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Handheld Computers—Power in the Palm of Your Hand!

The age of the handheld computer has arrived! In these days of budgetary crunches, now is the time for educators to become aware of what these "little" things can do to impact teaching and learning.

Often called PDAs, these devices are truly a computer you can hold in your hand. There are two main types—those that run the Palm operating system and those that run the Microsoft PocketPC operating system. Palm, Sony, and AlphaSmart offer devices with the Palm operating system, whereas Compaq, Dell, Casio, Viewsonic, and Toshiba offer those running the PocketPC operating system. With the newest versions of most of these devices, you have the ability to surf the Internet via Bluetooth, 802.11b wireless, a network connection or dial-up, the ability to play audio files, view movies, take photographs, record voice memos, read electronic books, and more. Each of the handheld computer operating systems integrates easily with the personal computer. Each of the operating systems also allows you to work with Microsoft Word and Excel documents and view PowerPoint slides on the handheld computer. The PocketPC devices contain a stripped-down version of the desktop Microsoft Office suite, whereas the Palm operating system uses a third-party conduit to read and edit the Office files.

Handheld Basics

The most common method of moving data back and forth from a desktop or laptop computer to a handheld computer is via a cable or cradle that synchronizes the latest version of the data between the desktop computer and the handheld computer. Data can also be exchanged between two handheld computers via infrared beaming, which is an easy and effective way for students to share work or hand in assignments. Data is commonly put into the handheld device by one of two methods—writing with a stylus on the screen using a form of printing that is close to regular printing or using a full-size detachable keyboard that plugs into the handheld for faster data entry.

The handheld computers all come with built-in programs for keeping a calendar, contacts, to-do lists, and memos. These built-in applications can be used in many ways in support of the curriculum as simple word processing programs, data-gathering tools, homework agenda lists, and more. There are also many free and inexpensive applications available for the handheld computer. Some of these include powerful database programs, reference tools such as periodic tables and data conversion programs, and subject-specific programs such as astronomy viewers, favorite books list, simple animation creators, and concept-mapping programs. The programs are small files, easy to learn, and limited only by your imagination!

More Advanced Features

With either a Margi Presenter-to-Go or a Portsmith Pitch Duo, handheld computers can hook right up to a projector or scan converter. The user can then mirror the handheld computer's screen for training purposes, or a student can make a presentation created in PowerPoint or Flash as part of a project.

There are also a number of e-book readers available for both handheld computers and desktop computers. They include a desktop component for the creation of e-books. Imagine putting your notes or syllabus into an e-book and beaming the information to each of your students. Imagine doing an Expert's Share activity and having students beam their completed projects to the rest of the class members. The possibilities are endless, and there are hundreds of free public-domain books and books for sale at online bookseller sites.

One of my favorite uses for the newer, faster handheld computers is viewing a digital movie or a Macromedia Flash animation. Both the Palm and the PocketPC allow very large multimedia files to be compressed and converted into a format that fits on a flash memory card; these play well on the handheld. Imagine if each student created a Flash animation on the computers in the lab, converted it to the handheld format, and beamed the animation to others in the class. You could record each presentation on a digital camcorder, convert the movie so students could watch it on their handhelds, then they could show it to their parents at home.

Are There Limitations?

Handheld computers will not substitute for a full multimedia desktop computer in all cases. Students won't be creating a lot of hand-drawn graphics or putting together the school newspaper on the handheld computer, but the ability for students to write or collect data anywhere and upload the information to the desktop computer is a great timesaver in the classroom. It also gives students a sense of ownership of the device and their own information.

The Future of Handhelds

What is the future for handheld devices in the classroom? With the growing concern about school budgets, I predict that handheld computers will become a viable option in lieu of desktop computers. In addition, the positive aspects of one-to-one computing cannot be ignored. With an average price of under $300 for one of the new handheld computer models (which includes a fast processor, a color screen, a built-in speaker, the ability to access the network and the Internet, and unlimited expandability via a Flash storage card slot), the answer is clear—handheld computers are here to stay!