Introduction

Chapter 13
Planning a Successful Staff Development Program

OVERVIEW

The implementation of an organized, well-funded staff development program is critical to the effective use of technology in a school. This chapter provides an overview of some common "best practice" concepts that have succeeded in school districts throughout the nation. Despite local differences in philosophy, budgets, and technology resources, teachers and administrators can implement some or all of these practices to promote the effective integration of technology and education.

Investing in Teachers: Why Staff Development?

Almost everyone agrees that learning to use technology is a good idea. Unfortunately, not everyone agrees that the right training is worth the expense. Gaining credibility among your constituents depends upon having concrete goals for your learning program and having the flexibility to achieve those goals in a number of different ways.

Professional Development Guidelines

Professional development programs vary widely from state to state, district to district, and school to school. The guidelines governing these programs vary as well and will likely evolve over time. For example, until last year, Florida required every school district to devote one-third of its technology funding to teacher training; Nebraska and North Carolina are currently developing standards for technology and teacher competencies; and Texas lawmakers recently introduced an initiative that increases the number of contract days for teachers every two years, to allow time for technology-related training. In short, legislation will have an impact on some of the details of your program. So will the demands of your key constituents, and each will change over time.

Those details aside, there are key issues common to every staff development program that must be addressed to ensure the successful implementation of your school or district's technology plan:

- How will teachers' training needs be met?
- Will teachers have adequate professional development and time to learn how to integrate new tools into their instructional practices?
- Will teachers have access to ongoing technical support?
- Will staff development be updated regularly to deal with rapid changes in technology?
- How can everyone in the school or district be taught to use technology effectively?

Key Support Needs

The RAND Corporation's workshops on professional development and effective technology-assisted schooling provide valuable insights on the support teachers need to integrate technology and curricula effectively in the classroom. The workshops suggest three goals to support teachers:

1. *Adequate time to acquire technology-related skills and to plan technology-integrated curricula and activities.* Teachers need time away from their classroom responsibilities to attend training and workshops, experiment with hardware, and explore software. Teachers also need the opportunity to meet with other teachers to share successes and collaborate on new technology-related teaching strategies.
2. *Responsive assistance.* Teachers need assistance that is available based on their needs rather than on the convenience of support staff. Responsive assistance and "just in time" staff development provide ongoing help and support in a timely fashion—when teachers need it. On-site, trained coordinators can play a key role in providing this responsive assistance.
3. *Links between professional development and educational goals.* The professional development of teachers must have a clear sense of purpose linked directly to the school's educational vision and goals. As such, all professional development activities should be designed to produce positive, measurable results that support the vision and goals.

District Practices

School districts often have greater staff resources to implement professional development programs than individual schools have. Many districts have trained staff dedicated to providing professional development workshops to individual schools. If this is true for your district, ask for their assistance.
If the district does not have the staff resources to assist your school directly, find out what training strategies have been used in the past. Then leverage the district's expertise and experience to create a professional development program for your school. To build on your district's technology professional development expertise and experience, investigate the following:

- What has worked?
- What hasn't worked?
- Which district people might be tapped as facilitators and leaders?
- Which school-site people might be good trainers?
-

Best Practices: Developing a Training Infrastructure

Time and/or budget constraints may prevent some schools or districts from introducing a formal curriculum and classroom approach to skill building. But staff development cannot be an isolated activity. A common trait of districts with strong technology integration is the development of a training infrastructure—a support system for the introduction and communication of technology skills. This support system can consist of a variety of tools, both formal and informal, used at both the district and school levels. No one of the following tools is effective as a delivery system for technical knowledge; however, a combination of these practices can enhance the effectiveness of your staff development program and help maintain enthusiasm for technology integration.

Train-the-trainer programs. Select teachers are given in-depth training and support. They, in turn, serve as resources and trainers for their peers. The trainers may forge their own set of goals, or they may follow the guidelines established by the district. In either situation, the trainers generally develop a hands-on program that includes applications training, information sharing, and integration of technology and Internet resources into the curriculum.

Model technology classrooms and schools. Technology-rich classrooms or schools are developed that showcase various applications of technology. Constituents see new teaching strategies modeled during routine school days, and visitor participants are able to interact with teachers and students engaged in making changes in their classrooms.

Expert resources. Experts representing various staff positions (such as librarians and technology coordinators) or volunteers from business, parent, and student groups serve as resources at school sites.

Vendor resources. A variety of commercial staff development resources exist, from self-study curricula to off-site instructor-led skills training. Although many of the instructor-led services are beyond the budget of smaller districts, self-paced training by paper and/or electronic media is a cost-effective addition to almost any size technology program.

Gurus. Every teacher and staff member will find his or her own comfort level with one or more key technologies. As these interests evolve, other teachers will naturally seek out the individuals who are "experts" on a particular software or hardware tool. With encouragement and support, those individuals can develop into strong complements to your formal technology support infrastructure.

Online teacher support groups. Teachers can draw pedagogical, curricular, and emotional support from colleagues. Face-to-face support isn't always possible given the constraints of the teaching environment. However, some can be facilitated by technology itself: Teachers can create, share, and evaluate materials online; mentor one another or engage in discussion groups from afar (using distance technologies like CU-See Me); and observe on video or CD-ROM other teachers at work in classrooms.

Administrative commitment. Any armed forces commander can tell you that the leader of inspired troops leads from the front. In education, administrators can lead by attending training sessions with teacher teams and providing extra time and resources for teachers to work together, reflect on what they are learning and doing, and assist their colleagues in technology activities.

Putting the Pieces Together

Just as there is no one correct route to most destinations on a cross-country trip, there are no formula answers to the "best" staff development program. **An effective professional development program must be tailored to fit your school or district's unique constraints and technology environment,** and must be, at the least, acceptable to all those constituents affected by the funding or implementation of the program.

Many combinations of the "best practice" tools cited may be effective at your school or district. Technology implementation is exciting, and you may well be tempted to try everything at once, with the enthusiastic support of your teaching staff. Keep in mind that the end goal of the journey is arriving at the Connected Learning Community — the environment in which exciting and innovative technologies open new worlds of learning *for your students*. Choose your route carefully to avoid detours into Hi-Tech Teacherville and other technology tourist traps.
Finally, when setting staff development goals, be sure to recall lessons learned from the more "tangible" aspects of your technology plan. Marketing, budgeting, and leadership are just as important to realizing the vision of empowered teachers as they are to achieving the overall Connected Learning Community at your school.

Chapter 14

Planning Technology Costs

OVERVIEW

School boards, parents, and education stakeholders invariably ask "How much will this technology cost?" To ensure the success of your school or district's technology program, it's important to estimate the total investment that will be made in its various components. This chapter provides an overview of the types of costs incurred in both the short term and the long term as you build your Connected Learning Community.

Budgeting

No magic formula exists for estimating the costs associated with creating a technology-rich learning environment. Costs depend on how much technology is to be introduced in your school or district and how

often you plan to upgrade to take advantage of the latest technical innovations.
Technology—and its price—has and will continue to change. The price varies not only with the cost of equipment, but with the savings or costs associated with taking advantage of new capabilities. For example, technological advances may reduce the cost of existing software and hardware but spur the development of more sophisticated software that requires even greater hardware performance. And, of course, new technologies also present new opportunities for learning. For instance, CD-ROM technology and the Internet were just beginning to make inroads in schools just a few years ago.
It's difficult to develop a formula for assessing the costs of a multiyear technology plan when you're uncertain what technology will become available and what its costs will be. So, how does one budget for the learning environment of the future?

Identifying Costs

One way of gaining experience in forecasting future technology expenditures is to measure where your school or district's technology dollars are being spent today. While no one checklist can capture every possible school environment, general categories can be monitored to track current expenditures and plan for future ones. Costs associated with implementing school and district technology programs fall into the following categories:

- *Hardware.* The purchase and installation of computers, printers, scanners, and networking components constitute the largest up-front cost. The primary factor affecting total hardware cost is density, most commonly measured by the student-to-computer ratio. Existing networks may require new hardware such as file servers and printers to be fully functional.
- *Software.* This category includes server software; specialty and productivity software; educational content, such as remote databases of information and video programming; and software needed to adapt technology for special needs users.
- *Infrastructure improvements.* Wiring and cabling, improved ventilation and cooling systems, enhanced security systems, additional telephone lines, and other modifications to school buildings, such as asbestos removal, electrical system upgrades, and even renovation, can represent a significant portion of the technology budget, depending on the current infrastructure, age, and condition of the school facility. Retrofitting is the largest one-time cost for starting a network. The quantity, distribution, and condition of any existing technology infrastructure in the school or district also affect costs.
- *Telecommunications costs.* Wide area network connections among schools and to the Internet may involve initial hookup fees and ongoing charges for telephone lines, satellite connections, cable connections, and Internet access fees. The range of the bandwidth that a school purchases will also influence costs.
- *Ongoing technical support for teachers and administrators.* Many teachers are reluctant to use technology in their lesson plans unless they have immediate access to help during the school day. While initial training programs will get teachers up to speed, an ongoing support structure and personnel are necessary to help them make use of the network and classroom computers for instruction and administration. That may include providing on-demand help when software or hardware problems arise. Technical support for the network is also needed.
- *Professional development.* An extensive training program is necessary for teachers and other school staff to become productive using software tools and to integrate technology effectively with the curriculum. Each teacher must receive between 20 and 50 hours of initial up-front training.
- *System maintenance and upgrading.* Maintenance and upgrading of hardware and networks are necessary to preserve the school or district's investment in technology.

The budget categories presented here are a starting point and focus on an array of technologies found in networked environments. The extent of your school or district's plan and its starting point will determine the influence of these factors on your total budget.

Continuing Costs

Tip

The majority of school spending is currently devoted to "instructional support," such as instructional supervisors—for example, the head of the math department. Consider redeploying some of those resources to address teacher training and support needs. For example, instructional supervisors could focus on helping teachers integrate technology-based tools into the curriculum.

Funding the maintenance and improvement of your school or district's technology system and the skills of its staff is an important component of your initial technology budget. However, you should view technology costs as a recurring expense because technology is central to your school and district's operations.
Moreover, it is likely that increased use of technology will profoundly affect the roles and work of school and district staffs. This may involve trade-offs among expenditures for equipment, software, connections to data resources, and personnel. Consequently, in making the transition to a technology-rich learning environment,

local school staffs must actively participate in deciding how to acquire and use the technology.

The Challenge Ahead

You're headed down the home stretch: The technology plan is a reality, and its costs have been determined. Now you are ready to explore various avenues for funding. It is likely that funding for your school or district's initial technology investment will come from a variety of sources. Chapter 15, "Securing Funding and Support," will provide you with strategies for financing the costs of creating and sustaining a technology-rich school.

Chapter 15

Securing Funding and Support

OVERVIEW

Now that your school or district's technology plan has been created and its costs determined, you're ready to seek funding and support. This chapter explores financing the costs of creating and sustaining technology-rich schools and offers budgeting tips and guidelines to ease your journey.

You can travel several different routes in search of funding for your school or district's technology program. The best strategy for navigating the financial side streets is to develop multiple funding sources. Possible sources include the following:

- School and district budget restructuring
- Bond measures
- Grants
- Donations from businesses
- Categorical funding from federal and state programs
- Parent and student fundraising

The unique financial and political condition of your state, school district, and individual school will determine the best funding sources for your technology plan.

Getting Started: Restructuring Budgets

Your school or district may not receive money earmarked solely for technology implementation. However, it can spend its available funds more creatively. You can fund many technology expenses by reallocating money for expenses that will no longer be applicable when the new systems are implemented. If school personnel and parents feel that such reallocations will improve the education of students, you are more likely to gain support for your restructuring proposal. Therefore, good strategies for engaging your constituents—and conveying to them the positive impact of technology on teaching and learning—are critical to the success of reallocation initiatives.

Resource Management

Once you've gained support for the idea of reallocating existing funds, structure expenses in such a way as to minimize the amount of dependence on any single source, especially if that source relies heavily on tax revenue. Certainly, more money is the key to jump-starting your technology plan, but having more *sources* of funding is critical to maintaining programs into the future. Therefore, it is important to diversify your funding streams. Spreading out the funding burden is as important as sharing the wealth or the reward.

Reallocation of Categorical Funds

Here's where the assessment of your school or district's current technology resources—conducted as part of your initial planning—will be especially useful.

Knowing your starting point allows you to readily assess your funding needs. The next step is to look at the existing budget to identify categorical funds that can be redistributed for technology expenses. An excellent source of such funds is the supplies category. Generally, at least 50 percent of those resources are devoted to textbooks. Many school districts allow the reallocation of a portion for the purchase of instructional software. Other sources of funding available to offset the costs of technology programs include budget allocations for teacher planning time and professional development days. In some states and school districts, up to 10 or more days per teacher are allocated. If those resources can be procured from the district or state, they can be used for staff training programs supporting the development of skills needed for technology-rich learning environments. The budget categories for professional and technical services and other contracted services may also be potential funding sources for staff development and technical assistance.

Maximizing Human Resources

Schools with adequate levels of autonomy can make critical reallocations in staffing and staff responsibilities.

New positions, such as district and school-site technology coordinators and systems support technicians, can be funded by redefining existing staff positions. Of course, efforts such as these are most successful where there is strong school and public support for investing in technology.

Transferring Technology Costs from the Old to the New

Computing systems are like highways—you have to constantly invest in their repair and maintenance to ensure smooth, safe journeys for future travelers. To offset some of those costs, try to anticipate and eliminate expenses that will no longer exist once your technology-rich learning environment is in place.

- *Identify and reallocate expenses associated with obsolete or duplicated systems.* If your new system is replacing a mainframe or minicomputer, you may realize a cost savings from discontinuing unneeded maintenance and training costs. Even if you choose to retain your existing centralized host for some administrative functions, you can eliminate the preexisting data network in the schools, relying instead on the LANs installed for instructional purposes.
- *Take advantage of technology synergies.* Your new infrastructure or systems may be able to provide services that are currently hosted on costly, dedicated equipment. For example, if you are installing a wide area network, the dedicated leased lines may be able to handle voice as well as data, and a cost savings may be realized by moving voice traffic to those lines. The cost savings can then be reinvested in the maintenance and support of your teaching technologies.

For an example of an online information resource, see Microsoft Encarta at http://encarta.msn.com/.

- *Recover the cost of traditional tools to finance new technologies.* For example, multimedia instructional materials (interactive encyclopedias, almanacs, and other reference materials) can replace current expenses for printed reference materials. Printed library materials get lost, destroyed, and go out of date quickly; electronic information resources, which are shared electronically and readily updated at little cost to the consumer, are less susceptible to ongoing replacement costs.

Minimizing or Eliminating Expenses Through Technology

For an example of minimizing expenses through technology, see "K–12 Schools in Action: Tuscon Unified School District" at http://www.microsoft.com/Education/instruction/articles/win_tucson.asp

Time, money, and accurate and up-to-date information are all valuable commodities in any school or district. Computing systems can maximize those resources by eliminating expensive and time-consuming personnel tasks. Through instantaneous paperless communications, district and school staff can access the latest memoranda, financial reports, and student data without the need for labor-intensive processes and informational meetings.

- *Photocopies.* While it's difficult to quantify exact savings, you'll find that electronic mail minimizes the need to send memoranda to faculty and staff. In the Lebanon, Connecticut, School District, for example, a single broadcast electronic mail message replaces the 350 photocopies previously required for staff-wide memos.

For more information on the Issaquah School District, see "K–12 Schools in Action: Issaquah, Washington, School District" at http://www.microsoft.com/education/planning/implement/system_issaquah.asp.

- *Personnel time.* Electronic mail and workgroup software enable employees to communicate faster and more effectively than ever before. In the Issaquah, Washington, School District, the bookkeeping staff has saved time on communication tasks, allowing them to concentrate on more important aspects of their job; the assistant superintendent reports being two to three times more efficient because of the electronic tools he uses, including electronic mail and voice mail; and new systems and tools mean a portion of the time formerly needed for staff meetings is now freed for other purposes, resulting in less overtime and other personnel expenses.
- *Business/administrative forms.* Electronic mail and workgroup software reduce the need for expensive, multipart forms such as purchase orders. In the Lebanon, Connecticut, School District, purchase orders are now handled electronically. As a result, purchase order processing time has been reduced from a week to just one day. This centralized system also facilitates site-based management in which department heads and administrators can review up-to-the-minute financial reports that reflect all current purchase orders at any given time.

Rethinking School Funding: External Resources

To meet the challenge of funding your school or district's technology plan, the technology team, administrators, teachers, and parents must be willing to tap external sources of funds and embrace innovative approaches to fundraising. Alternative funding avenues are a critical way of significantly supplementing and expanding the funding base for your technology program. Meeting the challenge should include exploring the following:

- Bond measures
- Public and private grants

- Corporate and local business partnerships
- Federal and state programs
- Special-events fundraising programs

You may discover many other significant sources of revenue, but keep these in mind—they are a potential gold mine awaiting the right prospector.

Bonds

If your school or district has both one-time capital equipment investments and ongoing budgetary expenses (such as for training and support, new software, and/or maintenance), bond issues are an effective—and the most common way—to generate funds. Unfortunately, they are also the most complex. Bond issues require direct approval and funding from the public. Your success depends on many factors, including proper preparation for and implementation of your issue:

- *Consider your district's track record with bond issues.* How voters have responded in the past is the best clue to how they'll respond in the future. A hefty public relations campaign may be necessary to sway public opinion in your favor.
- *Structure your bond issue.* Instead of a single, large bond measure, consider separating your budget requirements into two or more distinct measures. If one passes, at least you've got money to get started.
- *Assign expenses.* Under which budgets or budget categories you assign particular expenses can have an impact on whether they are covered by funds from a bond measure. Many of your expenses—such as retrofitting older schools—are properly considered facilities' expenses and can be assigned under those budgets. Wiring and cabling can be considered part of the construction budgets for new schools.

Voters may reasonably question what the school district knows about technology and whether it can invest bond monies wisely. So it will be vital for your school or district to assure the community that it has a sound technology plan. Some tips follow:

- *Get others to champion your bond measure.* Your technology plan will gain more support from voters if business, civic, media, parent, and other community leaders champion it for you. Get them on board early. If you've included them on your technology committee or advisory committee, they should already be well aware of your plans. Get their approval before you seek voter consent. Encourage them to lobby on the measure's behalf, especially if your area has laws that prohibit the school district from lobbying directly.
- *Prove your expertise.* Here's where your pilot project experience can be an invaluable aid. Publicize the results of your pilot projects to prove you have the expertise to succeed on a broader scale.

Grants

A wide range of grant resources is available to help underwrite your school or district's technology investment. All enterprising technology advocates need to do is roll up their sleeves and begin the search. Most libraries have directories of grant-providing foundations and corporations, conveniently indexed by interest. Database, online, and Internet resources are also available to aid you in your search.

If you are interested in federal grants, check *The Federal Register* frequently or check the Internet listings of government agencies. Also, call pertinent state agencies to learn how to get on the mailing lists for their requests for proposals (RFPs). At the end of this chapter you'll find a list of grant-seeking and grant-writing resources.

Successful Grant Writing

Good grant writing is both an art and a science. The hard and fast rules of grant writing are typically well documented in the request for proposal materials. While it is important to follow those rules and regulations, some tips from the experts can make the grant-writing process a bit easier:

- *Write in one voice.* It is a good idea to brainstorm with the technology committee to generate initial ideas for your school or district's proposal. However, the final proposal should be written in one voice, not a chorus of authors. It is best to have a principal author, with several proofreaders. The committee should agree upon the *content* of the final proposal before it is submitted to the prospective funder. A word of caution: The committee should restrict its comments to the content of the proposal, as it is time-consuming to obtain committee consensus on the grant's phraseology and style.
- *Set a realistic time frame.* Creating successful, persuasive proposals takes time. Allow time for drafts to register: If possible, put down the draft upon completion and return to it after a few days. Returning to the document after some time away from it, you will see things that did not occur to you upon first, second, or even tenth review.
- *Justify the amount of money you request.* Since the proposed budget is determined by the scope of the project's activities and personnel, it should be the last item you complete. Carefully determine all possible

expenses associated with your technology plan and, if required, include a plan of how the project will be continued after the term of the grant funding. If you are writing a proposal for a grant that provides matching funds, be sure to ascertain whether in-kind contributions can be included to offset your share of the matching funds. Always ask for the complete amount of money the grant allows or slightly less, but justify all monies in the budget statement.

Tips for Submitting a Funding Proposal

Find the right funding sources for your needs.
Propose projects you believe will work.
Stress ideas, not needs.
Collaborate with your school community for ideas.
Be open to others' viewpoints.
Write clearly and professionally.
Select outside editors for your work.
Allocate adequate time; move all deadlines up 10 days.
Take pride in your project.
Have fun with your project.
Remember that enthusiasm and success seem to go together!

- *Follow the submission guidelines described in the application.* Always follow the formatting and style instructions the RFP provides. Remember, the grant reader has the difficult task of reading dozens (or even hundreds) of proposals. Your potential grant donor has developed a process for locating within a proposal packet the information needed to judge the merit of a proposal. Your "unique" approach may interfere with the reader's ability to quickly find the key information to support your request.
- *Copy all your work.* Make backups of all your disks, and photocopies of all your application materials. You may need to refer to specific sections at a later date, and there is no assurance your submitted materials will be returned to you. You may also discover some potential for re-use if you apply to more than one donor. There is nothing wrong with pulling out a well-written grant proposal and reshaping it to meet the objectives of a new funding source.
- *Get letters of endorsement.* Whenever possible, include letters of endorsement from those who may help implement your grant. Seek written commitments from your local business partners. Their letters should endorse the purpose of the grant as well as the school or district that is submitting the proposal, and indicate a strong statement of need.

Business Partnerships

To learn more about successful school-business partnerships, see "Return Through the Looking Glass: Developing Business Partnerships in K–12 Schools" at http://www.microsoft.com/education/instruction/articles/partner.asp.

Partnerships are a good way for schools and businesses to attain common goals. Many businesses and corporations are committed to re-investing in the communities in which they do business. By forming realtionships with schools, businesses are able to have a positive impact on the quality of life in a community and ensure a skilled future workforce; and any financial assistance or in-kind services businesses provide help give the private sector a sense of ownership in education. As in any good relationship, all the involved parties benefit.

Many school-business alliances typically begin with a company "adopting" a school. This adoption may take the form of a program under which company employees volunteer as mentors, tutors, or other contributors. Or a business may prefer to sponsor the purchase of a specific item or underwrite a specific program so it can receive some public recognition for its contribution.

Part of your role in developing business relationships will be helping corporate investors recognize the substantial impact their generosity can have on your school or district's technology plan. Here are some tips for developing solid school partnerships with businesses and corporations:

- *Make contact personal.* Personal visits to businesses help establish a sense of trust. Extend invitations to applicable school events and to various special meetings, and include the businesses and their enterprises in decision making about technology planning.
- *Know what your needs are.* Many businesses have exactly the resources you need to solve a particular problem. Businesses sincerely want to help but frequently have no idea what a school's needs are. They may be hesitant to offer assistance, particularly if they fear stepping on someone's toes. It is up to you to develop an open relationship with businesses so you can feel free to ask for and they can feel free to offer assistance. Always be up-front about your school or district's needs.
- *Have a plan for how businesses can assist.* As you build a relationship with a potential partner, you will get a sense of their interests and resources. It is important to know not only what your needs are, but also how they can specifically assist. Some organizations are comfortable providing financial assistance alone, whereas others prefer to take a more hands-on approach to helping. Be sensitive to their corporate giving

styles.

- *Publicize the work of your partners.* Whenever your partners sponsor an event, their business logos should be exhibited. At public events, formally recognize your partners and their employees who graciously donate their time, services, and funds. Make sure you tout their involvement at every opportunity.
- *Allow businesses to sponsor something specific.* Making a donation of cash or a service doesn't necessarily give a corporation the kind of community involvement and recognition it's seeking. Sometimes businesses prefer to sponsor something specific that gives them a sense of ownership. Events such as back-to-school breakfasts, academic achievement award programs, student competitions, and technology nights are perfect ways to showcase your partners. Allowing them to sponsor these events provides important community recognition for their good deeds. Corporations also like to sponsor particular aspects of a program, such as a career-shadowing component or a scholarship in the name of their business.
- *Try to pair and match businesses.* Gaining the support of one organization can often bring you the support of another. Be aware of the partnerships your sponsors have already created in the marketplace. You may be able to provide a perfect opportunity for them to publicize their partnership in the pursuit of your technology goals.
- *Foster the relationship.* Remember, companies are not just faceless engines to power your technology plan. The people that represent your corporate partner are making a real commitment of their time and resources to help you achieve your goals. Keep in touch. Don't just call them when you need a favor—remind them that your school appreciates their personal contributions. Let them know they're on your mind by sending them school newsletters, holiday greetings, and samples of special student work.

The confidence to ask for donations should arise from your belief that the funds will be used for a worthwhile cause. Education and the improvement of student learning are such a cause, and corporations should be made to see how important and lasting their generosity can be.

Federal and State Programs

Telecommunications Discounts for Schools

As mentioned earlier, your power and telecommunications suppliers (phone and cable) may offer discount programs, and your state utility boards may have established discounted rates.

To learn more about Federal Communications Commission (FCC) policy and education initiatives, see LearnNet at http://www.fcc.gov/learnnet/#sites and "Understanding the E-Rate" at http://www.microsoft.com/education/instruction/articles/erate.asp.

As a result of the Telecommunications Act of 1996 and, in particular, a section of the act referred to as the Universal Service Fund (USF), substantial discounts on telecommunications services, Internet access, and internal connections have become available to K–12 schools and libraries. Information about official application forms for Universal Service Fund discounts for schools and libraries can be obtained from LearnNet, the Federal Communications Commission's informal education Web page.

U.S. Department of Education Resources

The U.S. Department of Education Web site is at http://www.ed.gov. You can also call the department at (800) USA-LEARN.

The U.S. Department of Education provides a broad range of resources to assist communities, schools, and school districts in planning and using technology for teaching and learning. The department's Web site has program and grant information and a dynamic map of the United States you can use to identify resources and services in your area.

Within the department's home page are descriptions of Technology Challenge Grant winners and this year's Technology Challenge program. Also, white papers discuss the use and future of networking technologies for learning, with comments and reactions from teachers, students, and others around the country.

Many of the department's programs and initiatives include technology components, so it is worthwhile to surf the site for information about applicable programs, activities, publications, grants, and initiatives. The department also offers EdInfo, a three-times-a-week e-mail service providing new information and reports.

Parent and Student Fundraising and Support Building

Bringing the Outside In: Special Events

Well-planned, unique events attract publicity and build community support, including financial support, for your school's technology program. Here are some tips for planning and putting on a successful special event.

1 *Determine your objectives.* Have your overall fundraising and program objectives in mind when you begin considering an event. Think about who you want to reach and what you want them to do.

Event Ideas

Establish an awards program to recognize outstanding students, teachers, and administrators associated with your technology program.

Sponsor a technology career day or career fair or conference for students or for the community.

Hold a business forum on technology at your school featuring local business leaders and elected officials.

Offer a series of "power lunches" that technology program students and the press can attend with local business leaders.
Arrange a technology program night at the local board of trade, chamber of commerce, or other business organization.

2. *Select an event.* Your technology program can inspire many different kinds of events—whether fundraising or support building—including career days, "technology nights," seminars, contests, and awards. See the sidebar "Event Ideas" for specific suggestions.
3. *Select a date.* Check your school's in-house schedule, the event schedules of other community groups, and local and national calendars for events, observances, political dates, or other significant occasions that would conflict with your event; avoid three-day weekends and holidays, when people are likely to have plans.
4. *Start planning early.* Special events require a lot of work and a lot of lead-time—plan on at least four months of preparation.
5. *Invite guests well in advance.* Invite business and community partners, parents, school board members, and other education stakeholders at least three weeks in advance.
6. *Set up media coverage.* Draft the press releases and promotional materials you plan to distribute. Invite the media, and get promotional activities under way early.
7. *Work the event.* Develop a checklist of activities, and assign one person to take the lead in coordinating those activities at the event.
8. *Follow up.* With a special event, it's not over even when it's over. Immediately afterwards, send press kits to any reporters unable to attend. Then send thank-you notes to the volunteers, speakers, entertainers, and participants/contributors.
9. *Evaluate the event.* If the event was a fundraiser, one of the measures of its effectiveness is, of course, the amount of money raised. Another measure is the publicity the event generated. Establish a file of clips from newspapers, audiotapes from radio interviews, and videotapes from TV appearances. Then, prepare a report that answers questions such as:

- How many media placements did the event receive (number of articles, interviews)?
- Did the media used reach a large number of the target audience?
- Did the coverage convey the key points of the event's purpose?
- What could be done differently for the next event?

Reaching Out

You can't accomplish anything without the help of other people.
—Live and Learn and Pass It On, H. Jackson Brown, Jr.

Schools can no longer exist in isolation from the larger community they serve. For education to become a better reflection of the skills, attributes, and collaborative learning models needed in the adult world, schools must become an integral part of that world. Establishing partnerships and networks with people, organizations, corporations, and agencies brings together all the stakeholders in education with the goal of significantly improving student learning. Linking the greater community to share responsibility for the future of children is the key to achieving a truly Connected Learning Community.

Resources

Online Funding Resources

The Foundation Center
http://fdncenter.org
Provides information on private philanthropic giving and grantseeking

National Science Foundation
http://www.nsf.gov
Provides publications, press releases, and grant applications

U.S. Department of Education
http://www.ed.gov/Technology/

Grant-Writing Resources

The Grantsmanship Center
http://www.tgci.com
Provides training in grant proposal writing and strategic fundraising for the nonprofit sector

Designing Successful Grant Proposals. Donald C. Orlich. Association for Supervision and Curriculum Development (ASCD), ISBN 087120264. Call (800) 933-2723 to order.

The Foundation Center's Guide to Proposal Writing. Jane C. Geever and Patricia McNeill. New York: The Foundation Center, 1993.
Grantseeking Primer for Classroom Leaders. David G. Bauer. New York: Scholastic Inc., 1994.

Foundations

The following foundations have supported many educational technology projects:

Alfred P. Sloan Foundation
Emphasis: math, educational technology
630 Fifth Avenue, Suite 2550
New York, NY 10111-0242
(212) 649-1649
http://www.sloan.org/

Arthur Vining Davis Foundation
Emphasis: secondary education
111 Riverside Avenue, Suite 130
Jacksonville, FL 32202-4921
(904) 359-0670
http://www.jvm.com/davis/

Carnegie Corporation of New York
Emphasis: science, math, educational technology
437 Madison Avenue
New York, NY 10022
(212) 371-3200
http://www.carnegie.org/

The Ford Foundation
Emphasis: educational technology
320 East 43rd Street
New York, NY 10017
(212) 573-5000
http://www.fordfound.org/

Chapter 16

Evaluating Your School or District's Technology Plan

OVERVIEW

After your technology plan is in place, how will you and the community know it's working? This chapter provides criteria for technology program evaluation, strategies for using evaluation data to strengthen and refine the program, and tips for keeping the implementation process on track.

Setting the Evaluation Criteria

Evaluating the progress of your school or district's technology plan at least once every 12 months will help you chart its progress and keep the plan on target. Monitoring incremental progress also helps you know what's working and what needs improvement. Your technology plan should include an evaluation section that identifies the criteria on which you'll evaluate progress toward your goals. Establishing an evaluation rubric upfront leads to greater consensus among your stakeholders later.

What should those criteria be? In Chapter 4, "Planning the Technology Program," you translated your goals into technology requirements. Revisit those goals, and set evaluation criteria that relate directly to them. Make sure the goals are as measurable as possible. For example, did you set an objective for every student, teacher, and administrator to use the computer system? If so, then include that in your evaluation criteria and set a specific time frame by which you expect to accomplish that objective.

The evaluation of the technology plan should address the following types of questions:

- Is the plan meeting the school or district's defined educational objectives?
- Has technology made a positive difference in the teaching and learning process?
- Are teachers and students motivated to use technology?
- How have home-school-community communications been affected?
- How has technology improved administrative functions?

- Have test scores or other indicators of achievement improved?
- Are current tools and techniques being used correctly?
- Are professional development opportunities adequate and meaningful?
- Can improvements be made in the plan or the implementation?

Evaluating the Success of Your Program

How do you measure computer literacy? On the *administrative* side, you can measure success by looking at the automation of student records. Are these records being accessed electronically or still by paper? Has the conversion to electronic student data records increased accuracy and access to this information? Has the communication of this information improved? If not—why?

On the *instructional* side, the computer literacy of students is easy to measure with classroom assessments, surveys, and tests. At Liberty High School in Issaquah, Washington, for example, students are required to submit their reports via computer (sufficient computers are available in the classrooms), making it easy to confirm basic computer literacy. In determining computer literacy, questions to ask include:

- Are students using the software and communications tools to think critically, to research, analyze, sort, and present information more effectively?
- Do students access the online information resources (for example, CD-ROM reference materials)?
- Do students know how to use the Internet to retrieve information?

At Maxwell Middle School in the Tuscon, Arizona, Unified School District, the School of the Future pilot project was carefully evaluated on a range of criteria, including rates of enrollment, absenteeism, and withdrawal; academic performance as measured by student test scores on reading, writing, language use, and mathematics (compared to comparable classes without computer instruction); and surveys of students, parents, and teachers to gauge their own assessments of the technology implementation.

Fine-tuning Your Program

After you have assessed the status of your school or district's technology plan, it's important to look at the aspects of the program that have worked and those that have not. This feedback mechanism provides the data needed to make the fine adjustments in the program.

Evaluate progress. Take stock of the progress made in relation to the original timeline. Look at your staff development plans, timeline, budget, and acquisition plans. Have you been able to accomplish all you had planned in the time allotted? You may have surpassed your original plans in some areas and lagged behind in others. Adjust the plan and timeline to reflect the progress made in year one. You will want to begin next year with plans that reflect where you currently are on the technology journey and where you need to go.

Reexamine your needs. Use your evaluation process as an opportunity to determine whether your school or district's technology needs have changed in any area since the original drafting of the plan. If they have, this is the appropriate time to adjust the plan accordingly. Discard components of the plan that do not work, and add objectives that meet your present needs. This process keeps your plan relevant to current conditions in your school or district and in the technology field.

Be aware of emerging technologies. Take a look at the impact emerging technologies will have on your plan for subsequent years, adjusting equipment requirements, budget, and staff development plans if necessary to incorporate them.

Be aware of any new district, state, and federal grant initiatives. Funding sources continually change. Constantly research, reassess, and expand your list of potential funding sources, planning when and how to access them.

Keeping Everyone on Track

To manage the implementation process successfully, your technology team must stay involved. This becomes more difficult once the plan moves from the drawing board into the schools. Develop specific strategies to keep everyone engaged, including the following:

- Continue to hold regular status meetings.
- Communicate progress to your constituents.
- Continue to provide quality staff-development workshops.
- Invite representatives from technology companies, universities, and the media to discuss emerging technologies.
- Celebrate your successes.

Chapter 17

Realizing the Vision

All of our students deserve well-trained teachers, Internet access, and appropriate educational technology in order to help them learn, to help them get to college, and to help them succeed in 21st-century jobs. This will probably require a greater investment of public funds and an even greater effort from private industry.
—U.S. Secretary of Education Richard C. Riley, September 2000

Leading the Charge

In 1996, the President and Congress established the goal of connecting every classroom in the nation to the Internet. A September 2000 study shows that the 1996 E-Rate program, which has helped to fund that goal, distributed nearly $4 billion in its first two years, with that money going to help connect 13,000 school districts and 70,000 public schools to the Internet.[1]

In addition, the Federal Communications Commission created the Universal Service Fund to subsidize Internet access for schools. The $2.25 billion annual fund, financed by telecommunications companies, provides discounts on telecommunications services for schools and libraries. And the Technology Literacy Challenge provides additional technology grants to state education agencies and local school districts.

Never before has there been such a financial commitment to digital technology at the federal, state, and local levels. The challenge now is for communities, schools, and families to work together to achieve a Connected Learning Community and to reach the national technology goals.

Doing Your Part

By planning and implementing a comprehensive technology program in your school or district, you are taking the first step on the journey toward realizing the Connected Learning Community.

Throughout *Technology Roadmap,* we have attempted to provide you with practical advice in the two domains we believe are key to the success of the integration of technology and education—technical understanding and leadership. It is our hope you will use the information and strategies provided to pave the road to achieving your community's education goals. Reaching that destination will happen only through adequate planning, vision, professional development, evaluation measures, and new institutional structures.

Microsoft's Part

Over the past 20 years, the keys to Microsoft's success have been developing great software, promoting innovation, listening to what people want, and taking a long-term approach. To fulfill our vision for the use of technology in education, we pledge to use those same priorities in helping to build the Connected Learning Community.

For information about Windows family products, see http://microsoft.com/education/product/windows.asp.
For Microsoft Office, see http://microsoft.com/education/product/office/asp.
For server products, see http://microsoft.com/education/product/backoffice/asp.

Ongoing development. First and foremost, Microsoft is focused on creating excellent software. We are researching and developing operating systems and platforms for voice recognition, interactive television, and on-demand video access that will help connect the education community. We'll continue to build great systems software introduce new products designed to make it easier for schools to implement networks, establish electronic mail connections, and use the Internet.

To learn more about Microsoft Encarta encyclopedia, see http://encarta.msn.com/.
To learn about The Magic School Bus, see http://www.microsoft.com/kids/msb/.

We'll also continue to create content-rich educational multimedia products—such as Microsoft Encarta® multimedia encyclopedia and Scholastic's The Magic School Bus™ series—with teacher guides to help integrate technology in the classroom, and to put those guides and more on the Internet so that teachers can easily use them.

For information on the Global SchoolHouse, see http://www.gsh.org.

Fostering industry partnerships. At Microsoft, we are committed to working with industry partners to help build the Connected Learning Community. We are working with independent solution providers, telecommunication companies, and hardware manufacturers to help create the solutions that schools need. With the Global SchoolHouse we are sponsoring the development and organization of educational resources on the Internet.

Microsoft K–12 Connection can be found at http://www.microsoft.com/education/schools/signup.asp.
Microsoft TechNet for Education can be found at http://www.microsoft.com/education/technet

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[1] http://www.ed.gov/Speeches/09-2000/000911.html

Leading the way. Microsoft is making a company-wide commitment and challenging our marketing, manufacturing, sales, and support organizations to speed the development of the Connected Learning Community. We have increased the educational expertise in our field offices, established new toll-free information lines, and created the *Microsoft K–12 Connection* Web site to provide information about new software solutions and innovative practices. The Microsoft TechNet for Education Web site offers new technical white papers and case studies each month on the use of technology in education.

We're moving rapidly toward the day when the Connected Learning Community can be realized. Microsoft is committed to leading the way and doing all we can to make it happen. With the cooperation of businesses, educators, families, and the community as a whole, we can turn the Connected Learning Community from vision to reality and give our children the educational opportunities they'll need to succeed in the 21st century.

The Road Ahead

It is difficult to foresee the full impact technology will have on our lives—and those of our children—in the years to come. With vast amounts of information at their fingertips, our young people are changing the way they learn, and in the process, changing the world. In a world where access to information is universal and learning is not bound by the constraints of time or place, how will our concept of learning and schools change? How well will the technology revolution go? Will it be good for everybody? Will we achieve technology's promise for learning? The answers to those and many other questions will come only with time. However, each of us has a part in shaping this future. As Vice President Gore said, technology is the language of the new millennium, and it is up to us to develop and master this language together.

About the Authors

Joan Kuperstein is president and founder of C.A.S.T.L.E. Technology Consultants, Inc., which provides K–12 schools with leadership and technical expertise in the planning and implementation of education technology programs.

Prior to founding C.A.S.T.L.E., she served as an elementary school teacher, magnet lead teacher, curriculum specialist, grant writer, technology coordinator, and mathematics, science, and technology district consultant. As a result of her diverse experience, she brings to *Technology Roadmap* a strong practical knowledge of what works in the classroom and a unique first-hand understanding of the needs of schools in implementing technology-based programs.

Mrs. Kuperstein was a speaker at Microsoft's 1997 Education Summit and frequently contributes to *Microsoft K–12 Connection*. She can be reached at joan@castletechnology.com or through the C.A.S.T.L.E. Web site at http://www.castletechnology.com.

Christopher Gentile, Ph.D., prior to consulting with C.A.S.T.L.E., served as a high school teacher, magnet lead teacher, assistant principal, district supervisor of magnet programs, education consultant to public and private entities, and national director of a nonprofit education foundation.

From 1995 to 1997, Dr. Gentile was district supervisor of magnet and innovative programs for Dade County Public Schools, Florida, where he directed the district's federal grant program. As director of the National Academy Foundation (NAF), he worked with private industry to develop high school curricula for the Academy of Finance.

Dr. Gentile can be reached at chris@castletechnology.com or through the C.A.S.T.L.E. Web site at http://www.castletechnology.com.

Jeff Zwier provided technology consulting for and is a contributing editor to *Technology Roadmap*. As a technology/management consultant, he specializes in improving performance with and through technology. He has consulted to Fortune 500 companies and public institutions in the areas of technical training, change management, corporate education strategy, technical communication, information technology staff retention and recruiting, technology integration, and performance management. His articles on technology, training, and skill development have appeared in *Windows NT* magazine and *Microsoft K–12 Connection* Web site. Mr. Zwier is currently managing consultant for performance improvement and instructional systems consulting with Interim Technology in Oak Brook, Illinois. He can be reached at jzwier@msn.com.

Mark Levenson is a contributing editor to *Technology Roadmap* and co-authored the original Technology Roadmap book for Microsoft. He has written extensively on the Anytime, Anywhere laptop learning initiative, including co-writing the book *Anytime, Anywhere Learning: A Guide to Getting Started*; has authored some 50 case studies on the use of technology in education; and is principal writer for Microsoft's *TechNet for Education* program. He can be reached at markl@levenson.com

Appendix A

Permission to Reprint Letter Microsoft Education Customer Unit

K-12 Connected Learning Community Technology Roadmap
Microsoft Corporation
One Microsoft Way
Redmond, WA 98052
Fax: (425) 936-7329

Name: _____ Title: _____
District/School: _____
Address: _____
_____
Phone: _____ Fax: _____

Dear Requestor:
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   - ☐ School Board member,
   - ☐ non-profit association,
   - ☐ member of a community technology committee,
   - ☐ Microsoft Solution Provider,
   - ☐ Microsoft Authorized Education Reseller, or
   - ☐ Microsoft Authorized Academic Training Center.

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ACCEPTED & AGREED BY REQUESTOR:

Signed: _____ Date: _____
Print Name: _____ Title: _____