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Digitizing the Primary Classroom

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Teachers in today's primary classrooms need not feel left out of the technology revolution that is sweeping the country. Indeed, they may choose to take on the role of leaders in preparing children to utilize technology in every way possible. Incorporating digital images is a terrific hook to accomplish that goal. Think of the phrases "Show me and I will understand" and "A picture is worth a thousand words"!

Most teachers have one or more computers available for use on a daily basis. As prices drop, camcorders, digital cameras, and scanners are becoming nearly as common as telephones and televisions. Web cams and the Internet are no strangers to many American homes and schools. Parents are likely to own such equipment, and most are willing to lend a hand to an interested teacher who may lack the appropriate hardware. Other possibilities for acquiring new equipment are classroom or school partnerships with businesses that possess the equipment. Employees will often work with the teacher and students to complete projects that use technology. Everyone involved is sure to learn a great deal from those cooperative ventures.

Teachers, you may argue that you lack the time for such projects and that primary students need to interact with peers rather than with a keyboard. Parents may express similar concerns. In response, I suggest that you think of the things you do now in your classroom and with your students. Begin with something you use a lot that your students enjoy. Then ask yourself how you might accomplish it in a different wayýby using a computer and some type of input device.

Further, ask yourself, "What would be meaningful to my students, and how do I go about it? Who do I know who has the 'tech-pertese' to help if I need assistance?" Before we look at some useful examples, let's take a moment to look at the ways to obtain digital images.

Digital cameras are easy to move from place to place and may be obtained for a minimum of $200. Obviously, the differences in price reflect the quality of the pictures. Many of these cameras use cables to transfer images from the portable cameras to the not-so-portable computers. A few of these cameras use floppy disks to store images; these floppies can then be inserted into a computer to transfer the images. Most likely, cost and compatibility will help you decide which type of camera to purchase.

Video cameras are another portable source of digital images. The computer to which you transfer the images must have some type of digitizing software and usually uses an RCA cable. That will allow you to digitize movies as well as still shots. Apple Video Player, Adobe Photo Shop, MGI Photo Suite, and SOHO LivePix are a few programs that are available to accomplish this task. Most of that type of software offers at least a few photo-enhancing effects.

Scanners have become one of the most affordable pieces of hardware. Most scanners available nowadays produce better-quality photos than scanners of
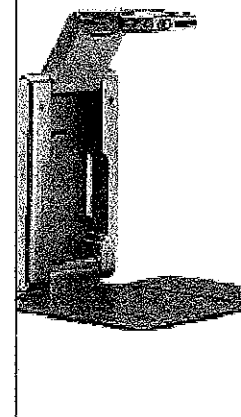
the past, and they offer the user many options to improve the color and sharpness of pictures.

The last source of digital images, Web cams, are inexpensive cameras that allow you to show your classroom or project to others by means of the Internet. In addition, you can visit Web sites that have live Web cams hooked up so you can observe their projects. Many of these allow videoconferencing, and all allow capture of still shots. Most cost less than $200.

Pictures from any of the above-mentioned sources can be cropped using your computer's digitizing software. They can also be saved as, or easily converted to, JPEG file format and viewed with any Web browser. Images taken from the Web are already in digital form, so they are ready to use. As with any use of copyrighted material, be sure to acknowledge your source.

So, how can you use any or all of those devices with primary students? Start small and simple, but don't limit your thinking! Think big!

Begin your school year the previous spring. I invite the first graders to see our second-grade classroom. My second graders act as photographers during this 15-minute period. Each first grader has his or her picture taken using a QuickCam or a camcorder, which is hooked to the computer. As we save each photo, I ask the subject for his or her first and last name. When we have finished, my teaching partner and I have a picture of each future second grader. Later, I spend a few minutes cropping the pictures and pasting the entire group into one drawing document with each student's name below his picture. (Drawing documents are available in many applications such as ClarisWorks, MS Word, and MSWorks. Drawing documents allow for easier positioning of graphics and text boxes than word-processing documents.) Select all the photos and add a narrow, colored frame to each. Print sets in color or black-and-white to use in various projects early in the coming year. Use these printed documents to help yourself match student names with appropriate faces before the school year begins.

Want a way to welcome students to your room on the first day of school? What child doesn't love to see his or her picture outside the classroom door. Paste a printout of each picture into the center of an old CD or diskette. Or frame each picture with a paper camera, or put them in the driver's seat of a colorful car. Parents will know at a glance which room their child belongs in, and the first-day parting will be easier. Arrange to have the camera in your room and charged for the first day of school, so you can take pictures of any new students. Print any new pictures and add them to the group display to make the new students feel like part of the class immediately.

Laminate a set of photos and cut them into individual cards for a helper pocket chart. Another set can be cut and mounted on index cards to use when voting. Each child places his or her picture on the item of choice or under the appropriate word or picture on a bulletin board, chalkboard, or table. Everyone can see at a glance which received the most votes. Comparisons are easy, and you don't have to worry about eager little ones voting more than once, because they each have only one picture.

Seating charts come in handy for substitutes, principals, and teachers who conduct classroom observations, as well as full-time teachers. Put an image of each child into the appropriate place in your seating chart. Print one for the bulletin board and one for the subfolder. When you move a child, it only takes a moment to redo the chart if you have it saved on your computer.

First-day journaling becomes more fun with a picture taken of each student. You can take the pictures yourself or let the students learn how, with your assistance. Paste each picture into a drawing document and print the set. Cut them apart, and everyone has a photo of their first day in this grade to paste in their journals. Use the same journal idea for other special projects: holiday costumes or masks, western day, book character day, and so on.

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Another favorite activity is the Birthday Book. Early in the year, students will need your help to accomplish this project. When a child celebrates his birthday, he chooses a classmate to take his photo. Next, the birthday child pastes the photo into a word-processing document and writes a few sentences under the date. He can tell about birthday plans, his age, and so on. Print one for the child to take home and another for the bulletin board. At the end of the day, place the bulletin board copy in a folder or notebook titled "Classroom Birthdays." By the end of the year, the book will be complete and will have been enjoyed many times over.

Open house offers many opportunities for using digital images of students. A full-body photo of each child can be taken and pasted into a drawing document. Fill the page with as many as you can. Choose the landscape view to paste in the pictures of the students so they are about eight inches tall. Print these on cardstock, and let everyone cut their own out. Glue a straw to the back so about three inches of it sticks out the base. Insert the straw into a spool for a standup desk tag.

Keep QuickCams and camcorders hooked up and on during open house. Earlier in the day, teach the class how to take pictures. Be sure to allow time for each child to practice on peers while you observe and assist if necessary. During open house, have the students take pictures of family members, and save the pictures into a folder you create on the desktop. The next day, print those pictures from a drawing document, and let students write math problems or language sentences about their family members who attended. Paste the pictures beside the stories and display them or put them into a class booklet.

Every parent appreciates knowing that their child is doing well. However, not every message gets home the way you hope it will. Have cameras handy during the day and snap a photo of unsuspecting students engaged in learning activities. Paste individual shots into a word-processing or drawing document and add a short message such as "Kevin was caught doing good," "Chris worked hard on math today," or "Pat read the entire story to classmates." Sign and send home a few each day until each child has received a positive note.

Teaching social studies presents many opportunities to photograph students. For a unit on careers, have the students bring something their parents use in their work. As the students tell about their parents' jobs, take photos. Put these into a computer slideshow, with the children adding a few sentences about each picture. Show the completed version at conference time, or videotape it and let each child take it home for a night.

Another favorite social studies activity is bringing in photos of ancestors and putting them into the computer using a camcorder and digitizing software or a scanner. Limit the children to two or three photos each so the project doesn't get out of hand. You can turn these into a Class Ancestry Album by letting each child paste his or her photos into a drawing document and adding text beneath that tells who the people are and how they are related to the student. The best way to ensure that the information is accurate is to send a letter home explaining the project and asking parents to attach an identifying sticky note to photos. Pages can be printed for children to take home. Print a second copy for the Class Ancestry Album, or put all the pages into a computer slideshow.

If your students keep track of the weather on the Internet, let a small group be in charge of copying images from weather-related Web sites each day and pasting them into a calendar created in your favorite application. By the end of the month, you will have a visual record of weather events. More-advanced groups can type in the high temperature each day or make two calendars: one showing the predictions and the other recording the actual weather. At the end of the month, let the class compare the two and decide what percentage of the time the forecasts were accurate.

Comparisons are fun when students get to compare themselves with a character they have read about. In this activity, everyone chooses a favorite book character and makes a list of the ways they are like that character and the ways they are different. Always have students do a rough draft on paper to save time at the computer. Create a word-processing document and choose the landscape view. Make two columns and let the children type their characteristics in the first column and those of the characters in the second. Let students take pictures of each other to insert into the column above their own characteristics. Each can find a photo of the chosen book character, either in a book or on the Internet, and insert it into the second column. Print and display.

One of my favorite activities for creative writing or a science or social studies report is "The Day I Met...." For example, a report about "The Day I Met Mozart" might include a photo that shows the student shaking Mozart's hand. Beneath the photo would be a report the child has written (first as a rough draft on paper and then copied into a word-processing document) about the event. How did it come about? Where did it happen and how did each react? It is best to first find a suitable photo of the famous personality on the Internet or in a book. Capture the image and paste it into a word-processing document. Next, the student poses for the camera so his or her picture will be compatible with the famous person's. A classmate snaps the picture, and students crop it and adjust the size in a drawing document before pasting it into a paint document. The paint document allows the student to lasso the desired part of the image and paste it beside the image of the famous person.

Another idea related to this one is "You in a Historic Place." Students choose historic sites they have visited on the Internet and copy images of the sites into drawing documents. Next, classmates take their pictures in particular poses and paste them into the documents. After adjusting the size of the pictures, the students paste the pictures of themselves into a painting program to lasso and cut out the backgrounds. Once again, they copy and paste the lassoed images into the first documents and position them. Then have them create text boxes below to write about the trip to this place, including some historical information. As an alternative, pictures of the student at that historic site can be made the size of a photograph and printed as if they were taken at the scene using a camera. Crop the edges with craft scissors before pasting the pictures onto colored paper. Students then use an index card to write a caption about their trips to their places. Mount the cards and photos onto a bulletin board and let classmates match each photo to its caption.

Postcards are versatile enough for most subject areas. Make a template for a postcard by using your favorite drawing document. Make the front of the postcard a blank rectangle at the top half of a page in portrait view. Make the back of the postcard the same size rectangle below. Add a box for a stamp and a vertical line to divide the address from the message. Finally, add horizontal lines for your students to write the address on. Use the "lock" feature of this document to keep everything in place while younger students work.

The students can paste pictures on the front of the postcards right from the Internet. Or they can create them freehand using drawing tools. Perhaps the pictures reflect the travels of a character from literature or a place your class is learning about in social studies. Students type their messages on the back and add addresses. The stamp is also from the Internet or done with drawing program tools. It should deal with something in the story or lesson as well. Messages can also be added after printing if computer time is limited. Postcards can be printed in this fashion, cut apart, and glued back-to-back, or you can make the fronts and backs on separate computer pages and print them back-to-back. They are terrific reading for parents waiting at conference time or even for sharing with classmates during the day.

Early in the year, let primary students create portable patterns using manipulatives on a clipboard. One by one, students take clipboards to a stool

placed strategically in front of a QuickCam or camcorder connected to a computer. They take a picture of the pattern and later insert it into a word-processing document where they describe the pattern.

Do your students realize that numbers have families too? That concept becomes easier to grasp if you have students bring in a family photo. Have the students put their photos into the computer and paste them into a word-processing document. Each child writes the equations for the number family that his own family represents. For instance, a mom, dad, and three sons might look like this:

$$= 5 \text{ in all}$$

$$1 \text{ girl} + 4 \text{ boys} = 5 \text{ in all}$$
$$4 \text{ boys} + 1 \text{ girl}$$
$$5 \text{ in my family} - 1 \text{ girl} = 4 \text{ boys}$$
$$5 \text{ in my family} - 4 \text{ boys}$$
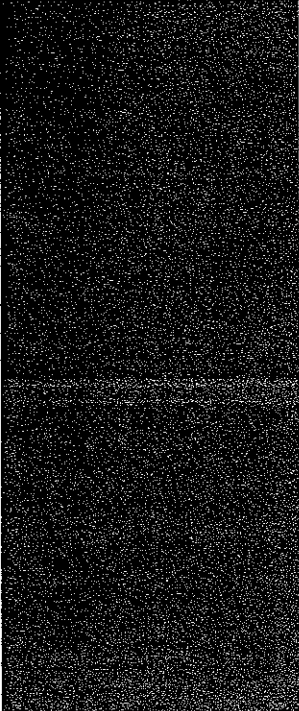
$$= 1 \text{ girl}$$

Another child may choose to separate family members on the basis of eye or hair color, or separate adults from children. Once again, instruct the children to do the writing first on paper and then copy it into the computer document to save time. Print the finished products and discuss as a class.

Take advantage of technology to enhance those "teachable moments." An excellent example of this occurred on pajama day. Second graders noticed that there were a lot of bear slippers. I took a photo of the slippered feet and saved it into a drawing document. After printing one copy, it was xeroxed so students could write a math story problem based on the picture. One of those read, "If eight second graders wore slippers, how many did not? How many slippers are there if you count each one?" Another read, "If five kids have bear slippers and eight kids have slippers, how many kids are wearing other kinds of slippers?" Answers were written on the back or covered with sticky notes, and students exchanged papers to solve the problems before taking them home.

Holidays offer many possibilities for inserting student photos into cards they create for family members. Have students take head snapshots with digital cameras; copy the photos into drawing documents. Each child then chooses an appropriate image from the application's library, enlarges it, and pastes their own photo into it. They can add a greeting to the card and then print and sign it. You may want to print images in outline form and let students decorate them with crayons or markers. The greetings can be made in two-fold card form or in any desired shape. They can also be kept small and pasted onto a pop-up step in a construction paper card.

One of the most enjoyable uses of digital images is creating puppets. Early in the year, children can learn how to insert pictures from an application's library into a drawing document. Animals are great images to start with. The children resize the images and use the box tool to add a transparent rectangle that touches the bottom of the image. Rectangles serve as a base on which to mount a Popsicle stick or can be made long enough to wrap around a finger and create a finger puppet. Students can work in groups to create puppet plays using those characters. As your class becomes more proficient at using the tools, they can size puppets in the drawing document and copy them into the paint program to change the colors before printing. Images can be taken from the Internet for this purpose as well.

The children will also enjoy bringing photos of their favorite pets. Tell them to choose a photo that shows most of the pet's body. Once they size the images in their drawing documents, the students can copy the images into paint documents. Here they lasso the images of their pets and paste them back into

their drawing documents where they add a rectangle below before printing. Now they can write plays involving their own pets. The same can be done with family member photos to role play family situations.

The cumulative story works well with digital images. Share some cumulative stories with the class, such as "The House That Jack Built" and "The Napping House." Children can work alone or with a partner to write their own version on paper. They may write about the people at school who help them or the things they do with their friends. Once they complete the story, the students take digital pictures of themselves and the people in the story doing the activities mentioned in the story. A short example: "This is the math area where I practice regrouping. These are the cubes that I use in the math area when I practice regrouping. This is my friend Kelly who works with me in the math area to practice regrouping with cubes." Students insert pictures into the appropriate places in the text. Text is spaced accordingly, and borders can be added to photos. Longer cumulative stories work well as slideshows, and any can be printed and placed in a class book.

Those are only a few of the many ways you can use digital images, from any source, in your classroom. Once you see the enthusiasm digital images generate in your students, you are sure to think of additional ways to use them.

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