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ABSTRACT

This paper asserts that all the praise currently being lavished upon computer technology in the writing classroom should be tempered with realistic criticism. In addition to making research easier for students, the Internet makes plagiarism very easy. The author stresses that this plagiarism problem is not limited to the composition classroom, and that the process of documenting a plagiarism case against a student can be very difficult. The author offers the Web address of one site that helps students and teachers check for plagiarism. He also addresses the need for colleges to have a technical support staff whose numbers are proportionate to the number of computers on campus, pointing out that keeping up with the latest technology is not only expensive, but requires the kind of time that most college staff do not have at their disposal. Finally, this paper urges instructors who use computers in the classroom to invest time in planning, rather than rushing to adopt the latest technology. The curriculum is at the heart of a college education, and the author stresses that it is not designed by manufacturers of hardware or developers of software, but rather, as has always been the case, the curriculum is developed by teachers. Presentation materials are appended. (Contains 28 references.) (NB)

Cutting Edge Technology: Inspiration or Irritation?

Presented at:

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Austin, TX
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Presented by:

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"If we look around us now, the single-most common reaction to computers was entirely missed by any of the historical visions. That reaction is one of irritation!" (Gershenfeld, cited in Boettcher, 2000, p. 44).

The use of computer technology in education has been discussed *ad nauseam* for as long as educators have attempted to integrate it into the classroom. The topics being discussed range from computer literacy requirements (Boettcher, 2000) to heady journal articles that investigate "online teaching and loss of body image" (Buckley, 1997) to misuse of technology in "PowerPoint-Induced Sleep" (Brown 2001). While these discussions all add to the body of knowledge available for research students and potential teachers, one fact remains: what happens in the classroom is the reality of computer use. No ethereal prognostications or carefully hypothesized conclusions can replace the actual student and teacher interaction in real time. The slick advertisements and glowing testimonials rarely bear fruit in a real classroom situation.

This is not to suggest that I do not believe in the benefits of using computers. What I do not believe in is all the buzzwords and magic wands that some administrators and advertisers wave in front of our faces. Students and teachers still have to interact. While technophobes still exist in the world of education (Tchudi, 2000), it's increasingly difficult to avoid using computer technology if you're a teacher—especially an English teacher. Even if the technology is not being used directly in the classroom, computerized gradebooks and email have become a favorite of many educators; free dot-com sites such as Blackboard allow teachers to post teaching materials on the Web. Mainframe computers allow teachers to check on rosters, and programs such as Lotus Notes allow teachers to contact others who have students under advisement and notify them of progress or problems. I don't know any teachers who would like to return to a life totally without computers. However, I think it's important to try and balance out the

overextended hype and hoopla promoted by software companies and administrators. Computer technology is just another tool and should be seen as such. It is no magic potion. Teachers and administrators alike must realize that computers are tools, not magic boxes that solve educational problems. No magic potion is going to help teachers deal with plagiarism, the technology façade, time requirements, or Murphy's Law.

Background Information

When I first started teaching freshman composition in a computer classroom in 1994, it seemed like a major leap of faith to *not* lecture and let students go out on their own. What I soon realized was that students did as well without my lecturing about the writing process! It also didn't take me long to realize also that I didn't miss preparing lectures on information that students had heard all the way through high school and still hadn't learned. For that reason, I decided to minimize lectures and become more of a facilitator and tutor and answer more questions one-on-one and on an as-needed basis.

In the beginning, the computer classroom had a simplified word-processing program called QuickStart. A DOS-based program, it had a minimum of commands and was fairly non-threatening; since many students at that time were not computer literate, that was very important. Also on the computers was Microsoft Works 3.0; at the time, Microsoft Windows 3.1 was quickly becoming the ruling software. Since computing was fairly new (given the rate at which it becomes "old"), I required students to use QuickStart in the classroom—mainly because it was a very simple program with limited capabilities. Bells and whistles on word-processing programs were yet to come. Instruction with computers worked fairly well because class size was limited by the

number of computers in the room (20) and the same program was available in the Library on about 25 or 30 computers. Furthermore, at that time, not that many students had home computers.

And then those first computers started wearing out—color cards went out of them, video cards went out, and the printers didn't always work as they were supposed to. Sometimes the computers wouldn't boot up, or they would shut down unexpectedly causing students to lose unsaved work. The printers were top-of-the-line pin printers. However, paper jammed and sometimes got off the tractor feed, or they didn't get turned on and students would send their job to the printer seven or eight times; apparently, students thought that the more times you sent a print job to the printer, the better chance it had of printing (that still happens). That, of course, was never the case. So when all those print jobs did print, there were multiple copies of a student's paper who was nowhere around and would probably change his or her topic before the next class anyway.

Although using a computer classroom changed the way my writing classes worked, there were always problems. Some computer-challenged students couldn't tell QuickStart from WordPerfect 5.2. When they confused the two incompatible programs ("hey, they both have a blue screen!"), they discovered their work would not pull up on the computers in the writing lab. Or, worse yet, the work would get scrambled somehow and become irretrievably lost. Those same computer-challenged students often just did not pay attention and some could not recognize that MS Works was different from MS Word, or that even different versions of the same program often were not quite compatible.

So, where were all those knowledgeable, hip, computer-savvy students that we were reading about in the newspapers? Where were the students who, according to the press, had such a firm grip on this tool of the future? They certainly weren't in my classes! And I rarely saw one of those students around that answered that description. I, too, had been fooled by the hype.

Internet-Based Plagiarism

The first time I had a student use an Internet source for a research paper was in the summer of 1996. This forward-thinking, non-traditional student recognized the resources, which were just beginning to be seen. At the time, no one in the English Department had dealt with plagiarism involving Internet sources. In fact, at the time, the term "Internet" was still reserved for "email" and the term WorldWideWeb was still being used for the websites that existed in that earlier version of cyberspace. In the next year, however, student use of the Web burgeoned as a lifesaver that shored up the shortcomings of a very small library and limited research resources. That was also the beginning of the plagiarism problems.

Since 1996, the proliferation of websites has made it incredibly easy for students to find resources on virtually any topic; this has been both a boon and a bane for writing teachers. If teachers allow individuality, students can write research papers on topics such as prison tattoos or police harassment of skateboarders. As a writing teacher, I've had well-written research papers on both. Using the Web gives students flexibility as well as convenience when researching topics. There are no trips to distant libraries searching through the stacks, and there are no afternoons and evenings spent scanning

through chapters of books. And, with the way many students have grown up with computers (according to the widely-touted stereotype), the manner in which information is presented is much more palatable and less threatening than the old library process. Research will still remain a somewhat tedious process for many, but it does not have to be boring for first-time college students. If "interest" can be combined with learning, so much the better.

Unfortunately, some websites are very seductive and offer already-written essays and research papers; some sites are free, some sites charge per page. The temptation of taking a shortcut is more than some students can resist. Websites offer essays and papers on virtually any topic (see reference page for websites). One website advertises that "all you have to do is submit one of your own reports by filling out the form below" (Netessays.net) and they will give students access to their database. Another site boasts "The Top 100" (Freeessays.com). Yet another website cautioned students to "be careful how you use the information here because your professors and teachers can access exactly what you can" (Cheater.com).

Plagiarism is certainly not limited to composition classes. Topics that are suitable for technical writing classes are also easily found on the Web. A search of do-it-yourself websites or visits to the websites of home improvement centers reveals a wealth of information on wiring switches and receptacles, installing insulation, bricklaying, and countless other homeowner topics including plumbing, air-conditioning and heating, installing drywall, and installing cabinets. When one of my poorest students turned in a flawless essay about "how to wire switches and receptacles," I knew it was plagiarized; proving it and discovering the source was impossible. To make matters worse, the

teacher over on the technical side admitted that the student "may have had some help" (personal communication) but would not admit that his student had cheated in order to get a passing grade.

Documenting a plagiarism case against a student can be nearly impossible. The number of hits on a single topic can often number in the thousands. Only chance and some luck would help a teacher definitively prove that a student had cheated. Fortunately, at least one website, turnitin.com, has devised a system which allows teachers and students to submit essays and papers in order to check for plagiarism. At this point, not enough information is yet available to see how effective it is. With any luck, this website and others to come will help teachers combat what appears to be a rapidly spreading, interdisciplinary practice: Internet-based plagiarism.

The Technology Facade

At the time I began teaching in the computer classroom, the school had only one or two computer technicians and one computer classroom for the English teachers. This introduction to teaching in the computer classroom was also the beginning of what I would learn—in the years to come—is called *the technology façade* (Tomei, 1999, p. 32, italics added). It was great for our administrators to crow about how we used the latest computer technology. But what they didn't tell their listeners was that we only had one computer technician for the entire campus—and the lowly writing lab seemed to be at the bottom of the list when repairs were needed, usually after administrators and more politically correct departments were taken care of.

Now, seven years later, some classes such as half-trimester internship groups spend all their classroom hours in a computer classroom. The number of computer classrooms has grown from one to five, with access to over 120 computers on the first floor of the general studies building; that number does not include a programming lab, business technology labs, and a computerized math lab. Additional labs in other departments as well as the library are also available to students. To add to the frustration of working with computers, the number of technical support technicians has not grown proportionately with the number of computers (Bjorklund, 2000, p. 44). In addition, computing has become more complicated with networking and multiple servers, a larger variety of software packages and needs, multiple upgrades, remedial math and English labs online, and computers that, sometimes, just refuse to work. All those factors, added to a number of computers that are vandalized by students who hack past the "security," are enough to make computer support personnel overworked.

Because they are overworked, computer support personnel have developed a system of passing the buck. They've divided themselves into server specialists, hardware specialists and software specialists. So, when a call comes into the help desk or you see one of the technicians disappearing around a corner, you're likely to hear "that's a server problem, call Richard," or "that's a hardware problem call Jeremy, or "that's a software problem, call Sherry." Knowledgeable computer students who become work studies also fall prey to passing the buck. More than once I've been told by a work study, "I fixed that yesterday." If that's the case, then, why is the computer still not working? The fact remains, if it's not running, then it can't be used by students. That apparently obvious observation seems to bounce off administrators and technicians alike.

In addition to not wanting to be slowed down by teachers who need help, the support personnel are very secretive about access codes and passwords. There have been several instances where a student has hacked past the codes and rendered a computer unusable. Rather than giving a computer-literate teacher the codes, computer technicians will give a student work-study the code and allow them to make the repair—at a later date. In the meantime, that particular computer is unusable.

Yet another dodge for avoiding work is declaring, "if it's not on the network, I can't fix it." An accounting teacher told me that he loaded accounting software in his computer lab. When the computers failed to print, he called the help desk. Technicians later told him they couldn't fix the problem because he had installed the accounting software on individual computers rather than the server. When the teacher stated that the problem was with the printer, they didn't budge. In other words, "if it wasn't installed by us, we won't touch it." That's hardly a cooperative attitude, considering we all work for the same school. By the time support personnel were convinced they could fix the problem, students were gathering around two or three computers at the end of the class—so they could print the results of their work for that day.

And speaking of printers. . . because students vandalize computers and tinker with settings, a "firewall" has been installed on most computers that prevents students from doing harm to those machines. Unfortunately, the "student lock" also keeps students from making backup copies sometimes and does not allow teachers to delete clogged print queues. Daily problems that require solutions out of the reach of most teachers are common and there is consistently a shortage of support, unlike what Roueche & Roueche (2001) reported in their article commenting on the *potential* of technology.

So, the lack of support frustrates not only students, but also teachers. Constantly trying to work around technology that is not working properly takes away from the educational process; the focus is changed from what's being learned to what's not working in the classroom. Student writers cannot focus on their assignments if disk drives don't work, the server is down and they can't print, or computers won't boot up or function properly. The frustration detracts from what the technology is *supposed* to do—create an advanced learning environment. And, without that advanced learning environment, teachers have to revert to past practices, which may not be effective. This robs teachers and students of the one thing they truly have limited amounts of: time.

Time Requirements

In discussing whether technology is worth the time and effort, Richards (2000) states, "the desire to save time or effort cannot be part of the equation" (p. 41) when deciding to use new technology. Just figuring out how the technology works in the first place takes time—time that many teachers do not have. In addition, integrating new technology with what's currently available on campus often does not work (Tchudi 2000, p. 30). In many cases, what most technology developers and administrators seem to conveniently forget is that the technology is not the point of being in the classroom—the content of the course is the reason for being there (Bjorklund, 2000, p. 46). Content cannot be replaced with equipment and using "a cool website. . . doesn't integrate those resources into instruction" (Hoffman, 2000, p. 58). Even if the integration of the technology were to be truly seamless, as some would have us believe, it would still take time.

Literature—presumably written by administrators who want the world to know their college is keeping up—constantly speaks of "seamless integration" of technology in the classroom. The term itself certainly has a wonderful ring to it and sounds good in presentations and articles. However, seamless integration bears little similarity to the reality of teaching in the classroom. First of all, the technology façade will prevent many teachers from integrating very much into their classroom because the school has not made a financial commitment to support personnel or the actual equipment itself. What is seemingly a really good system is often inadequate, incomplete, outdated, or just not working.

In addition to taking time to integrate the technology, there's always a cost. New technology is not free, and those who think it can be magically included into the curriculum are just fooling themselves. In fact, in speaking of online classes, Yates says, "financial commitment is a big component of a successful online effort. [And] at some colleges, the online curriculum may compete with other programs for budget dollars, and too often is not funded sufficiently" (2001, p. 16). But throwing money around does not solve the problem either; there's the job of selecting the appropriate technology for the program and school. Boettcher states that "a spiral of ever-new and better tools is the source of a spin of frustration, confusion, and irritation" (2000, p. 44).

Even if teachers whole-heartedly accept computer technology, they should not, as Bjorklund warns (2000), "throw [their] curriculum out the window in order to add some technology. . . .the computer can't drive the curriculum" (p. 43). And, assuming that some sort of computer technology is integrated into the curriculum, what gets deleted? Some activity has to be replaced in order to make time for the new technological

approach. Even with the alleged time savings, teachers still face a finite amount of time to present the content of the course; technology does not save time. Technology allows teachers to present information using new methodologies; unfortunately, "it does not save us work" (Hoffman, 2000, p. 58).

Murphy's Law and Computers

Teachers who have logged hundreds and thousands of hours in computer classrooms know that the legendary Murphy's Law certainly applies to any situation that includes technology in the classroom. In contrast, advocates of unlimited computer use in the classroom as a panacea have apparently not considered the reality of most interactions between students, computers, and teachers. The first rule of Murphy's Law, "nothing is as easy as it looks," certainly applies.

It's not unusual for a school or its computer support personnel to upgrade teacher computers and classroom computers, install new editions of the software, and then fail to provide any instruction or documentation. In most cases, the newer version is just slightly different from the older version. That shouldn't cause a lot of problems. However, if significant changes have been made, teachers and students are often left in the dark when "things don't work like they used to."

In conjunction with looks being deceiving, performing tasks on computers regularly "takes longer than you think" (the second rule of Murphy's Law). It should be a simple procedure to send a document to the printer—or it should be simple to pull up a website. Whatever the case, inherent glitches in computer systems often slow down Internet access or access to other sites and programs. If an error message appears that

says "administrator has disabled those settings," there's nothing a teacher or student can do to override that message. In some cases, those "error messages" prevent students from downloading work from such sites as Blackboard.com; blocking access to even those types of websites only confounds the educational process, *preventing* teachers from using technology in the classroom. In addition to blocked access, Internet websites have server problems, too, and may be offline for a day or two, which further confounds the educational process because, like most server problems, there is no warning and no notification that a problem does exist.

As for the third rule of Murphy's Law, "if anything can go wrong, it will—at the worst possible moment," that is also a given. Night classes, for instance, relying heavily on an educational website may be reduced to an ineffective version of what the class should be, simply because a server went down somewhere. And, as is the case sometimes, even a passing thunderstorm can knock a networked computer classroom offline without any warning, thereby disabling printer access; in severe cases, the lights may blink and the entire lab may go down momentarily. If students are careful, they can generally recover their work. Unfortunately, I've seen the lights blink three times in a row and an entire class lost all their unsaved work. The best I could do was dismiss class and tell them we'd try again at the next class meeting.

As if the technology itself cannot be confusing enough, error messages which frequently pop up on students' screens can be both intimidating and infuriating. The messages listed below are just a very few examples:

- *Unable to find a path to server.*
- *You are trying to log into too many stations simultaneously.*

- *Unable to select database. My SQL server has gone away.*
- *This program has performed an illegal operation and will be shut down. If the problem persists, contact the vendor."*
- *Network Status. Client 32: Out of disk space writing file UNKNOWN to server. Try deleting some files before continuing. Warning: You will lose data if you hit "Cancel."* [won't "Cancel" and "OK" do the same thing?!]
- *Error starting program. The SHLWAPI.DLL file is linked to missing export KERNEL32.DLL: Wait for Multiple Objects Ex.*
- *C:\ProgramFiles\Netscape\Communicator\Program\netscape.exe. A device attached to the system is not functioning.*

These are just a sampling of error messages. Despite the confusion they cause students and teachers, I've also had the computer technicians look at them blankly and say "hmmm, I've never seen that before." As a result, the glitch goes unfixed until someone completely reloads all the software or somehow discovers what it causing the problem.

In addition to unexplainable errors, servers go down—and it's not always the server on campus. Twice since I've been using a commercial educational website for delivery of instructional materials, their server has gone down. Of course, this happens without warning and totally destroys the activities planned for a three-hour night class. There's nothing to do but go back to the old-fashioned handout and continue as best as possible. That's not much of a net gain for having technology available and then not having it work.

With this same educational company, the school bought into their program and purchased the software and the server so teachers would have a more sophisticated

version that was freer of bugs. What happened, though, was that the company first sent the wrong server. If that weren't enough, when the correct server arrived, it had the wrong kind of hard drive. The total system is supposedly on campus now, but it hasn't been installed yet. So, a system that was supposed to be online for the summer of 2001 will not likely be online before the fall 2001 trimester. We have the technology—it's just not usable in its current form!

Final Comments

In spite of all the glitches associated with technology and all the aggravation, teachers will continue to use computers in the classroom. There should be, however, a substantial amount of planning, rather than a sense of urgency to not be left out of the march towards "cutting edge technology." Without substantial planning, schools will fall prey to the hype that sells them a program or a truckload of hardware without explaining how it's supposed to fit into the existing curriculum. When schools rush into purchases of technology without planning, they ignore what Robinson calls "a lack of preparedness regarding institutional change and planning" (2000, p. 55).

One author, when discussing technology, enthusiastically gushes, "today's teachers will become tomorrow's designers of individualized interactive materials and guides for students" (Von Holzen, 2000, 57). Hasn't it always been this way? Haven't teachers always been in the trenches creating, piloting, using, and discarding materials? Haven't teachers always been the ones who, ultimately, were responsible for the content of their courses? Curriculum is not written by manufacturers of hardware, nor is it written by software developers. Curriculum is written by teachers who are responsible

for making sure their students leave the classroom with a set of skills or knowledge about the content of that course. In support of that idea, Von Holzen further states that one company is "already seeking to purchase course materials from *individual instructors* (italics added) and colleges and universities" (p. 57).

In the final analysis, teachers, not machines, will have to interact with students on a regular basis in the classroom. Teaching is still an exchange of information between students and teachers, no matter what form it takes. Yet, teachers may be rapidly left behind by technological advances if they are not supported by their school's administrators (Hill, 2000, p. 24). Students will still need to be guided through the educational process and no machine, no software, will do it as adequately as a human. Predictions of sweeping changes involving computer technology abound. Yet, some things stay the same. Remember when people predicted computers and e-mail would create a "paperless" classroom? And what happened? E-mail messages are regularly printed out and filed as "reminders" or for documentation; web pages are regularly printed out as well. Computer technology is not magic. It is not a cure-all for educational shortcomings—and it will not be a savior to schools who are struggling with slipping enrollment or wanting to be like other schools. Technology is a tool, which can be used positively in the classroom, but should also be used in moderation (Ehlen, 2000) or "as a supporting player" (Hoffman, 2000, p. 58) and, preferably, with a backup plan in case it fails.

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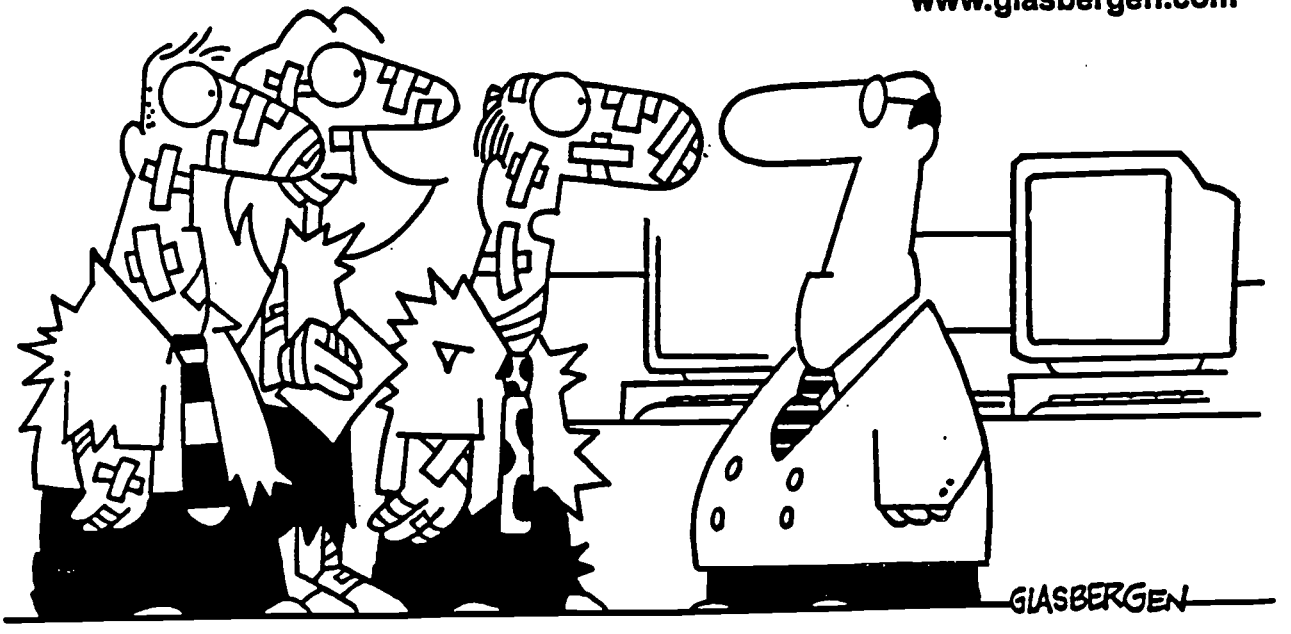

"Frankly sir, we're tired of being on the cutting edge of technology."

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NISOD 2001
Austin, TX

Cutting Edge Technology: Inspiration or Irritation?

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Oklahoma State University-Okmulgee

NISOD 2001

Inspiration or Irritation?

- The issues
  - –Plagiarism
  - –The technology façade
  - –Time requirements
  - –Murphy's Law :)

Inspiration or Irritation?

- Remember DOS Word Perfect with the blue screen?
- MS Word 2.0b?
- Tractor feed pin printers?
- 54kb hard drives, 1 mg RAM?
- stich@osuunx.ucc.okstate.edu

Inspiration or Irritation?

- Internet-based plagiarism
  - –The information age makes it easier
  - –Sources are easier to find but sometimes harder to trace
  - –Websites with essays and research papers are common

Inspiration or Irritation?

- Business sites—home improvement centers, for example, offer information which students can plagiarize
- Information on virtually any topic is available on the 'net

Inspiration or Irritation?

- The technology façade
  - –"the use of technology in a school without the benefit of a necessary infrastructure to support its application as a viable instructional strategy" (Tomei, 1999)

Inspiration or Irritation?

- Lack of technical support
  - –Support personnel are overworked
  - –Tech support has not increased proportionately with number of computers

Inspiration or Irritation?

- Tech support turf wars
  - –"It's a hardware problem, call Richard or Jeremy."
  - –"It's a software problem, call David or Sherry."

Inspiration or Irritation?

- Tech support turf wars
  - –"No, I won't give you the access code so you can change that obscene screen saver."
  - –Work studies later come and change the settings.

Inspiration or Irritation?

- Tech support turf wars
  - –"I can't fix that because it's not on the network."
  - –Individually installed programs in Accounting "not fixable" by tech support

Inspiration or Irritation?

- Tech support
  - –"I fixed that the other day," says a work study—but it still doesn't work!
  - –In the meantime, students cannot use the computer

Inspiration or Irritation?

- Tech support
  - –"Security" is supposed to prevent students from changing settings, but also prevents teachers from clearing clogged print queues

Inspiration or Irritation?

- "Seamless integration"
  - –Term sounds good in presentations and in articles, but bears little similarity to the reality of classroom teaching

Inspiration or Irritation?

- Time requirements for integrating technology into the curriculum
  - –"a cool website. . .does not integrate those resources into instruction" (Hoffman, 2000)

Inspiration or Irritation?

- Time requirements
  - –Everyone wants teachers to incorporate technology, but few, if any, get release time to work on such projects—it's done in "spare time"

Inspiration or Irritation?

- Murphy's Law
  - –Nothing is as easy as it looks
  - –Everything takes longer than you think
  - –If anything can go wrong, it will—at the worst possible moment

Inspiration or Irritation?

- Murphy's Law
  - –"Unable to find path to server"
  - –"You are trying to log into too many stations simultaneously"
  - –"Unable to select database. My SQL server has gone away"

Inspiration or Irritation?

- Murphy's Law
  - –"This program has performed an illegal operation and will be shut down. If the problem persists, contact the vendor."

Inspiration or Irritation?

- Final comments
  - –"It's the technology, not the content. . .be prepared to make trade-offs. . .think things through" (Bjorklund, 2000)

Inspiration or Irritation?

- Final comments
  - –Technology is here to stay
  - –Don't believe the hype
  - –It's good if used in moderation, but have a backup plan (Ehlen, 2000)

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