

TITLE: Technology Essentials for Teachers

DESIGNED BY: Victor Montemurro

TOPIC: Educational Technology

Developed for the Professional Teaching Staff

BRIEF DESCRIPTION: Teachers need support and assistance as they learn new technologies and how to apply them to the classroom. The obstacles of conflicting and contradictory advice from experts over the past two decades, inflexible and often intractable working conditions, demands and expectations unrelated to technology but part of the job of teaching, confusion about the nature of technology and its inherent unreliability, administrators and policymakers' disrespect or indifference to teachers' opinions (Cuban, Education Week, August 4, 1999), must be considered when attempting to understand teacher reluctance to embrace educational technology. Appropriate and sufficient staff development equivalent to what is offered in the corporate workplace must occur in order for teachers to implement the use of the computer and technology in the learning community. This professional development curriculum plan intends to present a "backward design" beginning with essential understandings and questions and ending with some activities with which teachers may engage in order to reach new levels of confidence, competence and excitement about computer as a tool for learning in the classroom and as a mind-tool for everyone in the learning community

CONTENT STANDARDS: Teachers would do well to familiarize themselves with NYS MST standards two and five:

Information Systems: Students will access, generate, process, and transfer information using appropriate technologies.

Technology: Students will apply technological knowledge and skills to design, construct, use, and evaluate products and systems to satisfy human and environmental needs.

While these standards are for children, they point the classroom teacher in the general direction toward an understanding of what is expected of their students. Further information about the standards and specific performance indicators for each level may be found at the NYS Academy of Teaching and Learning web site: <http://nysatl.nysed.gov/standards.html>.

Teachers may search the web site for standards and related performance indicators as well as exemplary learning experience outlines.

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CONTENT STANDARDS cont'd:

Numerous other resources for technology standards and benchmarks may be found on the Internet. The International Society for Technology in Education has various print and web-based documents available for both teachers and administrators pertaining to technology standards. The current document "National Educational Technology Standards for Teachers (NETS-T)" can be accessed from the web site: <http://www.iste.org>. The ISTE document includes 23 indicators organized into the following six categories:

- I. Technology Operations and Concepts
- II. Planning and Designing Learning Environments and Experiences
- III. Teaching, Learning, and Curriculum
- IV. Assessment and Evaluation
- V. Productivity and Professional Practice
- VI. Social, Ethical, Legal, and Human Issues

To learn more about technology standards teachers may also view the work of Jamie McKenzie, nationally recognized educational technology expert, at his web site <http://www.fno.org>.

STAGE 1: DESIRED RESULTS

UNDERSTANDINGS:

1. Teachers will understand that use of educational technology increases value and ease of communication, productivity, and access to information.
2. Teachers will understand that use of technology in the classroom with students improves motivation, equity of access, and learning potential.
3. Teachers will understand that technology related to the writing process improves student motivation to write and ultimately improves student writing.
4. Teachers will develop technology, network, telecommunications, and computer skills according to self-assessment and individual need or interest.

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ESSENTIAL QUESTIONS:

What is the reward of technology? What can technology teach? **What is exemplary instructional technology? Does technology empower or limit?** How does technology change? How can technology help me do better what I already do? **Is technology worth my professional time, energy, and resources?**

GUIDING QUESTIONS:

What can technology do for my students and me? What do I want to know about classroom technology? Where do I start? Where do I go? What technology is available for me to use? How can I plan to use technology?

KNOWLEDGE AND SKILLS:

See attachment of " Basic Technology Competencies for Educators" from NCPublicSchools.org:
<http://www.dpi.state.nc.us/tap/compl.htm>.

The document above is a comprehensive self-assessment of technology skills and knowledge categorized in nine competency areas:

- Computer Operation and Skill
- Setup, Maintenance, and Troubleshooting
- Word Processing/Introductory Desktop Publishing
- Spreadsheet/Graphing
- Database
- Networking
- Telecommunications
- Media Communications (Including Image and Audio Processing)
- Multimedia Integration

Teachers may wish to look at Bellingham Public Schools "Staff Use Of Technology Self Evaluation Rubrics" found on the Internet at www.bham.wednet.edu/tcomp.htm

Finally, Jamie McKenzie in From Now On: The Educational Technology Journal at www.fno.org/techlife.html has a survey called "The Technology in My Life Survey."

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STAGE 2: EVIDENCE OF UNDERSTANDING, KNOWLEDGE AND SKILL

1. Self-assessment checklists and surveys such as the one offered by Jamie McKenzie in FNO, From Now On: the Educational Technology Journal, Volume 3, Number 9, May 1993 (<http://emifyes.iserver.net/fromnow/FNOMay93.html>) will be used. Teachers will determine how far they have progressed in meeting each technology competency. The survey then asks the teacher to rate each competency for its importance.
2. Teachers will develop a personal professional development plan related to technology skills development and classroom technology integration.
3. Teachers may use Inspiration (graphic organization) software to brainstorm about their own technology interest, use, skills, knowledge, and frustration.
4. Teachers may use word processing software to reflect in writing answers to "Classroom Technology Reflection Questions" (attached).

STAGE 2: EVIDENCE OF UNDERSTANDING, KNOWLEDGE AND SKILL cont'd

As teachers determine an area of competency within which to develop skills, project-based activities such as use of spreadsheet or presentation software to accomplish a classroom management tasks should be required for demonstration and reinforcement of skills and application of knowledge. Such projects to show skill may include:

- Create a short PowerPoint to introduce a topic in class. Use a laptop and presentation device to present the lesson to a class.
- Use a spreadsheet to organize a classroom library or aid students in data collection and presentation.
- Use the simple desktop publishing tools in a word processing program to create a graphically pleasing flyer, poster, or announcement of a class activity or assignment. Print and distribute. Read an article from Jamie McKenzie's web site fno.org and organize ideas with Inspiration to share with colleagues.

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STAGE 2: EVIDENCE OF UNDERSTANDING, KNOWLEDGE AND SKILL cont'd

- Read an article from Jamie McKenzie's web site fno.org and organize ideas with Inspiration to share with colleagues.
- Maintain a personal portfolio of technology development and teaching

STAGE 3: LEARNING EXPERIENCES AND INSTRUCTION

- Learning Basic Computer Skills and Operations
- Organizing and Graphing Ideas with Inspiration
- Creating a Research Journal with Word While On the Internet
- Using PowerPoint Meaningfully in the Content Area Classroom
- Understanding the Computer and the Writing Process
- Planning Lessons with the Internet
- Using Web-based teacher Tools
- Working with a Technology Mentor
- Examining Data with Excel
- Searching the Internet with Guided Navigation

