metaphoric, allegorical) between thoughts. While becoming visually literate offers potentials for students in the present, it offers remarkable opportunities to encounter and critically consider the past.

Visual texts vary in their form. These varied forms have different structural components that offer diverse learning and thinking opportunities for students:

1. **Synchronic texts:** These are 2 and 3-dimensional still visuals, that display all aspects simultaneously. Because they are static (they do not change), they are often evaluated without due consideration of all aspects. Static texts require critical viewing that helps the viewer to reserve judgement until component elements are carefully examined. These elements include: line, shape (including motif), texture, colour, mood, style, scale, volume, medium; and, how these elements work together. Examples: book covers, individual illustrations in picture books, artwork, posters, photographs—all types of still images.
2. **A Series of Synchronic Texts:** This arrangement builds upon the composition and effect of each separate visual, and combines them in series to meet a broader communicative goal. In multimedia presentations, elements of time can be represented. Camera angle, movement, pace, and the relative position of subtle and dynamic images, can create dramatic effects beyond the range of any one visual component alone. [Note: Placing several visuals in series requires the viewer/reader to consider relationships between components *through time*. Written texts are considered *diachronic texts* because meanings evolve in a chronological or developmental way over time. When synchronic texts are offered in series, (or animated—as the visual array changes and shifts over time), the viewer takes in new visual information in an ongoing fashion, and re-shapes the meaning as the viewing continues over time. A slide-show may be considered a series of synchronic texts arranged in a diachronic structure.] Examples: A slide-show, a photo-essay, a series of images that depict a story or sequence activity.
3. **Animated, and Multisensory Texts:** The visual components mesh with other sensory information to produce a life-like or sensory-rich experience. Time can be represented as real, compressed, expanded, (or we can “flash-backs”, “freeze time”, or “jump ahead in time”). In video, film, and television productions, camera angle and movement, pacing of images, and repetition can exaggerate or embellish particular meanings. The inclusion of sound evokes sensory patterns and information that add dimension beyond viewing. Elements of sound include: patterns, music elements (note patterns, form patterns, key signatures, timbre, rhythm, melody, harmony, range, dynamics, style), and sound effects—many that evoke our prior experiences and understandings. Examples: drama productions, puppet plays, videos, television programs, commercials, and film.
4. **Computer Literacy:** In this meaning system, visuals, text, and sound are meshed in formats unique to cyberspace. *Icons are visual symbols that represent links, doorways, and concepts*, and must be explicitly taught in order for students to use the computer effectively. Icons are a form of visual literacy related to modern technology (other languages, i.e. Chinese, and historically, other cultures, i.e. Egyptian). These symbols must be directly taught because they are the common language that allows access in and through an ever-changing technology system.

5. **Interactive Media Forms:** These meaning systems utilize multimedia aspects, but include the viewer as an active participant in relation to and with the message. The viewer becomes an active participant. Examples: computer and video games, WebQuests, cruising the web.

Why Visual Literacy, Visual Intelligence, and the new strands of Viewing and Representing in the English Language Arts Curriculum?

The rise of technology has created a culture in which visual meaning systems are prevalent in all disciplines, and they mesh with myriad other meaning systems. Becoming literate today means becoming “intertextually literate”—understanding the components of many meaning systems, how they combine, and how to apply use them competently and confidently. Central to this notion is that a text is not just words, but a representation of meaning. Thinking is multidimensional. So are representations of meaning. As we acknowledge the diverse array of meaning systems in our world, and their interconnections, it is not longer reasonable to teach literacy as isolated disciplines. As students learn the structural components of many expressive forms, learners consciously and critically consider how meanings are shaped and communicated in contemporary culture. Students with various learning styles are supported as they interconnect meaning systems, while honouring and developing their own preferred learning style. Visual forms of communication support learners, offering a scaffold, as they learn language forms in relation to sensory experience. Further, visual supports throughout the curriculum make thinking tangible, and can be employed throughout subject areas to make abstract concepts concrete, and to allow for representations and manipulations of complex, abstract thinking.

Further Reading:

Barry, Ann Marie Seward (1997). Visual intelligence: Perception, image, and manipulation in visual communication. Albany, NY: State University of New York Press.

Costa, A.L. & Liebmann, R. M. (Eds.). (1997). Envisioning process as content: Toward a renaissance curriculum. Thousand Oaks, CA: Corwin Press, Inc. (A Sage Publications Company)

Childers, P., Hobson, E., & Mullin, J. (1998). ARTiculating: Teaching writing in a visual world. Portsmouth, NH: Boynton/Cook Publishers.

Dyson, A. H. (1992). From prop to mediator: The changing role of written language in children’s symbolic repertoires. Berkeley, California: National Center for the Study of Writing, U. of California.

Edwards, B. (1999). The new drawing on the right side of the brain: A course in enhancing creativity and artistic confidence. New York, NY: Jeremy P. Tarcher/ Putnam, of Penguin Putnam Inc.

Eisner, E. (1994). Cognition and curriculum reconsidered. New York, NY: Teachers College Press.

Eisner, E. (1993). The education of vision. Educational Horizons, 71, (2), 80-85.

Ernst, K. (1994). Picturing learning: Artists & writers in the classroom. Portsmouth, NH: Heinemann.

Gallas, K. (1994). The languages of learning: How children talk, write, dance, draw, and sing their understanding of the world. New York, NY: Teachers College Press.

Garrett-Petts, W.F. & Laurence, D. (Eds.). (1996). Integrating visual and verbal literacies. Winnipeg, Man: Inkshed Publications.

- Gardner, Howard. (1980). Artful scribbles: The significance of children's drawings. New York, NY: Basic Books.
- Gardner, Howard. (1983). Frames of mind.
- Gardner, Howard. (1993). Multiple intelligences. New York, NY: Harper Collins.
- Harste, J., Burke, C., & Short, K. (1996). Creating classrooms for authors and inquirers. Portsmouth, NH: Heinemann.
- Heryle, D. (1996). Visual tools for constructing knowledge. Alexandria, VA: ASCD.
- Hjerter, K. (1986). Doubly gifted: The author as visual artist. New York, NY: Harry Abrams, Inc.
- Hoyt, L. (1992). Many ways of knowing: Using drama, oral interactions, and the visual arts to enhance reading comprehension. *The Reading Teacher*, 45, (8), 580-584.
- Hubbard, R. (1989). Authors of pictures, draughtsmen of words. Portsmouth, NH: Heinemann.
- Hubbard, R., & Ernst, K. (Eds.). (1996). New entries: Learning by writing and drawing. Portsmouth, NH: Heinemann.
- Kress, G. (1997). Before writing: Rethinking the paths to literacy. New York, NY: Routledge.
- McKim, R. (1980). Thinking visually: A strategy manual for problem solving. Belmont, CA: Lifetime Learning.
- Messaris, P. (1997). Visual intelligence and analogical thinking. In Flood, J., Heath, S.B. & Lapp, D. (Eds.). Handbook of research on teaching literacy through the communicative and visual arts. (pp. 48-53). New York: Simon and Schuster MacMillan.
- Moline, S. (1995). I see what you mean: Children at work with visual information. Markham, Ontario: Pembroke Publishers Limited.
- Olson, J. L. (1992). Envisioning writing: Toward an integration of drawing and writing. Portsmouth, NH: Heinemann.
- Norris, E. A., Reichard, C. & Mokhtari, K. (1997). The influence of drawing on third graders' writing performance. *Reading Horizons*, 38 (1), 13-29.
- Pugh, S., Hicks, J. Davis, M. & Venstra, T. (1992). Bridging: A teacher's guide to metaphorical thinking. NCTE.
- Steele, B. (1998). Draw me a story: An illustrated exploration of drawing-as-language. Winnipeg, Manitoba: Peguis Publishers.