

Chapter IV

The Principles and Applications of Digital Design

ISTE NETS_T, II. Planning and designing learning environments and experiences.

Teachers plan and design effective learning environments and experiences supported by technology.

ISTE NETS_T, III. Teaching, learning, and the curriculum.

Teachers implement curriculum plans that include methods and strategies for applying technology to maximize student learning.

Chapter objective: The teacher demonstrates knowledge of the principles of design and their application to digital graphics/animation products.

Educational Relevance of Graphics and Animations

In today's world, visual communications are everywhere. It is important for educators to have knowledge of how to use and produce visual graphics. The use of graphics and animations in schools can range from producing district bulletins and reports to posting a school bulletin board to the middle school Web site. Teachers must also help students learn to use a wide range of technological equipment. In schools, students use a variety of cameras—from tiny digital cameras that replace the traditional 35-mm film cameras to larger and more sophisticated digital cameras the local paper uses to capture graduation ceremonies and football victories for tomorrow's edition. This chapter focuses on the various uses of graphics and animations in today's classroom. Specific information is provided that details the use of digital cameras in schools. Specific examples of creative projects that incorporate graphics and photographs are also provided throughout the chapter.

It is important in today's classroom that students learn to enhance their learning through creative projects and reports that incorporate graphics and animation. Students can apply this enhanced technological knowledge to a wide range of projects. A few types of student projects are listed as follows:

- **Neighborhood life:** Student organizations can take pictures that capture life in the neighborhood: or they can create a map or a guidebook illustrated with photographs of important landmarks that show the things a visitor should not miss. The images can then be incorporated into a printed publication or integrated into a Web site the entire community can view.
- **Role models and career projects:** Students can explore a career that interests them by investigating the work of a role model. Interviews and visits to offices and worksites can be documented with digital pictures as well as diagrams, charts, and other types of illustrations. The results can be a visual display, a report, or a Web site.
- **Nature study:** Students may want to capture digital images of the animals found within their neighborhood, or images of their school campus. They can use the images to create a printed or electronic guidebook to the recorded plant or animal life.
- **Changes over time studies:** How do things change over time? Photographic studies using time-lapse digital photography are a great way to study everything from the sprouting of a butterbean, the emergence of a caterpillar, the growth of an infant, the flooding of a river, or the change of seasons. Students are able to view how quickly an image they are studying can change over time by taking pictures at regular intervals to record the change.

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