Computer-Based Graphics Tools

Definitions, Benefits, and Limitations of Graphics Programs

Print Graphics: programs that allow users to create banners, posters, signs, certificates, etc. Benefits include: simple and quick production of simple materials but has limited purposes.

Drawing: creates images that are vector or object-oriented. Benefits of using a draw program include that each part is a separate element and mistakes can be easily edited. It also offers gradients and fill patterns. But it does have limitations, in that you cannot erase part of an object. It's all or none, baby!

Painting: draw images that are bit-mapped. This allows the user to focus on one pixel at a time and use basic shapes, but you cannot edit an entire object or text, it must be erased one portion at a time.

Idea Processors: tools that help brainstorm thoughts, diagram information, and turn diagrams into outlines. These programs are easily adapted to create flowcharts, process flows, and tree charts. Programs like these improve note taking, memory, and speech making.

Animation: simulate motion with a sequence of images shown in rapid succession. The problem with these programs is that they tend to be very complicated and require lots of drawing.

Common Tools Found in Graphics Programs

Shared Functions across most graphics programs:

- Text, Line, Rectangle, Round Corner Rectangle, Circle/Oval, Arc, Polygon, Free-Hand/Scribble, Bezigon, Regular Polygon, Eye Dropper, Marquee Selection, Lasso, Paintbrush, Pencil, Paint/Fill, Spray Can, and Eraser.

File Formats

Proprietary Formats

Examples: PICT, PCX, EPS, TIFF

Benefits and Limitations: Limited in the fact that each is in a "native" format.

Web-Based Formats

Benefits and Limitations of .jpg: JPEG produces larger sized, higher-quality images, but sometimes has to be compressed to be sent via telecommunications.

Benefits and Limitations of .gif: GIF is smaller sized bit-mapped graphics that can be easily sent via telecommunications. Sadly, they produce low quality images.

## Tools for Obtaining Graphics

Defining Importing and Exporting: Import is when you bring in to document you are working with and export is when you take something from a program you are working on to be imported in to another document.

Benefits and Limitations of –

Clip Art: Advantages include saving of time and frustration, royalty free graphics. The main disadvantage of clip art is the stifling of creativity and they are mostly un-editable.

Web-Based Graphics: One can easily copy and paste these graphic images from the internet. It is fast as easy when you are in a bind for time. Be careful, some images are copyrighted which can get you in trouble when using without permission.

Digital Cameras: Used to take real-world images and import them into a program for use which will get you the exact image you want to portray. Plus you can easily preview and edit or erase pictures, but it does requires more hardware than just a PC though.

Scanners: Copy a paper source or photograph and transform it in to a digital image.

The Language of Visual Representation
Techniques and Tools

The Basic Elements of Graphics

Definition: a picture, NOT text!

Associated Concepts:
- The Dot Family, The Circle Family, The Straight-Line Family, The Curved-Line Family, and The Angled-Line Family

Color and Texture

Definition: everything, even if it's only black and white, that evokes an emotional response.

Associated Concepts:
- Warm (ROY) and Cool (G. BIV)

Rules to Know about Color Use:
- Colors can complement each other (Red and Green, Orange and Blue, Yeller and Purple.)
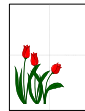
Perspective

Definition: the ability to create the illusion of depth and three dimensions.

Eight Techniques:
- Foreshortening, Shading, Surface, Size, Contour Lines, Overlapping, Density, and Shadows.

Composition

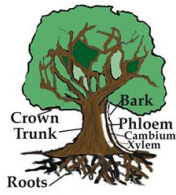Definition: placement of objects on the drawing surface.

Associated Concepts:
- Background, Midground, and Foreground.
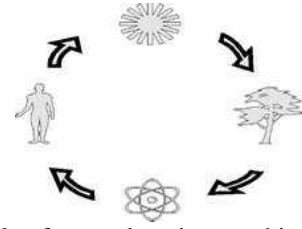
Basic Rules:
- Use ratios to split paper and place objects.

Five Purposes of Graphic Representation
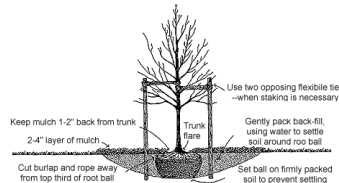

This is an example of a <u>representational</u> graphic because it shows one aspect of a larger information environment and labels its different parts.

One instructional idea for using <u>representational</u> graphics to support learning is . . . to have students create illustrations of the main idea of what they are reading.

This is an example of an <u>explanative</u> graphic because it shows the interrelated elements of the Oxygen cycle.

One instructional idea for using <u>explanative</u> graphics to support learning is . . . create visual images that represent a problem-solving process.

Note: It would be a good idea to look at this is 200% in order to read the words.

This is an example of an <u>organizational</u> graphic because it organizes the information of a process in to steps.

One instructional idea for using <u>explanative</u> graphics to support learning is . . . have students visually represent problem-solving processes such as long division with decimals.

This is an example of a <u>decorative</u> graphic because .it just adds look and feel.

One instructional idea for using <u>decorative</u> graphics to support learning is . . . to create class alphabet letters for students to use on large assignments such as essays and book reports.

This is an example of a <u>transformational</u> graphic because it illustrates the change of seasons.

One instructional idea for using <u>transformational</u> graphics to support learning is . . . drawing a frog's life cycle.