

## A. STUDY METHODOLOGY

The Educational Technology Plan Action Team has taken the following steps to develop the Educational Technology Plan:

### Executive Planning

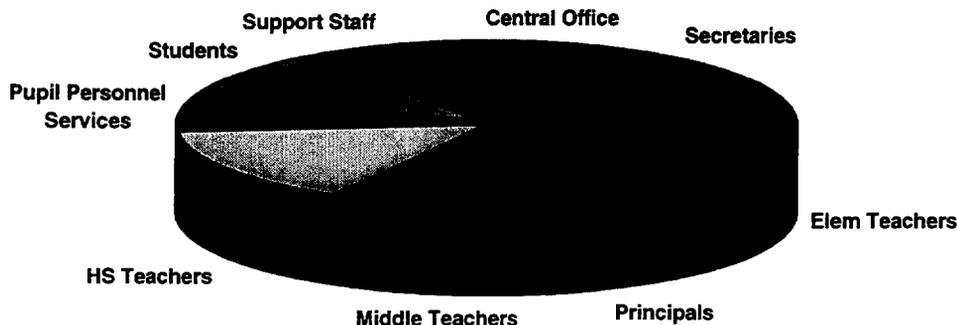
Mr. Clifford Cox, Deputy Superintendent, Division of Information Services, met with the Team Chairperson, Dr. Robin E. Oden and other staff members to establish the scope and direction of the study. The need to support the Superintendent's Strategic Plan was emphasized. An Educational Technology Plan Action Team was established to carry out the development of the plan. Members were selected from Instructional and Administrative staff to ensure the development of a cohesive plan which will meet the mission, goals and objectives of the Strategic Plan.

### Action Team Planning

The Educational Technology Plan Action Team met to establish objectives for the use of Educational Technology, instructional and administrative, and to identify inhibitors to the achievement of those objectives. The team used software to brainstorm and categorize the issues that needed to be addressed. The team identified stakeholders in the Educational Technology Plan to broaden the base of input and to ascertain the needs of staff and students. The Action Team designed an interview questionnaire and using a stratified sampling, randomly selected interview participants. The Office of Information Services Coordination established an aggressive interview schedule. With the leadership of Research, Testing and Evaluation, the Action Team also developed a survey that was distributed after the interview.

### Interviews

The Technology Committee interviewed approximately 131 persons representing a wide range of knowledge in the field of technology representing various grade levels, academic disciplines, and district offices.



Participants were asked to describe their current use of technology and detail obstacles and limitations they faced in their workplace with respect to the use of technology. The interview process encouraged participants to offer recommendations in several areas, prioritize their recommendations and enumerate the benefits that would be realized.

## **Data Analysis**

The Educational Technology Action Team reviewed the areas of concern and analyzed causes using data obtained from the interviews. The committee consolidated and prioritized these concerns into nine areas: **Professional Development; Support; Equity; Organizational Structure; Instruction, Student Outcomes and Curriculum; Information Management; Measurement and Assessment; Standards, Guidelines and Models; and Marketing The Plan.**

## **Recommendations**

The team made recommendations to resolve the concerns and obstacles in each of the nine areas. The recommendations are based on interview responses as well as the Educational Technology Plan Action Team's expertise and knowledge of technology and its application in the District.

## **Mid-Point Review**

The Educational Technology Plan Action Team presented its findings and recommendations to the General Superintendent's Cabinet, the Health, Safety, Welfare & Technology Committee of the Board of Education and the Professional Development Leadership Council.

## **Implementation**

The Action Team developed infrastructure, instructional and administrative models and built a phased implementation plan that included technology, software, professional development and resources to address the identified areas of need. A step by step procedure was then applied to the recommendations so that all strategies would be in place by the end of three phases.

## **Final Draft**

The Educational Technology Plan Action Team presented the final draft of the Plan to the Health, Safety, Welfare & Technology Committee of the Board of Education for approval and to the Steering Committee of the Strategic Plan. Upon approval of the Health, Safety, Welfare & Technology Committee, the Plan was presented to the full Board of Education for final approval.

## B. INTERVIEW PARTICIPANT LIST

### Bargaining Units

Walker Big	Bus. Rep
Tommie Burton	O.S.A.S. Rep
Judith Hunter	DAEOE
Keith R. Johnson	DFT
Carol Thomas	DFT

### Central/Area Office Clerical

Glenna Bellovich  
Mary Jane Detter  
Christine Domako  
Janice Gary  
Clara Gordon  
Valarie Jordan  
Criscilla Levingston  
Phyllis Pruitt  
Jackie Zarzycki

### Principals

Toni Brooks  
Vivian Brown  
Grethen Coleman  
Robert Everson  
Diane Fleming  
Johnnie Gilmore  
Beverly Gray  
Kim Gray  
James Lee, Jr.  
Ellword Miller  
Ed Williams

### Department Heads

Alvin Carroll  
Earl Edison  
Deborah Hairston  
Carolyn Holloway  
John Hubel  
Amira Hussein  
Micrael Linton  
Patrice McAuliffe  
Loran Moten  
James Myles  
Belinda Raines  
Joyce Smith

### Librarians

Marlene Babb  
Paul Bielich  
June Bonner  
Marsha Brewer  
Patricia Fisher  
Sarah Harris  
Angela McKissic  
Sceola Phillips  
Marlene Tyler  
Karen Zeluff

### Guidance Counselors

Joan Balson	Kern Tomlin
Rodney Bonner	Neil Weiner
Darlene Brown	
Pat Brown	
Judith Buford	
Beatrice Douglas	
Ann Grundy	
George Hudson	
Sharon Karpinski	
Harry Kennedy	

### Engineers and Custodians

Leonard Dalton  
Robert Gutierrez  
Brian Johnston  
Thomas Nankervis  
Lois Trimble

### Parents/Community

Aqueelah Ahmed  
Julius Bender  
Lucinda Hawkins

## **General Superintendent's Cabinet**

Andrea Bronson  
Erma Gibbs  
George Kimbrough  
David J. Porter  
Charlie Sanders

## **Classroom Teachers**

Brenda Avington	Violet McIntosh
Douglas Bradley	Gloria Merenda
Janice Campbell	Robert Miller
Kay Carraway	Ajayi Olabisi
Lovie Dennis	Edna Pearson
Beverly Dunn	Naomi Phillips
Bernita Esaw	Dedra Pickens
Tanton Franklin	Alther Redd
Judith Hand	Arlene Rosemond
Eva Hanne	Phillip Rutkowski
Halliburton	Helen Samborski
Rose Marie Johnson	Cynthia Stewart
William Kinsey	Clifton Sykes
Joyce Leuchtenburg	Judith Wilinski
Daron Mathis	Deborah Williams
Joseph Maday	Lillie Wilson
Margaret Maher	

## **Social Workers/Psychologists**

Sally Denoyer  
Alexis Dukas  
Regina McIver  
Patricia Reid-Porter  
Ruby Simmons

## **Central/Area Office Admin.**

Patricia Adams	George Moore
Michael Alberts	Henrietta Moore
Julian Bass	Rick Sale
Lynne Boyle	Beverly Schneider
James Cook	Michael Shamat
Ola Claiborne	Lennie Sykes
Frances Dokes	Viola Walker
William Grogan	John Wesley White
Jeffrey Kilgore	Costella Wimbush
James McKee	

## **Students**

Forty-three (43) students participated in the interview; fourteen (14) from high schools, fifteen (15) from middle schools; and, fourteen (14) from elementary schools. In the high school group, seven high schools were represented including five seniors, five juniors and four sophomores. In the middle school group, there were five students each from sixth, seventh and eighth grades. In the elementary school group, six students represented fourth grade and eight represented the fifth grade.

We wish to thank all of our interview and survey participants without whom this technology plan would not be as comprehensive.

## C. SURVEY RESULTS

The District Educational Technology Planning Survey was designed to provide a vehicle for participant input beyond the oral interview procedure. Questionnaires were distributed at the end of the interviews. Interviewees had the option to either complete the forms immediately or complete them off-site and return by Board pick-up. Seventy-nine forms (79%) were completed on-site, 21 (21%) were completed off-site. A copy of the survey showing response rates by item is presented in the appendix.

The largest group of survey respondents was teachers (37%) followed by principals (12%) and secretaries (9%). The representation of all groups is presented under the Demographics section (Item 1) of the attached survey and response form.

Ninety-seven individuals reported a mean of 19.0 years experience in the district. (item 3). All areas and the central office were represented. The percents of representatives from each group are shown in Item 4.

While the response group may not reflect the exact composition of the district in terms of position, area, and years of experiences, it is inclusive of a multitude of Stakeholder groups. One possible limitation of the response group is that those who have a greater interest in technology may have been more likely to respond to the invitation to participate in this information gathering activity. It is not possible to measure the reality of this possibility.

### **Findings**

In general, respondents felt that computer technology is very important to the success of district instructional programs (79%), management (84%) and their own work in the district (70%). Eighty-two percent felt that it is very important that the district-wide Educational Technology Plan be coordinated to the district's curriculum.

Fifty-five percent of the respondents rated their own level of computer expertise as high or moderate but only 45 percent gave similar ratings to their colleagues level of expertise.

Sixty-seven percent of the respondents reported having a home computer, 81 percent have access to a computer at their job site but only 38 percent have computer assigned for their sole use on their job site. The largest percent of these computers (34%) are stand-alone PCs.

Thirty-two percent of the respondents use computers on their job regularly and 28 percent use them occasionally. Thirty-four percent use them seldom or never.

The most frequently mentioned method of learning about computer is self-taught, trial and error (29% for management functions, 16% for instructional functions). Respondents indicated that formal training followed by one-on-one assistance from other people are their preferred ways of learning (Items 18 and 19). The most frequently given reason for not using a technology that is available was, "I have been trained but not enough" (44%) followed by "I have not been trained" (27%).

The final section of the questionnaire asked individuals to indicate the types of technology to which they have access, to rate such items, and then to indicate what they don't have but would like to have. The items marked accessible by the greatest number of individuals were photocopiers (n=40), FAX machines (n=38) and basic telephones (n=36). Of these three items, the photocopier received the highest rating for usefulness (4.4 out of 5.0) and the basic telephones and FAX received ratings of 4.3. The most frequently requested item was a telephone with enhanced capabilities (voice mail, caller ID, automatic redial, etc.) Twenty-three individuals indicated wanting this item. Nine respondents indicated that they currently have this item and gave it a rating of 4.1 in terms of usefulness.

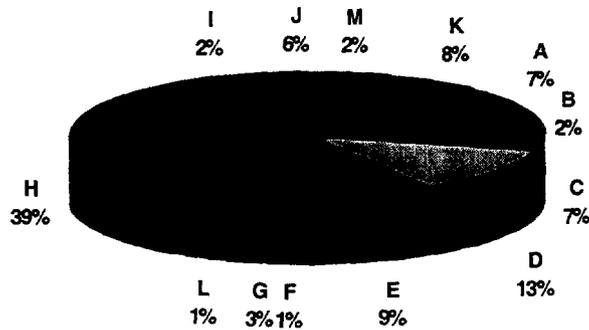
## **Summary**

Respondents felt that computer technology is very important to the district's management (84%) and instructional programs (79%). They feel that the district's Educational Technology Plan must be coordinated to the district's curriculum. While 81 percent of the respondents have some access to a computer at their job site, only thirty-two percent indicated regular use.

Respondents indicated that one of their major reasons for not using available technology is a lack of training and indicated that formal training followed by one-on-one assistance was their preferred ways to learn.

Based on the findings of this survey, it is recommended that technology expenditures be allocated to hardware, training and curricular fit activities in proportions that will maximize success.

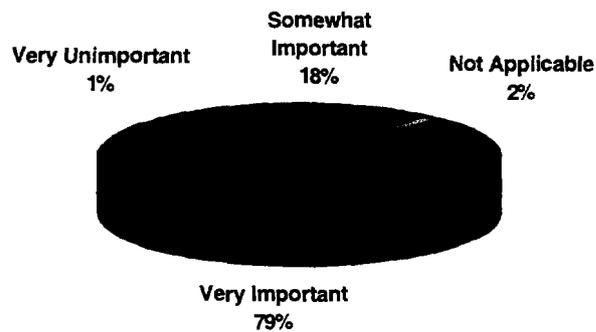
## Demographics (Item 1)



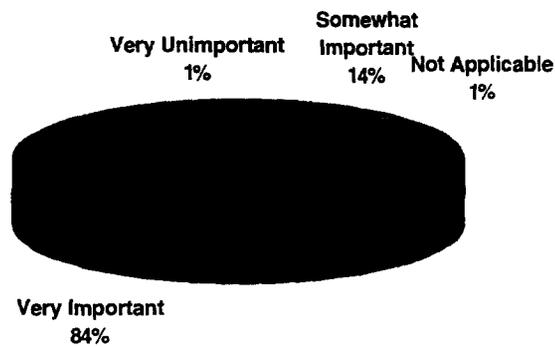
- A. Area Office Staff
- B. Central Office Staff
- C. Counselor
- D. Principal (Elem., MS, HS, or Adult)
- E. Secretarial
- F. Custodian
- G. Psychologist / School Service Assistant
- H. Teachers
- I. Building Engineers
- J. Union Leadership (DFT, OSAS, DAEOE, trades, etc.)
- K. Unit Head or Department Head
- L. Executive Staff / Cabinet / Parent Organization
- M. Other (Unknown)

## Attitudes

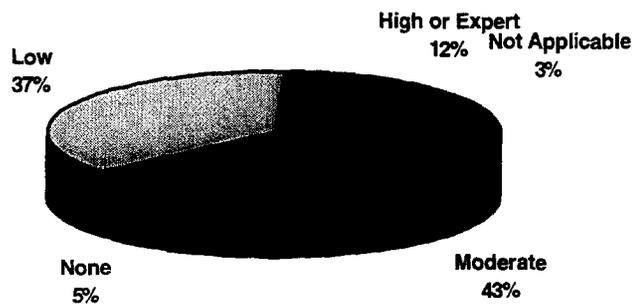
In general, how important do you feel computer technology is to the success of instructional programs in the district?



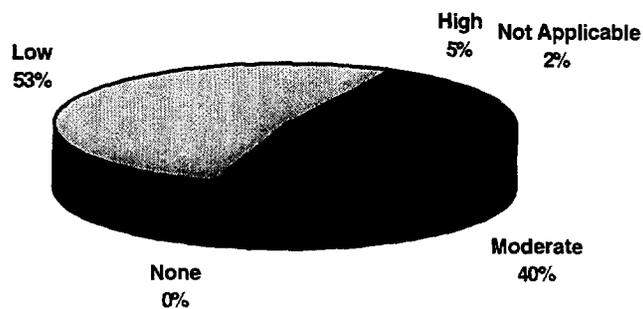
In general, how important do you feel computer technology is to successful management within the district?



How would you rate your level of computer expertise?

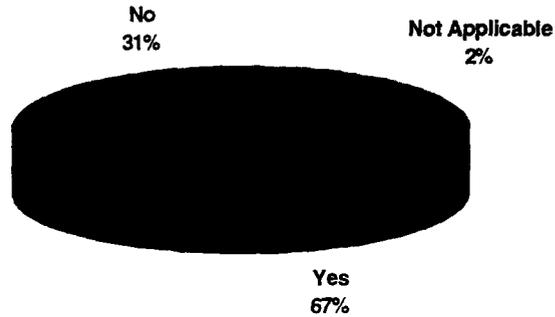


In general, how would you rate your colleagues level of computer expertise?

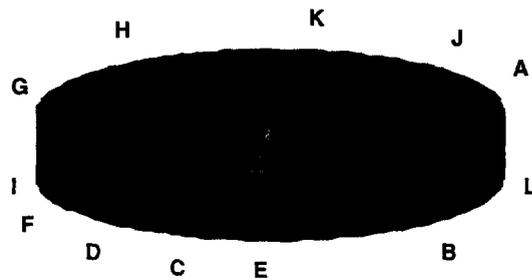


## Current Practices

Do you have a home computer?

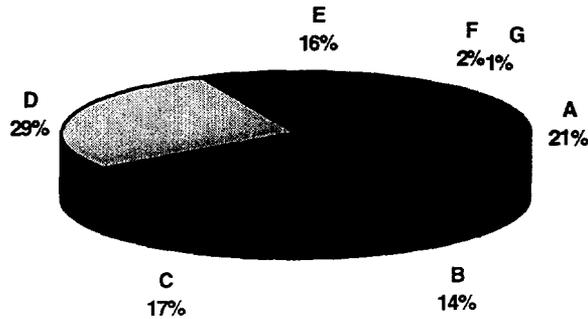


Think about all of the kinds of technology currently available to you for use on your job site. What are the three major reasons you do not use a technology that is available to you? (Circle three.)



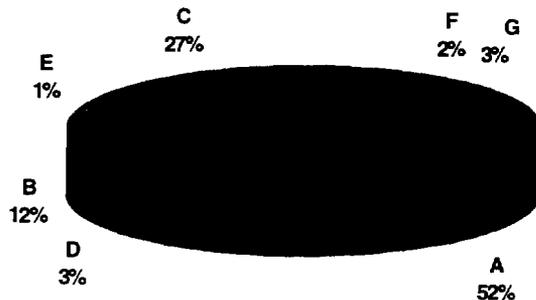
- A. I have not been trained.
- B. I have been trained but not enough.
- C. I have been trained but things don't work like I was told they would.
- D. I have been trained but the training was too far in advance of my attempted use.
- E. The technology has little benefit.
- F. The technology is too subject to breakdown.
- G. It is too difficult for me to gain access to the technology.
- H. Fear of technology.
- I. I'm afraid of looking bad if I try and fail.
- K. I use everything that is available to me.
- L. Not applicable

How do you currently receive most of your knowledge about using computer for the purpose of management (budget, student records, etc.)? (Circle one.)



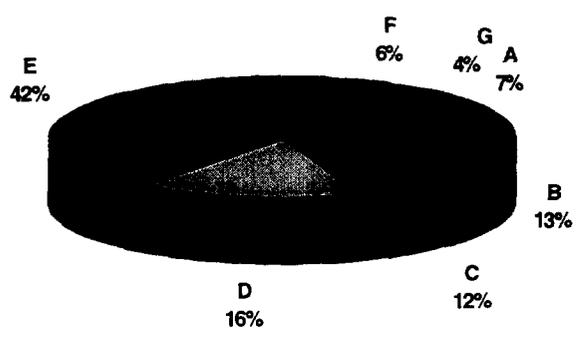
- A. Formal training sessions
- B. Self study with published documents, tutorial diskettes or video
- C. One-on-one assistance from other people
- D. Self-taught, trial and error method
- E. Do not use computers for this purpose
- F. Other
- G. NA

Think about yourself learning to use computers for the purpose of management (budget, student records, etc.). Which of the following is the best learning method for you? (Circle one.)



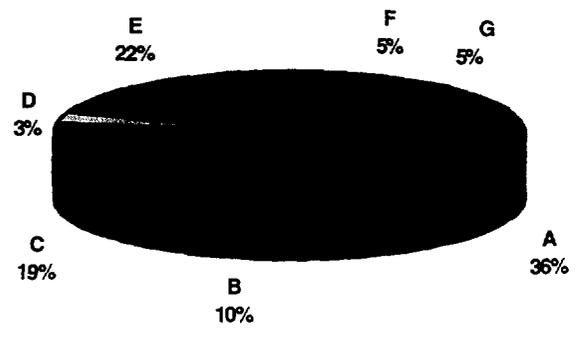
- A. Formal training sessions
- B. Self study with published documents, tutorial diskettes or video
- C. One-on-one assistance from other people
- D. Self-taught, trial and error method
- E. Do not use computers for this purpose
- F. Other
- G. NA

How do you currently receive most of your knowledge about using computer with students for the purpose of classroom instruction? (Circle one.)



- A. Formal training sessions
- B. Self study with published documents, tutorial diskettes or video
- C. One-on-one assistance from other people
- D. Self-taught, trial and error method
- E. Do not use computers for this purpose
- F. Other
- G. NA

Think about yourself learning to use computers with students for the purpose of classroom instruction. Which of the following is the best learning method for you? (Circle one.)



- A. Formal training sessions
- B. Self study with published documents, tutorial diskettes or video
- C. One-on-one assistance from other people
- D. Self-taught, trial and error method
- E. Do not use computers for this purpose
- F. Other
- G. NA

## F. TECHNOLOGY PLANNING GUIDE

### Administrator's Outline: How To Design A School Technology Plan

#### Setting a Goal

*What is your vision for the use of technology in your school?*

The first step is to look at the curriculum goals and objectives already established at the school through the School Improvement Plan.

*What kind of learning environments are identified for the delivery of instruction?*

Existing learning environments need not be drastically changed or renovated. Technology will enhance current learning environments by providing an additional tool to improve student performance.

#### Deciding a Purpose

*Why would technology make a difference in your school?*

Integrating technology into your school will

- improve achievement on standardized tests.
- assist in student assessment and documentation.
- prepare students with practical life skills.
- encourage staff development relative to technology.
- encourage parental and community involvement and support.

#### Implementing the Plan

*How do you implement such a monumental task?*

Implementation must occur in a systematic manner by way of the appropriate identification of the following:

- grade levels
- content areas
- greatest needs

## **Evaluating Procedures and Implementation**

### ***How can you evaluate your school's technology program?***

Data collected as a result of the following activities will help you identify which program areas are being implemented successfully:

- List student outcomes affected via technology.
- Monitor the implementation process.
- Assess and make revisions based on evaluation results.

## **Revising the Plan**

### ***Is it necessary to revise the school's technology plan?***

Evaluation considerations listed below will determine the need to revise the technology program.

- the financial outlook
- district/community/parent support
- special technology projects
- technology use by grade level
- hardware/software inventory
- staff training
- staff feedback regarding implementation of plan

# The Local School Plan

## Needs Assessment

A critical component to developing a comprehensive technology plan is a needs assessment. Regardless of when assistance is requested, AT/IT will assess the current level of implementation and assist in efforts to further achieve the school's technology-related goals.

Consider the following questions in assessing the schools' needs:

- How is the school unique in the district?
- How would you describe student learning? Does this have implications for student technology use?
- What distinctive technology projects are currently in use? Do you have technology projects that are funded by grants or that are otherwise special?
- How is technology currently being used in the classroom? If only a few teachers are using technology, ask them what technology applications they use.
- What technology skills and knowledge does the staff have?
- What hardware is available for instructional use?

## Local School Physical Plant Planning

Consider the following in assessing the school's physical plant requirements.

- Physical Plant Requirements
- Architectural Services has allowed 36" x 30" for each workstation.
- Security Concerns
- Steel doors with a restricted key (i.e. ZZ Core lock). Building administrators' discretion.
- Electrical Requirements
- A circuit breaker for every two workstations.
- Networking Capabilities

**Network wiring must be compatible with TCP/IP and IPX protocol**

## Funding the Technology Plan

Information regarding how to fund the technology plan through local district resources and outside partnerships and grant opportunities.

- Register with government grant mailing lists.
- Check with local state and city agencies to find out what is offered.
- Check with the DPS Office of Grants and Procurement.
- Attend grant-writing workshops.

## **Integrating Technology into the Classroom**

To insure that technology enhances the curriculum, it is important to consider the School Improvement Plan prior to purchasing hardware and software. The following are areas to focus upon when integrating technology into the curriculum:

### **Lesson Plans**

- How will teacher's lesson plans reflect the use of technology?

### **Networking**

- How will hardware facilitate the efficient use of technology in the classroom?

### **Hardware**

- Are you familiar with the minimal requirements for hardware acquisition?

### **Software**

- How will Integrated Learning Systems (ILS) and other networkable software facilitate the efficient use of technology in the curriculum?
- What types of software will be available: problem solving, integrated programs, simulations?

### **Media Selection**

- How will the use of multimedia and other hardware impact the integration of technology in the classroom?
- What types of multimedia hardware will be available?

## **1994-95 Minimal Hardware Requirements**

The standards for computer selection are subject to change. Please check the technology pages of the Detroit Public Schools World Wide Web ([HTTP://dpsnet.detspub.k12.mi.us](http://dpsnet.detspub.k12.mi.us)) or call 949-7774 for current standards. Whether the vendor is Board approved or not, schools and offices should always obtain proposals from more than one vendor.

Schools and offices should shop for brand names when purchasing Computers. Although computers may look the same from the outside, much like automobiles, interior quality cannot be assured based on a shiny exterior. The brand names preferred are: IBM and Apple. Other acceptable brands are Acers, Compaq, Digital, Texas Instruments and Toshiba.

The Division of Information Services will guarantee the connectivity to existing networks when using IBM and or Apple Computers and network adapters.

Acers and other compatibles are typically connectable. However, connectivity problems have been encountered on occasion.

Use Ethernet Networks for school LANs (Local Area Networks).

### **Classroom Workstations**

When purchasing IBM or compatible, the minimum acceptable configuration is:

486 DX at 66 MHz;  
12 Megs of RAM (16 Megs recommended);  
520 Meg Hard Drive;  
1.4 Meg diskette drive;  
CD-ROM drive;  
14 inch color monitor with Super VGA video card (SVGA).

When purchasing Apple Macintosh Computers, the minimum acceptable configuration is:

LC 580;  
12 Megs of RAM (16 Megs recommended);  
500 Meg Hard Drive;  
1.4 Meg diskette drive;  
CD-ROM drive;  
14 inch high-res graphics monitor.

Schools or offices who are purchasing Computers for instructional purposes should note that instructional software often relies on graphical presentations which may require more powerful computing hardware than the minimum stated above.

### **Modems**

Modems should include faxing capabilities and should be a minimum of 14,400 BPS.

### **Routers**

Routers are the devices which allow a school's network to connect to a variety of information sources including the Internet and the District's AS400 computer system. Routers connect Local Area Networks (LANs) to each other. Each school must have a router to connect to the information highway. The Detroit Public Schools has standardized on Cisco routers. These routers support TCP/IP, IPX, SNA and AppleTalk. They support both Token Ring and Ethernet connectivity. They also support 56KB lines, ISDN and T1 connectivity.

### **Network Cabling**

All cabling must meet the EIA/TIA-568 (or SP-2840) standard for Category 5 wiring. Key considerations include:

#### **Horizontal Cabling**

- The maximum permitted horizontal distance is 90 meters (295') with 10 meters (33') allowed as the total cumulative length for patch cables, jumpers cords, etc.
- Recognized horizontal cables are 4-pair 100 Ohm UTP and 2-fiber 62.5/125 micron optical fiber cables.
- All four pair must be terminated; pairs must not be split.

#### **Installation Practices**

- The cabling system is not considered Category 5 compliant unless all cabling components satisfy the requirement for Category 5 UTP installation practices.
- All UTP shall be installed according to the TIA/EIA-606 standard regarding color codes, labeling and documentation.
- The amount of untwisting when terminating is to be no greater than .5 inch.
- The bend radii should be not less than 4 times the cable diameter.

### **Sound Cards**

Computers used for instructional purposes should have sound cards.

### **Elementary/Middle School File Servers**

- 2-1 GB hard drive (mirrored)
- 64 MB RAM
- multi CD-ROM stacker
- monochrome monitor
- Ethernet Network
- CISCO router
- tape backup system
- Uninterrupted Power Supply (UPS)
- UTP level 5 or STP level 2

### **High School File Servers**

- 2-2 GB hard drive (mirrored)
- 64 MB RAM
- multi CD-ROM stacker
- monochrome monitor
- Ethernet Network
- CISCO router &
- tape backup system &)
- UTP level 5 or STP level 2
- Uninterrupted Power Supply (UPS)

### **Automated Library Workstations**

- Elementary School - 3 workstations
- Middle School - 4 workstations
- High School - 6 workstations/file server
- Is there evidence of:
  - ⇒ technology as support for teaching to the objectives of the subject matter?
  - ⇒ clear objectives of what is to be taught and learned?
  - ⇒ opportunities for technology application in the options for problem definition and solution?

- ⇒ the use of technology which accommodates a variety of cognitive levels and learning styles?
- ⇒ planning for differences in student experiences and expertise?
- ⇒ evaluation procedures based on the stated objective(s)?
- ⇒ technology use that keeps the scope and sequence of the School Improvement Plan in focus?

### **Ongoing Technology Training**

Each technology plan should include a staff development component. AT/IT provides quality staff development opportunities.

- hands-on workshops
- teleconferencing
- seminars
- demonstrations
- conference presentations

# **Administrator's Outline: How To Design A School Technology Plan**

## **Setting a Goal**

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Existing learning environments need not be drastically changed or renovated. Technology will enhance current learning environments by providing an additional tool to improve student performance.

## **Deciding a Purpose**

### ***Why would technology make a difference in your school?***

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## **Implementing the Plan**

### ***How do you implement such a monumental task?***

Implementation must occur in a systematic manner by way of the appropriate identification of the following:

- grade levels
- content areas
- greatest needs

## **Evaluating Procedures and Implementation**

### ***How can you evaluate your school's technology program?***

Data collected as a result of the following activities will help you identify which program areas are being implemented successfully:

- List student outcomes affected via technology.
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- technology use by grade level
- hardware/software inventory
- staff training
- staff feedback regarding implementation of plan

## **Resources and Restrictions**

### **District Policy Statement**

The Detroit Public Schools policy is to adhere to the provisions of copyright laws pertaining to technology. Any copying of computer programs may be done only where expressly approved by the publisher in writing.

*Equipment in DPS schools cannot be used to make or use illegally copied programs. Any violation of this policy or copyright laws will be done without the approval and legal protection of the Detroit Board of Education and will be grounds for removal of any and all district funded technology and courseware from the site.*

Every principal/administrator is responsible for establishing practices which will enforce the district policy at the school level.

### **District Licensing for Software Copying**

Detroit Public Schools has been granted non-exclusive, limited, license to copy and distribute various products. During the terms of these agreements, all copying of software programs for MS-DOS, Apple II, and Macintosh platforms may be made only by use of the copy system utilities disk furnished to Advanced/Instructional Technology. Users must have a legitimate copy for each computer and agree to adhere to all rules and regulations set forth within the licensing agreement.

### **Summary of Copyright Laws**

The Constitution grants the government the power to set copyright law. The current law, Copyright Act of 1976, is contained in Title 17 of the US Code. Here are some guidelines that are of particular interest to educators in regards to technology:

It is suggested that educators look at the copyright page of software documentation to find their rights and license restrictions regarding an individual piece of software.

#### *Back-up Copy*

In the absence of a license expressly permitting the user to load the contents of one disk into many computers for use at the same time, it is suggested that you not allow this to take place.

#### *Local Area Network Software Use*

It is suggested that before placing a program on the network or disk-sharing system you obtain a written license agreement from the copyright owner giving you permission to do so.

## **Resources**

### *Software Library*

The Software Library is located on the 3rd floor of the Lawton Building. You'll find site-licensed software to preview and/or copy in a variety of platforms and a list of software to review at your convenience. Laserdiscs and CD-ROM disks are available for preview and lending with some restrictions. The aim of the Software Library is to attempt to meet the needs and challenges brought about by technology in order to better serve our students and teachers.

### *Training Facilities*

- Professional Development Academy
- Instructional Technology at the Lawton Building
- Regional Technology Center at Cooley High School

### *Technology Information Acquisition*

- Office of Data Processing
- Advanced/Instructional Technology
- Office of Telecommunications

## **Supplemental Resources Available Through Advanced/Instructional Technology**

- Newsletters
- Videos
- Project Flow Charts
- Technology Team Planning Guidebook
- *Technology Vision for Detroit Public Schools* prepared by the Division of Information Services; Office of Advanced/Instructional Technology
- DPS Talks Tech
- *DoubleClick*

# DIRECTORY

## **Division of Information Services**

240 Schools Center Building

Phone: (313) 494-1686 Fax: (313) 494-2390 E-mail: Clifford\_Cox@dpsnet.detspub.k12.mi.us  
Clifford E. Cox, Deputy Superintendent

Office of Information Services Coordination

668A Schools Center Building

Phone: (313) 494-1447 Fax: (313) 494-1414 E-mail: Robin\_Oden@dpsnet.detspub.k12.mi.us  
Robin E. Oden, Ed.D., Executive Director

Office of Professional Development  
and Technology Innovation

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## **E. GLOSSARY**

### **Access**

The process of obtaining information from a computer.

### **AMS**

Automated management system currently used by DPS to control financial and administrative computer functions.

### **Application Program**

A set of instructions for one computer task; for example, word processing, or database, management system, spreadsheet.

### **Artificial Intelligence**

The attempt to have a computer emulate human thought and behavior.

### **Bar Code Reader**

A device used to read bar codes.

### **Central Processing Unit**

The central processing unit controls what the computer does.

### **CD-ROM**

A storage format which allows the user to access video, music, photographs or data quickly and in random order much like a musical compact disc, encyclopedia disc, etc. Abbreviation for Compact Disc-Random Order Memory.

### **CIMS (Comprehensive Information Management System)**

An application software package that provides schools and school districts with a set of management tools to automate the business and administrative needs of the school district.

### **Compatibility**

There are various types of compatibility software and hardware. Software compatibility refers to the ability to run programs on a variety of computers. Hardware compatibility means that various components (printers, disks, keyboards, etc.) may be connected directly.

## **Computer**

An electronic device which processes information according to specified instructions or commands. The use of computers to deliver instruction in a variety of ways, including drill and practice, tutorials, simulation programs.

## **Courseware**

The combination of educational software and accompanying materials that provide an instructional tool or course material to be used in the classroom.

## **CPU (See Central Processing Unit)**

## **Data**

A representation of facts, concepts or instructions in a formalized manner, suitable for communication, interpretation or processing.

## **Data Retrieval Systems**

These systems allow students and staff to retrieve information rapidly and structure it in ways that are useful for analysis.

## **Database**

A collection of similar information stored on a computer composed of records and files.

## **Disk**

A computer data storage device,

## **Disk Drive**

A unit that reads, writes and operates a disk.

## **Diskette**

A portable disk.

## **Down-Linking**

A method of satellite communication from host site to the remote.

## **Download**

The process of transferring files and/or data from one computer source to another.

## **DPSNet**

(See Detroit Public Schools' Network)