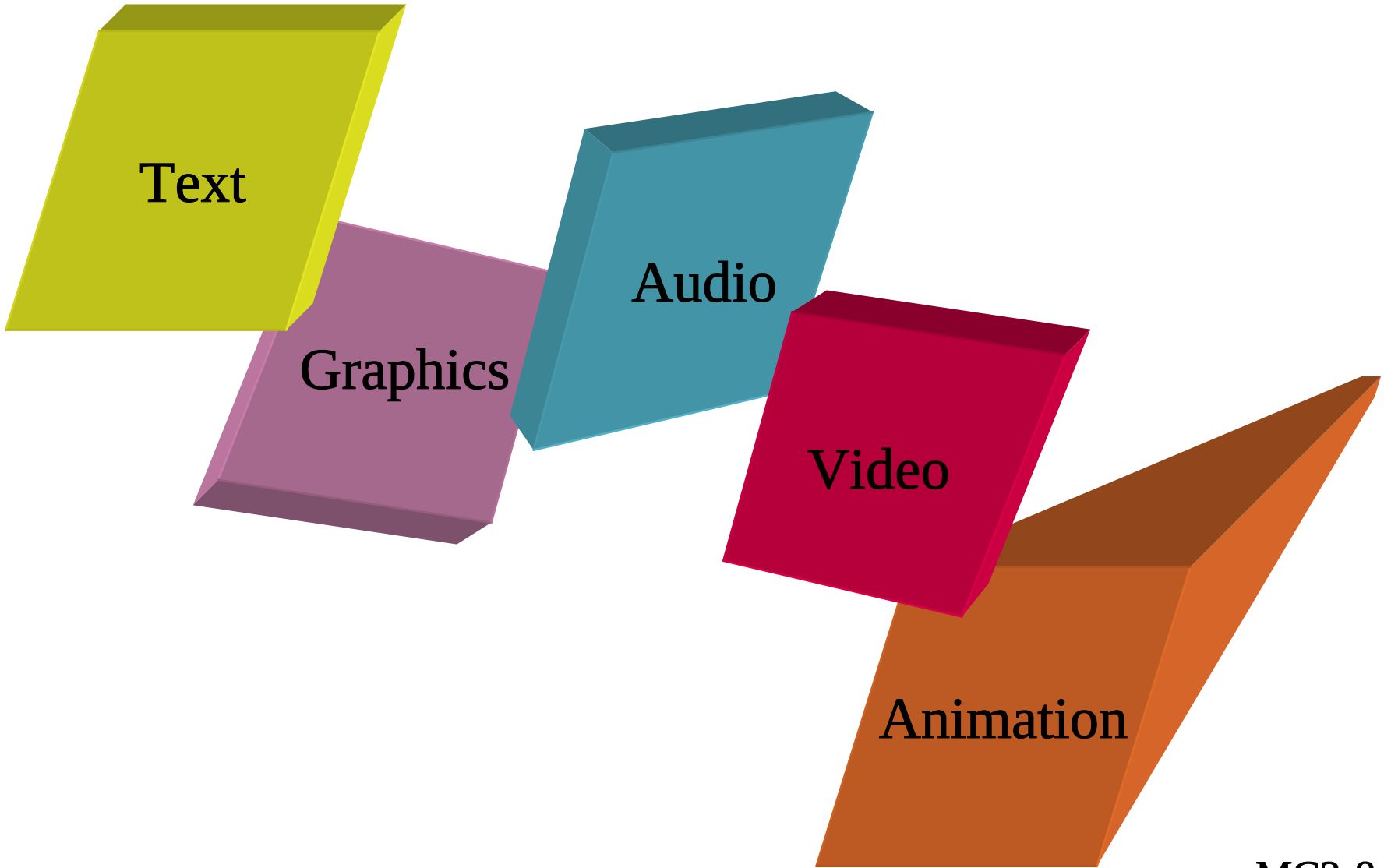
Technology: Media Categories



Graphics

We introduced graphics in Module One. Here is some other information about graphics that is provided in Multimedia Projects in Education (Ivers & Barron, 1998). The publishers graciously allow information to be reproduced for inservice purposes.

Importing an Existing Graphics File

In many cases, students may not have the time or software programs required to create their own graphics and thus may need to use existing files. Some programs, such as PowerPoint, provide a collection of clip art that can be easily imported into e-programs. PowerPoint also allows users to import picture files that are not provided as clip art. The key to importing existing graphics files into a program is to make sure that the files are stored in the correct format. For example, PowerPoint will open and display graphics files that have the extensions BMP, PICT, TIF, and others. Some versions of PowerPoint may not open GIF or JPEG files. In contrast, graphics files on the Web are almost always stored in GIF or JPEG format.

If you have a graphic that is not in the appropriate format, you can use a graphic-converter program to change the format. For example, if you had a PICT graphic and you wanted to place it on a Web page, you could open it in Adobe Photoshop and save it as a GIF file. Adobe Photoshop will open and save a variety of graphic file formats. Many shareware programs that convert graphics from one format to another are available free of charge (sometimes for only a limited time -- check the "fine print"). To find these, enter "shareware graphics converter" into your search engine.

Scanning Graphics

Frequently you will find that an image you want to use in a multimedia program currently exists only as a hard copy, such as a photograph or a picture in a book. Scanners (discussed elsewhere in this module) are computer peripherals used to convey print materials (hard copies) into images on a computer. Capturing images with a scanner makes it possible to incorporate complex images into multimedia projects.

The typical scanning process is very similar to copying a piece of paper on a photocopy machine. The paper copy is placed on a scanner, a light passes under it, and a bitmapped image is created. The difference is that instead of producing a copy on paper, the image is transferred to the computer screen.

Scanners come with software that offers a variety of settings. These settings can help to constrain the file size of a scanned image by specifying

- the amount of the image that is scanned,
- the number of colors displayed in the final image, and
- the resolution (number of dots per inch [dpi]) of the image.

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When students scan graphics, caution them to scan only the portion they need, to keep the files sizes as small as possible. Also, they should select a resolution of about 72 dpi. Scanning at a higher resolution for display on a computer screen is probably a waste of disk storage space.

After an image is scanned into a computer, it can be modified or enhanced with a compute graphics program. Scanners can produce graphics in black and white, shades of gray, or a wide range of colors. The recommended color setting for scanning graphics for multimedia projects is 256 colors or fewer. Using more colors (such as thousands or millions) may make the size of the image file too big, without resulting in a significantly better display on the computer.

Graphics Guidelines

The following guidelines can help you and your students determine appropriate use of graphics in multimedia projects.

- Use graphics to enhance the program and illustrate important concepts.
- Do not include graphics that distract from the program.
- If possible, use several simple graphics rather than one complex graphic.
- If complex graphics are required, use arrows or highlight boxes to help focus attention on the relevant areas.
- If graphic icons are used for buttons, or other similar elements, be consistent -- always use the same icon for the same function.
- Be consistent in the placement of graphics -- designate one part of the screen for graphics and another part for text, title, and so on.
- Use 256 colors or fewer, to help keep file sizes as small as possible.
- Graphics should be created or scanned at 72 dpi.
- Check copyright restrictions on all graphics that will be used outside the classroom.

(Adapted from *Multimedia Projects in Education,* Ivers & Barron, 1998, pages 79-82. See page iv of that text for permission to reproduce up to 15 pages.)

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