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ABSTRACT

This document is a strategic plan for the implementation of technology in the West Ottawa School District (Holland, Michigan). Developed in response to the passage of a bond issue with funding for educational technology in 1990, the plan proposes to support all aspects of the educational process, using technology not only as a tool for instruction, but also as a support for the classroom through improved communications and administrative functions. In the past 8 years, the district has standardized its use of two manufacturers of computers, using IBM machines primarily for administration and Apple computers for instruction. To date, newer technologies have not really been used to change teaching and learning. The district's objectives are to promote student and teacher use of technology, with equity of access for all grade levels and improved staff training. Strategies toward these objectives include establishing a fiber-optics network, developing communications cable plant standardization, setting up video and computer networks, standardizing the schools' computer hardware (moving toward IBM for instructional use), and setting up a district telephone system. It is recommended that the plan be updated annually. (Approximately eleven figures illustrate proposed strategies, and an appendix defines the instructional-computer purchasing policy. (SLD)

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Strategic Plan for Technology
West Ottawa School District

June 1991

presented by the
Technology Advisory Committee

IR016630

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Imagine a classroom where . . .

. . . a wealth of resources, visual, audio, and textual, are quickly and easily accessible any time, any day. ITV, CNN, original district programming, building announcements, student-created news broadcasts, videotape, videodisc, computer program display, CD-ROM, video floppy, teleconferencing, long distance learning programs, etc. -- all could be displayed on a large, high resolution TV with control for all these resources in the classroom.

. . . all of the best instructional software in the district is available any time, any day.

. . . software would be available to allow students and teachers to interact with video, audio, and textual materials, rearranging them to suit their own presentations.

. . . curriculum data bases with district-created goals, objectives, lesson plans, tests, and quizzes are available to print out on a printer in the classroom, any time, any day. Results of objective student testing could be scanned and immediately recorded electronically.

. . . electronic textbooks would become a realistic alternative to printed materials which become outdated.

. . . attendance is done electronically -- saving time, paper, and tedious labor. The information would quickly be available throughout the district.

. . . student data bases with emergency information, test scores, etc. would be available to any teacher, at his or her desk, any time, any day.

. . . every room would also have a phone with building, district, local and 800 number calling capability.

. . . voice mail would be available to all staff, enabling teachers, students and parents to more effectively communicate.

. . . computerized grading allows for more detailed, current information and textual comments to be available to more parents, more often.

. . . through electronic-mail, staff could have access to announcements, memos, calendars of committees and facilities, and each other, up-to-date, available all the time.

. . . within every building, a technology lab would be located to accommodate those application sessions that require a classroom of students to all be on PCs at one time. This lab could be equipped with the more expensive hardware like camcorders, laser printers, laser disc players, CD-ROM drives, etc. that are cost prohibitive to put in every classroom.

If you can imagine this, then read on... and discover how this can happen for West Ottawa students.

I. Introduction

This document is a strategic plan for the implementation of technology in the West Ottawa School District. Following the passage of a bond issue in September 1990 which included substantial funding for technology, the need emerged for a more detailed strategic plan for the prudent yet progressive use of that funding. Therefore, at the request of Superintendent Charles Muncatchy, this plan was developed by a group of interested educators, parents and industry experts. They are Dave Couch, Ken Glupker, Mike McKanna, Marilou Parker, Dan Pickering, Jim Pinsoneault, Bill VanAuken, and Dave Zimmer. This group worked as a subcommittee of the Technology Advisory Committee. Its objective was to define what technological solutions should be deployed and how they will be supported within the next three to five years. The subcommittee met several times and primarily focused on doing research on other school systems, current and future technology, experiments in educational methods and District needs. This plan is the result of that process.

The implementation presented in this plan is intended to provide technology to support all aspects of the educational process. This includes not only using technology as a tool for educating the student but also using technology to support the classroom through improved communications and administrative functions. It is the goal of this plan to develop an integrated system that enhances instruction, improves learning, fosters active involvement of students and staff, and improves communication between everyone involved in the educational process.

The remainder of this document discusses the current **situation**, **objectives** which identify targeted areas of change, and **strategies** which will produce the desired changes.

II. Situation

In looking at the current situation in the West Ottawa School District, there are a number of issues that are significant to the development of a strategic plan for technology. The following is a list of some of the major issues that are pertinent to this plan.

1. In September of 1990 the voters in West Ottawa approved a bond issue which included provisions for increasing the technological tools available to our students and staff.

2. We live in the "Information Age" (see Figure 1). The ability to locate information, solve problems, and effectively present results have become vital skills. Effective use of technology by students and teachers is the key to developing those abilities. Learning is enhanced as we increase the level of the involvement of students (see Figure 2).

3. In the past, we have worked in an environment where computers were not networked, phones in classrooms were not available, video sources for education were limited and only available by cart.

4. In the past, there was a division between what administrative staff needed from computers and what instructional staff needed from computers. This division closes the more we computerize attendance, grading, record-keeping, libraries, etc.

5. For the past eight years, we have standardized on two manufacturers of computers, one primarily for administration (IBM) and one primarily for instructional settings (Apple).

6. There are several different types of phone systems in our buildings. We lease lines from Michigan Bell and pay charges for local calls.

7. Up until now various technologies have been the subject of study and others have been used as audio visual tools, but newer technologies have not been exploited to change the way teachers teach and students learn.

Information evolution

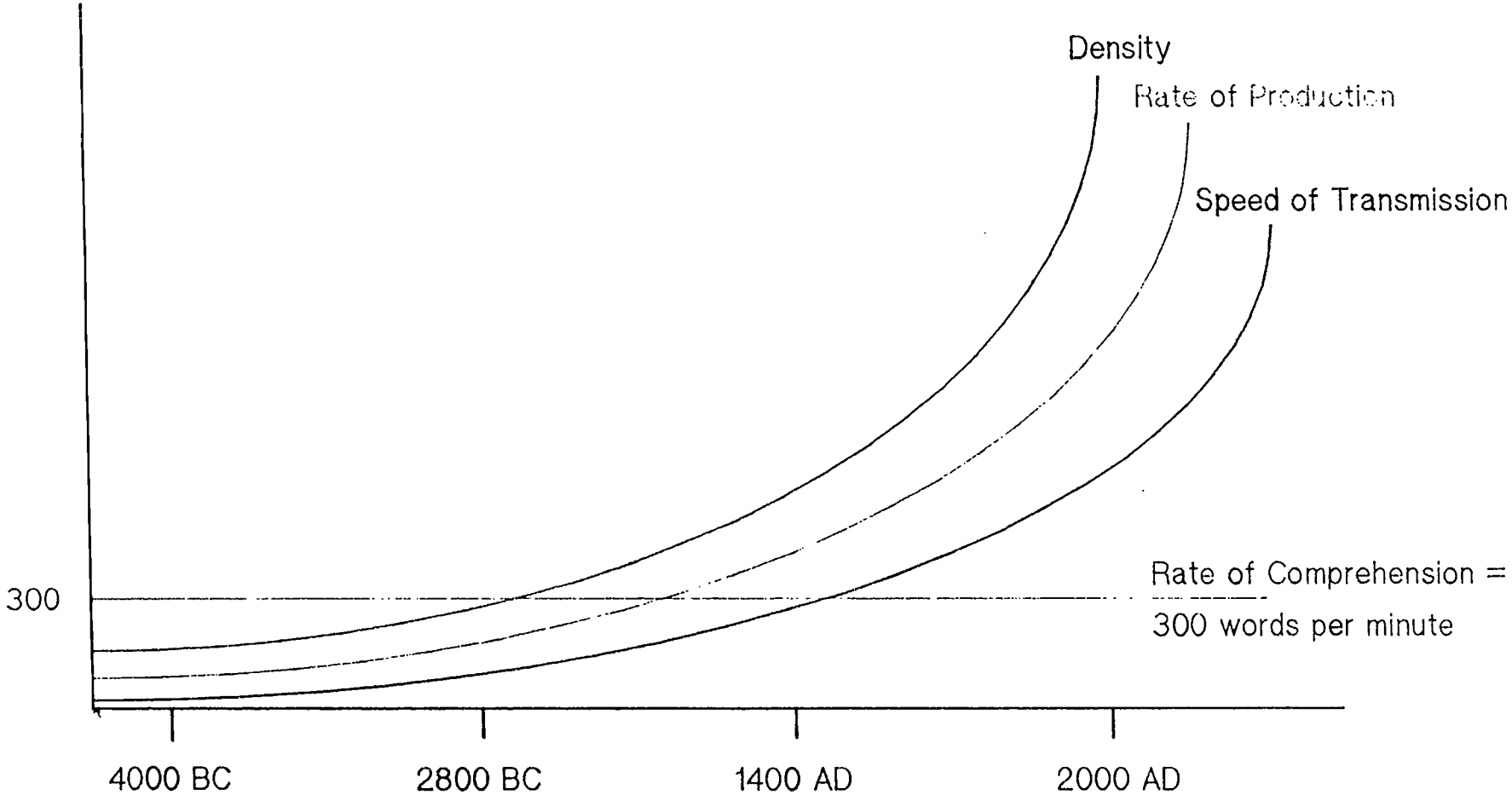


Figure 1

Learning

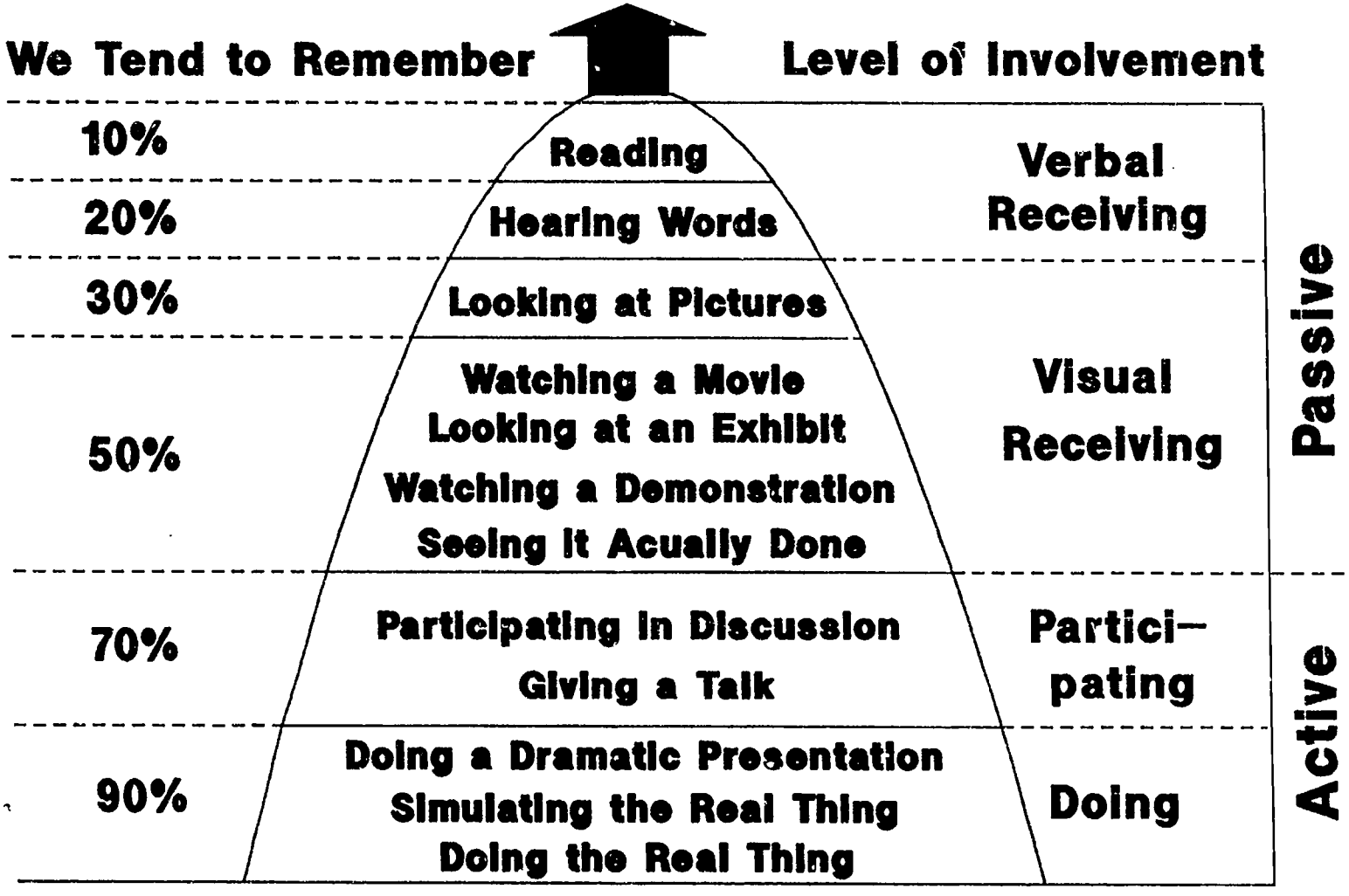


Figure 2

III. Objectives

Based on the current situation the following objectives have been established for the application of technology in the West Ottawa School District. The sequence in which they are listed is not prioritized.

1. **Maximize the non-print resources available to every classroom.**

   The recent proliferation of materials available in non-print format -- videotapes, videodiscs, educational broadcast programming, computer software, electronic encyclopedias, etc. -- combined with the desire of teachers and students to make use of these resources leads us to investigate cost-effective means to bring them into every classroom.

2. **Put information management tools directly into the hands of students and teachers.**

   If computers and related technologies are "down-the-hall" or in another building or shared with many people, they are less likely to be used. Regular access is one of the first keys to successful use.

3. **Encourage more active involvement in learning by students.**

   The most powerful feature of technology is its ability to put the control of the pace, selection and use of information into the hands of the students.

4. **Enable students to participate in the process of producing materials generated by technological tools.**

   Word processing, desktop publishing, video presentations, interactive displays -- these represent common means of presenting information in the world around us and our students are eager to try them. We need to provide alternatives to paper and pencil for student presentations.

5. **Increase the frequency of use of the tools of technology.**

   An overriding consideration is that the technology implemented must be easy to use. A second consideration is to find the right tool for the right task. Just because something can be done on a computer, for example, does not mean it is time-effective or cost-effective to do so.

6. **Insure equity of access for all grade levels and all service areas to the resources and tools of technology.**

   Although it might be very difficult to deliver the many technologies suggested in this proposal, simultaneously, the distribution of equipment and services should quickly

become as equal as possible -- across grade levels and geographically throughout the District.

7. **Improved teacher-student-parent communication.**

Through improved phone and data services, it becomes possible to increase the quantity and quality of communication. This is especially true when face-to-face meetings are difficult: the ability to inquire about homework assignments in the evening, for example.

8. **Improve internal staff communication.**

The use of voice mail, electronic mail, and electronic bulletin boards give the educational professionals options which can reduce annoying interruptions during class time, reduce traditional mail, and eliminate "phone tag."

9. **Increase staff efficiency.**

Time that is devoted to any teacher task that can be done more quickly or easily through the use of technology, can be reallocated to students and instruction. Reduction in time spent reporting attendance, preparing lesson plans, record-keeping, and preparing report cards will all be possible through the use of appropriate technology.

10. **Improve staff support in the areas of training, curriculum decisions, management of hardware and software, and troubleshooting and maintenance.**

If efforts to support staff with training or outside help does not accompany the installation of new technologies, then the expected results for improved instruction, improved communication, or work efficiency will not occur. The kind of training necessary varies with the complexity of the application. A flexible, but carefully monitored, training program may best suit teachers' needs. In many cases, expert help is required. This expert help may need to be on staff if the situation warrants it.

11. **Maximize the return on investment of the District's projected financial resources available for communications and technology.**

To maximize the use of the funds available for technology several guidelines should be followed.

First a plan must be established as to how investments are going to be made. In the past there have been specific plans in certain schools or at certain grade levels. This strategic plan is designed for the entire school system at all grade levels.

The next step is to develop technological standards. This includes all aspects of technology. As part of this plan it is proposed that we standardize on a common telephone system, network architecture, computer system type, video equipment etc. By choosing standards training, flexibility, growth, use and maintenance all become easier and less costly.

With the implementation of the various types of technology proposed, extensive training is required. This includes all members of the staff to ensure maximum usage and benefit of the technology. With the investment being made, use must be encouraged and in some cases, required.

Finally with the deployment of such a large system of technology, ongoing technical support is required. Large scale networks, computer systems, phone systems and video facilities require a technical non-educational staff to support and maintain them. The District must invest in this staff to be able to effectively use the systems being proposed. If the District is not prepared to invest in that staff it should not install the technology to begin with.

IV. Strategies

To achieve the objectives set forth, the following strategies have been developed. Each specific strategy is not designed to deal with a particular objective but rather to address one or more of the objectives in the prior section. The strategies are broken into two basic categories, foundation strategies and solution strategies. The foundation strategies provide a base (or foundation) on which solutions can be built or used. The solutions strategies provide the end result in support of the educational or administrative process.

A. Foundation Strategies

1. West Ottawa School District fiber optic network

The first step of the foundation is to install a district wide fiber optic communications network. This consists of connecting each building in the district to a common fiber network. This will permit bringing all forms of electronic communications to each and every school in the district. Once this fiber is in place, a common computer network can be built between all schools. A common video network can also be built between all schools. Finally a cost effective high function phone system can be installed district wide.

This network would consist of running six fibers from every building in the district to a central communications center either in the high school or middle school (see Figure 3). Between the high school, and middle school additional fibers will be run because of the additional demands of those facilities. With the geographical dispersion inherent in a school system, as well as funding available, the district will have to contract for this network from outside sources.

Attached to the fiber in each building is a set of electronics that converts the electrical signals of the building cable-based network systems to light for transmission on the fiber (see Figure 4). One of the many advantages of a fiber-based system is that while the fiber itself is well established the electronics will continue to improve in both capacity and capability. In the future as new needs come about or new capacity is required only the electronics need to be changed and the existing fiber can support new capabilities.

NOTE: We need a name, "wo wosdnet wosnet woenet wonet westonet wosfonet," name campaign?

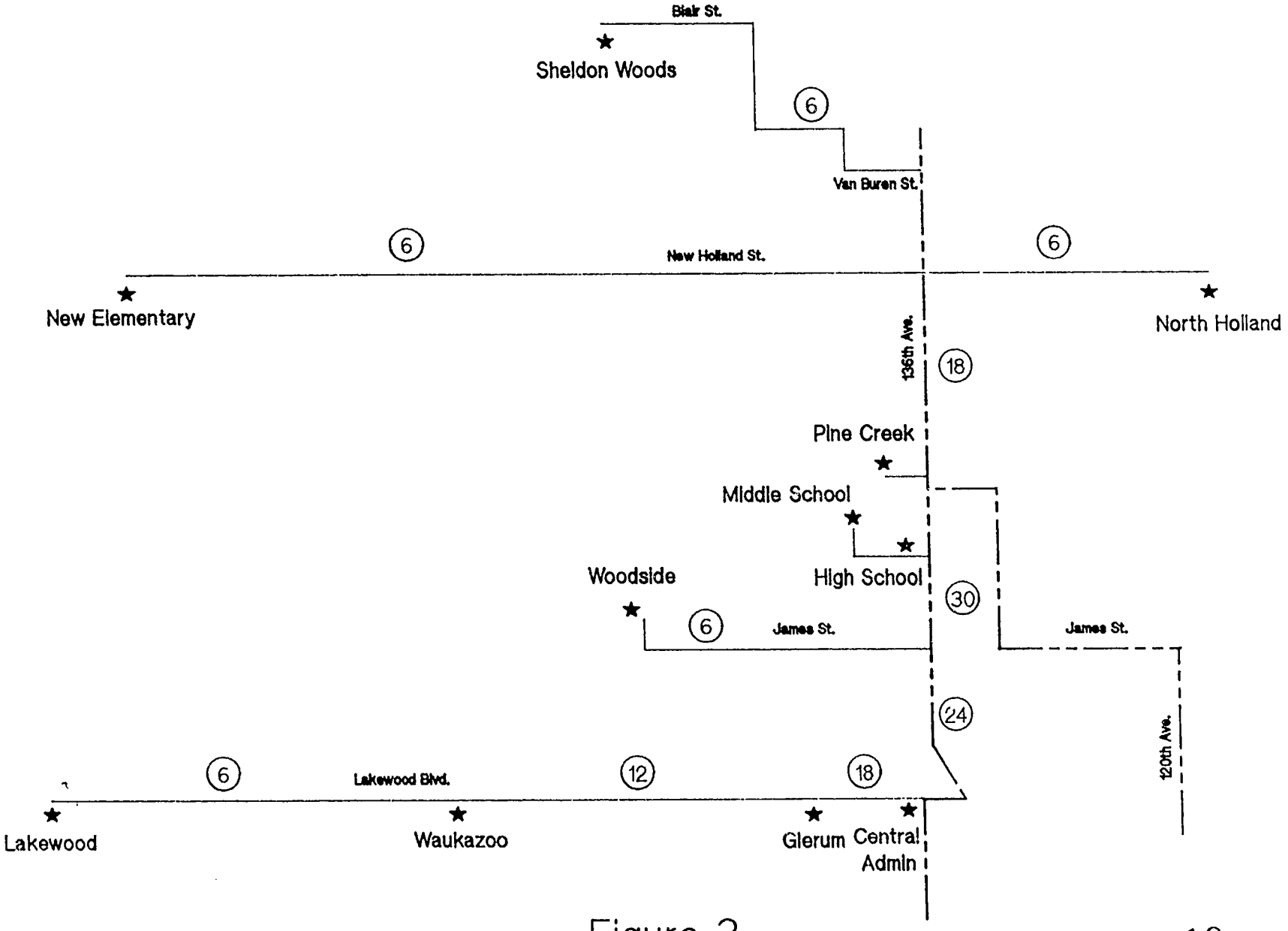

Blair St.
Sheldon Woods
6
Van Buren St.
6
New Holland St.
6
New Elementary
North Holland
136th Ave.
18
Pine Creek
Middle School
High School
Woodside
30
6
James St.
James St.
24
120th Ave.
6
Lakewood Blvd.
12
18
Lakewood
Waukazoo
Glerum Central Admin

Figure 3

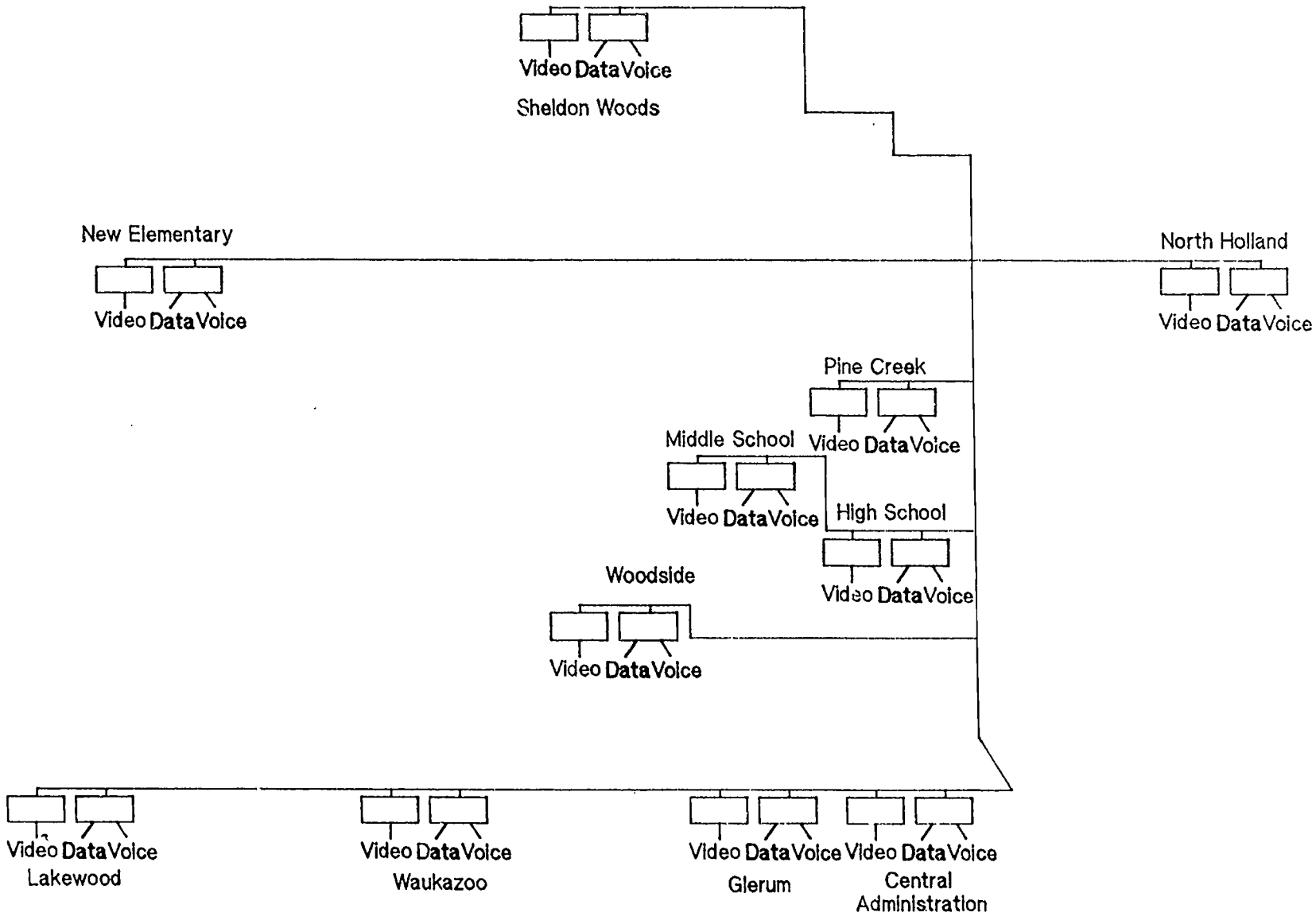

Video Data Voice
Sheldon Woods
New Elementary
Video Data Voice
North Holland
Video Data Voice
Pine Creek
Video Data Voice
Middle School
Video Data Voice
High School
Video Data Voice
Woodside
Video Data Voice
Video Data Voice
Lakewood
Video Data Voice
Waukazoo
Video Data Voice
Glerum
Video Data Voice
Central
Administration

Figure 4

2. Building communication cable plant standardization

Currently the district has extensive construction projects planned or underway for virtually every school in the district. In conjunction with these construction projects every building should have standardized communications wiring installed to support current and future network needs.

Standard raceways of cable trays in the halls and conduits to each room must be installed during the construction to facilitate installation, maintenance and evolution of the communications cable plant in the schools (see Figure 5).

Cabling designed to carry voice, data and video communications must be installed to every room. Additionally, four strands of fiber optic cable will be installed to each room for future use.

Currently fiber optics provides a cost effective solution for building-to-building communications and backbone installations in larger facilities. For this reason, the fiber to the room in each school won't be used except in a few select cases but it will be available for the future as the cost of the electronics continues to come down. In the larger facilities, such as the high school and the middle school, fiber will be used in the backbone networks in those buildings.

3. Technology standardization

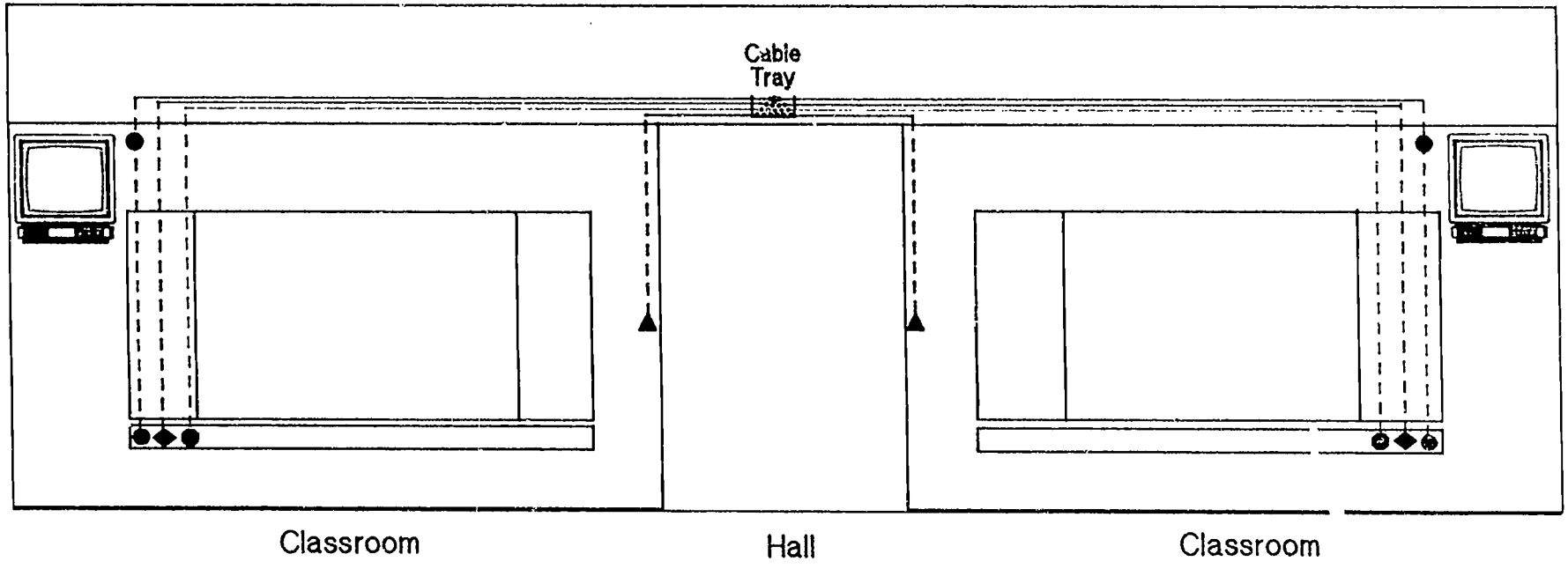
The district needs to standardize on a single architecture for each of the various systems it acquires.

Currently, the district has an existing base of Apple II's and IBM PS2 personal computers. Considering the obsolescence of the Apple II series, its limitations for networking, the district's commitment to IBM and IBM's strategic role for the PS2, the IBM PS2 should be the standard for future personal computer acquisitions. This platform has an excellent base of educational software providing very powerful networking capabilities to fit with the districts networking strategy. (See Appendix)

To facilitate the growth and evolution of networks in West Ottawa, one standard Local Area Network (LAN) architecture should be deployed throughout the district. With the district's commitment to IBM, token ring technology will be used for all data networking throughout the district.

To provide a high function solution that is easy to use and cost effective to maintain, a standard phone network should be installed district wide. In this way, all phones are the same and operate the same way in all buildings.

As additional technologies are brought into the district, standards should be selected as early as possible to insure the same ease of use, cost effectiveness and ease of support.



In each room

Outlet	Cable
▲	Voice: 4 pair unshielded
◆	Data: 2 pair shielded
●	Video: 1 coax
●	Future: 4 fibers

Figure 5

4. District computer network

To maximize the availability of educational materials and access to the district's current computer systems, a district wide computer network needs to be installed. There are a number of different computer networking technologies available. However, the district has made a sizable investment and commitment to IBM computer technology. With direction in the district towards IBM, it is recommended that the district install a Token Ring Local Area Network in each building and attach all computers in those buildings to the network (see Figure 6). Then through the district fiber system, a backbone ring between all buildings can be constructed. Once that is in place each building ring attaches to the backbone ring so that any computer in the district can communicate with any other computer in the district based on need (see Figure 7).

Multiple logical networks can be carried on this physical network of rings. The district currently has two IBM AS 400s. To communicate with those systems individual lines are used to connect each terminal to the computer system. With the AS 400s on the ring any PC attached to the district network can communicate with the AS 400 using the appropriate software and security rights.

Another logical network that the physical network will support is the PC-based networks. Today the high school has two Novell servers and is installing three more. These and future servers and their associated PCs will all be attached to the same network. In this way, with the appropriate software and security, any PC on the network can use the services of the servers.

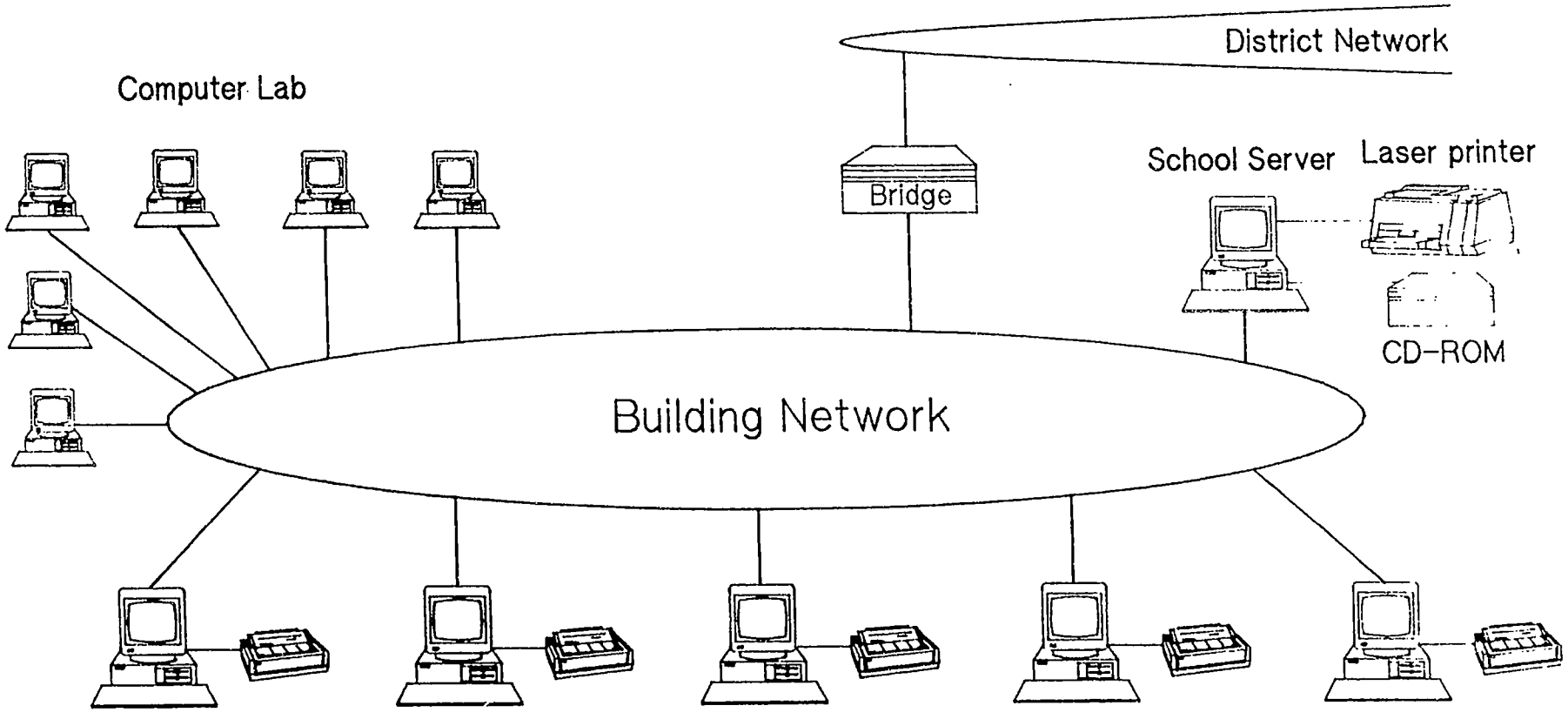
In the future as new networking systems become available, by attaching them to the district network their services can be made available to any devices in any building on the network. Basically one network connection provides access to all services.

In order to implement a network on this scale particular attention must be paid to naming standards and security. It is recommended that an effort be started immediately to standardize on names and security access and those standards be strictly enforced.

5. District video network

To maximize the district's ability to distribute video information sources within the schools and across the district, a district wide video network should be built. Within each school a distribution system should be installed to be able to broadcast video information from at least six sources located in the media center (see Figure 8). At this time the network should be based on Cable TV (CATV) technology to each room. Each room should contain a TV that supports the building network connection and an in-room video source connection. To start with, the sources in the school should be video tape, laser disc, C-TEC CATV, video bulletin board and the district video network.

Between all the buildings a video network should be built that permits at least a two-way video signal and audio signal from every building to a central video center. At the central



Network computer and printer in each classroom

Figure 6

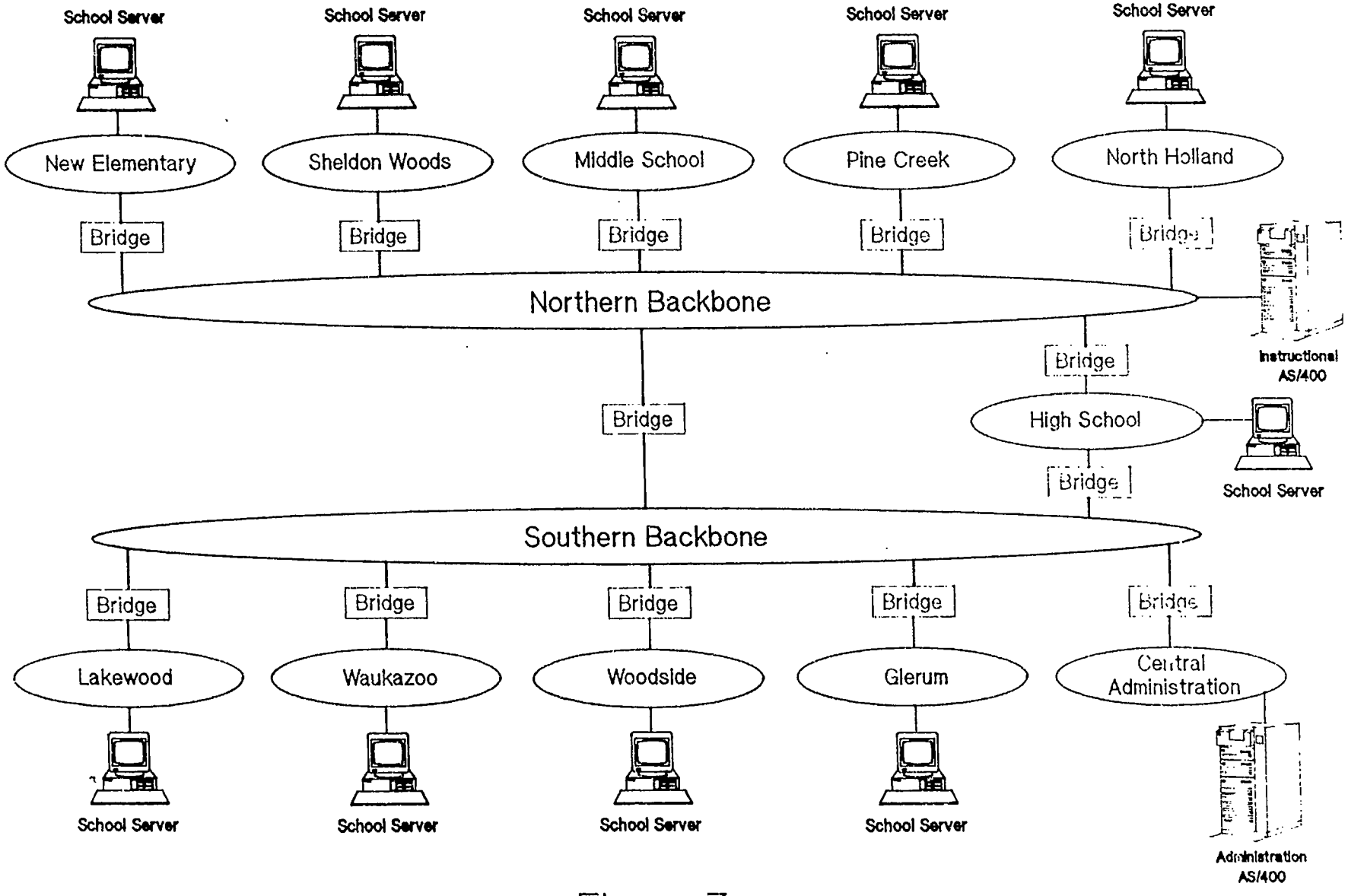
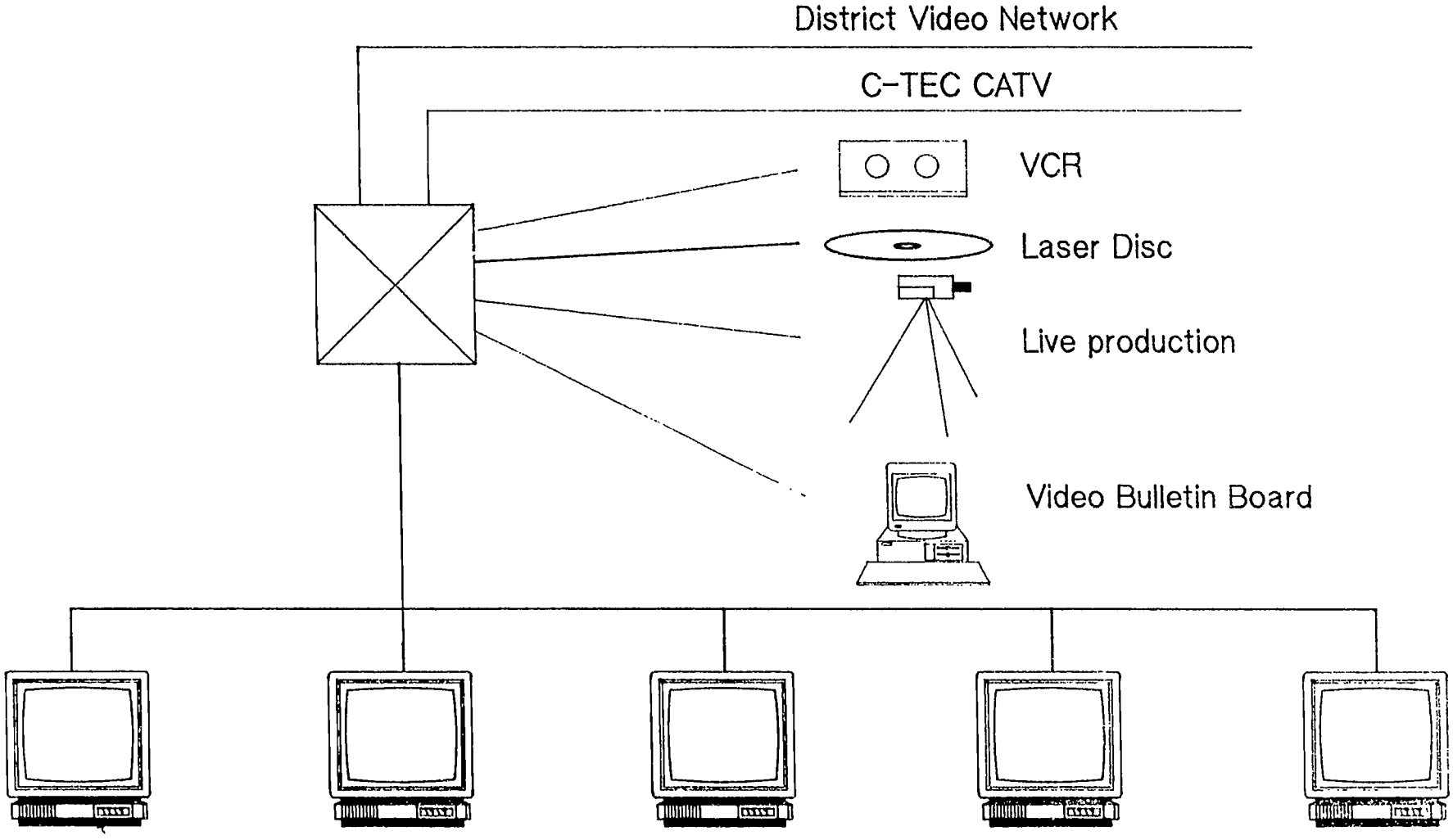

School Server
School Server
School Server
School Server
School Server
New Elementary
Sheldon Woods
Middle School
Pine Creek
North Holland
Bridge
Bridge
Bridge
Bridge
Bridge
Northern Backbone
Instructional AS/400
Bridge
Bridge
High School
School Server
Bridge
Southern Backbone
Bridge
Bridge
Bridge
Bridge
Bridge
Lakewood
Waukazoo
Woodside
Glerum
Central Administration
School Server
School Server
School Server
School Server
Administration AS/400

Figure 7



Television monitors in each classroom

Figure 8

video center signals can be routed from one building to as many others as are required. Additionally, signals from other sources can be transmitted to any number of schools in the district (see Figure 9).

The following sources should be provided at the central video center: district production studio, video tape, laser disc, CATV, satellite down link, and other outside sources as they are determined to be appropriate. Additionally interconnection should be provided such that the District can broadcast school events through the community's cable TV network (C-TEC).

6. **District phone system**

To make communications as efficient, cost effective and easy to use a single standardized phone system should be installed district wide. Each building will have a full function PBX (phone system) (see Figure 10). Where buildings are on common property a system may be shared by more than one building such as Glerum and Central Administration and the middle school, high school and Pine Creek.

Using the fiber network, all phone systems will be connected to a central system and share a common voice mail system at that location (see Figure 11). All calls between schools will be across the fiber network. Long distance calling will be consolidated to gain discounts based on volume access with AT&T.

There will be a common numbering plan so that all phones will have a unique four digit number for internal dialing. Direct inward dialling will be supported so that any phone can be reached by direct dialing from the outside.

Voice mail will be provided 24 hours a day for answering phones when there is no answer or the phone is placed in "do not disturb mode." A "West Ottawa Information" number can be established for class schedules, home work assignments, school events, lunch menus, meeting schedules and school closing information.

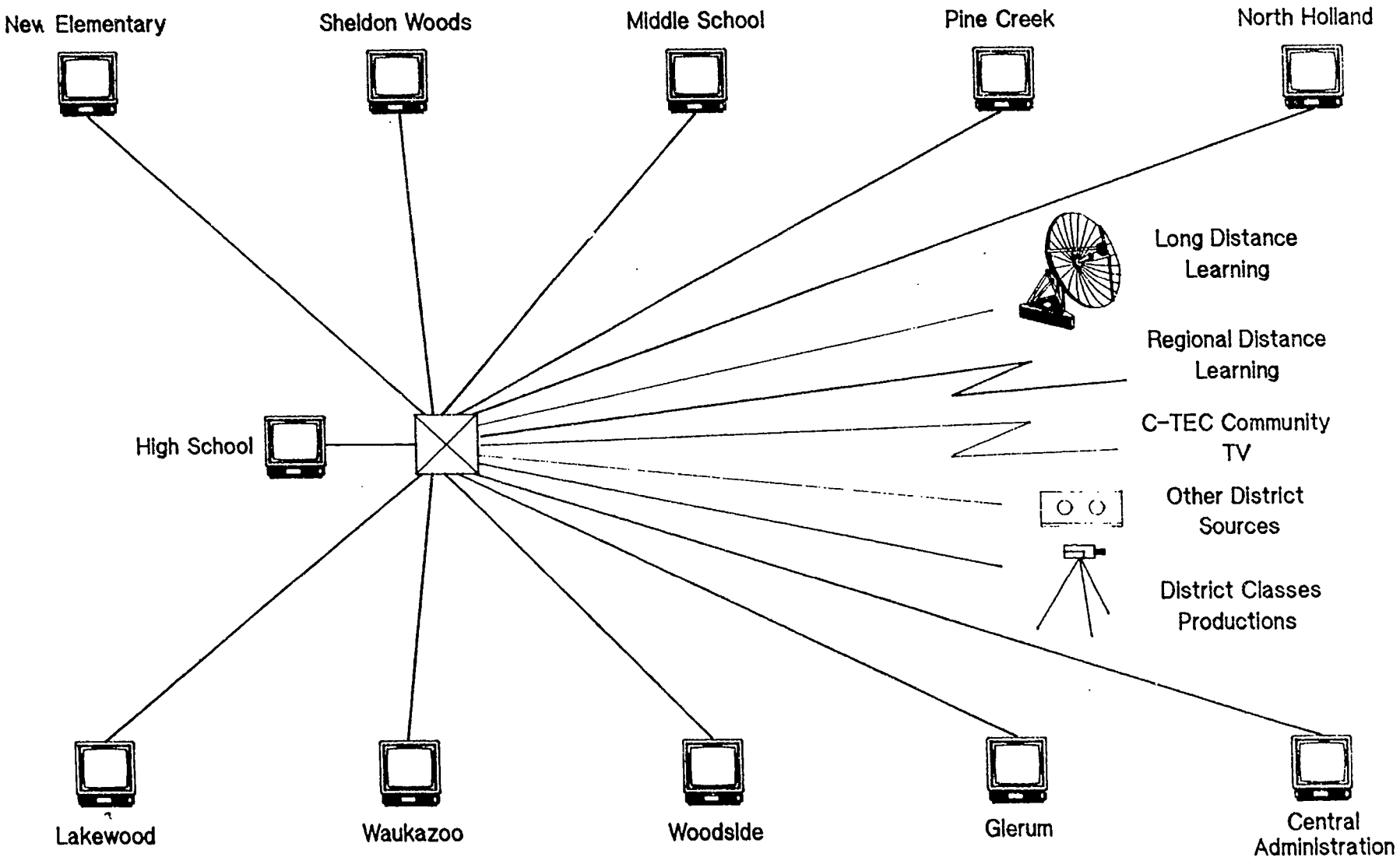

New Elementary
Sheldon Woods
Middle School
Pine Creek
North Holland
Long Distance Learning
Regional Distance Learning
C-TEC Community TV
Other District Sources
District Classes Productions
High School
Lakewood
Waukazoo
Woodside
Glerum
Central Administration

Figure 9

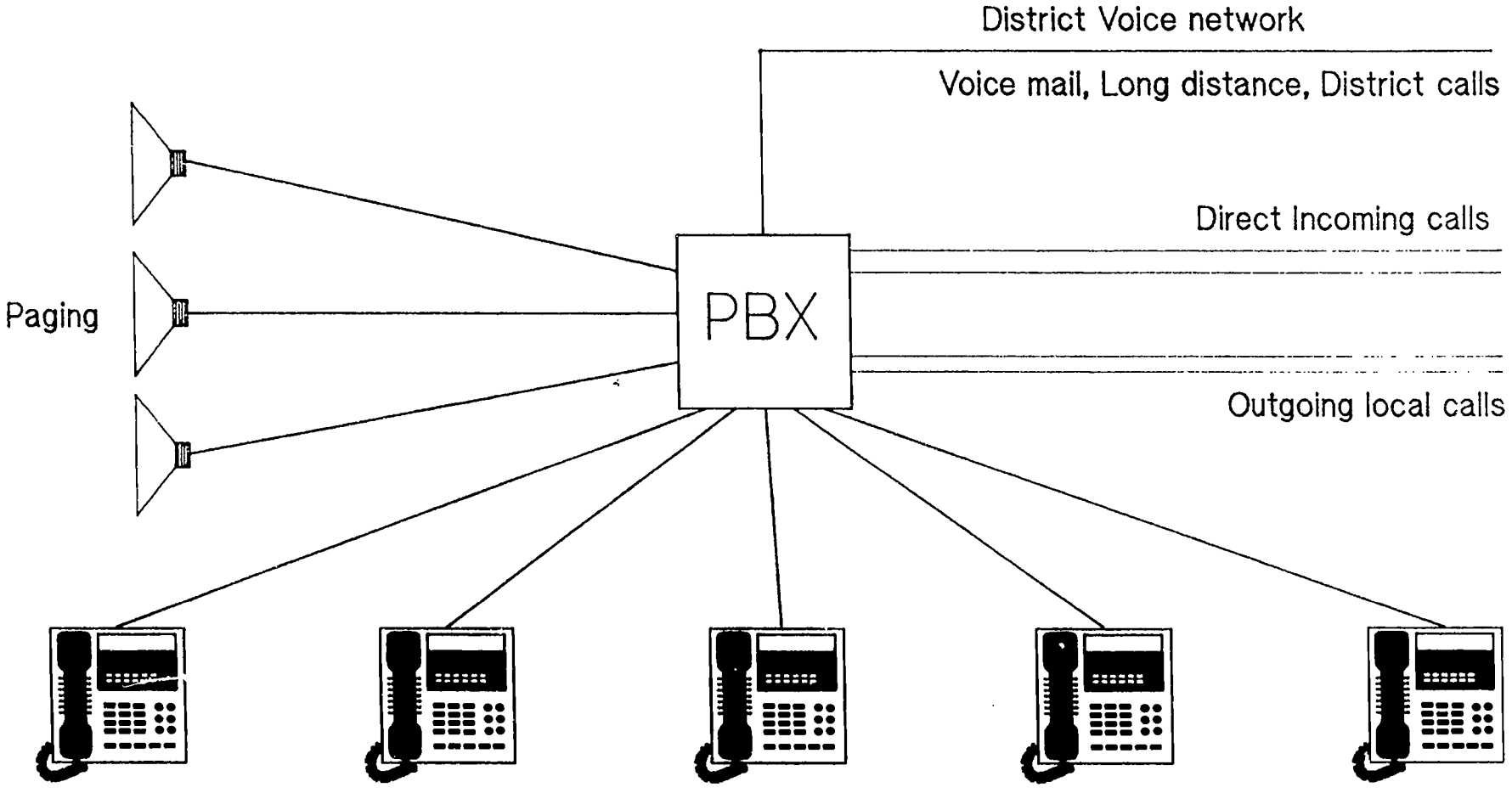

District Voice network
Voice mail, Long distance, District calls
Direct Incoming calls
Paging
PBX
Outgoing local calls
Telephones in all classrooms and administrative offices

Figure 10

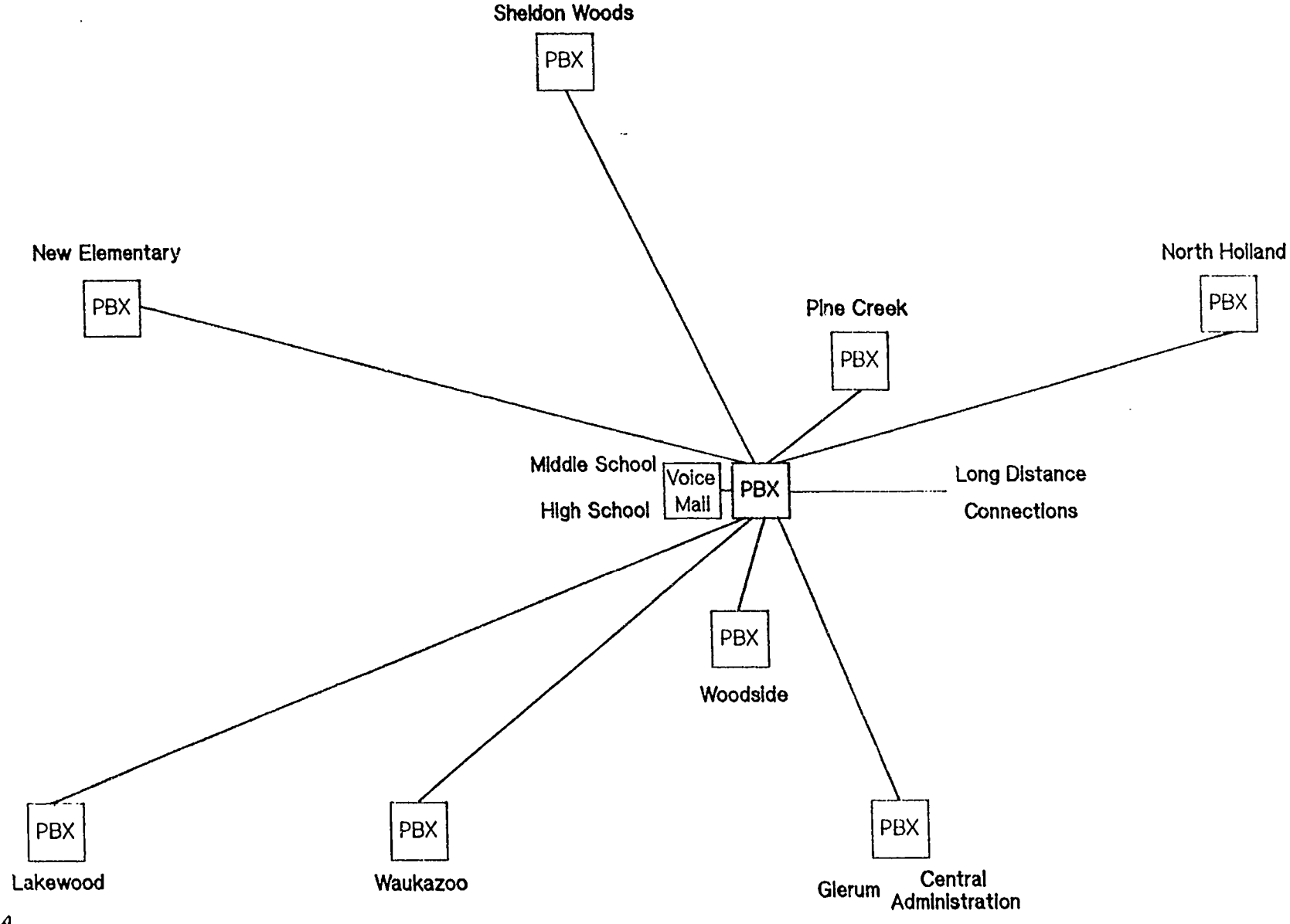

Sheldon Woods
PBX
New Elementary
PBX
North Holland
PBX
Pine Creek
PBX
Middle School
High School
Voice Mail
PBX
Long Distance
Connections
PBX
Woodside
PBX
Lakewood
PBX
Waukazoo
PBX
Glerum
Central Administration

Figure 11

B. Solution Strategies

1. Place equipment and resources in the most cost effective location.

Every classroom will have a phone, networked computer, TV, overhead projector, movie screen, VCR, and printer.

Every building will have a technology (computer) lab with enough computers for an entire class to use at one time, a media center with a server for the building computer network, electronics for video distribution, a laser printer, at least one laserdisc player, at lease one CD-ROM drive, at lease one LCD display device, a FAX machine and other devices as they become practical and desired.

The District should investigate long distance learning connections through Hope, U of M, Ottawa Area Intermediate School District (OAISD), and various subscription services. A recording studio will be installed at the high school auditorium facility. This studio will be connected to the District video distribution network. Additionally, a satellite dish will be installed in a location convenient for connection to the district video network.

2. Provide administrative support for staff by converting the following functions into an electronic format.

Convert internal communications among staff from paper to an electronic mail system. When an electronic mail system replaces paper memos, calendars, and announcements, significant savings on paper, time, and effort can be achieved.

Install a voice mail system with provisions for personal voice mail boxes and a District voice bulletin board. The personal voice mail box would be available to all staff, including support staff. It would be capable of recording personal outgoing and incoming messages. It would include a "Do Not Disturb" mode to prevent interruption of classes. The District voice bulletin board would include recorded messages about current lesson plans in all classes, information about school closings, and a variety of other useful information a classroom, building, or the District might want to provide.

Provide video bulletin boards through the video distribution network that enables public announcements of each building (or District announcements) to be displayed continuously on a prescribed local channel to students and staff. This service would provide vital information to students and staff on a much more thorough and consistent basis than either intercom announcements or paper memos.

Reduce manual entry of attendance information by providing a more automated system.

Explore increased computerization of report cards.

Provide teachers with student database information in the classroom through their networked PC. Provide classrooms with access to library data base information. Data

on District curriculum objectives and lesson plans should also be made available through the network as soon as practical.

3. **Strategic timing of purchases**

Whenever funds become available to purchase items such as computers, TVs, VCRs, laserdisc players, etc., the actual purchase should be delayed until the last practical moment before the equipment will be used. This strategy will take advantage of improvements that are made in each technology as well as price breaks that occur over time. Warranty expiration is also a concern when buying new equipment that is not used immediately.

4. **Staff support**

The District Technology Coordinator needs to be expanded to a full-time position. Additional responsibilities would include more on-site teacher training, coordination of additional training resources for staff, and model teaching activities.

Create a technology training team for the fall of '91. It would include the District Technology Coordinator, computer coordinators, media specialists and CATS Ambassadors. This team would receive extra technology training. Each member would be encouraged to be an ambassador for technology in their building and as well as an information resource to their respective staffs.

NOTE: CATS (Computers Are Tools) Ambassador is a new Schedule B position. A CATS Ambassador would implement the CATS program, serve as an ambassador for technology, and be an information resource (troubleshooter) to their respective staffs in each elementary building.

Elementary media specialists will take responsibility for supervision of technology labs in or adjacent to their media centers. This does not mean that they have to be physically present or be technologically expert, but it does mean that they will see to it that there is proper on-site supervision and that the activities conducted in the lab are appropriate. They will be responsible for the facility and its corresponding hardware and software.

Interested students should be given support responsibilities. Students often find that they are more adaptable to new technologies than their elders. Students should be encouraged to help train their teachers and teachers need to be encouraged to let them.

Technical administration of the phone, data, and video networks proposed in this document will need to be supported by on-site staff.

It is recommended that the District anticipate the addition to the data processing staff, a LAN administrator, whose duties will include maintenance of servers, backups and security of data and maintenance of user IDs. The data processing staff should anticipate additional responsibilities in the administration of the phone

and voice mail system. A second LAN administrator will become necessary when the number of servers exceeds ten.

An staff member will need to be trained as a video technician. A logical choice for these responsibilities would be the same person who serves as technical support for the proposed TV production studio and auditorium.

The number of electronic devices will increase dramatically as this plan is implemented. We currently have one person on staff who is responsible for the repair of these devices. Training opportunities and hours need to be provided for another person to handle the probable increase number of repairs. An appropriate choice would be an AV aide with experience on related equipment. The maintenance staff should also anticipate an increase in time to support moves and changes required to maintain the phone system.

5. Training

It is the combined responsibility of the Director of Data Processing and the Technology Coordinator to arrange for appropriate training opportunities, "in-house" or "out-of-house." Many training sessions will become necessary with all the new applications included in this proposal. Often initial training is included in the purchase of some of these systems. The determination of how much training is needed, who should get it, and when it will be provided is an ongoing process. The District should be prepared to adjust to training needs as they arise.

6. Application of technology in all the curricular areas

Every review of a curricular area should include a study of the resources available through technology. In some cases this is simply a preview of materials (videotapes, for example), but in other cases this study could reveal alternate teaching methods that become possible through the application of a technology (computer simulations, interactive videodisc, CD-ROM, for example). This is an emerging area. It is recommended that the curricular review that takes place in future Summer Institutes incorporate this type of study. The Summer Institute of 1992 is scheduled to include review of media and technology. It is critical that this group take the lead in expanding upon the K-12 Computer Curriculum to include other technologies and their impact on all curricular areas.

C. Summary

In looking at the proposed strategies there is not a one to one correspondence between each strategy and an objective. The following table is designed to show that all objectives are addressed by the proposed strategies.

	Objectives										
Strategies	1	2	3	4	5	6	7	8	9	10	11
A. Foundation Strategies											
1. District fiber optic network	x	x			x	x	x	x	x		x
2. Building cabling standards	x				x	x					x
3. Technology standardization	x	x			x	x			x	x	x
4. District computer network	x	x	x	x	x	x	x	x	x	x	x
5. District video network	x	x	x	x	x	x	x	x	x		x
6. District phone system					x	x	x	x	x	x	x
B. Solution Strategies											
1. Cost effective equipment placement	x	x	x	x	x	x	x	x	x	x	x
2. Technology in administrative support					x	x	x	x	x	x	x
3. Strategic timing of purchases											x
4. Staff support		x	x	x	x	x		x	x	x	x
5. Training					x	x	x	x	x	x	x
6. Technology and the curriculum	x	x	x	x	x	x			x	x	x

V. Conclusion

This document represents a strategy for implementation of technology in the West Ottawa schools for the next three to five years. While this plan presents a great deal of information on the deployment of technology, that is merely the beginning. Once the technological tools are in place, the real work begins. The placement of technology is only effective to the degree that it transforms the teaching and learning process. Further studies need to monitor our effectiveness and develop a plan to further integrate technology into the curriculum.

Technology continues to evolve as do educational methods and applications of technology. This plan must be updated on a regular basis to reflect the current trends in technology, and the direction of the District. It is recommended that this plan be updated on an annual basis. The update should include not only changes and refinements to the strategy but a review of the progress to date.

Appendix

Purchasing Policy for Instructional Computers

1. IBM
   -all new purchases (K-12) will be IBM.

   -every district classroom will be supplied with an IBM PC as funds are made available through the current bond issue.

   -each IBM PC will be networked (via Token Ring) to the AS-400 and a local server setup with IBM's ICLASS system.

   -each building will have networked IBM labs installed as needs and availability of funds dictate.

   -full district support (training, software, maintenance) will be available.

2. Apple IIgs
   -as of 7/1/91 Apple IIgs will no longer be acceptable for purchase.

   -full district support (training, software, maintenance) will continue for existing machines.

3. Other MS-DOS Machines (clones)
   -the district discourages use of funds in this area.

   -the district will provide support (training, software, maintenance for these machines) only as it coincides with the support given to similar district-owned machines.

NOTE:
-an individual whose computer needs cannot adequately be met within the guidelines listed above can appeal to the district's Technology Advisory Council, in writing, for an exception to be made.

-the district will assist all staff with any file conversion or emulation that becomes necessary as a result of this change in purchasing policy.