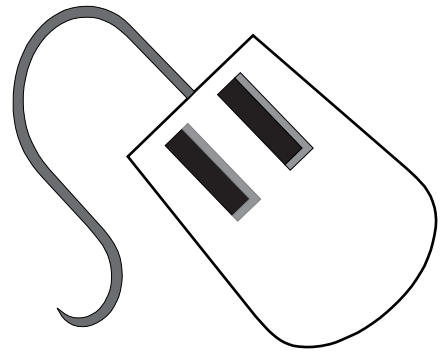


# CHAPTER 11

## Getting the Needed Resources: Overcoming Barriers to Educational Technology Use

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Mrs. Hernden has been a teacher for 14 years in an inner-city middle school. Her room has two aging computers in the back that are used for limited Internet access and drill and practice software, but mostly it is used for her students to word process. She has found that students in her class can do a much better job working on papers if they have more time to work with the computers. She has also found that when she can get one of the two-laptop computers in the hands of her students, their work output increases. Unfortunately, she has not been able to convince anyone to purchase the 15 laptops she would need to give each student a laptop. Her demands of the instructional technology committee and pleading with the superintendent have gone unheeded. She has even written three grant proposals asking granting organizations to buy her the laptops. All of these proposals were rejected. She is now frustrated, but continues to work on her dreams for her students.

Miss Boonset has been a teacher for only five years, but she has put a lot of work into her fourth grade classroom. She has spent four years on the technology committee and has enjoyed her role in helping to shape the role of technology in her district. She has volunteered to help with upgrade projects in the summer, and has spent many hours going through the warehouses finding computers and printers that will serve a role in her classroom. She has 6 computers and two printers in her room. She has also received two grants that have allowed her to receive a smart board and a data projector. Next year she will be part of a district pilot program to put a wireless laptop mini-lab in her district. She is excited by the possibilities and continues to meet the challenges of getting technology into the hands of her students.

The majority of this text has dealt with the importance of using technology in the education of students. Unfortunately, there are still many hurdles to technology use in the classroom.

The major “barriers include a lack of teacher training, lack of administrative support, limited time for teacher planning, computer placement in remote locations making it for

teachers to have access, budget constraints, and a basic resistance to change by many educators.” (Shelly, 2002, pg 6.10)

Ninety-nine percent of schools are estimated to be wired for Internet use (Richter, 2004), but there are many different levels of access. Many schools have high-speed broadband access that is wired, or wireless, to almost 100% of the computers in the district. Other schools are using much slower dialup access for a couple computers, and students and teachers who have high expectation of school technology are getting frustrated.

A recent Pew Institute study of technology savvy high school students found that they were frustrated by the lack of assignments that utilized Internet resources, the lack of staff experience with technology, the inability to adequately utilize e-mail in the schools, and the fact that teachers were usually not available on-line during times when students were doing homework (2002). In fact “nearly half of students using the Internet at home and more than a third of their parents say kids are getting too little time online in their schools.” (2004, Richter pg. 9)

If technology is to make a lasting impact on education then finding ways over these hurdles is important. This chapter addresses some of these problems including budget constraints, administrative support, and teacher training. An early study of effective educational use at the elementary level found that the level of technology use was, in many cases, dependant on the work, or evangelism, of a single teacher (Marsh, 1994). A single teacher who is willing to put in the extra work can make a big impact on matters pertaining to technology.

Many teachers begin learning about educational technology on their own which is sometimes called the “Beg, borrow or steal” method. While stealing is not condoned and is very much a crime, begging and borrowing can be effective ways of getting technology if you are willing to risk the embarrassment. One method of obtaining cheap technology is to frequent garage sales, thrift shops, office liquidations, and auction sites like eBay (<http://www.ebay.com/>). In many cases the technology that is no longer of use to a business or a home user can find prolonged life in the classroom utilizing drill and practice software, or basic word processing. If you do plan to purchase new or used hardware or software then reviewing district technology rules and guidelines is important because many districts have policies against bringing in “unauthorized” hardware and software.

Within a district, hardware can be lost and or not heavily utilized. A teacher that is looking to add computers to their classroom should begin by asking other teachers. Some teachers may have computers in their room that they rarely turn on. In many cases teachers may be able to barter to get these machines into their room. If possible, you might be able to borrow a master key and open those closets that rarely see the light of day. Many times hardware has been stored in these closets and forgotten. Discuss all of the found or bartered equipment with the district or school technology coordinator so that they can approve your use of the found technologies and so that there is a record of where the equipment is now located.

## **AFFECTING CHANGE IN LOCAL DISTRICTS**

As you learn and come to understand the power of technology in your own teaching, you should also think more broadly and try to understand the importance of working for change throughout your district. One large barrier to technology use is the lack of administrative support. Administrative support does not come from complaints about the lack



thereof as administrators respond to action and products. If a teacher wishes to build administrative support for the use of educational technology then showing results with what you have available is important.

Along with school principals and district administrators, getting on the right side of the technology coordinator and specialists is also important. One long held belief is that the two most important people to make friends with in a school are the secretary and the janitor. In many cases they have been there longer than any administrator and they can make your life easy or very difficult. Adding the technology staff

member to this list is becoming increasingly more important. Treat them as real people, and it does not hurt to buy them donuts now and again.

As a teacher in a district, the best way to effect the direction of the district and technology is to participate on the technology committee. Today most districts have technology committees. These committees make recommendations to the school boards and the superintendents about curricular integration of technology, staff development, technology infrastructure, and budget. Technology committees also develop district guidelines and policies pertaining to technology.

School Boards are the actual decision-making body of the school district. Attending a few school board meetings a year can provide a look at how a district is run, and how decisions are made. A benefit of attending a few meetings is that a teacher may become known by the board members and may get preferential treatment when asking for special projects in the future. Most administrators and board members probably see far more teachers when they need something, so your appearance just to show an appreciation for the whole educational process might be viewed as a positive and could be rewarded down the line.

Two methods of additional funding for technology are typically available within a district. For large projects, a special bond may be requested. This method is slow and difficult and it takes an election to reach fruition. The special bond requires getting the message out to the voters and the setting up of polling places, but this method can also generate the most dollars for technology. In many cases the people of a community will support updates to technology as long as they are seen as well thought out and needed to allow their children to compete in the workplace.

An easier solution is the mini-grant. Many districts have small funding arms that support innovative plans that cannot be covered by the normal funding. This is a good route for educational technology. If internal resources are not able to supply the needed equipment then looking to local, state and federal resources is another option.

## ALTERNATIVE LOCAL SOURCES

There are many different sources to look to in the local community. Most schools have fundraising groups that work to better the district. These groups include Boosters and Parent teacher groups. By attending these meetings you can position yourself to discuss various technology needs with them and you may find that they are able to fund small projects.

Volunteers are a great resource on which many districts can rely. Volunteers can be scheduled to help maintain equipment, offer expertise in training situations, and lend a helping hand in big installations.

Local businesses may help out with the volunteer staffing, but they can also be a good source for slightly used hardware. In most cases the computer upgrade cycle for businesses is much faster than the upgrade cycle for schools. Many times businesses are giving away equipment that is comparable to what is currently being used in the district. Care should be taken to avoid accepting equipment that is going to require more resources and time to get the equipment into working order than merely buying new equipment (e.g., some older equipment may not work with your software, some older equipment may not work with your schools peripherals like printers or scanners). A school is not the Salvation Army, though schools can benefit greatly from many donations.

## ALTERNATIVE STATE SOURCES

States are another good place to look for additional resources. Recently states have helped every teacher in Michigan to get a computer free or at a reduced rate. Other states have helped districts get laptops and palm computers into the hands of students. Most of these programs were heavily regulated, and required many hours of study to make sure that all regulations were followed.

Many resources are available to educators and districts. [www.ed.gov](http://www.ed.gov) is a great website to give you information on these available resources.

One way that states can easily help districts is through group purchasing agreements. States negotiate with suppliers, promising a large market for reduced prices. These preferred vendors are then compiled on a list and disseminated to school districts. Purchases through these programs must be approved by the state in most cases. In some states these duties are handled by the Intermediate school districts (ISD), which is a regional conglomeration of school districts set up to do many of the things that individual districts may not have the expertise or student interest required to do on a local level. ISDs are bound by strict laws as to how they can dispose of outdated or excess equipment. In many cases local districts can acquire the hardware they are moving out of service

## ALTERNATIVE FEDERAL FUNDING SOURCES

Federal money has always been a great source for technology, and in the past few years it has become even more important in district technology plans. Monies made available through the Elementary and Secondary Education Act (ESEA) from the federal government have always been a good source for technology funds (see box), but federal dollars come with many stipulations and limitations, so looking carefully at these programs is important. Also, work with district, ISD, and federal experts to make sure that purchases fit the funding designations.

One program that has helped many districts complete network upgrades and pay for telecommunications including Internet access and telephone service is the Universal Service Fund (USF) administered by the Schools and Library Division of the Federal

## **Federal Programs for Educational Technology**

### **TITLE I, ESEA**

Funds may be used to purchase software and hardware for basic skills instruction by schools.

### **TITLE XI, ESEA**

In FY94 approximately \$125 million of Chapter 2 funds were spent on software and hardware purchases.

### **School-to-Work**

Provides grants to states and communities for the implementation of School-to-Work programs integrating academic and vocational learning with work-based learning. Software and related technology-based applications can be supported through these programs.

### **Goals 2000**

Provided a planning grant to each state to integrate technology into overall state education improvement plans.

### **Eisenhower Professional Development State Grants**

Most of the current Eisenhower program funds are used for teacher training, including the use and integration of different technologies into math and science curricula. Only in schools with enrollment of 50% or more from low-income families can the school use all Eisenhower funds for hardware and software purchases.

### **21<sup>st</sup> Century Community Learning Centers**

Provides grants to rural and inner-city public elementary or secondary schools to plan, implement, or expand projects that benefit the education, health, social service, cultural, and recreational needs of a rural or inner-city community. Funds may be used for technology related programs.

[www.ed.gov](http://www.ed.gov)

Communications Commission. The USF was devised as a way to help alleviate the digital divide (more information on the digital divide can be found in the following chapter). Telecommunications companies pay a fee to the Schools and Library division, which goes into a federally administered account. Then schools districts and public libraries apply for discounts on their telecommunications costs, and the fund pays for this discount out of the fund. District levels of discounts are based on the number of students eligible for free and reduced lunch programs, and also by Urban and Rural designations. These funds have allowed many low-income districts to give Internet access to their teachers and students, but getting these funds approved can be difficult and time consuming. Many states have annual training programs for district administrators to learn how to fill out the paperwork and meet the deadlines. In addition to the barriers, funds are limited to specific products. Basically USF discounts are allowed for any cost needed to bring telecommunications to the students, but not to the hardware needed to access it. Also, discounts only apply to those buildings that house students and classrooms. District administrative or maintenance facilities are not included.

## GRANTS

Grants are funds, equipment, or services that are given to an organization in order to support a program. Grants are available from many granting sources for many purposes. Many corporations and larger businesses have granting organizations affiliated with them. They can get tax breaks for giving money away in the form of grants. Some of these organizations, like the Coca-Cola Foundation, grant large amounts of money for major programs. Others, like the SMART Technologies Inc. (makers of the SMART Board interactive whiteboard) offer grants to help with the purchase price of their equipment. Some foundations have a sole purpose to award grant monies. Many of these are known for their sponsorship of public television and radio. These foundations can be good sources of revenue for large projects, but you might discover that they are just as willing to sponsor or fund a smaller initiative. Non-profit foundations must give away a portion of their money every year in order to keep their non-profit status. Other sources for grants include professional organizations as well as state and federal agencies. The US Department of Education (<http://www.ed.gov/>) has many opportunities available to win funding.

Finding granting sources that match your needs is one of the major hurdles in getting a grant. Many websites have been set up to help educators attain grants. These sites usually offer tips and suggestions on how to write grants. Most of these sites have also compiled links of granting sources. Additionally, subscriptions for grant writing tips and grant opportunities are available on a monthly or annual basis. These can be helpful in finding appropriate funding sources. Finally, classes and seminars on grant writing are often available through colleges. These classes are frequently given through the public administration departments, although some education classes will offer sessions on writing proposals as well.

## SUCCESSFUL GRANT WRITING

Grants are great sources of supplemental funding, but there are many considerations and conditions that must be met in order to receive these funds. Some tips in successful grant writing follow.

- **Local is better:** The more local the granting source the better the chances of funding. Good grant writers exploit any possible connection to the granting source.
- **Meet the needs of the funding source:** Funding sources are put in place for a purpose, such as to promote diversity education, and they want to fund programs that help serve their purpose.
- **Sell the Program:** Funding sources rarely fund a request for hardware or software alone. Granting sources are looking to fund innovative programs that work toward the goals of the organization. What makes your proposal unique and what makes your proposal worthy of being funded over other submissions? When your project is completed will others be able to replicate it? If so, you can show a greater impact than just on your students.
- **Follow the directions:** Make sure to get a request for proposal (RFP) and follow all directions and formatting. If the granting source asks for certain things, remember this is to make their job easier. You could have the best ideas in your proposal and still have it dismissed because you failed to follow directions, so keep this in mind.

- Proofread your proposal: When you create a resume, you probably double- and triple-checked the resume for errors. This same thinking can help you write a more professional proposal for funding.
- Meet the deadlines: Know the application deadline and get your proposal submitted before the deadline expires. Most granting sources will not even open grant proposals that arrive after the deadline so this is crucial.
- Always thank the funding agency: Any time you apply for a grant, you should send a thank you note whether you are funded or not. If the program was for your students, you might also consider having students write a thank you note.
- Learn from your mistakes: If your proposal is not funded, make sure you ask the funding agency to provide you with feedback on your proposal. Some funding agencies will supply you with the reviewers comments. You can use this feedback to help see where your proposal was weak. The next time you choose to submit the proposal you can strengthen its weaknesses to hopefully increase your chances at being funded.



## SUMMARY

Getting adequate technology into schools is still a challenge. In most cases the persistence and hard word of one individual is enough to get the ball rolling. Getting administrative and board of education support is crucial, along with staying on good terms with the technology staff. One way to help a district is to join their technology committee.

Resources outside of the district abound, but they are not always easy to secure. Local support includes fundraising groups, volunteers, and business partnerships. State resources include special programs and funding, along with group purchasing discounts. Federal support comes from many sources. One program, the Universal Service Fund has been very successful in helping to close the digital divide.

Grants are available from many large businesses and non-profit organizations. Grants are also available through professional organizations, state departments, and federal programs. Grants can be found through websites, publications and seminars. Some rules to follow when submitting a grant proposal include that you want to follow all directions, meet the deadlines, and to sell the program, not the gadgets.



## DISCUSSION QUESTIONS

1. What are some ways school employees can overcome the barriers to educational technology use?
2. Why is it important to join a district technology committee?

3. Name an alternative local and state source for technology funding.
4. Which federal funding sources would be best for educational technology?
5. Where can a teacher find lists of granting sources?
6. What are the keys to successful grant writing?



## KEY TERMS

**Dial-up:** This is a reference for a type of Internet access. It refers to utilizing the phone lines to dial a number and connect to a remote modem.

**Mini-grant:** This is a term given to a group of grants which is usually for funding small projects. They are many times offered by local districts or institutions and limited to their own employees.

**Upgrade cycle:** This refers to the policy of regularly scheduled purchases of hardware such as computers and printers that a district or business would put into place to keep the equipment up to date.



## EXTENSION

1. Look over some granting organizations. What are the requirements of the grant? Would this be a good source for an educational technology purchase?
2. Check with the local school district to see if they receive federal funding that can be used for purchasing of educational technology.
3. Develop a model and lesson for Staff Training.



## WEBSITES

United States Department of Education  
[www.ed.gov](http://www.ed.gov)

The Universal Service Administrative Company (USF)  
<http://www.sl.universalservice.org/>



## Grant Sources

Kathy Schrock's Guide for Educators  
<http://school.discovery.com/schrockguide/business/grants.html>

School Grants  
<http://www.schoolgrants.org/>

## Grant Writing

A Grant Seeker's Guide to the Internet  
<http://www.mindspring.com/~ajgrant/guide.htm>

School Grants  
<http://www.schoolgrants.org/>

Scholastic's Grant Writing Tips  
<http://teacher.scholastic.com/professional/grants/WinningProposals>



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