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Visual Design Strategies for Instructional Designers, Instructors, and Presenters

Basic Visual Design Vocabulary

Layout terms

- Gestalt – a structure, configuration, or pattern of physical, biological, or psychological phenomena so integrated as to constitute a functional unit with properties not derivable by summation of its parts. [Merriam-Webster]()

- Grid – a guide (can be digital or hard copy) used when creating a page layout. Download one from [eLearning coach]() Connie Malamed's website.

- White space – often referred to as the negative space in a design layout.

- Visual Hierarchy – visual progression used to guide the viewer through the design. Starts with highest rank element. You can set up style sheets in Word or Powerpoint.
- Accessibility – in instructional design requires that you consider all types of disabilities when designing online course materials. See [Designing Courses with Accessibility and Usability in Mind]().

- User Experience (UX) – this is a term visual designers refer to when seeking to improve the learning experience…see [UX Magazine]() to learn more.

- User Interface Design (UI) – this is a term visual designers refer to when designing visual materials. UI seeks to improve the learning environment and guide the learner. See [Nielsen Norman Group]().

- Thumbnail sketch – as used in graphic design…a thumbnail is a small drawing on paper (usually part of a group) used to explore multiple ideas quickly. It's the size of a post-it and not like thumbnails in an app.

Color

- Hue – the attribute of colors that allows classification…it is the actual color.

- Saturation (or chroma) – the intensity of a color or hue.

- Value (in color) – the relative lightness or darkness of a color.

Basic Visual Design Vocabulary (continued)

Color
- Shades – are created by adding black

- Tints – are created by adding white

- Luminosity – is the brightness of a color

- Color Modes – **RGB** (red, green, blue), is an additive process used in online design. INDEX and LAB two others that have specific uses. See Understand How Color Works in Photoshop for details.

Image Formats

- Raster images – These images are pixel-based and so you cannot enlarge them without losing detail and distressing the image.

- Vector images – These images are resolution independent because they are drawn using a mathematical formula…can be enlarged or reduced easily.

  For more detail and clear examples of raster images and vector images check out You the Designer Blog

File Formats – There are a lot of different file formats that visual designers use and it's good to be aware of how they are used. Here are quick tips on formats:

- TIFF – Great for raster images for print. Many programs can open tiffs.
  .
- PDF – Portable Document…saves vector information from Photoshop.

- JPEG – Best used for photographic images with soft edges on the web.

- PNG – Good for solid colors and sharp edges, for web use not for print.

- PSD – Native Photoshop format. Raster/some vector options, saves layers

- AI – Native Adobe Illustrator vector format…can't use in Microsoft Office.

  There is an excellent post by designer/instructor David Blatner on his InDesignSecrets blog that explains this thoroughly.

Theories and Principles

Gestalt Learning Theory Principles
Laws of Organization in Perceptual Forms

Max Wertheimer (1923)
This paper's visuals accurately portray Gestalt Learning Theory principles.

Visual Perception and Data Presentation, Troland, Dave (July, 2008)

Figure/ground suggests that the eye tends to see the objects rather than the spaces or holes between them.

- The three types of figure/ground relationships are Reversal, Stable and Ambiguous.

- In a **reversible figure/ground relationship**, the negative space competes with the positive space. The viewer sometimes perceives the background as the foreground and the foreground as the background.

- In a **stable figure/ground relationship** the figure (foreground area) is prominent and stands out from the ground (background).

- An **ambiguous figure/ground relationship** occurs when busy backgrounds are used or when the background color and text color are a different hue but the same value (brightness) and saturation.

Proximity suggests that when assorted elements are grouped closely together, they are perceived as wholes.

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Spatial Contiguity "Students generated a median of over 50% more creative solutions to transfer problems when verbal and visual explanations were integrated than when they were separated" (Mayer, 1997)
A Learner-Centered Approach to Multimedia Explanations: Deriving Instructional Design Principles from Cognitive Theory (Moreno, Mayer, 2000)

Dual Encoding (Pavio, 1986)
"According to dual encoding, adding a relevant visual to a test improves learning by providing two memory traces. The words offer one view of the content and the visual offers a second complimentary view. (Clark, 2008)

Theories and Principles (continued)

Cognitive Load Theory (Miller, 1956)
A paper by Nelson Cowan about the magical number 4.

Cognitive Consistency Theory
what-when-how: Cognitive Consistency Theories started in the 1930s.

Consistency According to the principle of consistency, systems are more usable and learnable when similar parts are expressed in similar ways.

- Aesthetic consistency refers to consistency of style and appearance

- Functional consistency refers to consistency of meaning and action

- Internal consistency refers to consistency with other elements in the system

- External consistency refers to consistency with other elements in the environment

  (Lidwell, Holden, Butler, *Universal Principles of Design*, 2003)

E-Learning Opportunities to Practice

KERNTYPE, a kerning game
This game is delightful and will give you some practice with applying the principle of proximity. Graphic designers use **kerning** to adjust the spacing between letters (particularly in headings).

QuakeQuizSF
This eLearning quiz is very well designed. The illustrations and graphics are used effectively. It is a great example of a Stable Figure/ground relationship, which makes it easy to use. Besides this, it is informative and interesting to play. Enjoy!

References

What resolution should I make my images for PowerPoint slide shows?
By Steve Rindsberg, Microsoft MVP and co-creator of PPTools.

Books:
Clark, Ruth Colvin, 2008. *Building Expertise: Cognitive Methods for Training and Performance Improvement.* Pfeiffer (imprint of Wiley)

References (continued)
Cooper; Reimann; Cronin, 2007. *About Face 3: the Essentials of Interaction Design.* Wiley Publishing, Inc.
Lidwell, William; Holden, Kritina; Butler, Jill. 2003. *Universal Principles of Design.*

Edward Tufte has been described by *The New York Times* as "The Leonardo da Vinci of Data." Here are some links to his books. Here is a link to the video Tufte made showing the way his user interface for the iphone is used. It is an example of functional consistence in action. iPhone interface Design

Visual Usability: Principles and Practices for Designing Digital Applications, by Tania Schlatter and Deborah Levinson, Morgan Kaufmann; 1 edition (May 31, 2013). This book comes out at the end of May and looks like a great resource for learning about visual design on different platforms…and more.

Designing with the Mind in Mind: Simple Guide to Understanding User Interface Design Rules, by Jeff Johnson, Morgan Kaufmann (2010). Jeff Johnson Ph.D., of UI Wizards, Inc., stresses the importance of understanding the psychology behind the rules of User Interface (UI) design.

Visual Language for Designers: Principles for Creating Graphics that People Understand, by Connie Malamed, Rockport Publishers; Reprint edition (2011). Bill Brandon of the eLearning Guild wrote a review of this book saying that Connie Malamed "presents ways to design for the strengths of human mental capacities and to compensate for cognitive failures".

Design Elements—A Graphic Style Manual, by Timothy Samara, Rockport Publishers (2007). A beautifully designed handbook outlining basic graphic design principles.

The Elements of User Experience, by Jesse James Garrett, New Riders Publishing and American Institute of Graphic Arts (AIGA) (2003). This book explains user-centered design in a concise and clear way, using vivid illustrations to guide the reader.