I-TOTEMS:
Seven Essentials of Technology-Rich Learning

Annette Lamb

alamb@eduscapes.com
http://eduscapes.com/sessions/itotems

Overview

Do you have a passion for learning?
What environments stimulate your thinking?

My Questions...

How do students and teachers use technology in the classroom and in life?
Are we teaching students to make the best use of the resources available to become more information fluent members of society?

What if we help students connect their personal world to the larger social, historical, and scientific community?

What if we taught the joy and art of learning?

What if we helped our students learn to make informed decisions?

What if we used technology to empower?

What Are Your Questions...?

Totems, Technology & Experiences

Think about yourself and your students. How is technology currently used? How could it be used to learn more about yourself and your students, your class as a collaborative team, and the world around you?

Ask yourself:
      What technology tools and resources will help me learn and share my understandings?
      What technologies and activities will facilitate group learning and understanding?
      What technologies will help me understand and enhance my relationship with the world?

Try It!
Use photographs to stimulate questioning, thinking, and sharing understandings.
Use a word processor to create electronic workspaces.
Example
      http://eduscapes.com/sessions/itotems/toys.doc

http://eduscapes.com/sessions/itotems/index.htm

Information

Young people need questions to stimulate inquiry and exploration. They need access to facts, data, knowledge, and wisdom. They need guidance in how to select, evaluate, apply, organize, synthesize, and communicate ideas. How do you and your students acquire and use information?

Questions - Access to Guide

Learners need... questions

What do I know?	What do I need to know?
What do I want to know?	Who cares? Why should I care?
What are my interests?	

Use web resources to stimulate ideas. For example, Ease History provides an online environment to explore multimedia resources including historical events, campaign ads, and core values or themes such as conflict, unity, freedom, and reform. Users can easily view and compare videos and background information about historical events. This visual and auditory environment is a wonderful resource for generating questions and provides the foundation for inquiry-based activities.
Tools such as Inspiration and Kidspiration provide tools for visualizing questions and ideas.

Try It! Select a video from Ease History (http://www.easehistory.org/). Use Inspiration or Kidspiration to brainstorm and organize questions about the time period and context of this video.

Learners need... access

Museums, libraries, collaborative projects, and agencies all provide quality access to information. For example, ARKive is a great website featuring images of life on earth including photographs, text, and videos.

Try It! Use the ARKive (http://www.arkive.org/) or another online digital archive to stimulate questions or provide quality information. Create a Word Workspace that includes the web link along with guiding questions, directions, and/or project criteria. Or, create a sample project that could be used as a guide.

Learners need... guidance

Students need guidance in sorting, selecting, applying, organizing, analyzing, synthesizing, and communicating. For example, let's say your students are working on geography social studies standards examining how cities change over time. The One Planet Many People website contains visuals that can be used to compare cities over time such as Las Vegas in 1973 and 2000. Questioning can be used to help students examine the visuals. For example, what changes do you observe? What are the implications? Create a chart comparing and contrasting the two photos.

Try It! *Design a comparison activity. Use Inspiration to help guide the comparison.*

Information Essential *"I can meet my information needs."*

http://eduscapes.com/sessions/itotems/information.htm

Time

Young people need time to watch, wonder, wiggle, weave, wrap, wave, and wish. They need time to explore, question, search, evaluate, synthesize, create, and communicate ideas. How do you and your students make the best use of time?

Keep It Simple

Many educators are reluctant to use technology because of the time investment. The key is to balance production and use time with needs and standards. Rather than using the digital camera throughout the geology unit, focus on recording and analyzing a single location. Rather than a far-reaching family history project, start with the stories behind a single photograph.

Try It! Design a focused activity using a simple data or graphics set.

Limit Production Time

You don't need expensive equipment for video production. Most digital cameras have the option to create short videos. Consider videos that are 30 seconds to 3 minutes. Try some interesting projects. Use Elevator Moods as a model for simple video productions. Or, check out the CellFlix Festival guidelines. Check out locally produced videos at YouTube such as Summer Reading Program.

Try It! Adapt the Elevator Moods (http://www.elevatormoods.com/) idea for your own short digital camera assignment.

Focus Attention

Googling is time consuming, Considering pre-selecting one great, age-appropriate resources along with two or three varied resources. For health, consider KidsHealth and the Cool Spot.

Try It! Use the Scholastic Article Archive (http://teacher.scholastic.com/researchtools/index.htm) for a real-world reading assignment.

Find Help

Locate assistance through peers and mentors, technology tutorials, lesson idea websites, and effective educational resources. For example, Breaking News providing text and audio for news stories along with quality instructional materials. Locate professional development resources.

Repeat, Reinforce

Rather than learning many different technology tools, spend time exploring your existing tools and expanding your skills. For example, create electronic charts using the table feature in Microsoft Word for multiple assignments so they become familiar with the options.

Try It! Create your own "workspace starter" that could be adapted.

Time Essential *"I use time wisely."*

http://eduscapes.com/sessions/itotems/time.htm

Opportunities

Young people need choices, options, and alternatives to explore. They need chances to do, try, explore, travel, and interact. How do you and your students select among opportunities?

Multi-sensory Approaches

Technology providing opportunities for alternative ways of accessing resources. For example, text, audio, graphics, animation, and video are all different ways to convey ideas. For some activities, the auditory channel is important. For example, students learning English as a second language need many experiences listening to English spoken aloud. The article Improving Oral Reading Fluency (and Comprehension) Through the Creation of Talking Books by Grace Oakley examines how student produced audio books can increase oral reading fluency.

Audio options include:

Interactive stories	Talking Books	Books on CD-audio
Books on Tape	Audio-enhanced	Web pages
Podcasting		

Some teachers and students are now creating audio-based newsletters available through podcasting and blogs. In addition to newsletter students can produce:

Radio shows	Oral histories	World language projects
Audio tours	Science observations	

Try It!
Start small. Integrate audio elements into Word and PowerPoint presentations. Make your own off-line audio news as part of an in-class newspaper or journal activity.

Decision-making

Provide learning opportunities that involve students in developing questions, investigating problems, and reacting or acting. For example, the Don't Buy It project from PBS Kids provides lots of ideas to stimulate discussion and projects related to consumer awareness.

Try It!
Contact a Government Official as a culminating activity of a class project. Use the US Government Departments and Agencies list for ideas.

Opportunities Essential *"I explore opportunities."*

Tools

Young people need resources and technologies for thinking, creating, and communicating. They need materials for physical and mental work and place. What tools facilitate your work and the work of students?

Use Tools to Facilitate Work

Read Americans who Tell the Truth by Robert Shetterly. You can also go to the website to learn about these famous people, read their quotes, and view artwork. Consider ways that students can produce their own books using graphics software.

KidPix - Fireworks - Photoshop - Microsoft Paint - Appleworks - TuxPaint

Use PowerPoint to provide starters for activities such as story (PPT), story starter (PPT), I know an old lady (PPT), bluebird (PPT).

Use online tools such as those at ReadWriteThink (http://readwritethink.org/student_mat/index.asp) and Create a Graph (http://nces.ed.gov/nceskids/Graphing/).

Try It!
Design technology-rich activities to go with children's books. Identify a book where students could add their own page, their own ending, create a story with the same characters... Use PowerPoint or other software to create a model or template.

Use Flash Simulations and Interactive Tools

Many tools are available online. For example, Scholastic's Flashlight Readers project contains tools for helping students create projects based on books such as Esperanza Rising. The TATE Online project provides a tool for creating and writing about an imaginary city. Thinkport's Villainy, Inc is a project that asks student to use math to solve problems. At Discovery Channel: EarthQuake, you'll find tools to help you learn more about how earthquakes destroy buildings and the importance of good construction. Finally, the Virtual Ecosphere allows you to experiment with your own virtual ecosphere.

Try It!
Create Word Workspaces to go with 3 different Flash interactive websites. Provide specific questions, guidelines, or extension activities.

Think about the importance of ease of access and use. Also, consider ways to promote active thinking, critical and creative thinking, and multiple perspectives and answers.

Tools Essential   *"I use the best tool for the job."*

http://eduscapes.com/sessions/itotems/tools.htm

Experience

Young people need practical, meaningful, and active participation with varied activities. What experiences do you and your students seek?

Increasingly, webcams are being combined with blogs. For example, WildCam Africa from National Geographic has a place where students can ask questions as they watch the cam as part of an ongoing blog. You can turn any webcam into this type of project by using a blog or even a journal activity.

The Internet provides access to live events and activities not available in local areas. For example, FalconCams are used by people around the world to monitor the activities of these beautiful birds. Many classrooms are participating in projects that get students actively involved in real-world science through observing these live cameras and monitoring the blogs. For example, a fifth grade group in California maintains a website for their falcon project. It included links to Native American folklore, student journal entries, activities, and even an email reply from the author of Frightful's Mountain, Jean Craighead George. Consider ways to provide students with experiences that would not be possible without technology. For example, students can use an incubator simulation see learn about the gestation of chickens.

Technology to Enrich

Use technology to enrich experience, However, don't let technology distract from goal.

Try It! Design an activity that uses Google Earth. Write simple directions that would guide students through the activity. What guidance would students need to successfully use the information found at this website?

How could questions be used to guide the process? For example, compare rural and urban areas. Compare different landforms. Trace the topography of a trip from one location to another. Create a "Mission Impossible" type assignment such as "Can you figure out when particular photos were taken based on the building construction in places such as New York or Washington DC?

Bring in Outside World

Live video cams, expert discussions, maps, and photographs can all help bring the outside world alive.

Try It
Connect a piece of literature or class activity to a Cam site.

Experiences Essential *"I enjoy learning experiences."*

http://eduscapes.com/sessions/itotems/experience.htm

Motivation

Young people need to be engaged in meaningful, relevant, and authentic activities. They need posi-tive, supportive, and enthusiastic models. What motivates you and your students?

Real-world Projects

Real world projects that reach outside the classroom are motivating for students. Go to Teacher Tap: Contests for ideas such as the student video projects at Schoolhouse Video. Considering joining global project.

Examine the many online projects at Kids-Learn (http://kids-learn.org/) such as Beautiful Spring, Beautiful Earth. In this project, students read books, explore websites, and participate in a variety of activities. Teachers share the work of their students as part of the project. For example, one class read Under One Rock: Bugs, Slugs, and Other Ughs by Anthony D. Fredericks, then created poems, visuals, and concepts maps about insects.

Also, explore science projects at Exploravision (http://www.exploravision.org/). Many states such as Indiana have media fairs. Watch three award winning claymations at Bob the Lightbulb.

Do a google search for contests.

Create Your Own Collaborative Project

Participate in the wikipedia project (http://wikipedia.org/). Try Wikijunior (http://en.wikibooks.org/wiki/Wikijunior) to show kids how to participate in wiki projects. You could even create your own WikiBook.

Create a wiki for your classes to explore. Try using pbwiki (http://pbwiki.com/). Check out the Teas-dale example.

Try It! *Explore online opportunities. Join a project for next year.*

Motivation Essential   *"I'm motivated to learn."*

Strategies

Young people need techniques for addressing strengths, weaknesses, opportunities, and problems. They need scaffolding for critical and creative thinking. What learning strategies you and your students?

Organize Technology

Good planning and organization are critical to technology-rich learning environments. You may create web pages, organized class bookmarks, or print out materials. Regardless of whether you choose a "high tech" or "low tech" approach, the key is ease of access and use.

Provide Multiple Resources

To address individual differences, provide alternative perspectives, and allow for technology errors, make use of multiple resources for assignments.

Try It! Set up a MyYahoo account and organize resources you can use in class such as new, weather, and links!

Addressing Individual Differences

As you choose technology tools and resources, consider individual differences in learning styles, thinking styles, multiple intelligences, and student personality types.

Reading Levels

Many websites now provide different reading levels or content for different grade level interests. This is particular true of US Government websites available through FirstGov. When selecting websites, look for pages that provide the basics, more detail, and in depth options. Also, consider whether students will be skimming, scanning, or reading the page.

Try It. Use Naturescapes as an example. Can you create your own three level page in Word? Use Naturescapes Starters for photos and videos you can use to create your own.

Inquiry-based Approach

Consider applying effective instructional strategies to the technology-rich learning environment. Integrate WebQuests into your classroom. For example, The Last Spin WebQuest directs students to read a short story about gangs online. Then, students select a particular role as a reporter and use web-based resources to address an issue related to gangs. The relevant, meaningful activities and authentic assessments found in WebQuests are effective in meeting the diverse needs of children and young adults.

Try It! Open Call-Out Starter. Create call-out bubbles. What would this person say about this place? Open More Call-Outs. Create an inquiry-based assignment for one of the photos.

Strategies Essential   *"I apply effective strategies."*

http://eduscapes.com/sessions/itotems/strategies.htm

Your I-TOTEMS

Reflect on your years of teaching.
What are the characteristics of a successful technology-rich learning environment?

What changes need to be made at your building that would facilitate more effective technology use?

What 2-3 ideas will you work with this year to enrich the learning environment?