

## Chapter 8

# Thinking Outside the Box

[www.summercove.com/button/cio.html](http://www.summercove.com/button/cio.html)

- 1987-1994
- 1994-2002
- 2002-2007
- 2007-2011
- 2011-2033
- Computer Coordinator, Concord Academy MA
- Computer Coordinator, Noble & Greenough, MA
- CIO, The Chapin School, NYC
- CIO & Computer Teacher, The Children's Storefront, NYC
- Executive Director, The Tech International Charter School, Bronx NY, [ticharter.org](http://ticharter.org)

In applying for the CIO job at Nobles (November 2001-February 2002) and the CIO job at Chapin School, I ended up visiting quite a few schools and writing up an application for the CIO job that shared a vision for a model IT (“information technology”) Department. This document below builds on this vision and is an attempt to propose categories for a global approach to examining a school's IT program and making assessments. I would appreciate any suggestions or additions. Steve Bergen, 4/4/2002

Here are several important categories with which any of us can view the technology program of a school. In the spirit of our binary world, my suggestion is that you put down a 1 or 0 for each category, even though some of you will want to use decimals between 0 and 1 ;-)

**category 1: email?** Does the school have an email system that students and faculty can use aggressively? Mailing lists, conferences, homework assignments, attached files; possibly even an organized system for parent e-mail communication? Although it is a reasonable debate to discuss e-mail accounts for younger students, most people agree that after grade 5 or 6, an aggressive use of email by students and faculty is very important within a school community.

**category 2: computer curriculum?** Are computer courses required in certain key grades for all students? Is the curriculum recognized as a valid academic subject in its own right? Even more so, does the computer studies department stand on its own feet. Note: computer curriculum is not the same as integration; each has an important place in the school.

**category 3: integration?** Are teachers engaged and involved in tech curriculum projects in classes? Note: integration is not the same as computer curriculum; each has an important place in the school.

**category 4: faculty training?** Is there a faculty training program so that momentum is forward and so that there is a constant push forward? This is probably the area in which most schools are lacking. There are three kinds of faculty training: JIT (just in time), JIC (just in case) and, to think outside of the box, JBC (just because).

**category 5: hardware access for faculty?** Hardware access? laptops, projectors? Are they easily available to faculty and are there any strings attached? Do faculty members have to “risk any financial liability” to get a laptop and agree to pay the school for any damage? Are they in control of their own machines? Is there a procedure established for repairs, help questions, and usage issues?

**category 6: tech infrastructure?** Networking infrastructure (hubs, wiring, servers, firewalls)

**category 7: humanware?** Is there a team of tech people (1 for every 50-100 computers) with job descriptions covering everything from faculty training to network to computer classes to help desk?

**category 8: help desk and help procedures?** phone, e-mail, and in person; has a help system/ help desk been created where students, administrators, and faculty can get appropriate help during the day and/or after hours? Any involvement of students?

**category 9: home/remote connectivity?** can faculty, administrators and students connect to important files and documents via e-mail or server method from home?

**category 10: Web Pages and Web Posting?** is there a web tech person or team that takes care of the Web postings? can faculty easily post Web content on the Web? Do the school’s Web pages reflect PR content or functional content (e.g. homework) or both?

**category 11: Honesty and Tech Ethics?** MP3 Issues/Plagiarism Issues; has the school taken a pro-active stance in terms of students (and faculty) regarding these issues? Is there an acceptable use policy well publicized? Do students and parents have to sign a document?

Category	1 or 0?	current status	how to improve
1) Email System	___		
2) Computer Curriculum	___		
3) Integration	___		
4) Faculty Training	___		
5) Hardware Access for Faculty	___		
6) Tech Infrastructure	___		
7) Humanware ("the tech team")	___		
8) Help Desk and Help System	___		
9) Home/Remote Connectivity	___		
10) Web Presence/Pages	___		
11) Honesty/Tech Ethics	___		

# Thinking Outside of the Box:

Although I am not particularly a fan of George Patton, he did once say “if everyone is thinking the same way, then someone is not thinking.” This quote underscores the necessity -- particularly in the tech world -- to engage in non-traditional solutions to problems.

Here are a few:

- \* personal trainer program
- \* pioneer training
- \* weekly faculty training for some or most faculty members
- \* computer proficiency requirement for students
- \* typing requirement
- \* laptops for faculty
- \* laptops for students
- \* hardware for students with financial need

How does one achieve change? The laws of physics suggest that bodies at rest stay at rest and bodies in motion continue in motion. How do you set your faculty in motion and keep them there? Can you offer hardware incentives (laptops, MP3 players) to help faculty make weekly commitments for faculty training. How can you squeeze more time into the curriculum of students who are already overloaded? Can typing be required as a summer activity in grade 6 or 7, putting the parents in charge in some way? Can faculty be required to post homework on the web?

*These are the questions ... I ask everyday  
On my way, on my way on my way*

What follows are excerpts from my CIO applications (just the sections that I can comfortably make public) attempting to share my vision for the IT Departments at a school.

## • Part One: Some General Themes

• **TCP** is a tech vocabulary phrase (transfer control protocol), but I use it for Thoroughness, Communication, and Productivity. Although one can say that these three attributes should be part of every professional, it is more important for tech people to buy into this philosophy, since everything we do has ripples (“templeton effects”) and affects many other people. To paraphrase from a tech person that I met at Dalton school, “if you do not have time now to do it right, then when will you have the time to fix it;” or as the signature of another tech director reveals, “The quality of your work is the measure of your character.”

- **Four eyes are Better than Two:** I practice this mantra constantly in my job. This needs to be the mantra of every tech coordinator; ask advice, share responsibility, find helpful and expert consultants.
- **Trees:** There are too many “isolated trees” on tech teams. We need to avoid people doing their job in complete isolation from others on the tech team.
- **Money:** As technology at any school grows, the tech percentage of annual operating budget needs to grow; David Moursand of ISTE predicts we are heading towards 15%; a tech person at Choate believes it is headed towards 8%; but regardless, money is important in addressing issues of hardware, software and humanware. Schools need to assess their tech budgets on an annual basis.
- **Pushing and Pulling:** These concepts are equally important components; some people call this Stick and Carrot, but I am not sure that this is a correct metaphor. Repeatedly, I have been asked the same question: “Given the fact that most schools are frustrated with their computer progress, what accounts for the fact that you have been successful at two different schools?” My answer has always been the same: I use both the push and pull approach to move teachers along. My first faculty training program was in 1984 at Concord Academy and over the 10 years at CA I provided hardware to faculty in many programs that I created. My first innovation at Nobles in 1994 was providing a modem to any faculty member who wanted one for our new NoblesNet system. Then in 1995, I started the Pioneer program with 5 laptops. Providing teachers with computers (and these days projectors) gives them the professional tool, the perquisite. That is the pull, the carrot, if you will. But requiring faculty members to participate in training programs (we are indeed all professionals and must rise to professional challenges and fulfill professional obligations) or techno-quickies or assignments are the push. My advice is to avoid giving laptops to faculty with no strings attached.
- **Different Approaches for Different People:** The growing pains for all schools are archetypal, like Piagetan stages of child development. And so they are for people as well. I have gone through many stages and changes in my life and consider myself a person who thrives on change. The approach of push and pull works quite well with teaching students and with moving teachers along. It is not the right approach, however, for administrative functions within a school.
- **Thriving on Change:** More than most people, I believe I thrive on change. I have shared with many my own personal version of the Thomas Jefferson mantra of re-doing the Bill of Rights every ten years and starting over. I became a serious vegetarian in 1979 for no reason other than to prove that I still could change myself at the ripe old age of 28. I left Wooster School in 1980 and became a techie programmer for the Williamson Group for several years. I started the Teaching Company in 1982 on a shoestring. When I left Concord Academy in 1994 after 10 incredibly productive years in changing the school, a colleague remarked that I was doing what she wished she and others had the guts to do. I refused to wear a tie from age 18 to age 43 at virtually every family function. I took the job at Nobles in 1994 and did a Paul Pierce 360 regarding ties. I actually believe that change is part of avoiding BOTS (credit to Ed Siegfried at Milton Academy who coined this acronym: burned out teacher syndrome). Tech coordinators

need to love change; they need to thrive on the challenges offered by the world of technology and they need to revise policies both to accommodate the change and to thrive on that change.

# • Part Two: A Collection of Information Technology Information from Other Schools

## **Alexandria Country Day School**

How many people are in your IT department and what are their titles?

---3 - Director of Technology, Computer Lab Teacher, Systems Administrator

Do any of your IT people teach and if so how many blocks?

--Director teaches 6 forty-five minute periods a week, Teacher has K-5 lab sessions and is 20 hours a week, no students for sys admin.

How many students + faculty + staff does IT support? 250 students about 50 staff

How many school issued computers for students + faculty + staff do you support? About 130 total

What types of computers? PC desktops and a 25 piece wireless lab. We are fortunate in many ways but, of course, feel we could use more help in the maintenance department.

## **Bancroft School, Worcester, MA**

How many people are in your IT department and what are their titles?

-- IT personnel Director of Tech. 12 month contract no teaching, but may teach one class, Instructional Technologist, teachers contract plus 4 weeks teaches one class, two 1/2 time people to become another full-time person ... next year as above, will teach one class,

How many students + faculty + staff does IT support? 600 students, 120 faculty/staff/admin,

How many school issued computers for students + faculty + staff do you support? 225 Macs, business office PC's

Classes?

Hypermedia Class for all 7th graders, US graphics class elective, Java class elective

## **Brookwood School**

How many people are in your IT department and what are their titles? There are two of us:

--Director of technology & communications.

--Computer Specialist.

Do any of your IT people teach and if so how many blocks? I teach one class meeting once each week. The Computer Specialist is an advisor which consumes about 20% of his time and he coaches 2 out of 3 seasons.

How many students + faculty + staff does IT support? Brookwood School is a PreK - 8 elementary school with 393 students and about 100 employees (about 65 teachers).

How many school issued computers for students + faculty + staff do you support?

Brookwood has 275 computers. We also support our website.

What types of computers?

About 89% Mac and 11% PC. We have one Sun box as our proxy server.

### **Chatham Hall, Chatham, VA**

How many people are in your IT department and what are their titles? We have 2 full time IT positions. The Director of Technology (or computer dude) who is responsible for the Network administration, Faculty and Administrative machines, Database support (BlackBaud and Educator), and works with the Assistant Director of Technology on lab and student machines. In all honesty we both cover each other from time to time as needs arise.

Do any of your IT people teach and if so how many blocks? Neither of us teach classes  
How many students + faculty + staff does IT support? We have 133 students, 33 Teaching Faculty, and 29 Administration and Staff (This includes 4 nurses and 3 Maintenance)

How many school issued computers for students + faculty + staff do you support?

We have 27 classroom machines, 24 lab machines, 20 library machines, 42 administrative, and 92 networked student-owned machines. Though we support more than 100 student machines on dorm.

What types of computers? All school owned machines are PCs (mostly Dells). 2 students have MACs.

### **Choate Rosemary Hall, Wallingford CT**

You can see from a day's worth of responses that there are considerable variations in staffing. If my memory serves me correctly from seeing this question in years past, staffing has increased at many schools. There are several reasons for an increased emphasis on IT support, but the two that come to mind most frequently are

a) increased demand for IT services; and

b) the lack of a corresponding training initiative (shifting more demand to a centralized group).

• What makes developing a formula for staffing so difficult is the large number of variables that influence support resources. Here are just a few of those factors (I'm sure other members of the list could think of more):

1. Boarding or day population to be supported.
2. One platform of computing or multiple platforms.
3. Students receive mandatory technology skills training or not.
4. Faculty and staff receive mandatory skills training or not.
5. Specific IT responsibilities are outsourced or not.
6. Support for administrative systems resides within the appropriate department or is centralized.
7. A Help desk is in place or not (we log 5000 Help desk calls per year from a community of 1200 customers).
8. Faculty are actively engaged in the integration of technology in the curriculum.
9. School has a laptop program for faculty and/or students.
10. Senior administration assists the IT department in managing expectations.
11. Quantity and sophistication of technology deployed and the regularity with which it is replaced.

• I would love to see us develop, as a group, a method of assessing staffing/funding based on a set of variables such as the ones listed above. We have to remember that staffing is only one component (albeit an expensive one) of the total IT funding equation. When any key component of IT funding is under-allocated, the costs often shift from one portion of the financial statement to another, but they are still incurred. For example, shortage of staffing leads to outsourcing

expenses; lack of regular equipment replacement raises maintenance expenses; lack of training raises support expenses...

- Higher education surveys seem to indicate that IT funding will ultimately level off in the 4-8% of total school budget range, The challenge for independent schools is accomplishing this without major grant funding, without graduate students to work at low wages and provide an unlimited labor pool to handle peak demand, and without significant revenue streams resulting from the resale of student services such as long distance, cable TV, commercial distance education, etc.

#### **Cold Spring School, New Haven, CT**

Grades, k-6 #of Students, 97

#of faculty/staff, 17 fte

# of mac's, 50

# of servers, 3

Server software, First Class/Mac OS Winnebago/Linux

Positions 1 part time

Responsibilities, soup to nuts

# of Computer classes taught by people in the tech department, 0

# of classes taught in total, 0 (only staff training)

Tech Support handled by one of our teachers

#### **Columbus School for Girls. Columbus, OH**

- Four Novell 5.2 servers (will be Novell 6 by the end of the calendar year) and GroupWise 5.5, one Linux box for website and as e-mail gateway, one Sun UNIX box for Library Services catalog and services via SIRSI

- Outsourcing: Our e-commerce website (Development Office functions and Alumnae Relations) and the website for our Summer Programs are outsourced at Netdor.net with excellent results and service

- To provide some perspective, CSG has around 670 students, 130 faculty and staff, roughly 250 workstations, and several thousand alumnae.

- Columbus School for Girls serves some 680 students from age 3 through Form XII and roughly 130 faculty and staff.

Information Services staff:

Director has no teaching (except 2 weeks in May Program)

- LOTS of committee work and individual meetings with administrative unit directors

- typical budgetary, oversight, and planning responsibilities

- manage the school's websites

- serve on the school's Crisis Team, which has been an important function in the past few weeks, Systems Administrator

- handles 3 Novell servers and three UNIX/Linux servers

- primary hardware support

- teaches 1-3 Upper School tech courses per quarter

Technology Support Specialist does no teaching ... right now, primary assignment is managing conversion, installation, training, and overall coordination of Senior Systems

- some software/hardware support (time permitting) ... distributes support calls to other staff for resolution

Lower School Technology Coordinator

- manages LS tech lab ... teaches technology classes roughly 75% of each day ... spends remaining time working with LS faculty

- coordinates technology with LS curriculum units in each grade

- provides individualized computer training

- first point of contact for software/hardware troubleshooting in LS

- assists (time permitting) with other tech needs outside LS

Middle School Technology Coordinator teaches technology courses 80% of each day

- spends remaining time working with MS faculty .. coordinates technology with each grade-level team (self-contained teams at each grade level)

- provides individualized computer training

- first point of contact for software/hardware troubleshooting in MS ...assists (time permitting) with other tech needs outside MS

• Computers in use: roughly 250 workstations and laptops, all of which are PC. Even though there are five people in Information Services, only two are designated full-time in the department. In reality, the Systems Administrator spend 100% of a workday doing departmental work, the teaching being additional. He is usually here early and leaves sometime in the evening. It is not uncommon to find him here on weekends tweaking one part of the system or another. Bottom line: we feel we are understaffed by at least one full-time position for the size of our client base.

### **The Community School, ID**

We have 2.25 staff persons for our IT department.

Director of Technology (No classes)

Manager of Information Services (No classes)

Elementary School Computer Coordinator (3/4 teaching 1/4 Tech support) We support 300 students and 50 Faculty

We have 130+ computers. 99% of our computers are Macs

### **Hargrave Military Academy, Chatham, VA**

We have 2.25 people. 1 Director of Technology - Hardware and 1 Director of Technology - Software, no classes. Our CompSci teacher has 4 classes, 1 planning period and 1 tech period. She also helps at other times.

• The Hardware person is responsible for the network infrastructure, server maintenance, and desktop maintenance and repair and the phone system.

• The Software person is responsible for all software installs, maintenance, etc. She also maintains our administrative software(Senior Systems). We do cross over and help each other.

• The CompSci teacher mainly helps with training, and reloading software or reconfiguring systems. We have 250+ workstations(all PC), 7 file servers(Novell) and 13 network printers and all new Cisco Switches(2-4006 Catalyst) and switching hubs. We have just set up Cisco wireless in a remodeled building and are looking to implement a student laptop program in the near future.

### **Hellenic College, Brookline MA**

Average number of servers: 6  
Average number of nodes: 400  
Average number of workstations: 210  
Average number of laptops: 29  
Average number of users: 385  
Use of a Firewall: 100% responded yes  
Use of Filtering software: 50% use 50% don't  
Average student body size: 618  
Standard Software packages: MS office, first class, NAV

### **Interlochen Center for the Arts, Interlochen, MI**

- Interlochen has recently completed an IT Master Plan. Long-term staffing levels are still being considered. A major IT initiative is in process to update our IT infrastructure to provide new systems for both education and administrative support plus give students access in their rooms.
- We are currently looking at how many IT people we will need to support our school and we were wondering how other schools staff their IT departments.

Grades: Pre-school to 12th and a summer camp

- How many people are in your IT department and what are their titles? 9 Total
- 3 Programmer/Analyst - Special projects, administrative support and educational support. Support all software campus-wide that is not standard to every workstation. Primary duties are for supporting administration. Oversees larger projects
- System Administrator for Voice and Data Systems. Supports 15 Servers, Local Area Network admin, and two PBX systems with 1500 ports
- Communication support for voice and data. Responsible for cable infrastructure (outside and building wiring) and all communication equipment. Backup for PC and Media operations.
- IT Educational coordinator. Assist faculty with IT needs both computers (data) and media center (audio-visual). Lead technical specialist for MACs.
- Work Station Specialist to support all computer equipment both PC and MACs. Responsible for standard workstation/desktop applications
- Help Desk to support all users: Students, Education, and Administrative
- IT Director

Do any of your IT people teach and if so how many blocks? IT staff does not teach any classes

How many students + faculty + staff does IT support? Interlochen Arts Academy (Boarding) (9 to 12) (Sept through May)

-447 students, 86 faculty, 245 staff

Interlochen Pathfinder School (Day) (Pre-school through 8th) (Sept to June)

-140 students, 25 faculty, 10 staff

Interlochen Arts Camp (Boarding) 8 weeks (mid-June to mid-August)

-2,230 students, 245 faculty, 930 staff

FTE 1,145 students, 172 faculty, 441 staff

\* How many school issued computers for students + faculty + staff do you support?

-Students bring their own computers (resident halls have phones but no campus network access in rooms)

-43 PC/MAC public/lab access for students

-60 Text based Vts public access for students (VMS)

-108 PC/MAC Faculty and classroom

- 124 PC/MAC Staff

- -15 Text based Staff

Total: 275 PC/MACs: 85 Text Based Vts = 360 Total

### **Lake Forest Country Day School, Lake Forest, IL**

\* How many people are in your IT department and what are their titles?

1) Director of Technology- vision, budget, planning, policy, lower level tech support, website (w/ outside vendor), computer lab 2-3 45 min periods a day, co-chair of tech committee

2) Manager of Information Technology- LAN/WAN network, server and desktop hardware & software, upper level tech support, telephone system, security system

3) Technology Curriculum Coordinator- Computer Lab scheduling, teach

4-5 45 minute classes a day, training & planning with faculty, software evaluation, tech support

\* How many students + faculty + staff does IT support? 425 students, 90 faculty and staff

\* How many school issued computers for students + faculty + staff do you support?

150 Compaqs, 50 Dell laptops, 30 Macs, 22 printers, 45 network hardware (servers, switches, hubs, router, etc), 40 miscellaneous hardware (digital cameras, projection devices, cell phones, fax machines, scanners, etc)

### **Long Island Lutheran**

Director of Technology does everything tech wise except phones, including monitoring 200+ PCs in 3 labs and 30+ Classrooms, and administrative offices, 4-5 Active file servers, Web Management Responsibilities and Network Infrastructure development and implementation.

Out-source occasionally and exploring the idea of Faculty and Student laptops which will require more help.

### **Palmer Trinity School, Miami, FL**

We have a Director of Technology, 2.5 Technologists who manage, repair, build network solutions and network repair. None of them have direct teaching duties, but set up special projects and provide on the spot support for teachers and students. A graphic designer manages the school's website which is outsourced. A computer education teacher who teaches 3-4 classes a day (web design and java programming) also manages our Edline and Gradequick. Edline is off site, students and parents get news, updates, grades and links to teacher's e-mail. An academic technology director who works with teachers to assist with technology projects across the curriculum. We have 600 wireless student laptops, 100 faculty wireless laptops, about 50 desktop units, 85 networked printers, some desktop printers, 10 servers. We are all IBM PC with 2 Macs.

### **Shore Country Day School, Beverly, MA**

Shore Country Day School, Pre-K through 9th grade, approx. 450 students and 100 employees, approx 200 computers

- 160 Macs

- 40 PCs

- Technology Department:

1) Director of Technology - full-time, 5 day week, no teaching duties, responsible for everything

2) Educational Technology Specialist - full-time, 5 day wk, teaches 4 classes (which each meet 2-3 times per week), responsible for website, some technical support

3) Technology Support Assistant - part-time (20 hrs/wk), 5-day week, no teaching duties, responsible for desktop and server support

We outsource most hardware repair but we do all first-level support internally.

### **St. Andrew's School (DE)**

4 people (3.25 FTEs)

Director of Technology (me), no classes (though I do help out in the arts department now and then)

Network Admin, staff, no classes

Asst. Director of Technology, no classes

IT Developer and Support, regular teacher, 1/4 time tech (3 classes)

We support 265 students and 100 faculty/staff

We have around 220 machines - 85% Mac and 15% PC .. Note: Just a quick Apple plug - I managed about 180 Macs by myself when I started here. The PC's alone require their own person, even though we have only 15% of them. Remember the TCO!

### **St Marks, San Rafael CA**

• At Saint Mark's School (K-8) we have 380 students and 80 faculty and staff. We have approximately 125 computers on campus: 50% Mac / 50% Windows. This includes a smattering of laptops and 2 file servers (NT boxes). Our Technology Department has 2 full-time employees: **\*\*Director of Technology\*\*** Primary responsibilities include budgets, purchasing, policies, faculty education, curriculum development/integration, website. Also assists with technical support and installation/maintenance of computer systems and network. Teaches 6-8 classes each week (grades 5-8).

**\*\*Technology Assistant\*\*** Primary responsibilities include providing technical support to students and teachers, maintaining a lab of 25 Macs, maintaining the classroom and administrative computers, troubleshooting network and server problems. Also assists with faculty education and curriculum development/integration. Teaches 4-8 classes each week.

### **Suffield Academy, CT**

I think this is right on. Where many of us struggle in the the K12 space is that our departments didn't exist even just a few years ago. Consequently, our heads haven't had enough experience to understand the scope of what we do or what we are asked to do. Higher ed institutions have had a couple decades, in many cases, to ramp up for this. And, I think, higher ed is much more connected to "business" and can see and understand the models associated with "business"

technology. I know, as least in my case, our department is so far removed from a “traditional” IT department infrastructure that we can't begin to offer the kinds of services that our users are now demanding. It's become a 24x7 job for us and will require a whole new paradigm to manage. Are we faculty? Are we staff? Should we teach? Shouldn't we? Heads, in many cases, are still comparing us to the bulk of their other employees (i.e. Teachers) because that is what they know. In the old days of the “triple threat”, those questions were easy to answer. But it's not that simple any more. And at small schools, the problem is even more exacerbated in departments if 1-5 people. Each of those staff members is being asked to do a myriad of jobs, each consisting of a different skill set. I remember the days when asking people to do more than two “preps” was unheard of! ;-) K12 technology has evolved over the past 5 years and we are beyond trying to figure out what to do with the stuff. Now our problem is “... Now that we have cool and productive things to do, how do we keep them going?” And that isn't glamorous or flashy. And so it doesn't get the cash.

- I'm all for developing some sort of guidelines for schools to follow. And while I realize this might be idealistic, it would be an interesting exercise to both develop the model and then to “sell” it to heads. I have seen lots of things on the Web about proficiencies and standards for teachers (i.e. [www.iste.org](http://www.iste.org)), but there isn't much about staffing, maintaining and funding a school IT department.

- The Suffield Academy Technology/Computer Science department is made up of three faculty/staff members.

1. Director of Technology (Network admin, telephones, admin support, database programming, management, training, WWW) (1 class of Multimedia in Spring) 6-day school week. Provides 7-day beeper support. Also has advisees, does two nights of duty, and does weekend duty (coached until this year). Faculty status, fac housing.

2. Chair, Computer Science Dept. (Academic technology, Laptop repair, training, assist. Network admin, WWW) (3 classes: 2 levels of programming and Multimedia or Adv topics) 6-day school week. Provides 7-day beeper support. Does 2 nights of duty, has advisees, coaches 1 season, does weekend duty. Faculty status, faculty housing.

3. Help Desk Coordinator (coordinates laptop repair, answers help line, first line of tech support, training, WWW) Staff status. 5-day school week. No eve or weekend responsibilities. No fac housing.

- We also use trained students to evaluate other students' laptops. Suffield Academy is a boarding and day school serving grades 9-12. We have 385 students (all with laptops); 125 faculty and staff using computers. We treat all machines like we own them (for support), so we service student, faculty (laptops subsidized by school) and staff machines (even personal ones if they can get them to repair center) at our repair center. If the machine is a laptop, we handle software issues and we use outsourced depot service for hardware. But, we do triage on them to evaluate the problem.

- For our desktops, we actually visit the site. With our public machines, labs, laptops, servers, and administrative desktops we take care of 650 on-campus computers (about 500 are laptops). We also service nearly 500 telephone extensions, over 50 networked printers and both wired and wireless ethernet networks. The only things we outsource are cabling, laptop hardware repair and copier repair. We are now investigating outside help for our Web page.

- Of our 650 machines, about 620 are Macintosh.

- In our opinion, we don't have enough staff. ;-)

## Part Three: JIT • JIC • JBC

Overview? Kevin McAllister (inresonance) worked for Summercore in 1993. He writes frequently on the listservs about JIT vs JIC. My purpose in including this to you is to share my own philosophy (different from his) in that JBC is an important, valid third type of training!

First, here is Kevin's post on a listserv.

I am looking for some innovative ways to attract faculty to computer training classes. Does anyone have a particular approach that has been successful? What classes are you offering for you faculty? Currently I offer a monthly list of courses as well as individual meetings and the participation rate varies. This is a key issue in technology integration for schools ... how to get faculty to the training that they need.

Here is the pattern that we see with multiple schools.

1. Based on support calls to IT it is clear that faculty need training on applications as well as OS and networking.
2. IT scrambles to find time and offers classes on a variety of topics after school or weekends or nights.
3. Despite lots of conversations few faculty attend, and even after some initial success with some classes, attendance is minimal overall.
4. IT sends out a questionnaire asking people what they want.
5. Based on the questionnaire IT schedules more training.
6. The attendance pattern is the same.
7. IT gets frustrated and stops offering classes and gets surly when people ask for support on things that would have been covered in training.

Each school thinks this pattern is unique to its faculty. I think that this pattern does NOT indicate that:

1. Faculty do not need training.
2. Faculty do not know that they need training.
3. Faculty do not want to be trained.

It indicates that this kind of training overall will not work for most independent schools. So ... what are the options? I suggest that this underlines the difference between JIT (Just in Time) training vs. JIC (Just in Case)training.

JIT (Just in time) - focused relevant quick tutorials about a specific topic that they need at that moment to complete a project in progress.

Examples:

1. A 30 minute tutorial on scanning and resizing images for a class that is in the middle of making family history iMovies for an oral history class.
2. A 30 minute tutorial on using iMovie for a class making iMovie oral history projects.
3. A 30 minute tutorial on folder and conference sub-administration for teachers who are going to use First Class to empower discussions in English class.

4. A 30 minute tutorial on using Palms and Vernier probes for collecting water quality data given to a class about to go out and gather that data.
5. A 30 minute tutorial on turning Excel(AppleWorks) data into charts for a science class that is working to present field study data just recorded on their Palms.

JIC (Just in Case) - Generalized training about a particular software package focuses on features of the package. Examples: Intro to Dreamweaver, Intro to Excel, Intermediate Excel, Advanced FileMaker, Office for Beginners, Moodle

For example, just because 85-90% of all computer users do not really understand how to correctly use a word processor does not mean that they will attend a session on the correct use of tabs, margins, tables and formatting as done with a word processor. They will use the word processor like a typewriter, find that “sometimes things look screwy no matter how many spaces and tabs I enter” and “these things just won't line up,” but they will not sit through a class that explains what they are doing wrong.

Even with the best of intentions most teachers simply cannot block out time to learn something “just in case”. They teach from 9-3, coach from 3:30-6, and have dorm duties from 7-9 and then have to say hello to their family, correct papers and plan the next day's lesson. To ask them to carve out a block of time to listen to a generic lesson about Excel or Word or Moodle is simply not high enough on the priority list for most individuals. With the best of intentions they will skip the classes because there was a last minute committee meeting, a coaches meeting, a family dentist appointment or a lesson to plan.

During the school year and class day it may not be possible, given time constraints, for effective JIC training to take place. More productively, JIT training can be focused on exactly what the teachers are doing at that moment and is relevant to them immediately. More importantly, ad hoc JIT training may encourage timid teachers to try something new with their students if they know that they can count on the academic technology coordinator to come in and give a tutorial or support the software.

During the brief JIT tutorials both students and teachers will realize how little they actually know about the software and may actually ask for and schedule their own JIC classes. That is the turning point: when the teachers schedule their own JIC classes. The key for faculty training is that the training has to be short, immediately relevant, and flexible to their needs and schedules. This is why the academic technology coordinator has to be mostly free of teaching responsibilities so that they can visit classes and help as needed where needed.

When training is a “vacation” thing or a “faculty day” thing it is usually not enough for most people to feel well trained or supported. There are times of course in the opening days when schools effectively teach new faculty the basic log on procedures and such. There are also good summer programs where teachers can get a goodly amount of time to practice and try away from the time pressures of the academic year. The best of those are done in the context of curriculum needs. During the academic year however I think that JIT training is the only truly effective way to approach supporting the faculty needs.

## Summercore's Response --

There is at least one more JI type of training beyond Just In Case and Just In Time. Over the years I have built computer growth with the Pioneer Program and the Personal Trainer Program which might be called Just Required Training. When faculty laptops are tied to a curriculum for faculty or when the head of a school includes technology growth as part of the annual contract, then teachers are growing as professionals just Required. This is not to say that I disagree at all with the distinctions between JIT and JIC faculty training. But it is crucial to not get caught up in either/or approaches. The key to humanware in growth in schools is flexibility. Tech coordinators and administrators need to provide as many approaches to technology growth as possible. Some teachers will grow via JIC courses while others will grow via summer courses. And if the support is there from the administration, then teachers will grow from mandated programs

Over and over again, we see reports in the Globe or the NY Times that publicize the point of view that "Computers in schools: a revolution that has yet to happen." A Boston Globe article provided recommendations very much in-sync with the Summercore philosophy: "develop a corps of teachers -- not external consultants -- to teach colleagues how to integrate technology into their classrooms." The problem with a two pronged analysis of JIC vs JIT is that it is too narrow. With support from the administration (both financial and philosophical), teachers need to also be engaged in Just Required training programs. This is the secret ingredient which builds upon the postulate that teachers are professionals and have professional commitments. River flows from the head and leadership flows from the head in terms of both pushing and pulling. In fact, since thinking of "teachers as professionals" is an important theme of education in general, I have always had the romantic notion that it will be because of technology that the educational world will change in general! And training needs to go on for administrators and staff as well.

# Computer Department Aphorisms A-Z

This is a document shared and explained to each new hire in the computer department.

**A is for Avoid:** please avoid personal stuff during the usual 8-3:05 rhythms of school ... I know this is not always possible, but please try .. also please avoid sitting in front of a computer too long ... when you are up and about, you are generally more productive in terms of spotting things that need to be done, addressing issues, helping people, etc ... when you are sitting in front of a computer in the usual 9-3:05 rhythms, you are a couch potato .. sometimes necessary and appropriate, but be careful!

**B is for Be Proactive:** you must push yourself to organize yourself, to confront kids when appropriate and necessary, to extend yourself professionally, to help others.

**C is for Calling:** call me at home or on cell (avoid voice message and e-mail please) if you need to be out for the day or any portion of time ... early morning to late evening is fine, 7 days a week.

**D is for Don't Forget to Communicate:** the actual saying is 2468, don't forget to communicate .. this applies to ANYTHING owned by the comp department that you take home or away from the office or anything loaned out to any students or faculty members .. it is far easier to say to a colleague "I cannot give you that; please check with Steve" rather than doing so and causing an inventory or honesty problem. But, if you must, please communicate with a BIG clear sign of what you did and/or an e-mail note

**E is for Enjoy:** I will ask you way too many times if you are enjoying yourself and what can I do to make things better for you; cognac moments\* is a metaphor for the necessity of taking breaks ("frusche lufte") or going out for lunch or doing something that lets you get away from the madness. But E for for enjoy also applies to your job description; once again, I will ask you too often or will help you brainstorm on how we can modify your job description so that you are enjoying yourself more!

\* metaphor of "cognac moments" comes from Rob Evans

**F is for Four Eyes are Better than Two:** I truly believe this is one of my best sayings. Computers tech world is filled with black holes. Two people sitting down to solve a problem always makes sense.

**G is for GatorNet:** it is a verb, a noun and adjective but it really is a disease ... stay away from it during the usual 8-3:05 rhythms of school and you will be a more productive member of the computer department

**I is for Integrity:** I care 33 times less about your technical skills than I do about your honesty and integrity. We all make mistakes and if you do, let us just clear the air and get on with it ... I fell in love with the Nobles slogan that "character is what you do when no is watching" back in 1994. I still love it!

**J is for Jet:** You gotta jet in 5 minute? How about spending those last 4 minutes figuring out what needs to be done in the lab you are working in or office you are in? This might involve locking spaces, shutting off machines, filling up printers with paper, cleaning up the space, etc .. we might even have a Gotta Jet list in each lab which summarizes what to do when you gotta jet.

**K is for Kids :** that is who we work with and why we do what we do ... Tom Wingo in the Prince of Tides movie says “teenagers are not fit for civilization” but the bottom line is that one part of the job of a computer person is confronting kids on inappropriate behavior, whether that involves food or drinks in the computer lab or inappropriate e-mail or web usage

**L is for Listservs:** you absolutely must subscribe to wizards and ised listservs and keep up with the traffic regardless of whether or not you ever post a note; I consider this part of “daily computer teacher homework” in growing as a professional

**M is for Make-up Time:** it is my expectation that when you are absent for personal time that you not only communicate but that we figure out some way to make up this time

**N is for Nice:** when teachers ask for help, they are usually frustrated and overwhelmed by tech issues. Their questions and concerns need to be answered promptly, but more important, they need to feel respected and valued.

**O is for OCD (my lord):** I wish I did not have this habit as often as I do, but I have no choice. Like the cell phone, this is mostly an annoyance, except when it is YOU who gets the benefit of my obsession with attention to detail!

There are many euphemisms, my lord, for OCD  
Small change matters; that's what you taught me  
Attention to details; do things thoroughly ... Oh lord, OCD  
There is a caconym, my lord, for OCD  
The word anal, my lord, is one you'll see  
Always neurotic about life my lord, yup that's me ... Oh lord, OCD

**P is for P P P P P:** prior planning prevents poor performance; this applies not just to us but to our colleagues who are doing projects in the East and West labs and DLC; we need to help them be prepared for the computer craziness when in the lab

**Q is for Quadrants 1234:** This is a great organizational system by Stephen Covey from the book Seven Habits of Effective People. Perhaps more than other professionals, computer people need to live in quadrant 2 (important not urgent) in order to avoid quadrant 1 crises; most of my silly signs and labels and posted notes are attempts to inform and educate and explain (quadrant 2) before the user has a crisis (quadrant 1)

**R is for Role Model:** being a teacher implicitly means being a role model in all sorts of ways for the dozens of kids that you will encounter. An English teacher once passed on to me this Julius

Caeser metaphor: “When you're the wife of the dictator you need to appear better than anyone else because if you aren't people will talk (and they'll enjoy talking).” Or, with trust comes heightened responsibility and a need to be above any appearance of mistrust.

**S is for Signs:** a good sign or a good label can inform dozens of people before they encounter a problem

**T is for Ten hours per week:** that is my expectation of a reasonable amount of time to be doing computer department stuff away from school per week

**W is for Work Ethic:** try to put on your A-game no matter what; Lynne and I recently had dinner with a former student (now a doctor in Boston); in a fairly emotional statement, Furman (age 42) shared with us the fact that his insistence that everyone puts on their A-game in his medical group goes back to the days when he had Lynne for AP English and me for AP Calculus. The two of us pushed him to do the best that he could and Furman says he has held onto this life lesson for 25 years.