The book that I chose might be a bit off the beaten path.  I happened to come across the ***Technology Coordinator's Handbook*** written by Max Frazier and Gerald D. Bailey, published by the International Society for Technology in Education (ISTE).

Frazier, Max, & Bailey, Gerald D. (2004). *The Technology Coordinator's
 Handbook*. Washington, D.C.: International Society for Technology
 in Education. (ISBN-10: 1564842118 / ISBN-13: 978-1564842114)

ISTE is a popular and trusted source for professional development and innovation in education.  ISTE is also the home of the National Educational Technology Standards (NETS), the Center for Applied Research in Educational Technology (CARET), and the National Educational Computing Conference (NECC), which are all organizations we will hear more and more about as technology grows in education.  ISTE has a site that explains these organizations and more about its mission and goals. [www.iste.org](http://www.iste.org).

**Introduction**

To begin, the books talks about the importance of technology in education and its increasing popularity. Due to the growing popularity, a need for tech savvy individuals is on the rise. Tech savvy individuals are those that are able to maintain and control tech environments also know as Tech Coordinators. The authors mention that there are a handful of states that have created programs to prepare individuals to take on this role, but there is still much to do. The handbook that I am summarizing here has been developed to assist those involved in technological advancements by helping them to better understand roles, requirements, and demands of the Tech Coordinator position.

**The Tech Coordinator*: Wearing Many Hats***

A Tech. Coordinator needs to be able to establish, articulate and carry out a **vision** for the District. The vision should include: 1) Tech Policies; 2) the acquisition, monitoring and maintenance of technology; 3) an effective staff-development program; 4) an appropriate integration plan; and 5) the provision of technical support for end users. In addition, the Tech Coordinator needs to be able to 1) work with diverse groups of people; and 2) deal with technical issues in a timely and appropriate manner.

**The Book Organization**

The book is broken into six main sections with five of the sections relating to the ***Tech Coordinator Issues Model***. *The first chapter, District Organization, is not part of the Issues Model. It talks more in-depth about the qualities a Tech Coordinator needs to possess and what he/she needs to be able to do and know. The following five chapters, which are based on the Issues Model, can be visualized as a concept map with the Tech Coordinator as the Main Topic and the following five areas as the branches.*

1. Teaching and Learning: Integrating technology into the classroom
2. Desktop Support: On-going support required by users of technology
3. Network Operations: Maintaining the infrastructure and equipment that make communication possible throughout the District
4. Administrative Computing: Technology software programs that support the business functions of the District
5. Budgeting and Planning: Making financial decisions necessary to carry out the District’s technology objectives.

**District Organization**

The beginning of the chapter covers in-depth the major responsibilities, skills and abilities of a Tech Coordinator. *The major responsibilities were established in the introduction under the heading: The Tech Coordinator: Wearing Many Hats.* In addition to the above information, Moursund (1992) identified four broad skills for a successful technology coordinator:

* A broad general education and dedication to lifelong learning
* Knowledge of and support for the educational system
* Good skills in interpersonal relationships
* Adequate technical knowledge

Basically, a good Tech Coordinator is a mixture of an educator and technician. He/she needs to be familiar with software, spreadsheets, databases, web browsers, e-mail clients, servers and he/she needs to be able to troubleshoot, manage, plan, budget, coordinate, adapt and have possess the ability to research. In regards to the most beneficial skills and abilities need in working with others, I found the following sentence to be of utmost importance: “A coordinator who’s able to demonstrate a practical understanding of classroom dynamics and basic pedagogy has a much greater chance of convincing teachers that technology integration is both desirable and doable” (Frazier and Bailey, 2004).

The book gives a couple of examples of real-life Tech Coordinators, one working with a rural school (example of a 1,200 student district) and one working with an urban District (example of a 48,000 student district area), and what is expected of them. There is a large variation in the requirements needed based on the size of the district. Pay also fluctuates in this regard from an average of 35-45 thousand to 80-90 thousand.

**Teaching and Learning *(Branch One)***

According to the text, a technology coordinator can have a great influence on how technology is perceived by inspiring teachers to use technology effectively in the classroom. The five main teaching and learning issues are as follows: *These were also mentioned in the Introduction under the heading: The Tech Coordinator: Wearing Many Hats.*

1. Selecting educational software;
* When selecting software, the book mentions the importance of having each computer outfitted with the most standard software. Examples would be a word processing program, a spreadsheet program, a database program, a desktop publishing program, a presentation program, a browser program, and depending on your school, an email client. Microsoft Office is usually the preferred choice here.
* These programs obviously cost money, so the next section talks about freeware and shareware which are programs you can download for free. StarOffice is a good example of software that offers a lot of the same features of Microsoft Office but for free to educational institutions.
* No matter which programs you choose, the text relays the importance of soliciting input from the staff and students since they will be using the programs. Once information is gathered on what the district wishes to utilize, the Tech Coordinator can make a comparison chart and compare the products that best fit these requests. The list can then be narrowed to the top 3 or 4 choices. Staff can help guide the selection process which will allow them input in picking which will in turn help with the ownership of the computers.
1. Integrating technology into the curriculum;
* Once the software has been chosen, it is important to begin implementation into the curriculum. The Tech Coordinator now becomes the salesman by inspiring teachers with a vision demonstrating activities, lesson plans, etc. to make technology exciting and intriguing.
* This can be accomplished by planning regular professional development opportunities for the staff. Whether the district decides to have meetings once a week or once a month, it is important to continue and follow through.
* To effectively utilize teaching that come from professional development, each classroom should be outfitted with at least one multimedia desktop computer, and libraries or computer labs should have additional equipment like cameras, scanners and storage devices.
1. Conducting research on the effective use of technology;
* To make sure that the technology integration is going well, the text mentions that surveys and online tools can be helpful. The text mentions that *An Educator’s Guide to Evaluating the Use of Technology in Schools and Classrooms* is a great resource for aiding Tech Coordinators in this process.
1. Planning and implementing a staff development program;
* Staff development can be difficult. The text states, “Effective staff development programs will focus on the larger goal of improved student learning and performance, rather than on learning technology as a goal in and of itself.” The following process should be followed according to the text: 1) start by reviewing the school’s tech plan; 2) look at the state and national technology standards and apply them to your tech plan; 3) identify the staffs needs and abilities through the use of surveys or open discussions; 4) create a starting point and readjust as often as necessary.
1. Incorporating web-based resources in instruction.
* The easier you can make teaching technology the more teachers will be to continue with the implementation. Some ways of keeping them on the right track are: 1) create a links section on the school’s website for troubleshooting, 2) create a 3-to-5 year plan with little goals that can be met along the way.

**Desktop Support *(Branch Two)***

The seven desktop support issues are as follows:

1. Equipment purchasing and allocation;
* Since Tech Coordinator’s are usually responsible for purchasing all technology equipment throughout the District, it is important for them to have a solid understanding of how equipment will be utilized in order to make the right purchases. According to the text, the best way to go about this is to have three or more different specifications for computer setups. Examples would be one setup for the classroom computer, another setup for the library computer, and another setup for the office computer.
* Again, just as we learned how to gather information on the software, we will want to gather information on the hardware and compare prices from competitive companies. By utilizing a state government contract, a significant savings is possible. If funding is tight, factory-refurbished equipment and lease equipment may be more beneficial to your district. The text then states, “Once the selection, purchase, allocation, and installation of equipment is completed, the Tech Coordinator must see that an accurate technology inventory is kept.” ZenWorks and Track-It are examples of software that can help with this process.
1. Ergonomics and furniture;
* This section of the text was pretty self-explanatory. A couple of things that I learned from this selection: 1) do not use a typical classroom desk when working with laptops and 2) the use of an LCD computer screen will reduce the exposure to radiation which is often found in the typical cathode ray tube (CRT) monitor.
1. Software licensing;
* There are a few different options available for software licensing: 1) purchase the equipment that include the software – which allows the school to use capital outlay funds, 2) what for companies that have academic licensing programs available, 3) before buying from a commercial vendor, check pricing options available through a state contract purchase or a local educational service center. Also noted here, many software publishers offer teachers extended licensing for their home computers – which I feel is a must if you want your staff to practice with the technology!
1. Help-desk support;
* According to the text, tech support is often the most challenging aspect of brining technology in to the curriculum. “Nearly two-thirds of all teachers polled in 2000 reported the lack of technical support or advice being the barrier to their use of technology,” as stated by the U.S. Department of Education National Center for Education Statistics. The text mentions that a Help Desk can be beneficial. However, I think it will depend solely on the size of your district. Perhaps students could use a period as a work study to help in the situation for smaller schools.
1. Equipment repair’s;
* According to the text, it is important to establish a routine when it comes to computer repairs. The text lists three examples of how to handle this: 1) perhaps you want to create an email account directed specifically for learning of repairs that need to made; 2) perhaps a paper document will work better for your District; or 3) an online document linked from your District website could also be utilized. It is also important to create guidelines for priority.
1. Virus protection;
* Infections from viruses, worms and Trojan’s can cause serious harm. Virus protection is vital in any setting. Each computer will need to have virus protection as will the server. In addition, the text mentions the importance of training staff and students with basic rules in computing to prevent harmful situations.
* The Tech Coordinator must also have skills in backing up important data.
1. Maintenance and upgrades;
* A Tech Coordinator must also focus their attention on regular maintenance and upgrades. Creating a plan for maintenance and upgrades usually works the best. In addition, the text talks about the importance of having a technology update plan in place for swapping out equipment.

**Network Operations *(Branch Three)***

A computer network has many advantages: 1) it ties together each room; 2) it supports email communications as well as the sharing of databases; 3) it makes possible monitoring and managing resources and student usage for the Tech Coordinator; 4) it allows storage areas for staff and student data; and 5) it helps with culturing because of the connection to the outside world. The six network operation issues are as follows:

1. Network infrastructure;
* The book begins by explaining what makes up the infrastructure: wiring, patch panels, file servers, hubs, routers, print servers, high-speed communication lines, wireless devices are the major ones listed.
* It goes on to say that the tech plan should include a section on the network resource needs and how the infrastructure will be developed, expanded and improved. It also states the importance of having back-up servers and back-up individuals in case the Tech Coordinator is absent.
1. User-account management;
* This section relays the importance of making sure an infrastructure is useable. It talks of how you can have the best set-up in the world but if staff and students are unable to access what they need because there are too many blocks or it is too secure, it will be deemed unusable and difficult.
* There will obviously be difficulties along the way, but it is important that the staff and students know how to go about handling these situations. The Tech Coordinator should have a plan of action set so that end users know what to do in case this happens. For instance, if you are not able to get a student logged on, it is important to have access to a document that can walk you through the steps or have a plan of action in place. Relaying this information at the beginning of the school year is probably best. Informing staff and students of the acceptable use policy (AUP) at the beginning of the year is also vital to proper management of the system.
1. E-mail system maintenance;
* E-mail system maintenance is much the same as user account-management. It is important to have a system in place when a problem arises, it is important to demonstrate proper use at the beginning of the year for both staff and students if they are provided email accounts.
* There are two main choices when it comes to picking an email system. A web-based system, such as hotmail, does not need an install on the personal computer. However, they can often run more slowly and files can only be stored in remote a server, which means you wouldn’t have them in your personal computer. A client-based system uses an installed program on the personal computer. In this case, the system will have to be configured prior to use.
* The following are techie terms for protocols used in email: 1) Simple mail transfer protocol (SMTP) deals with sending emails between servers, 2) Post office protocol (POP) retrieves emails by connecting to the local server to the client machine, 3) Internet message access protocol (IMAP) retrieves email by downloading to a local server and also keeps a backup of the email on the server. IMAP is usually the preferred choice as emails can be backed up since they are still located on the server. The book goes on to state the importance of setting a limit on trash items so as not to bog down the server.
1. Backup procedures;
* It is obviously important to have a backup in case the system fails or is attacked. The authors recommend keeping a separate tape for each day of the week, copying to the tape in the early morning when the network is being used minimally. It is also important to get staff and students to save their work to the server and not their local computers. This allows the backup and it allows them to be able to travel throughout the building having their work available on every machine that is linked to the network.
1. Remote management;
* When the Tech Coordinator is not available and there is no one else available to aide in reestablishing the server if it fails, it is important to utilize remote-management software tools. According to the text, these tools allow the Tech Coordinator to monitor the operation of the network. They can connect to the server, reboot the server, recover and install software, troubleshoot hardware problems, update drivers, install drivers and manage rights all at their convenience.
1. Intranet management and web site development;
* Intranets are private sites that only users with access are allowed to view. Schools can often use these to publish private information but information they wish to share with the district. Again, as the author’s stated above, it is important to figure out how the intranet will work, what will be published, who can utilize it and who will be in charge of maintaining it.

**Administrative Computing *(Branch Four)***

Schools are obviously businesses, so they need to function as a business by tracking students, tracking personnel, and tracking purchases. The four administrative-computing issues are as follows:

1. Processing grades and student records;
* The authors mention that using a centralized system all records can be kept and maintained in one location. This also helps by keeping the information updated no matter what time it is or where your are in the building.
* When dealing with grading, it is important to find a program that has the ability to store information about each student/family, can display their master schedule, allows enrollment of individuals, keeps grades and records/attendance, and has a reporting feature that allows information to be gathered quickly.
1. Human resources;
* Programs that track student information can often be used to track staff wages, salaries, absences, benefits, and contract agreements. The book also touches on the importance of training staff to use systems such as the above.
1. Business operations;
* Purchase orders must be tracked, filed and receipts acknowledged. Add-on components to software used for records often works the best because it will flow easily with the sister software. The Tech Coordinator will oversee ordering of the software and maintain the hardware.
1. Document imaging and management;
* Document imaging is the transfer of paper documents into electronic documents. This saves time and money and documents are easily accessible to everyone on the intranet. When choosing software for this, it is important to look at the storage and retrieval processes.

**Budgeting and Planning *(Branch Five)***

The Tech Coordinator is often the head of planning and budgeting for all technologies. According to the book, it is very important for the Tech Coordinator to establish a vision. The five budgeting and planning issues are as follows:

1. Technology planning;
2. The authors mention that by having a carefully constructed three-to-five year tech plan in place, expenditures can have a better and intended impact in education. The following are ten essential elements of a successful technology plan: “create a vision, involve all stakeholders, gather data, review the research, integrate technology in the curriculum, commit to professional development, ensure a sound infrastructure, allocate appropriate funding and budgeting, plan for ongoing assessments and monitoring, and prepare for tomorrow” (Frazier and Bailey, 2004).
3. Budgeting;
* This issue is vital. If hardware/software supports are not budgeted, things can get a bit messy and eventually hardware/software becomes out-of-date due to a lack of funding. The book states that money should be allocated for “hardware, software, maintenance, telecommunications services, misc. supplies, and professional development” (Frazier and Bailey, 2004).
* Basically, the steps for creating a budget are: 1) data collecting and needs assessments, 2) building the beginning budget, 3) checking on needs from those involved, 4) submitting the budget for administrative approval, 5) revising/resubmitting for administrative approval, 6) creating the final draft for submission.
1. Evaluation;
* With the NCLB standards set high for proving achievement, it is very important for the Tech Coordinator to work with staff on evaluation. Evaluation is a systematic process much as budgeting and other areas of the Tech Coordinator’s job. 1) Identify how the evaluation will be structured, 2) select assessment tools, 3) analyze the information (remember that assessment is an on-going process just as technology is continually changing so will assessments), and 4) share results with everyone!
1. Grants;
* Grants are often available to aide in technology projects within schools. There are two main types of grants: 1) entitlement grants and 2) competitive grants. Entitlement grants are given to schools that meet a certain formula as state aide. Competitive grants are often given based on meeting the criteria of the grant by being the best fit. Grants take time and are also systematic in process so it is important to always be on the lookout and have as much information available as possible.
1. E-rate applications
* E-rate applications help the district with 20-90% discounts on telephone, internet connectivity, hardware/software purchases, and training for staff. Of course as with any government funding project, there are several forms that must be filled out to qualify a school for this funding. Once again, this is a systematic approach. The author’s mention several tips that can help you get ahead of others when it comes to E-rate applications: 1) research current cost of services used by the district, 2) identify what areas the E-rate funding can help your school in, 3) call the E-rate help line when in doubt or need of assistance, 4) keep copies of the forms submitted, 5) and always budget as if you weren’t receiving the funding!