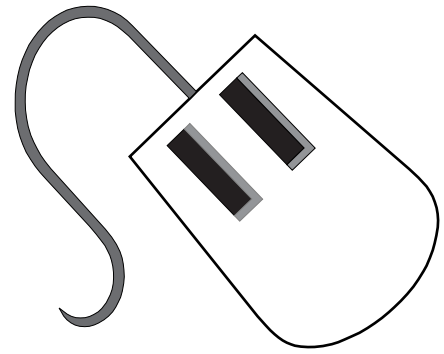


CHAPTER 10

Professional Development



Phil was hired by Colton Schools—a rural district with a relatively low level of income. Phil has access to one computer lab for five hours a week and in his classroom are three Pentium I computers with Internet access. Phil wants to utilize technology as much as possible, but his district offers only very basic training to teachers.

Josh was hired right out of college by Fenton Magnet School. Students have home access to their own personal computer. There is a wireless network in Josh's school as well as class sets of handheld computers and wireless laptops. Josh has a Smart Board and a projector for his desk computer in his classroom and access to several digital video camcorders and digital cameras. Josh's problem is not lack of hardware or software—rather he lacks training to quickly come up to speed on the equipment so that he can use these tools in his teaching.

A chapter devoted to professional development might seem a bit odd when you are still years away from teaching. However, professional development is for teachers at all stages of their career—pre-service through in-service. Whether you are an undergraduate taking a required technology education course, or a classroom teacher with many years of experience, you will have a need for professional development in technology. This need persists for a couple of reasons. One, technology is constantly changing, making it difficult to keep up on your own without further training or instruction. Second, technology skills can be mastered for the time being, but new challenges emerge all the time, which require a person to stay current in this field. And, understanding technology integration in education is more than merely learning skills. It is a state of mind—an understanding of how and when to use a particular technology in your teaching, learning, and as a tool to work smarter. Third, the more you learn, the more you want to learn. You will find that using technology in your teaching gets easier as you get more familiar with technology and the possibilities that exist. As your comfort level rises, so too will your desire to try new technology solutions.

TECHNOLOGY PROFESSIONAL DEVELOPMENT AS A PRE-SERVICE TEACHER

Every field in education has national professional organizations that provide resources and guidelines specific to that field. These organizations are created to provide a forum for teachers, researchers, and others who are concerned with education to share and learn from one another as they move the field forward. While you are a student, it is a great time to join one of these organizations, since you can take advantage of reduced rates for journals, association dues and conference fees. (See box for a list of associations in the field of educational technology)

Major Associations in the Field of Educational Technology

Association for Educational Communications and Technology (AECT)

The mission of the Association for Educational Communications and Technology is to provide leadership in educational communications and technology by linking professionals holding a common interest in the use of educational technology and its application to the learning process.

(Student \$50, Regular \$95)

<http://www.aect.org/>

Association for the Advancement of Computing in Education (AACE)

(AACE) is an international, non-profit educational organization. The Association's purpose is to advance the knowledge, theory, and quality of teaching and learning at all levels with information technology.

(Student \$55, Regular \$95)

<http://www.aace.org/>

International Society for Technology in Education (ISTE)

ISTE is a nonprofit professional organization with a worldwide membership of leaders and potential leaders in educational technology. We are dedicated to providing leadership and service to improve teaching and learning by advancing the effective use of technology in K–12 education and teacher education. We provide our members with information, networking opportunities, and guidance as they face the challenge of incorporating computers, the Internet, and other new technologies into their schools.

(Student \$40, Regular \$65)

<http://www.iste.org/>

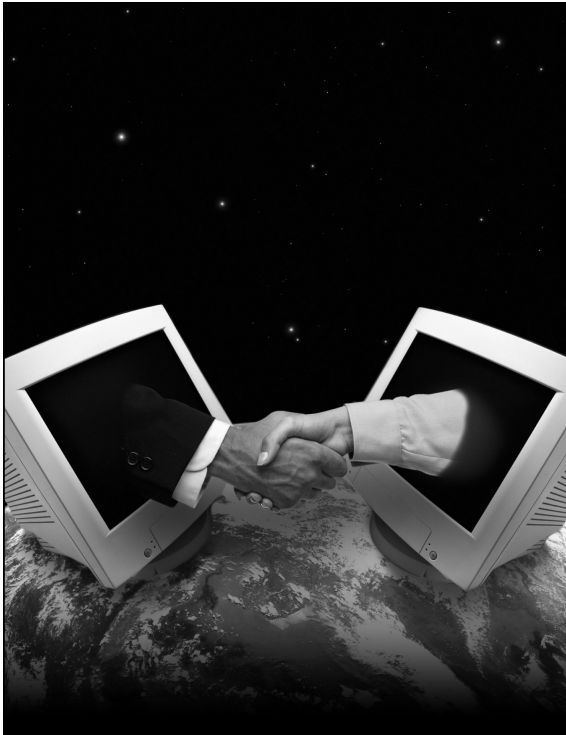
In addition to national professional associations such as ISTE, state and local associations can offer a great deal of knowledge and support to pre-service teachers from job listings to conferences. An example of a state organization is the Michigan Association of Computer Users In Learning (MACUL), an organization whose annual technology conference is available to college students at a reduced rate (<http://www.macul.org>). Most associations also offer journal subscriptions, many of which are included as part of the

Online Educational Technology Journals

- Australian Educational Computing [Australia]
- Australian Journal of Educational Technology [Australia]
- Computers and Composition: An International Journal for Teachers of Writing [USA]
- Educational Technology Review [USA]
- Educational Technology and Society [USA]
- EDUCAUSE Review [USA]
- Electronic Journal for the Integration of Technology in Education [USA]
- First Monday [USA]
- IT Journal On-line, Instructional Technology Program, University of Virginia [USA]
- Interactive Educational Multimedia [Spain]
- Interactive Multimedia Electronic Journal of Computer-Enhanced Learning [USA]
- International Journal of Educational Technology [USA]
- International Review of Research in Open and Distance Learning [Canada]
- Interpersonal Computing and Technology Journal (IPCT-J) [USA]
- Journal of Asynchronous Learning Networks [USA]
- Journal of Computer-Mediated Communication [USA]
- Journal of Distance Education [Canada]
- Journal of Instructional Science and Technology [Australia]
- Journal of Interactive Media in Education [UK]
- Journal of Interactive Online Learning [USA]
- Journal of Online Behavior [USA]
- Journal of Special Education Technology [USA]
- Journal of Technology Education [USA]
- Language, Learning, and Technology [USA]
- Meridian: A Middle School Computer Technologies Journal [USA]
- TechKnowLogia: International Journal of Technologies for the Advancement of Knowledge and Learning [USA]
- Technology Source, The [USA]
- Technology & Learning [USA]
- T.H.E. Journal Online [USA]
- Turkish Online Journal of Educational Technology, The [Turkey]

membership dues. For example, the MACUL journal is free with a membership; ISTE offers one journal free with membership and charges for additional subscriptions. Also of benefit are the often free online or e-journals. (see box)

Attending conferences and joining professional organizations can be valuable to list on your resume because this helps to tell your future employers that you want to continue to develop your skills and continue to learn. Your college campus or regional education



organization, such as an Intermediate School District (ISD), may offer organizational memberships, conferences or workshops for very reasonable cost.

As a pre-service teacher, learning about online communities can be quite advantageous. These 'virtual' groups take the form of mailing lists or listservs, chat rooms, message boards and discussion forums. While each form of communication is unique, all of them bring like-minded people together and allow members to ask and answer questions of interest. Some are synchronous (real time) while others are asynchronous (can access and post any time). In other words, synchronous communication forums such as chat rooms depend on people chatting on topics you are interested in (or can get them to discuss) while you are on the Internet. Message forums and boards are asynchronous forms of communication. Individuals can post messages and then leave the forum while the conversation continues on. Other people will see the posted message and they

can then choose whether to respond or not (see Figure A). If they choose to respond, they can provide a reply at their convenience. A conversation can continue for many days as users check back in on their own schedules. If you are interested in some examples, see the Web Resources section at the end of this chapter.

These electronic forms of communication are a great resource for pre-service teachers as well. You can learn from experienced teachers, get ideas, or vent frustration or fears that you may not wish to share with your peers, professors, and supervising teachers. Want to know which grade is really better to teach 3rd or 4th? Ask away! Do you wonder how to make a transparency? Someone participating is likely to provide you with an answer.

COATT (Certificate for Outstanding Achievement in Teaching with Technology)

COATT was initiated through Senator Carl Levin (D-MI) to provide an incentive for Michigan teachers to integrate technology into teaching. Basically, COATT is a certification that verifies the learner has successfully integrated technology into a unit of instruction. It recognizes pre-service and in-service teachers who have achieved a high standard of performance in integrating technology into classroom teaching. The pre-service award is given to student teachers that integrate technology into a unit lesson plan, and the in-service award goes to practicing teachers who have demonstrated skill in integrating technology into their classrooms. Both groups submit an electronic portfolio to be considered. For examples and information visit the COATT website at www.coatt.org.



Figure A Sample Online Discussion Forum

Pre-service teachers may also want to take advantage of the many free and inexpensive technology training opportunities available online. One example, Teacher Tap (<http://www.eduscapes.com/tap/index.htm#1>) is a wonderful resource that helps educators address common technology integration questions by providing online resources and activities. Other websites like <http://www.findtutorials.com/> list free and inexpensive classes and tutorials.

Many tutorials are also available for specific pieces of software. You can learn to use Microsoft FrontPage, Visio, Access or any Microsoft product for free at Microsoft's educator site (<http://www.microsoft.com/education/>). Many online tutorials for educationally related software are available at Internet4Classrooms (<http://www.internet4classrooms.com/online2.htm>) and other similar sites exist on the Internet (e.g., [atomiclearning.com](http://www.atomiclearning.com)). After working with software in a computer lab or classroom, you may decide to buy a copy for yourself. As a student you can get huge academic discounts on many hardware and software products. Some companies provide an education webpage on their website where they provide the special pricing deals for educators and students. You can also check with your campus bookstore or websites such as <http://www.academicsuperstore.com/>.

In addition to building your resume and learning about technology, becoming aware of all the resources available on the web that will aid you in job search can be beneficial. There are many familiar generic job search sites, but many lesser-known sites are designed specifically for educators looking for teaching jobs. (see box)

IN-SERVICE TEACHERS

After securing your first teaching job, your professional development needs will continue. In-service teachers share many of the same professional development needs and interests as pre-service teachers, but the in-service teacher is likely interested in continuing their education—perhaps just by earning Continuing Education Units (CEUs), or earning a master's or doctorate degree. Teachers in Michigan must complete 18 hours of credit towards a planned program in their first 5 years. Many teachers will take classes from a university, but others will be able to get credit for classes offered by their school district and ISD, or even from attending certain sessions at professional conferences. Many options exist and a teacher is usually free to choose the focus of these 18 hours. Some teachers choose to learn more about technology and might even enter a master's program in educational technology.

A valuable resource for all educators has been the million dollar PT3 (Preparing Tomorrow's Teachers to Use Technology) grants offered since 1999 to help prepare pre-service teachers to use technology. Many projects have received funding and each project provides many resources to pre-service educators and practicing teachers. The PT3 project sites provide examples and strategies that grant award winners are using to teach technology integration. You can find many links to winners at www.pt3.org.

The Technology Across Learning Environments for New Teachers (TALENT) at <http://talent.edu.uiuc.edu/> site contains links to resources, tutorials, project-based learning and more. See the box for more sources of technology resources, contacts, professional development and technology integration lesson plans.

STATE AND NATIONAL STANDARDS IN TEACHER TECHNOLOGY

The International Society for Technology in Education (ISTE) publishes standards for both pre-service and in-service teachers to follow and strive to meet in the area of educational technology. These standards are called the (National Educational Technology Standards (NETS). For more information on NETS see http://cnets.iste.org/nets_overview.html.

**The Michigan Association of Media in Education
(<http://www.mame.gen.mi.us/jobs/joblist.html>) lists the following:**

Michigan Teacher Network Job Listings

A site for all educators looking for jobs in Michigan K–12 schools.

Education America Network

The world's most popular teaching destinations.

GreatTeacher.net

Includes job postings, links, resources, free email and other items of interest to educators.

HireEd.net

From ASCD. *HireEd.net* is an online job bank and resume posting service. For all educators.

Job Hunt

A meta-list of on-line job-search resources and services.

Recruiting New Teachers, Inc. (a national nonprofit organization whose mission is to raise esteem for teaching, expand the pool of qualified teachers, and improve the nation's teacher recruitment, development, and diversity policies and practices) has links to state departments of Education with certification information, articles about job searches and teaching and an extensive list of Internet job banks.

<http://www.recruitingteachers.org/channels/clearinghouse/jSearchRes.asp>

The Michigan Teacher Network (<http://mtn.merit.edu/joblistings.html>) lists the dates of all teaching job fairs throughout the state and has more listings:

GreatSchoolJobs!com Michigan School Jobs—MASB membership required. Teaching and administrative positions as well as resume posting available.

Job Listings for MAPSA Michigan Association of Public School Academies.

Michigan Live: Search Total Jobs—Allows users to search for education/training employment ads in newspapers for Ann Arbor, Detroit, Flint, Grand Rapids, Lansing, Jackson, Kalamazoo, and Saginaw/Bay City/Midland area.

Michigan Regional Education Applicant & Placement Program (MIREAP)—Job seekers can search for openings and post applications at the REAP site for free. The job search allows users to search by type of position, subject area, and region of the state. School districts pay a fee to participate.

WantToTeach.com—Select MI from U.S. map; free membership required.

Technology Lessons and Projects

Global School House's Project and Program page is an excellent source for finding current telecollaborative projects (projects which involve communicating by e-mail with students at other locations). Visit the Projects Registry to locate projects hosted by the Global SchoolNet Foundation, as well as projects from organizations such as NASA, in addition to outstanding projects conducted by classroom teachers from all over the world.
(<http://www.globalschoolnet.org/about/history.html>)

I*EARN (<http://www.iearn.org/>): the world's largest non-profit global network that enables young people to use the Internet and other new technologies to engage in collaborative educational projects that both enhance learning and make a difference in the world.

IECC (<http://www.iecc.org/>) IECC is dedicated to helping teachers connect with other teachers to arrange intercultural e-mail connections between their students

GLOBE (http://www.globe.gov/globe_flash.html): GLOBE is a worldwide hands-on, primary and secondary school-based education and science program.

TERC (<http://www.terc.edu/>): TERC is a not-for-profit education research and development organization based in Cambridge, Massachusetts. Our mission is to improve mathematics, science and technology teaching and learning.

Check out the following:

NCREL (<http://www.ncrtec.org/>): North Central Regional Technology in Education Consortium-resources for professional development and more *tappin.org*

Marco Polo (<http://www.marcopolo-education.org/>): nonprofit consortium of education organizations dedicated to providing the highest quality Internet content and professional development to teachers and students throughout the United States. First launched in 1997 as a collection of standards-based, discipline-specific educational Web sites.

Think Quest (<http://www.thinkquest.org/>): Think Quest is an international website-building competition. Teams of students and teachers are challenged to build websites on educational topics, published in the popular Think Quest Library.

Tech4 Schools (<http://techs4schools.techcorps.org/about/index.shtml>): is a free online mentoring program created by TECH CORPS®, and sponsored by the Hewlett-Packard Company. They connect IT professionals with educators who can give step-by-step technology advice and guidance.

Education with New Technologies (<http://learnweb.harvard.edu/ent/home/index.cfm>)

This networked community is designed to help educators develop powerful learning experiences for students through the effective integration of new technologies. Through this ENT website, one has access to thoughtful colleagues, interactive tools, detailed examples of technology-enhanced education, and a valuable collection of on-line resources.

NETS Digital Video Library (<http://tblr.ed.asu.edu/pt3/>)

The DVL is a web-based learning resource of lesson activities drawn from the ISTE National Educational Technology Standards (NETS) for Students and Teachers curriculum books.

In addition to teacher standards, ISTE also publishes standards describing what students at each grade level should know and be able to do with technology. That is, they publish standards for you, as a teacher, to ensure that your students are meeting minimum standards with regard to technology. This is one way you can help ensure that your students are not falling behind other kids from around the country with regard to the technology competencies that are expected in life beyond the K–12 schools. For example, if you visit that last link and scroll down, you will find standards for GRADES 6–8. The standards reveal that—“Prior to completion of Grade 8 students will:

1. Apply strategies for identifying and solving routine hardware and software problems that occur during everyday use. (1)
2. Demonstrate knowledge of current changes in information technologies and the effect those changes have on the workplace and society. (2)”

In fact, there is a list of 10 standards that should be met by grade 8. This means that 6th, 7th, and 8th grade teachers should all be concerned with teaching these technology competencies to their students. Every grade level is represented. Fortunately for you, they also provide resources to help you accomplish the technology goals listed. ISTE provides a database of lessons and units that you can search (found here: http://cnets.iste.org/search/s_search.html). Perhaps this database has a lesson for you to view.

Even if you were unable to find a specific lesson plan for your content area, you can still read through the actual standards and think of ways to meet these standards in your own teaching. If not now, this will become much easier when you have your own classroom and curriculum to follow. And, you might be able to request a training in your future school district that follows the standards (this link provides actual workshops to help learn how to meet the standards: http://cnets.iste.org/students/s_workguide.html).

Many states have their own technology competency standards for teachers. Some of these standards may differ in specifics from the national standards. Others, such as Michigan with its 7th Standard in technology, are nearly identical to the national standards (Michigan’s 7th Standard is very closely aligned to the NETS).



SUMMARY

Pre-service and in-service teachers will always have professional development needs in the area of technology. These needs may be met in a variety of ways, such as workshops, online resources, online classes, or attendance at local, state, national and international conferences. Belonging to professional associations and subscribing to journals in the field of educational technology can help to ensure that a teacher will not fall behind in their use of technology in the classroom. State and national standards help teachers evaluate how well they and their students are doing in the area of technology use and integration. These are great tools in determining where improvement is needed. Part of being a professional is being able to assess oneself and to seek out the means to improve or stay up to date in all aspects of teaching. The dynamic nature of technology makes the challenge of staying current more difficult, but not insurmountable; nothing a good teacher cannot accomplish.



DISCUSSION QUESTIONS

1. What professional organizations should you join and why? Compare a few in respect to membership benefits, conferences, journals, research, and other areas.

2. Why is technology an area where continuous training is needed?

3. Think about when you were in high school. How has technology changed the learning environment since then?

4. How are you going to continue learning education technology skills so that you can ensure that your students will receive a solid foundation related to technology?



EXTENSION

1. Investigate Internet based Projects—describe three projects that fit your interests, curriculum, grade, subject, resources, etc. as a future teacher.
2. Team—top 10 lists—choose 10 best subject area / general teaching resources
3. Find the online Masters in Education program that you feel is the best for you. Explain why you made your choice.
4. Join or visit an online discussion group. Listserv, education chat room.
5. Find a grant a PK12 teacher or pre-service teacher may apply for. In 1–2 pages, describe an idea the grant could fund.
6. Choose one of the standards for Profiles for Technology-Literate Teachers. If a pre-service teacher choose from General Preparation or Professional Preparation, First Year Teaching if an in-service teacher. (http://cnets.iste.org/teachers/t_profiles.html) Describe how you would demonstrate your mastery of this standard in a job interview or create a technology lesson demonstrating your competency.



WEBSITES

Academic Superstore

<http://www.academicsuperstore.com/>
discount software for teachers and students

All Education Schools

<http://www.alleducationschools.com>
descriptions of online Masters and Doctoral programs in education

COATT (Michigan 7th Standard)

<http://www.coatt.org/mde/materials/newseven.pdf>
describes proficiency levels of Michigan technology standards

Find Tutorials.com

<http://www.findtutorials.com/>
free and inexpensive classes and tutorials

Internet4Classrooms

<http://www.internet4classrooms.com/on-line2.htm>
online tutorials for educationally related software

ISD in the state of Michigan:

<http://www.michigan.gov/mde/0,1607,7-140-5373-78090--,00.html>

ISTE database

http://cnets.iste.org/search/s_search.html
provides a searchable database of lessons and units integrating technology

ISTE NETS teacher standards

http://cnets.iste.org/nets_overview.html

ISTE student grade level technology standards

<http://cnets.iste.org/currstands/cstands-netss.html>

Link2learn

<http://pd.l2l.org/learn.html>
links to technology learning experiences from online classes to short tutorials

MERIT Educational Resources

http://mtm.merit.edu/resources/techhelp/learning_about_educational_technology.html
list of available classes for CEU credit

Michigan Association of Computer Users in Learning

<http://www.macul.org>
State of Michigan Association for Educational Technology

Microsoft's education site

<http://www.microsoft.com/education/>
tutorials in all Microsoft software products

North Central Regional Educational Laboratory (NCREL)

<http://www.ncrel.org/tplan/handbook/sup10.htm>

Sample Technology Proficiency and Levels of Use Chart

PT3 project

www.pt3.org

provides examples and strategies of technology integration award winners

TALENT (Technology Across Learning Environments for New Teachers)

<http://talent.edu.uiuc.edu/>

links to resources, tutorials, project-based learning and more

Tapped In:

<http://ti2.sri.com/tappedin/>

a good example of a live chat community

Teachers Net:

<http://www.teachers.net/chatboard/>

light-hearted, less structured online conversation

Teacher Talk:

<http://www.teaching.com/ttalk>

free online community for teachers and students

Teacher Tap

<http://www.eduscapes.com/tap/index.htm#1>

provides online resources and activities that address common technology integration questions.



REFERENCES

Link2learn (2000) A Link to Learn Project. The Commonwealth of Pennsylvania.

Retrieved on 6/29/04 from <http://pd.l2l.org/learn.html>.

Turkle, S. (2003) The Gender Gap in the Computer Culture. Retrieved 4/19/04 from

http://www.edge.org/q2003/q03_turkle.html