

# Chapter 7

## SUMMARY

### A PRELIMINARY SELECTION OF SUGGESTIONS FOR IMPLEMENTING EDUCATIONAL TECHNOLOGY

Repeated encounters with educators who have successfully pioneered the use of sophisticated computer-based technologies reveal some general strategies for effective implementation, based upon currently available resources. A more detailed discussion of the deployment of these strategies is presented in the LAN and WAN Guides that accompany this manual. A Glossary for definitions of terms is included in all three manuals of this trilogy.

1. Plan all classrooms for computer connectivity (networking).
2. Provide portable or desktop computers for all teachers, and provide LAN connections for each. (If a desktop computer is provided for each teacher, the unit can be configured to allow multimedia presentations.)
3. Network all computers at each campus, then inter-network the campuses to form a WAN. Or connect computers at all campuses to one large district-wide LAN.
4. Classrooms should have from four to eight student work stations available and connected to the network.
5. Modem (communications) servers should be provided on the LAN(s) to allow connection to WANs from any workstations
6. Connect a CD-ROM *server to the network* to provide CD-ROM access from all workstations.
7. Consider the extra space requirement in each classroom for the computers/workstations and other supporting technology (VCRs, laser disc players, overhead projectors, TV monitors, CD-ROM drives, scanners, etc.).
8. Have the library connected to the LAN(s) so the automated card catalog can be accessed from any workstations
9. Explore providing connections to the Internet for both faculty and students. Although a direct connection to the Internet would be nice, such a connection may be too expensive for many school districts (primarily because of the continuing monthly lease fees for the digital data line—a TI or fractional TI line—supplied by the service provider).
10. Vocational classes may require specialty configured computers and special peripherals. For example, computer aided drafting and computer aided manufacturing (CAD/CAM) laboratories require plotters and/or special printers and large monitors. Art classes may require expensive color printers and high powered computers (extra RAM, larger hard drives, and faster processors) to run special drawing and paint software. Journalism classes may require large two-page monitors for desktop *publishing*, and special video editing equipment (such as Video Toasters) may be needed, along with video cameras and an array of VCRs.

11. Other specialized technology may be required/ desired in the library, media center, or other convenient location. Such equipment may include a centralized video distribution *center* for media retrieval. It may be convenient to locate the video distribution technology in the same area as network servers and the wiring closet.
12. If distance learning technology is incorporated, a convenient placement for a satellite dish antenna must be located and satellite equipment must be installed. If broadcasting from the site is planned, a special room (studio) will need to be established, incorporating special considerations for lighting, light control, and acoustics. Special camera transport equipment will be required.
13. Special education will require specialized technology.

Computer-based communication networks form the heart of the technology infrastructure presented in this manual. General frameworks are offered. State departments of education in Florida, New Jersey, California and other states have published documents discussing the specific needs and requirements of their state, as well as general information regarding Technology use in schools. Contact your state department of education and obtain these documents before beginning your technology infusion project.

### **SOME GENERAL PITFALLS TO AVOID**

The following information was included as a sidebar to the article A Redesigning Schools for 21st-Century Technologies: A Middle School With the Power to Improve”, by Janet M. Van Dam, which was published in the January, 1994 issue of *Technology & Learning*. (Copyright, Peter Li, Inc.) It is reproduced here by permission.

### **Ten Things NOT to Do During a Building Renovation**

1. Don't presume that all architects are educational architects. Many may be the best in their business when designing banks or medical offices; however, it does not follow that they understand the needs of educators and students.
2. Don't leave community and parents out of the planning process. In an age when school buildings serve multiple uses for the community, be certain you listen to community perspectives. Also, remember that parents are supporting most funding initiatives and hence must understand the project.
3. Don't assume teachers can clearly articulate what they need or want in a school. A truism about technology goes, "You gave me what I asked for, but it's not what I wanted." In fact, until the environment is actually in place, the real benefits are difficult to imagine. Listen carefully, ask hard questions about how teachers hope to use new technologies, and look for innovative suggestions Ideas that let educators and students do better what they always have done may need to take a back seat to ideas that let teachers and students do new and different things.
4. Don't wait. Start collecting thoughts and contributions several years before your renovation project begins. This will help your planning tremendously when the time comes.

5. Don't assume an architect's technology consultant is actually a voice, video, and data consultant. Some limit their consulting to how many electrical outlets are necessary.
6. Don't believe you can accurately estimate the wiring capacity you'll need to accommodate the instructional and administrative needs of tomorrow. Identify the greatest amount of information transfer you can possibly imagine in your building, and then multiply that need by at least four. You maybe close.
7. Don't assume your building is unique. Visit other renovations and make use of their thinking when planning your renovation. At this point in the creative process, visiting non-educational institutions may broaden your thinking.
8. On the other hand, don't assume that replicating an entire installation is the correct solution. The 80/20 rule tends to work here. Eighty percent of what you want to install may be just like other building renovations. But the last 20 percent should be customized for your unique needs.
9. Don't let your technology consultant handle everything. You run the risk of not knowing what was done, how it was done, or how it can be modified in the future, while it may seem efficient to wash your hands of the work, be sure to involve your permanent staff.
10. Don't rush during the planning stages. Be sure the details are understood before you begin. Some contractors count on your making changes after initial planning is done. This is where they make their money. Remember, you control the process. J.V.D.