VISIONS AND REVISIONS

A WORKBOOK FOR
UPDATING AND EVALUATING TECHNOLOGY PLANS

Version 1.1
[Minor revision—March 2002 by Larry S. Anderson]

Prepared by: Seminar in Planning for Instructional Technology Graduate Students
Instructional Technology, Mississippi State University • Fall 1996—Spring 1997
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Thank you for your cooperation.

— Larry S. Anderson
March, 2002
Preface

The document you are reading currently is the result of hundreds, perhaps thousands, of hours of very hard, smart work on the part of some of the most wonderful graduate students I have ever encountered. I found myself as the recipient of a marvelous gift—the unbridled acceptance and love from eight gifted individuals—during our brief time together during the Fall of 1996. [Many of you know that I designed, and teach regularly, a course entitled Seminar in Planning for Instructional Technology as a part of the graduate Instructional Technology degree program at Mississippi State University. Rather than following the “traditional” professorial path of requiring students to write “papers” to be submitted only to the instructor, I ask them to brainstorm and create materials that will provide great service to others as they manifest their ever-increasing prowess in technology planning.]

From the very beginning of our semester together as a team of deep thinkers and doers, it became obvious to me that these young people were determined to create a work of amazing significance, something they could construct and share with the world, something that would represent a capstone gift from their hearts to the hearts of friends, even those yet unmet, anywhere on this planet. They made multiple contacts around the world, via the Internet, and used the knowledge they were gaining to undergird their persistence for excellence.

So, it is my sincere hope that each person who uses this Visions and Revisions document will discover new, novel ways to apply our efforts to your individual situations. Please let us know how you are using this book, as we will want to incorporate your suggestions into future editions.

I suppose you might be asking, “Just what is this document, after all?” The answer to your question is given in a section near the beginning of Visions and Revisions; suffice it to say, however, that this is a tool. This tool is designed to be used during work sessions or workshops where you and your colleagues are attempting to discern the most effective ways to update or evaluate your technology plan. You will spend a great deal of time with Visions and Revisions—that is, if you use it the way it was intended. The more you use it, the more beneficial a tool you will find it to become. I suggest, therefore, that you don’t anticipate maximum utility from the document when you use it “cold turkey” the first time. We who crafted the workbook found ourselves nodding with new understanding often as we brought it to life and as we used it during our own planning activities. I expect you will find the same thing happening the more you apply it to your work.

As the students launched into the initial development phases of Visions and Revisions, they incorporated strong group energy. They enumerated all tasks to be performed, all research to be conducted, and all timelines to be met. You will find a copy of the matrix they used to assign responsibilities. Also, you may notice that the entire planning and revision process is easier to understand as you study the matrix chart. The students showed an amazing work ethic; they were self-directed to meet specific time goals and exhibited astonishing persistence in striving to achieve their self-imposed milestones. I found myself being amazed at how smoothly they coordinated their efforts and how determined they were to prepare a first-rate document unlike anything else in existence. I wish you could have seen this process first-hand!!! What a testament to group dynamics, responsibility, organization, and leadership! They were powerful!

I would be remiss if I did not thank the hundreds of you who provided assistance, both direct and indirect, to the work these students accomplished. Through email messages, phone calls, and personal visits, you gave them just the answers they needed in a timely fashion. Too, you caused them to think in new ways, often. Specifically, several of you participated with our class in one or more CU-SeeMe real-time videoconferences. What amazing reality you gave us as we discussed principles, procedures, possibilities, and philosophies of planning.

Ian Thompson and Geoff Rehn [Ministry of Education and Murdoch University, Perth, Western Australia] met with us on multiple occasions. What a treat you two are! Thanks for your invigorating influence and positive encouragement. Ian and Geoff taught us how we should guard against making our writings become too “Americanized.” It amazed us how this new, fresh perspective on our writing caused us to critique many documents with this same global view. You two gents caused us to halt, ponder, debate, and scratch our heads on many, many occasions. We have decided to make Ian and Geoff “honorary members” of our class!

Bruce (Chip) Daley, Clark County (Las Vegas) Nevada Schools—you helped us understand new ways of applying our creative capacities to the entire planning/revision process. Chip, the questions you asked us were not always easy to answer. We learned soon, though, that you were interested in encouraging us to delight in the pursuit of solutions, not simply the solutions, themselves. You made us think in new ways. Thank you, my dear friend!
Harry Tuttle [Ithaca, NY School District]—you helped us understand the importance of community involvement. We appreciate your taking time to explain, in great detail, the multiplicity of human dynamics that took place during the creation of the Ithaca plan and what you and your colleagues learned during the process. Harry Adam [Lumby, British Columbia, Canada]—you gave so unselfishly of your time so that you could “walk us through” the planning and implementation process as it occurs in international areas. Words cannot express how strongly we feel that your words were pivotal to us as we shaped this document! Our collective, virtual hats are off to each of you for flavoring our lives and our work so positively!

My personal desire is that each person who reads and uses this document will have the great privilege someday to meet and get to know intimately each individual who had a part in developing Visions and Revisions. No doubt, this workbook has been crafted by true leaders in the field of technology planning—they have “earned their stripes” through amazingly hard work that represented their sincere devotion to helping people like you.

I entreat each reader to replicate the true love that we felt for you as we crafted this document. So, I ask that you join us in spreading love, hope, compassion, understanding, peace, joy, and encouragement throughout the entire world. I believe we all can make it happen—together—if we each make the strong commitment to accept the responsibility of sharing these feelings with even one person we encounter. I pledge to you that I shall make this commitment and, so, in the spirit of unconditional love, I offer this fantastic technology planning aid from my heart to yours!

Please send feedback and information to me as you see fit.

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Authors’ Comments——

As I reflect upon the process of developing *Visions and Revisions* in our “Seminar in Planning for Instructional Technology” course, one concept of technology planning stands out in my memory. Certainly, having vision is one of the most important and difficult aspects of planning for the future. However, when analyzing the unique phenomenon of revision—I found that the act of listening took precedence over all else.

Several aspects of listening became increasingly important. Listening to my team partners as we all developed this document. Listening to concerns and celebrations found in the original plan as we discussed what worked and what needed more thought. Listening to assure that what I perceived was what my teammates intended to articulate. Listening to every comment—beyond the words being said and toward the concepts and the direction that were implied. All these components of the listening act helped to show me how planning committees really work together.

Most importantly, while I took this graduate course and helped develop *Visions and Revisions*, I worked as a technology coordinator in a local school district. As we were involved in the process of revision of our technology plan, I continued to see the monumental impact of listening. That simple act can and will have an enormous impact on the visions and revisions of any technology plan.

—Kameron Conner Ball

Before I took the class, “Seminar in Planning for Instructional Technology,” I had no realistic idea of what a technology plan was, much less what made a plan strong or weak. My undergraduate degree is in Communication with an emphasis in Public Relations, so I did not have a strong technology background prior to this class.

As we discussed technology planning concepts, I began to realize there was more to technology than wires, cables, disks, and software. I found that, just as a basketball team must work together to score a goal, a technology planning team must work together in the very same way to write and implement a technology plan for their school district or business. Like a technology planning committee, each member of our class had very different backgrounds and came together to create this document. We each had different strength areas that allowed us to contribute to the entire process in our own unique way. A technology planning committee must build off of the other members just as we did, to be successful. I learned that the people involved with the technology are the core to the whole process. When you lose sight of the needs of your teachers, students, administration, and community and place the most focus on technical things, you lose sight of what is most important. You must analyze the needs of the people who are involved and affected by the technology first. Only then can you incorporate the technology with the needs of the people to work together, build off of each other, and grow together to work toward the ultimate goal.

—Leticia Causey McCoy

To me, effective technology planning is more about service and action than anything else—mental action, physical action, emotional action, and spiritual action. On the one hand, the written plan is a useful map of how to get from “here” to “there.” On the other hand, it can be merely yet another collection of words in an age when—with the help of the Internet—we are virtually overrun with words. How many of our minds are frazzled with data and information overload? Yet, as some anonymous sage once said, “actions speak louder than words.” Technology planning means doing, not simply talking or writing about doing. It involves analyzing needs (including learning needs), communicating those needs, and then accepting responsibility and working (moving) together to make sure that those needs get satisfied.

—Steve Gareau, Starkville, MS (by way of Montreal, Quebec)

It has been said that “without a vision, the people perish.” VISION: Discover the needs, goals, dreams, paradigm shifts, and plans that will ignite and sustain the process of technology planning. Look for it under your feet—in your teachers, in your students, in your neighbors, and their businesses; look for it in an ever-expanding cone of vision in regional, state, and global contacts. But be sure to look for it in PEOPLE: The core of a technology plan/process. They provide the spark, the purpose, the finances, and the genius for any accomplishable, sustainable technology goals. They are your stakeholders—seek them out, hear them, be patient with them, include them, inform them, and love them. When a technology plan is well-thought-out and organized upon this type of foundation, it will probably not PERISH, but become a living and fluid process that is an extension of the vision of the people.

—Randell Foxworth, Starkville, MS

Creating this document required tips and ideas from people who are considered experts in technology planning. We spoke with and corresponded through e-mail with many people about technology plans. I am new to technology planning. I have a Bachelor of Business Administration degree and am pursuing a Master of Science degree in technology, currently. I usually think along the line of “how much will it cost?” Value must also be considered. Someone once said, “Education is
the only commodity in the world which you do not want what you pay for” (unknown). This statement is not true for technology. Quality versus price is always a trade-off with a limited budget. Value becomes an important issue. Do not purchase equipment just because it is cheap! Three ideas to remember are; purchase quality; get parents and teachers involved; and always promote teamwork. We created this document through teamwork and many visions toward a single goal. At times, the visions took us in different directions, but we worked together and met the goal.

—Brian Roberts

The *Visions and Revisions* technology plan workbook, prepared by the “Seminar in Planning for Instructional Technology” Graduate Students (Fall 1996), was developed to aid educators in developing a technology plan. This document, that uses a hypothetical school as an example, attempts to aid educators to anticipate possible problems during the technology planning process, rather than after equipment has been purchased and implementation has begun. In the *Observations and Adjustments* section of this document, the main plan is examined in detail for potential implementation and maintenance difficulties. Through careful and knowledgeable planning, an excellent technology plan is the first step toward purchasing the perfect hardware and software to enhance the educational environment.

—Selena Nawrocki
The Visions and Revisions Project

or...

"How to use this document"

This workbook was created to expose technology planners to issues and concerns associated with the implementation of technology into a professional environment and challenge them to evaluate a hypothetical technology plan and discuss any changes or additions to the plan. The main purpose of this document is for technology planners to have a way to carry their own technology plan a step further into the revision stage. As a class, we realized that, throughout the first year of implementation, many observations should be made about a school district’s current plan (both the written document and the manner in which the activities associated with the written plan are carried out). As in any situation, things change or do not work out the way one might intend in any working environment. Therefore, keeping the observations in mind, a technology committee would make adjustments to the plan to revise it for the upcoming year. That is the purpose of the Visions and Revisions document. It is intended to make a technology committee think about issues involved with a technology plan, but more importantly, help them work together as a team to accomplish their goal(s).

Creating and implementing a technology plan brings many obstacles. That is why it is so important for a technology committee to build on each other and work together. Compromise and commitment are so important when trying to work for the good of the whole rather than of each individual interest. Do you think the first people who wanted to implement technology quit when they ran into problems? No! If they did, none of our schools would have the wonderful resources they have today due to the technology. Technology planners were committed visionaries, and self-starters. As in any project that is alien to most people (especially at the outset), technology planners today will work extra hours, influence many people, and face many obstacles. The work you do today as a technology planner will pay off tomorrow and take educators and students to new heights never explored previously. Students will experience other cultures, travel to other countries, learn at their own pace, and be exposed to new courses and teaching methods because of technology and these technology planners. According to world-renowned speaker and author, Zig Ziglar, “leaders never developed by going DOWNHILL. They had hills to climb to get to the opportunities.” As technology planners, we have many hills to climb. But where there is a hill, there is an opportunity at the top of it waiting to see how you handle it.

Purpose of the project: To provide a workshop resource document that would aid in the process of revising existing technology plans.

Process used to develop the project: Our graduate-level “Seminar in Planning for Instructional Technology” course began the semester by investigating technology planning procedures, establishing networking contacts with technology planning experts, and incorporating motivational materials into technology planning concepts. As we accomplished these goals, we began to look for a project that would help meet a need in the field of technology planning. It became apparent to us that numerous resources existed to help technology planners develop their initial plans. But what about the thousands of plans that have been in existence for a year or two and are now in need of revision? We discovered that few, if any, resources exist that are designed to help in the revision process. [As a matter of fact, we looked long and hard to find anything in the way of a resource to help with revision, specifically, and found absolutely nothing! Hence, this workbook.]

We began, therefore, the task of designing a technology plan for a hypothetical school district. The plan was designed to have three sections: Section 1 was to be a technology plan with built-in flaws (a process we found to be more difficult than we had anticipated!—we wanted to make it “right”); Section 2 was designed to be a list of comments and observations from stakeholders during the first year of the plan’s implementation;
and Section 3 was to be a list of possible adjustments that could be made to the plan (Section 1), based on the feedback from the first year of implementation (Section 2).

To accomplish this task, a matrix (see page 13) was constructed that listed each topic to be included in the Plan (Section 1) and a corresponding slot for the Observations (Section 2) and the Adjustments (Section 3) portions of the project. A project recorder was designated (we chose Randell Foxworth for this task). As students created a Plan, Observation, or Adjustment segment of the project, they emailed the segment to the recorder. The recorder then compiled the segments, marked where they fit into the matrix, and reported to class members what matrix items were or were not filled. Once a substantial part of the matrix began to fill up, remaining components were assigned to specific class members to assure satisfactory coverage of the matrix topics. Responses were then compiled, printed, and edited. [Dr. A’s note: I wish all of you could have watched this process unfold—truly a sterling example of true collaboration, teamwork, and coordination!]

Procedure for using the project: The project was designed to be used in a workshop setting, as follows:

Phase I: Section 1, the Plan, is to be handed out to workshop participants for them to read and evaluate individually and in small groups.

Phase II: Section 2, the Observations, is to be handed out to workshop participants. Each small group can then decide what, if any, adjustments can/should be made to the plan as a result of feedback in the Observations section.

Phase III. Small groups report to the workshop about any changes they would make to the Plan. The workshop leaders lead a discussion around the changes suggested (or not suggested) and the reasons for these decisions. The Adjustments section of the project, a list of possible adjustments to the Plan, based on the observations, is a resource for the workshop leader(s) to aid in leading the discussion. [One way of thinking about this section is that it might be called, “the answers in the back of the book.”]

It should be noted that no planning resource can be all-inclusive. It is understood that the Plan section may not be a complete technology plan, that more Observations could be made about the Plan, or that numerous other Adjustments could be made other than the ones listed. We hope, however, that the project can be used to initiate the thought processes that are important to the revision of technology plans.
You may have seen reference to the fact that my graduate students became immersed in what I call “Success Literature,” so they could enhance their understanding of the intensely-rich creative and supportive environment in which they would be operating during the semester. As they read the books and listened to the audio tapes, I asked them to compose an email message to the class in which they attempted to “bridge” the concepts embodied in the tape programs to the principles of technology planning...and how these principles could be applied directly in the lives of planners. The following is just one of the messages that represents the supremely high-quality of thought and insight exemplified by these graduate students. As you read this, I believe you will become as proud of them as I am! Certainly, Mr. Ziglar was looking forward to meeting Leticia Causey after he read this epistle!

—Larry S. Anderson

From: Leticia Causey <mlc4@Ra.MsState.Edu>
Reply-To: ttk8763-01@msstate.edu
To: Multiple recipients of list <ttk8763-01@msstate.edu>
Subject: Over the Top

OVER THE TOP—By Zig Ziglar

Wow! These two tapes are really inspirational! Zig really knows how to take basic concepts and apply them to all walks of life. This tape talks about concepts related to our personal and business lives.

1. The first basic concept Ziglar mentions is the size of our HOPE determines our success and place in life. In anything we do, it is up to us how successful we are. Ziglar says we are to:
   1. Plan to win
   2. Prepare to win
   3. Expect to win

   In our personal, professional, and spiritual lives, the way we perceive ourselves and the actions we take determines our happiness and success. I do not think Ziglar meant success equals the amount of money we make or the power we hold over people. I think to be successful means to make a positive difference in the personal, family, and business lives of other people. By doing this, we will make a positive difference in America and the world as well (Ziglar mentions this).

   I think this concept can be applied to technology planning. Before we can influence our schools, country, and world with the importance of technological advancements, we must make an effort to be humanistic with other people. We don’t need to get caught up with the kind of software to use, which wire goes where, the cost of the implementation, etc., until we develop personal relationships with those we are working with. Ziglar says that we can have and do whatever we want to in life if we help others get what they want. Building a personal relationship with others by offering a word of encouragement, listening to their ideas and needs (Stephen Covey), and helping them out in whatever way needed will establish trust, credibility, and open-mindedness.

   Whether it is trying to convince the school board we need funds for technology implementation, encourage elementary & high school teachers to learn computer applications, or persuade community and parent stakeholders to support the project, we will gain more ground and have more success if we make a difference in whatever way needed in other people’s lives.

An objective Ziglar mentions is:
1. Help you survive in this world
2. Help you move from survival to stability
3. Move from stability to success
4. Move from success to significance
In order to be more influential people in others’ lives and more successful, we must first become better people ourselves and learn to survive. Ziglar talks about several things throughout these tapes that will help us have a more positive self image, become more motivated, and achieve our goals.

2. Ziglar mentions the importance of commitment. If we make a commitment to something and run into an obstacle, we immediately start looking for a solution to the problem. If we aren’t committed, we look for a way out and avoid the problem all together.

Do you think that the first people who wanted to implement technology quit when they ran into obstacles? NO. If they did, none of our schools would have the wonderful resources they have due to the technology. Technology planners were committed and self-starters. As in any project that is alien to most people, these planners had to work extra hours, influence many people, face many obstacles (and still do). But the GENIUS in them allowed them to concentrate on the issues they were faced with. Their work is paying off and technology is taking educators and students to new heights never explored before. Students can experience other cultures, travel to other countries, learn at their own pace, and be exposed to new courses and teaching methods because of technology and these technology planners. Ziglar says that leaders never developed going DOWNHILL. They had hills to climb to get to the opportunities. Technology planners have many hills to climb. But where there is a hill, there is an opportunity at the top of it waiting to see how you handle it.

3. Another concept Ziglar mentions is discipline. Discipline, along with commitment, are crucial to being a leader and team player. This can affect personal and business lives. Ziglar says that discipline and commitment become an irreversible decision you’ll do today what most people won’t, so that you’ll have tomorrow what most people can’t.

Being a team player is crucial to technology planning. There are so many responsibilities for a technology plan to be a success. One person cannot do it all. If you are the head of a team, you must be disciplined to your work and committed to the project if you expect others to do the same. Harmony within a group produces a more cohesive group. It is amazing what can be accomplished when a team of technology planners are committed to each other. Commitment and discipline within a team breeds a leader of tomorrow. Productivity will increase and success becomes inevitable.

4. Being dedicated and committed is so important in our personal lives, too. What happens in one phase of life affects all other phases. We all want a home, friend, love, peace of mind, happiness, health, good family relations, hope. Taking care of these riches that money can’t buy can give you all life has to offer!

5. Another point Ziglar makes is that delaying gratification now, will repay more later. Your attitude about the whole situation, whatever it is, makes the difference. Ziglar defines gratitude as “being glad you have a job and a chance.” This is the healthiest of all human emotions. Revenge is the most destructive. By expressing gratitude for what we have, we’ll have more to express gratitude for. He says what we send out is what we get back.

6. The next point Ziglar makes is MOTIVATION. This is the picture you have of yourself. The most important opinion is that of yourself. Motivation gets you going. This positive thinking will let you do everything better. It lets you use the ability you have and you’ll see more achievement—you have more hope. It is also important to remember that with anything we do, we will encounter failure. Ziglar says something we should always remember: Failure is an event, not a person. Failure can be a motivator and we learn from it. It is an attitude, not an outcome.

I think these points are important to technology planning because we must be motivated and motivate others. I think motivation and a good attitude are contagious. A simple word of encouragement can
make all the difference in someone's life. A teacher can encourage a struggling student who just cannot grasp the software. A technology specialist can motivate the frustrated teacher who has been teaching 30 years, how to make a multimedia presentation. Motivation is important to the technology committee because they have the difficult task of planning the implementation and all that goes with it. A technology planner must be motivated and committed and stick with his project. If he does all this, he will find solutions to any problems that might occur because success and the outcome are important to him.

7. The rest of the tapes deal with so many self-help ideas. Ziglar talks about how important our inside qualities are for our success in all areas of our lives. These may not be directly related to technology planning, but I believe they affect our personal lives, and each phase, as Ziglar says, affects all the other areas, too. By becoming a better, more confident person, we will be happier at work and dealing with other people. We will be more influential people as well.

Ziglar says to take pride in what we do and be consistent. He says a faith is very important because it helps us establish our values. Our values affect our goals and our convictions about ourselves. The qualities we want to have need to be taught at home so they will become ingrained in our minds.

Zig concludes by mentioning goals that we must achieve in order to help ourselves be better people (in turn it will help others):
1. To be more than we are
2. We'll never be happy unless we do for other people.
3. We can do something about our happiness
4. Plan time with our families—it affects our happiness
5. Plan on winning
6. Our past is important because it brought us where we are, but deal with it, bury it, and plan for the future
7. Don't make exceptions for achieving a goal
8. Give to others

Ziglar mentions quite a few more things that will take us "Over the Top." They add to being the right kind of person can lead to all the other by-products in life that we want.

In technology planning, we must always remember that, although we can manipulate machinery, we cannot (or should not) manipulate people. We must work on becoming better people, practice some of Ziglar's points, and communicate them effectively to others.

If we have hope, motivation, commitment, discipline, a good attitude, and teamwork we can work effectively with people. We will focus on critical issues related to technology planning because we will be more aware of the human side of it. We won't get so caught up in the technical side of it (although very important), and we'll focus equally on the curriculum being taught using the technology. We need to be a committed person and have a positive attitude if we are going to persuade others to work with us on a technology plan, or if we are going to persuade and draw community, parental, and other stakeholder support. We will charge obstacles instead of running from them by being committed. Applying Ziglar's concepts can affect technology planning in so many ways because we deal with people in everything we do. Without good relations with people, a technology plan would not be that important.

This tape was great! I hope everyone enjoys it!
Leticia

******************************************************************************
Leticia Causey       mlc4@ra.mstate.edu
******************************************************************************
This is a sample of the type of worksheet used to develop *Visions and Revisions*. Each team member chose an area on which to work. The member’s name was written in the matrix cell corresponding to the topic for which they accepted responsibility. This technique enabled all members to keep track of who was doing what, as well as getting a visual image of the progress being made. Thoughts and ideas were shared with each other at each “team meeting.” Once an entire section was satisfactory, it was checked off the list. This worksheet was very helpful as an organizational tool with the added benefit of increasing motivation.
PART ONE

THE PLAN
# Mitchell Heights District Technology Plan

## Part 1—The Plan

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The Mitchell Heights School District Technology plan would not be possible without the support and dedication of many people. The school district thanks all students, parents, school board members, teachers, and community leaders for their input into the development of this document. We appreciate their hard work, unselfish dedication, and sacrifice to develop and produce the final product.

Mitchell Heights School District specifically thanks the members of the district technology committee for the effort and tenacity they showed as they developed a plan that will provide an initial thrust to technology upgrading, integration, and utilization in our schools.

This technology plan is a result of the interest and commitment of Tristal Bender, Superintendent of Mitchell Heights School District, and the members of the Board of Education. The charge from Bender was to provide a plan for the significant investment of resources to reach the district’s technology needs that included networking, hardware, software, staff development, maintenance, and technical support personnel. Bender’s leadership and support are appreciated greatly.

EXECUTIVE SUMMARY

The coordinated integration of technology systems into the curriculum of the Mitchell Heights School District will establish a creative renaissance of intellectual growth within the community. The city of Sharpon recognizes the importance of technology as an educational tool for innovative teaching and learning that maintains a competitive educational environment. Students will be enabled either to join the work force or gain entry into an institution that grants baccalaureate degrees.

Computer literacy enhances students’ social interaction for learning and problem solving. The Mitchell Heights School District Technology Plan proposes the introduction of technology systems in the form of hardware, software, networking capabilities, and personnel to complete the mission for a technologically-enhanced future for the school district.

Computer usage in K-12 classrooms establishes an environment conducive to cooperative learning which enhances communication skills. Although computer systems were first introduced into the Mitchell Heights School District in 1992 with the purchase of now-antiquated Macintosh and PC-DOS machines primarily for staff usage, a formal technology plan which encompassed the city district was never formalized. With the acceptance of the referendum to merge East and West High Schools into a single school and the approved construction of a new high school, the need for a district wide technology plan is paramount.

With access to the limitless splendor of the world-wide networks from the classroom, library, and computer laboratory, students will be able to develop their information gathering, evaluating, and reporting skills. Educators who are computer literate in their understanding of technology, tools, and resources, may function on an elevated plateau in ensuring specialized instruction for each student. Computer knowledge is more than merely seeking an acquired knowledge, but rather securing a new vocabulary of creative expression leading to greater heights of understanding in any subject, with a strengthened path of assimilating information.

Mitchell Heights School District teachers will prepare to meet the challenges of the 21st Century by joining a global community in which ideas and strategies may be shared with fellow colleagues throughout the Internet. This technology plan provides the catalyst for creating the required infrastructure for technology implementation—in equipment, organization, and human resources. Growth and adjustments at critical stages of implementation are incorporated into the plan; however, continued funding is mandatory to guarantee the successful integration of technology within the Mitchell Heights School District.
VISION STATEMENT

“There are obviously two kinds of education. One should teach us how to make a living, and the other how to live.” (John Adams)

Mitchell Heights School District believes that all students should acquire the skills needed to work, live, and learn in a society which relies on technology—particularly information technology skills. Students of the 21st Century will have volumes of information made available to them through a variety of current and developing technologies. Students need to be prepared to access, interpret, analyze, and communicate that information successfully in both life and work applications.

Mitchell Heights School District also believes that all of its children deserve an education which will provide them with the opportunity to become active learners and productive citizens throughout their lives. Our intent is to create a district technology direction which will support learners in developing their maximum intellectual potential, personal and social responsibility, and skills and knowledge in preparation for their working lives.

Finally, as a community of learners which believes in lifelong learning and in learner-focused schools, the district believes that the needs of the individual learner should be assessed and addressed continually.

MISSION STATEMENT

Mitchell Heights School District feels that the infusion of technology into the learning environment will empower students to go beyond traditional learning boundaries to become independent and interdependent learners, interacting with virtually anyone, anywhere, and at anytime. It is with this attitude and ability that challenges of the future can be met successfully.

The new era of technology will require students to have skills needed to work, live, and communicate efficiently and effectively. In order to be competitive in this new era, students must be able to:

- develop and maintain computer literacy and competency;
- think critically and logically; use problem-solving strategies; and be creative;
- communicate effectively with others across the world;
- find and navigate information; and
- master technical skills.

The new era of technology will require teachers to be able to:

- prepare students for the future;
- create learning-centered, technology-enriched environments;
- become facilitators of learning;
- develop and analyze learning applications which meet curriculum goals;
- communicate effectively with others around the world;
- understand and use the Internet; and
- plan for the use of future technologies.

The new technological era will also challenge administrators to become computer literate. Administrators must be able to foster and support the needs of teachers and students by becoming learners of technology. Administrators must be able to:

- understand the ethical responsibilities of computer use and programming;
- understand how to communicate efficiently and effectively with other administrators, teachers, and students;
- provide leadership in the infusion of technology into the classroom;
- foster and support the planning and implementation of technology;
• be willing to purchase computer equipment and other needed supplies so that students will be able to stay in tune with new technologies; and
• use technology in administrative processes.

Finally, the new technological era will require communities to support the use of technology in schools; enable the learning environment to expand beyond the classroom; join in learning new technology uses; and be patient in allowing new learning processes and methods to develop.

The mission of the Mitchell Heights School District, then, is to encourage an environment in which students, teachers, administrators, and the community can utilize technology as a tool for finding information, learning, and communicating with others.

**P/8 DEMOGRAPHICS**

The Mitchell Heights School District is located in Sharpon, Mississippi. It is approximately three miles east of the Marvin Theatre for Children. Much of the economy centers around the paper and timber industry and farming in this rural town. Approximately 45% of the district's employees are blue collar workers, while 55% are professional workers. The ethnic makeup is 75% black and 25% white with no other minority present.

The Mitchell Heights School District enrollment has increased an average of 7% per year over the past six years. This increase is projected to grow to 25% per year starting in 1999. Currently, the district's 1950 students are distributed in four main school campuses. They are as follow:

- Sharpon Pre-School (ages 4-5) 150 students
- Lee Hall Elementary School (Grades K-5) 800 students
- Mitchell Middle School (Grades 6-8) 400 students
- Sharpon High School (Grades 9-12) 600 students

The Mitchell Heights School District employees 150 teachers. Due to the proximity of a State University, 35% of these teachers hold a Masters Degree or higher.

**P/9 COMMITTEE MEMBERSHIP**

Co-Chairpersons:
- Mary Burton - Vice-Principal, Mitchell Middle School
- Preston Morris - Vice-Principal, Sharpon High School

Committee members:
- Karen Anderson—Parent
- Pat Boswick—Parent
- Tom Brooks—Manager, Sharpon McDonald's Restaurant
- Marie Camolini—District Assistant-Director of Media Services
- Mel Desjardins—Teacher-Technology Coordinator, Sharpon High School
- Rick Fox—Parent
- Shari Grainger—Teacher-Technology Coordinator, Mitchell Middle School
- Walt Gonsalvez—District Assistant Superintendent
- James Harris—Student, Sharpon High School
- Fred Hill—President, Beaver Electronics, Ltd.
- George Jurczak—Technology Consultant, Networks
- Ralph Klein—District Assistant Director of Instruction
- Bob Manning—Vice-Principal, Lee Hall Elementary School
- Travis McAndrews—Student, Mitchell Middle School
- Sue Orenchuk—Parent
P/10  GENERAL INTRODUCTION

In general, there are a number of important guidelines to follow in developing an effective and efficient educational technology plan. Mitchell Heights School District supports these guidelines and has attempted to incorporate them into the technology plan presented here. These guidelines are as follows:

Effective technology plans are short term and constantly being reviewed and re-evaluated—not fixed or long term. A technology plan is a living, working document which is still in the process of development—almost like an ongoing conversation among plan stakeholders. The need for a “living” document which gets revised on an annual basis makes sense because technology is ever-changing and plans cannot remain static if they are to provide appropriate direction.

Effective technology plans focus on learning needs and applications, not on technology. In other words, an effective plan specifies what students, staff, and administration should be able to do with the technology; those outcomes determine the types and amounts of technology required. “Effective technology plans define technology as more than computers” (John See, 1995). There are many other types of technology which have appropriate uses in education—some more effective than others for certain educational/instructional goals and objectives.

“Effective technology plans go beyond enhancing the curriculum” (John See, 1995). In other words, why buy expensive computer technology to enhance the curriculum when the same thing might be accomplished with a $20 filmstrip? Or why spend thousands of dollars on a computer lab to teach computer literacy or keyboarding when the same skill might be learned using a good textbook or an old typewriter?

By “technology,” we are referring in this plan to any tool—be it electronic, computer-based or otherwise—or new way of doing things, that could help us with our day-to-day tasks in the school. For example, “technology” could include: computers, software, printers, FAX machines, photocopiers, telephone system, overhead projectors, flip charts, alternate course delivery method, etc.

The scope of possible uses of technology is broad as well, and could include: (a) course delivery (e.g. classroom activities, distance learning, self-instruction, classroom research, etc.); (b) course development (e.g. instructional materials, multimedia, computer-based training, instructional videos, etc.); and (c) administrative tasks (e.g. class lists, student evaluations, school record-keeping, library indexing, etc.).

Technology, in the educational context, provides us with the tools to improve instruction and enhance student learning. Technology is not an end in itself, but rather, a means to achieve our overall goals.

P/11  DATA COLLECTION, ANALYSIS, & REPORTING

Of approximately 200 surveys (see Appendix A) that were distributed among Mitchell Heights School District staff, 85 surveys were returned. These surveys indicated the following:

- The staff of our school district believe technology is an important issue;
- There is a strong belief that changes must be made to keep current;
- Most staff members are well motivated to take part in in-service training;
- Staff who are currently uncomfortable with computers are virtually all willing to learn to use computers and related technologies;
- There is a significantly large group of staff who perceive themselves as being technologically literate; yet, there are also significant numbers who feel that they are illiterate or only somewhat literate;
• Nearly all technologically-literate staff have gained their levels of expertise by being self-taught;
• Staff are divided as to whether they should have to work with obsolete equipment—The majority wish that more modern, up-to-date technology was available for use.
• The five most important technology items that respondents currently do not use but would be willing to use, given availability and training were as follows: (1) computer networks; (2) multimedia; (3) scanners, digitizers, plotters and digital cameras; (4) CD-ROMs and laser disc players; and (5) a satellite system.
• The underlying basic technology for the use of the above peripherals and network uses is, of course, the computer.
• The greatest use by students of computers is currently for word processing and keyboarding practice.

P/12 PLAN PREPARATIONS

Two years ago, in early June, the District Superintendent of Education—Mr. Horace McElwaine—called a meeting in his office with the principals of the four schools in his district.

“Although we have computers in our schools now, we must keep moving forward, people!... I think we’re falling behind, and unless we get a move on, the students in our district are going to be at a real disadvantage... I’ve got a State Technology Planning Report here that I’d like all of you to read...”

“I’d also like you all to start pulling together a Technology Planning Committee... Their mandate will be to put together a Technology Plan and then, with our help, implement it....”

“Be assured that State Superintendent Smith is real big on this... As you all know, the State Legislature has appropriated plenty of funds for both a Statewide fiber network, as well as for upgrading the educational technology in all of the K-12 schools in the State.”

By early July of that year, a Technology Planning Committee had been assembled. It consisted of a mix of school administrators, teachers, technical personnel, parents, students, and local business people from each of the four school constituencies (see the preceding “Committee Membership” section). Vice-Principals from two of the district’s schools—i.e. Mary Burton of Mitchell Middle School, and Preston Morris of Sharpon High School—were assigned the committee chairperson roles.

The Technology Planning Committee was given the following official charge: “to design, develop, implement, and evaluate a comprehensive and ongoing educational technology plan for the Mitchell Heights School District and its constituents. This plan must be in place by September of the following year.”

In each of the four schools within the district, the principal assigned one teacher to act (in a part-time capacity) as “Technology Coordinator.” Each of the four principals also contacted various parents, students, and business people, seeking responsible and knowledgeable people to sit as volunteers on this new committee.

Response from the community was good, and the Technology Planning Committee held its first meeting two years ago, on Tuesday, August 6. From then on, the Committee met on the first Tuesday night of every month.

One of the first major tasks of the Planning Committee was to conduct a district-wide inventory of existing educational technologies, as well as to conduct a technology needs assessment among the various district stakeholder groups (i.e. teachers, students, administrators, parents, local business people, etc.). The results of the inventory survey are presented in the “Equipment” section of this document; the results of the needs assessment are presented in the “Data Collection, Analysis, and Reporting” section.

During the initial few months of planning, various team-building exercises were arranged for the Technology Planning Committee, as well. These activities included such things as: technology planning simulations and role-playing; visits to other school districts and meetings with their technology planning personnel; attendance at various state and regional technology planning conferences; etc. The intent of these exercises
was to strengthen and invigorate the technology planning team and, hopefully, prepare them for the potential chaos and/or lethargy associated with a project of this scope, complexity, and magnitude.

The technology plan presented here was completed in early June of last year. After completing this document, the Technology Planning Committee took the summer off, and then resumed their monthly Tuesday night meetings last September. At that time, the implementation of the plan began as well.

Included in this document was a chronicle of some of the events that occurred during the first year of the Plan’s implementation between September of last year and August of this year.

P/13-A

PUBLIC RELATIONS

The Mitchell Heights School District will implement a strategic public relations (PR) campaign to help integrate the technology plan. A special task force will be assigned to develop the PR program. The primary focus of the PR campaign is to determine the most effective ways to gain support and enthusiasm from the community, faculty, and students for the technology plan, illustrate the need for the plan, and create a desire for the plan. A secondary focus will be to maintain the school district’s relations with all the publics in the community after the plan has been implemented. They are important to the continued success of the plan; therefore, the public relations plan is an ongoing process because it can help our district establish new contacts, gain more resources, and build sustainable bridges of relationships.

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The first step is to target the key publics in the school district which include students, faculty, administration, parents, and the school board. The secondary publics consist of the town’s community stakeholders (businesses, non-profit organizations, churches, media, etc.), alumni, and the area legislators.

The second step is to develop a plan to target these audiences. The main objective will involve showing all the audiences how large a stake each has in the success of the school district and increasing their commitment and involvement to the plan. The key is that a strong, competitive school district attracts new citizens, which increases the population, which attracts new businesses. A strong school district is the backbone to a positive living environment and a thriving community. As stated in our mission statement, we want to provide students in Mitchell Heights School District with the necessary skills to become independent and interdependent learners so they will be competitive in a changing world and rise to become the leaders of tomorrow. In order to accomplish this, the PR Team will work to build collegial relationships among all stakeholders by developing strategies to increase support for the Mitchell Heights technology plan. The whole process is a cycle—all parts are important to and affect the other parts. Our goals are to form bonds among all the stakeholders and to cultivate pride within the community.

The Technology Committee will meet with the faculty at the elementary, middle, and high school to discuss the technology plan in detail. A representative of the committee will explain what role the faculty and administration will play in the overall technology implementation process. A survey will be given at the end of the session to obtain feedback, ideas, and suggestions. A Question-and-Answer session will be included. This meeting will help establish trust in the plan and confidence in the committee.

The PR Team will hold a general assembly at each of the three schools for students and faculty to discuss the plan’s expectations. A video will be shown to demonstrate a technology-enriched classroom from another school district. Students and teachers in each district school will be videotaped discussing interesting technology-enriched programs they have developed to teach classroom subject matter. This is aimed to motivate the students and increase their enthusiasm about the technology classrooms.

The PR Team will distribute a newsletter to the elementary, middle, and high schools every other month discussing the technology changes and events taking place in each school.

The PR Team will target school alumni and any other community citizens at the High School’s Homecoming by sponsoring a raffle for a prize donated by a local business. The money raised will help buy computer software or hardware.
The PR staff will also work on various fund-raisers and publicity events to raise money and support for the school district’s technology plan.

**P/13-B**

**EQUIPMENT**

**Current Inventory**

I. Computer hardware available currently in the Mitchell Heights School District includes:

- **Sharpon High School**
  - 25 Pentium III computers
  - 3 Macintosh computers
  - 4 inkjet printers (1 Mac)

- **Mitchell Middle School**
  - 20 Pentium III computers
  - 2 inkjet printers

- **Lee Hall Elementary School**
  - 5 Pentium III computers

- **Sharpon Pre-School**
  - 2 Macintosh computers in Library

II. District hardware plans—Two computer labs will be constructed at each school site. Each lab will be set up in a Novell network environment, have 25 work stations, and have one heavy-duty networked laser printer. Five computer work stations will be set up in each library.

A. Computers will meet the following specifications: Pentium IV processor, 256 MB RAM, 1.44 MB floppy disk drive, one parallel port, two USB 2.0 ports, IEEE 1394 Firewire card, mouse, keyboard, Ethernet network interface card, 15” color monitor, & 60 GB hard disk drive.

B. Printer: high speed heavy duty laser

C. File Server: Pentium 1V, 1 GB RAM, 1.44 MB floppy disk drive, one parallel port, two serial ports, USB 2.0 port, IEEE 1394 Firewire card, mouse, keyboard, Ethernet network interface card, 15” color monitor, 160 GB hard disk drive.

D. TV monitor

E. VCR

F. Computer desks

G. Hubs/Switches

H. Routers

I. CSU/DSU

**P/13-C**

**IMPLEMENTATION**

Implementation is much more than putting various technologies into schools—it also means an in-service professional development program which encourages leaders and teachers to implement computer-use strategies.
Without in-service training and strong peer leadership, such a plan may remain in the domain of the few, rather than a plan for all students and all teachers. Implementation includes many critical issues, such as: personnel and in-service training; school-based implementation and support; district-wide implementation and support; teachers' hardware and software needs; and maintenance, repair, and replacement.

I. Personnel and in-service training

Perhaps the key element in moving toward such an educational environment is the teacher. Teachers must have instruction on the use of software packages, and time to explore and experiment with the emerging technologies.

Beyond instruction, teachers will need to have access to thoughtful lesson plans which integrate technology into various curricular areas, as well as have the opportunity to see other teachers model various methodologies and teaching styles.

II. School-based implementation and support

The increased use of technology at the school level makes the need for on-site technology support for teachers and students a necessity. Identified individuals will work closely with school staff, students, and district administrative officers to develop a framework of support (training and in-service, troubleshooting, teaching students specific skills, etc.).

This position would be recognized in a fashion similar to the department heads. The primary role of school-based support is to provide leadership in curriculum integration using technology.

III. District-wide implementation and support

To support the implementation of the technology plan, district-wide support roles need to be maintained and reviewed on an annual basis. These include:

- a full-time computer/multimedia technician; and
- a part-time curriculum advisor and trouble shooter

IV. Teachers' hardware and software needs

Teachers need to have access to computers and emerging technologies for:

- planning
- curricular development and resources
- assessment and evaluation
- communication
- student enrichment

P/13-E  PROFESSIONAL DEVELOPMENT

The investment in technology includes an investment in human resources. Training, maintenance, technical support, and time to learn to use the technology are to be an ongoing process and key priorities in budget considerations. Employees cannot use the technology without continuous support. The roles of the administration and community are critical in fostering sustained use of technologies. The entire district will work with schools to provide motivational support for teachers, parents, and community. When it comes to learning technology, “hands on” training is a necessity. ALL staff MUST have the chance to make the computer (camera, robot, calculator) work, and gain confidence in their own competence, before they try the same thing with their own class or work task. Access to equipment is essential. It is extremely frustrating for teachers to learn to use technology in a workshop, then return to a classroom where the technology is not readily available. Follow-up support and coaching is as essential to effective staff development as is the learning experience. Individuals DON’T “learn it all” at a training session even if it extends over several weeks.
Mitchell Heights School District will develop a financial incentives plan that encourages teachers to buy computers—interest free—if paid in full over a period of three years.

Teachers will be given staff development credit for each day of technology training they attend. Also, substitutes will be provided for teachers as they attend conferences and workshops. Teachers who attend technology training will be given first consideration as new equipment is purchased and distributed.

All purchases will be conducted through the process of bidding, when possible. Bidders must submit a silent bid for the contract. The cost of adequate software must also be evaluated when purchasing new machines. Purchases may also be processed on the open market, if necessary. The curriculum development team will determine what technologies will be taught. After these decisions are made, the proper equipment and software will be purchased to maximize the benefits from technology. The equipment vendor will supply easily-upgradable equipment and will provide adequate support.

Realizing that technology implementation is expensive, the planning committee will reach out to community resources to seek help with some of the costs and labor. This section also ties into our PR plan, because if we establish good relations with businesses, clubs, and organizations within the community, they will support technology and education and offer advice or help with the overall process.

The Technology Committee will first have a meeting with the school district faculty, parents, and administration to brainstorm on various community resources. We hope to draw the support of civic clubs, area businesses, parents, etc., to help with sources of funding, equipment, and labor.

Plans for increasing community resources include, but are not limited to:
1. Our community's economy centers on the paper and timber industry. This paper mill has provided the school district with some of the funding we need, as well as an ample supply of paper for our printers. The timber company has provided us with the materials to construct our classroom workstations.

2. Our community is located near a major university where several faculty from the Department of Technology have offered their assistance in consulting, purchasing equipment, and installation. They have also offered to help conduct the teacher training workshops.

3. We plan to have interested parents or other community members attend a training workshop to learn some of the basic computer skills so they can volunteer to help monitor the computer labs after school or at night.

A comprehensive computer network at Mitchell Heights School District places an important responsibility on all users pertaining to copyright issues and ethics.

All school sites should be legal to the point where they have no software from “friends and acquaintances” and also have enough copies on hand for the number of people using a given piece of software at any time.

Copyright infringement is a serious matter against which the district must do the utmost to protect. Some schools in the State have been investigated recently by federal enforcement agencies, and, in some cases, have been prosecuted.
The development of a resource clearinghouse or media center may help to maintain control of licenses and illegal copying of software.

Bulk buys of hardware and software are preferable, where possible. In the case of software, each school should be allowed to decide what they purchase and offer to their constituents. To assure complete legality in regards to software, an appropriate and sufficient budget would help, obviously. Not all schools in the district want site licenses, so it is important to identify those that do, so that they may act together. Also, the plans of other districts and schools in the State may have some impact on this.

Illegal use of the Internet is another serious concern. Appropriate procedures and guidelines should be put into place to control misuse.

The Mitchell Heights School District has composed the following Acceptable Use Policy (AUP) guidelines:

1) To ensure protection of the users of the network, the faculty, staff, and students will not be allowed to access the accounts and files of others.

2) Attempting to impair network security, functionality of the network, or bypassing administrative restrictions will not be tolerated.

3) Copyright laws of information and software will be enforced strictly.

4) The network will not be used for commercial purposes or in support of illegal activities.

5) The behavior of students accessing the network should reflect the ethics of the Mitchell Heights School District and the community.

6) The network resources are considered to be the property of the Mitchell Heights School District.

As an addition to the Mitchell Heights School District curriculum, a curriculum committee will be established to write standards for technology applications. The committee will be composed of two teachers from the elementary school, the middle school, and the high school, as well as the Assistant Superintendent. This committee will decide at which grade technology will be introduced to students and what applications will be mastered as skills. The committee will also compile a listing of all technology applied skills for each grade level involved and distribute this list to all faculty. As the year progresses, teachers will be given the opportunity to evaluate the technology curriculum and add or delete skills as needed. This committee will meet every other month to assure that the needs of students are being considered as technology becomes more integrated throughout the district.

Since we are already teaching with integrated thematic units and have placed computers in the classrooms, most of the teachers think that technology skills should be introduced as students become developmentally ready for them. We have chosen to begin introducing the computer keyboard at the kindergarten level. However, we wait until at least third grade to teach keyboarding skills.

The committee decided that a list of suggested activities for technology that are grade-level specific would be the most effective way to see that technology skills are introduced.

Mitchell Heights School District is dedicated to providing opportunities for all students to develop the attitudes, skills, and knowledge which will enable them to enjoy a productive and satisfying life and to be positive, responsible participants in our democratic society and the global community.
Mitchell Heights School District believes that an effective learning environment should engage the learner in an active purposeful process of: building positive, realistic attitudes toward both self and society; forming personal understandings; developing lifelong skills; and acquiring a strong knowledge base.

A. Principles Of Learning

What is the role of technology in order to develop more learner-focused schools? The answer, in part, can be found by ensuring that we adhere to certain principles of learning, such as the following:

1) Learning requires the active participation of the learner.
2) People learn in a variety of ways and at different rates.
3) Learning is both an individual and a social process.
4) Learners are more motivated when they feel in control of their learning.

B. Essential Learning For Technology

The above basic principles of learning act as the foundation for more specific approaches which would promote the effective use of technology, and require learners to develop new roles in learning, living, and working:

1) the learner as information navigator;
2) the learner as critical thinker and analyzer using technology and telecommunications;
3) the learner as creator of knowledge using technology and telecommunications;
4) the learner as effective communicator through a variety of appropriate technologies/media;
5) the learner as a discriminating selector of appropriate technology for specific purposes;
6) the learner as technician; and
7) the learner as a responsible citizen, worker, learner, community member, and family member in a technological age.

C. Teacher's Role

For the student to take more ownership and responsibility for his/her learning, the role of the teacher needs to be that of manager of learning rather than deliverer and controller of information. Teachers become mentors to their students in the ongoing process of learning and applying information. They spend most of their time guiding, counseling, and leading instructional teams, but also will provide direct instruction, when appropriate. Basically, the teacher's role shifts from the single information provider to a group of students in a single classroom, to an educational leader facilitating each student's learning and working as part of a team made up of other teachers, teacher assistants, volunteers, and staff with technical knowledge. For a teacher to function effectively in this role, technology is absolutely necessary.

D. Educational Guiding Principles

The following 10 principles were developed by educational technology expert Dr. Milton McClaren (Simon Fraser University, Burnaby, British Columbia, Canada), and reflect the beliefs and actions of this school district. It is our intention to reach the expectations that are described in these principles.

1) The computer should be as much a part of students' and teachers' work as books, pencils, pens, rules, papers, libraries, and other essential equipment.
2) The best way to learn to use computers is by using them to do real work on real tasks.
3) Computers should not be seen as important only in science, math, business, computer science, or word processing. They are equally important in fine arts, social sciences, and humanities.
4) Every possible effort should be made to eliminate gender and culture biases in the uses of computers and information technologies. (Computer software is not gender or culture neutral and use patterns in schools often reflect subtle discrimination, based on gender and culture).
5) Many parents (and older students) are not part of the computer age and do not understand or appreciate the technology and its potential uses. School programs should help these people become aware of, and competent in, applications appropriate to their lives and work.

6) Many parents do not have computers at home. The school may be the major, or only, opportunity for these students to develop familiarity with these tools. Giving these students access to computers and software is an important aspect of the role which public schools play in the nurturing of social justice and equity.

7) Teachers are typically given little support and time for in-service training in the use of information and computer technology. Teachers who do not value computers in their work are unlikely to be positive role models for students concerning the potential applications of computers to the work of learning.

8) The rapid rate of technological change means that computers will have short effective service life. Plans need to be made to replace and/or upgrade hardware and software systematically. While outdated equipment is unavoidable, this is not an excuse for delaying purchase and installation.

9) Students don’t work any better with poor, outdated, or inadequate tools than any other workers do. It is particularly important to avoid giving students in the primary years poor tools with which they first experience computers.

10) People have various styles of learning and working. There is no single best hardware or software for all learners/workers. While it may seem to make economic sense to support only one platform or type of software application, it’s a false economy and often results in many potential users becoming disaffected. (One size will never fit all.)

**P/13-L**

**NETWORKING**

Each lab will be set up in a client/server networked environment. Each lab will be connected to the Internet via a 56K leased line. Labs will be wired in a star topology using 10base-T Ethernet technology with Category 5 wiring and RJ45 connectors.

**P/13-M**

**MAINTENANCE**

We will require a healthy portion of future budgets to replace equipment which cannot be repaired or redeployed. All current technology needs to have ongoing repair and maintenance supported by the district technician.

It is important that the board set an annual budget which addresses the replacement needs of the district. The capital investment outlined in this proposal will require capital replacement in the future to keep abreast of emerging technologies.

Any replacement of computers should come from a list of recommended options which meet the State Department of Education’s definition of “up-to-date powerful machines.”

**P/13-N**

**SPECIAL NEEDS LEARNERS**

Mitchell Heights School District recognizes that children are individuals and that classrooms serve children with a broad range of needs, learning rates and styles, knowledge, experiences, interests, and abilities. Accommodating the wide diversity of learners in Mitchell Heights School classrooms can be challenging and, in order to be successful, must be supported by both personnel and resources. Technology, including computers, provides one way in which students with exceptional needs can be supported and engaged.
actively in the learning process in the classroom. Through the appropriate use of technology, all students, but particularly those with exceptional needs, can be empowered as learners to accomplish activities that would otherwise be too difficult, thus increasing their participation and inclusion in a learning environment. A committee that focuses on Technology for Exceptional Learners is composed of parents, teachers, and classroom assistants who work with students having exceptional needs.

Learners with special needs have exceptional needs for technology and, therefore, the technology should not be viewed as desirable, but instead, as essential to their individual educational programs. Included in this category are learners who may have some of the following attributes:

- exceptional cognitive abilities
- visual, hearing, physical, or chronic health impairments
- speech and language disorders
- severe learning disabilities
- severe behavior disorders
- dyslexia
- mentally-challenged
- emotionally-challenged

Since technology allows exceptional learners to focus on their abilities rather than their disabilities, their programs would be enhanced through the use of technology, such as the following:

- larger tables
- special keyboards
- wider computer screens
- microphones
- voice-activated mouse
- switches
- speech synthesizers
- laptop computers
- specialized software
- augmentative and alternative communication devices
- enhanced monitors

The “gifted” learner will also be considered as an exceptional learner.

P/13-O  SECURITY

1. Lab doors will be equipped with deadbolts and kept locked when not in use.
2. A motion detector alarm system will be installed in each lab.
3. No student disks may be brought into a lab—disks supplied to students will be stored in their own lab.
4. A tape backup of network files will be made daily.

P/13-P  COMMUNITY INVOLVEMENT

Community involvement is crucial to a successful technology plan. Gaining community involvement ties closely with the goals of our public relations plan for the Mitchell Heights School District. With the community's support of our plan, we will be able to draw better resources and contacts to produce this high-level learning environment. The community, parents, and educators can work together as a team to provide the students in Mitchell Heights School District with the best possible education.

Working with our public relations task force, the technology committee will strive to build a positive relationship between the community and the educators. The success of our school system is crucial to the growth and development of the entire community. We also want to educate the community that technology
is for the people, and they can easily use the basic computer principles to make working, learning, and teaching easier. The PR plan will also focus on making the community aware of the changes and improvements being made in education and how important the technology plan is in providing our students with the resources and curriculum to be successful as adults who are competitive in a global economy.

Involving the community in the school district technology plan will create better community relations, promote pride in the school within the community, and encourage funding from corporate stakeholders.

1. The PR Team will write periodic news releases in the newspaper discussing the technology plan for the school. This will educate the community on school developments and the technology integration.

2. The PR staff will work closely with the local paper to establish a positive working relationship with newswriters and photographers and increase publicity of the technology plan in Mitchell Heights School District. They will set up a “Technology in Today’s Classroom” section of the paper that will run weekly. This will include comments from students, teachers, and parents about: many ways that technology is being used in the classroom; changes and improvements in students’ performance and teacher’s presentations; and interesting projects or assignments using technology. This will not only promote feedback that can be used for evaluating the technology plan, but will also develop relationships among students, teachers, and the community. The community can see first-hand how the technology is utilized in the classroom.

3. Display posters and brochures throughout the community that support bettering education with technology.

4. Provide members of the community with an opportunity to learn with technology. This could take place one night each week and include classes, such as: computer literacy for adults; electronic presentations; or use of the World Wide Web.

FUNDING

This plan recognizes the need to acquire adequate funds to make this technology plan work. A major effort must be taken to ensure all sources of funds are explored. There are various federal grants for which we will be applying. The state has offered several grant and other financial support programs. Funds from local businesses such as the paper mill, banks, shops, etc., will be solicited to support the advancement of technology in education. We have proposed a bill to the local government to raise the sales tax 1/2% for technology funding.

FINE ARTS

The fine arts are described as a universal language through which individuals can express common goals and develop an understanding and appreciation for other cultures. The foundations of culture and civilization are defined through the arts, which include paintings, sculpture, architecture, drama, music, dance, and poetry. Through the arts is the ability to express dreams, hopes, imagination, and feeling.

Even though improvement in academic areas, such as reading, writing, and arithmetic may enable Americans to compete more effectively economically and technologically, the most vital stages of society are marked by the flourishing of the human spirit through the arts.

Computer technology constantly astounds us with its evolution. Changes occur much faster than we can anticipate, but students who are comfortable with technology will be able to live, work, and compete in this new era. In order for our students to be well-rounded students we must integrate art into their curriculum. Fine arts technology resources should complement the other teaching tools and strategies in learning and teach students more about the world of Fine Arts.
Our society is communicating more and more through the visual image. Americans are exposed constantly to messages from billboards, architecture, magazines, newspapers, television, and film. Computers, with the capacity to manufacture and animate images, are creating new methods of producing visual designs.

Discipline-based art education programs have the potential to develop intellectual skills and create opportunities to explore self-expression. Students, who are involved in analyzing art, are using skills functioning at the highest cognitive levels of mental activity. Critiquing art obliges the student to think independently, creatively, and to make reasoned judgments based on knowledge and trained observations.

In the Goals 2000: Educate America Act, a major piece of legislation enacted by the U.S. Congress, the arts became one of the core subjects to be included in the curriculum, thus recognizing the contributions that the arts make in the education of students.

Computers will be able to fulfill many roles in fine arts, including, but not limited to:

- printing and publishing for performances
- lighting for presentations and theater productions
- drafting for theater set design
- graphic design and publishing
- musical composition, arranging, and sequencing
- individualized study and research
- drill, review, and practice in music theory
- scriptwriting, editing, journalism
- video editing
- creative thinking
- drawing, painting, and retouching artwork

Several software programs included for the fine arts include: Photoshop (Graphic Design), AutoCAD (Computer-Aided Design software for mechanical and architectural drawings), and numerous CD-ROM disks for exploring arts styles, periods, artists, and composers.

For musical education, a MIDI (Musical Instrument Digital Interface) keyboard or instrument can be connected to a computer for composing, revising, editing, and printing music.

Hardware for fine arts education includes Macintosh and PC-DOS/Windows computers, color printers, digitizers, scanners, and plotters.

Mitchell Heights School District is committed to providing reliable and knowledgeable support and service. Increased and focused training for the district’s technicians, teacher consultants, and school-based technical support staff will be a priority.

Support is one part of most technology plans that gets overlooked and seems to be “not important.” However, through research we have found that two factors influence the implementation and use of technology more than any others. Those factors are training and support. If teachers are not trained properly, they will not know how to use the equipment/software in appropriate ways. In addition, if teachers are not supported with maintenance, upkeep, repair, informal training, idea sharing opportunities, etc., technology will not be used to enhance instruction. It is our goal to hire a technology coordinator who will serve as the liaison between teachers within the district. This person will need to oversee all aspects of technology implementation within the district—purchasing, training, maintenance, networking, software evaluation, etc. We believe that this person needs to have an education background—classroom teaching experience—to relate most effectively with the teachers within the various schools. Support cannot be an afterthought of technology planning. We believe the addition of a technology coordinator will assure that this plan is implemented in the most timely and effective manner.
Support consists, generally, of three types of service: a structured, scheduled inservice program during which people learn skills with technology, a technical support service which people can contact to receive advice or assistance “on demand,” and repair service for malfunctioning equipment. With a potential user base of: (a) over 200 district employees, (b) a student population of over 4,000, (c) a potential continuing education adult-learner population of over 5,000, and (d) a computer population of over 100 machines, user support is an important concern.

Similar to the standardization of hardware and software, user support becomes very costly and difficult to manage if strict adherence to the standards is not practiced. Of course, hardware and software standards should be developed by and agreed upon by representation from all stakeholder groups. Once developed, standards must be articulated clearly to all users and support personnel.

As technology has been introduced it has become clear that greater emphasis must be placed on training and support. While many of our teachers are “computer literate” and have incorporated technology into their courses easily, others are still uncomfortable with the change. In order to provide student access to technology, we must first ensure that our teachers are comfortable and view technology as an exciting opportunity rather than a threat.

The challenge for the district will be to provide efficient and cost effective support and training to teachers to allow them to make the transition from “givers” of information to “facilitators.”

Objectives in this area are as follows:

1) To provide teachers with access to appropriate training for students in the area of technology and/or in related applications of technology;

2) To provide all employee groups (teachers, support staff, and administrators) with access to training;

3) To develop and maintain a support infrastructure that meets the needs of users in the most efficient manner possible;

4) To develop and maintain a planned and ongoing inservice training program;

5) To ensure that technical support is provided for both Windows and Macintosh platforms;

6) To maintain a program for repair and management of all computer equipment that meets district standards;

7) To clarify the role of the school technology coordinator so that his/her focus is on curriculum applications rather than on technical support;

8) To provide students with career-related technical training that has potential to enhance the delivery of support services;

9) To ensure that adequate support staff is available to provide technical assistance.

P/13-T

The promotion of lifelong learning is a key goal of Mitchell Heights School District, since it has within its borders a large and active population of adult learners. In working towards that goal, the school district recognizes the key role that educational technology plays—both for traditional classroom instruction, as well as for distance education.
Currently, there are many important theoretical principles guiding the design and development of adult education. These principles should be taken into account when planning or designing any kind of instruction or instructional technologies to be used by adult, lifelong learners. Based on the earlier work of Malcolm Knowles, Zemke & Zemke (1995) describe these principles as follows:

1) As they mature, adults tend to prefer self-direction, as opposed to being told and/or forced to learn certain specific things.

2) As adults mature, they accumulate a growing reservoir of experience which is a rich resource for learning. As such, adults learn much more effectively through experiential techniques such as discussion or problem-solving than they do through passive listening.

3) The readiness of an adult to learn is related closely to the specific learning needs generated by real-life events such as marriage, divorce, taking a new job, losing a job, and so on.

4) Time perspective changes as people mature. Adult learners are competency-based and are more interested in the immediate application of knowledge or skills, than in potential future applications. As such, adult learners are more problem-centered than subject-centered in learning.

5) Adults are more motivated by internal factors—such as personal growth or gain—than by external ones.

Zemke & Zemke (1995) also present several useful guidelines for effective curriculum design for adult learners. Some of these guidelines have an impact on technology planning decisions. The guidelines are as follows:

1) The learning experience should be problem-centered and relevant to the learner's personal goals.

2) Preprogram assessment—i.e. assessment of learners' entry-level knowledge and understanding—is important.

3) The learning design should promote the integration of new information with what the learner knows already.

4) Any exercises or cases that are used as learning activities should be realistic, involving, stimulating to one's thinking, and should have some challenge.

5) Feedback and recognition should be built into the learning activities. Learners need to know what they are trying to accomplish and how well they are doing.

6) Curriculum design should, where possible, take into account various learning styles.

7) Curriculum design should include “transfer strategies” for ensuring that new knowledge or skills are transferred effectively back to the workplace.

**OTHER CRITICAL ISSUES**

**Ergonomics**

The design of the electronic workstation needs to be responsive to human factors in order to avoid physical discomfort for the user. The use of an adjustable chair will permit the eye height of the seated viewer to be raised or lowered to view the display. An adjustment range between 15 and 18 inches should accommodate the eye height sitting requirements of about 90% of all viewers.

The desk surface should be 30 inches above the finished floor. The vertical distance between the underside of the desk and the floor should be sufficient to accommodate the knee height and thigh clearance.
Recommended thigh space is a minimum of 18 inches and knee height is a minimum of 26.5 inches.

The location of the top of the monitor should align with the standard sight line for optimum viewing conditions. Since the normal sight line is about 15 degrees below the horizontal, consideration should be given to sloping the monitor display plane. The more perpendicular the normal sight line is to the display plane, the greater the viewing comfort.

The monitor screens must be tiltable to any position between 15 degrees forward of vertical and 15 degrees back. This allows the user to adjust the screen to avoid reflective glare, and it accommodates various working positions of different lines of sight.

**P/14 EVALUATION**

A review of the Mitchell Heights School District technology plan and an evaluation of the progress being made by our district in achieving the plan will be an ongoing process. This will include:

a) School evaluations, including:
   - individual school evaluations of plan implementation and achievements
   - yearly report by schools to the district implementation committee

b) District-wide evaluation, including:
   - yearly needs assessment among school and district staff; this would include:
     - individual competency
     - degree of use of technology as part of work responsibilities
     - provision of support from district
     - degree of student progress and competency
   - survey of parents and students as to needs and progress
   - review of technology plan as part of yearly district goal setting process and school goal strategies
   - evaluation of district implementation and inservice activities
   - yearly report by district implementation committee to the board

c) Budget evaluation, including:
   - a review of school and district plans' budget commitments and expenditures, including: district technician costs, capital costs, operating costs, inservice support costs, funding, etc.

**P/15 BUDGET**

Mitchell Heights School District Technology Budget (First Year)

<table>
<thead>
<tr>
<th></th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment</td>
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<tr>
<td>Training</td>
<td>$3,000.00</td>
</tr>
<tr>
<td>Software</td>
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<tr>
<td>Security (Door Locks)</td>
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<tr>
<td>Supplies</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$94,700.00</strong></td>
</tr>
</tbody>
</table>

**P/16 BIBLIOGRAPHY**


GLOSSARY

AppleShare—The native file sharing services supported by Apple Macintosh computers in a networked environment.

AppleTalk—The suite of network protocols that comes with every Apple Macintosh computer. It allows users to access and share network resources.

Application—A specific task to be performed by a computer program or a set of programs.

Backup—A copy of the information stored on the computer system, usually made either on a tape or a diskette.

Camcorder—Hand-held video camera recorder.

CD-ROM—Compact Disc-Read Only Memory: A variant of the familiar audio compact disk. A medium to store extremely large amounts of data, including text, graphics, animation, sound, and video, for use by a computer.

CATV—Cable Television or Community Antenna Television.

CD-ROM drive—A computer-attached device through which the contents of a CD-ROM are read.

CD-ROM tower—A computer-attached device that contains a number of CD-ROM drives and allows simultaneous access to multiple CD-ROMS.

Coaxial Cable—An electronic transmission medium consisting of a center conductor and an outer, concentric conductor. Often used for CATV.

Computer Virus—A program that hides itself (often on a floppy disk) and copies itself from computer system to computer system. Frequently causes damage to the information on the computer.

CPU—Central Processing Unit of a computer. Often refers to the computer chip around which the entire computer is built.

Curriculum Integration—The use of computer software to advance instructional objectives in the classroom.

CU-SeeMe—A desktop video-conferencing software package developed at Cornell University. It allows real-time video teleconferencing over TCP/IP-based networks.

Data—A formalized representation of information that can be processed by a computer, consisting of numbers, letters, and symbols to describe an object, idea, fact, or concept.

Database—An organized set of information that can be searched, manipulated, and reported in a variety of ways by using the computer. It is like a large file cabinet that can be rearranged quickly on command.

Disk—A round, flat magnetic medium used to store information.
Distance Learning—Providing educational programs from one site to another using transmission devices such as modems, phone lines, and satellites.

DOS—Disk Operating System: A common computer program or set of programs that provide instructions for the operation of the disk drive that is connected to the computer.

Electronic Mail (E-mail)—The process of sending, receiving, storing, and forwarding messages in digital form over telecommunications facilities from one computer to another.

Facsimile (FAX)—A system for the transmission of images. The image is scanned at the transmitter, reconstructed at the receiving station, and duplicated on some form of paper.

Gopher—A software application used to navigate, search for, and locate information on the global Internet.

Hardware—The physical components that make up a computer system.

Hub—Networking equipment, normally placed in wiring closets, which terminates the wires forming, for example, a building's local area network.

Laptop computer—A small, lightweight, battery operated portable computer.

Laser-disc—A storage medium written and read by laser.

Network—A system of wires, wireless devices, and/or associated hardware and electronics that links multiple computers and other computing resources together, whether they are in the same room, or in multiple rooms or buildings, or across town, or across the country, or across the globe. Networks allow computers to communicate with one another, permit computers to share printers or other peripherals, and provide multiple computers access to centralized collections of software programs or databases.

Password—a string of characters used to authenticate a user to a computer system. The user must type in these characters after identifying himself or herself before gaining access to files.

APPENDICES

APPENDIX A - MITCHELL HEIGHTS SCHOOL DISTRICT TECHNOLOGY NEEDS SURVEY

Glossary of survey terms:

database—Many popular software packages include a database manager, which can be used for storing, sorting and selecting of data entered.

spreadsheet—Many popular software packages include a spreadsheet, which can be used to perform calculations in a format similar to an automated accountants' ledger.

LXR test—This is a database program that allows a teacher to develop a bank of questions, tests, and assignments that can be sorted, selected, and used in his/her day-to-day teaching and exam activities.

CSL Marks—This is a reporting program, used in the District, which combines database and spreadsheet-type functions.

Your name: ________________________

1. Are you aware that there is a school district Computer Employee Purchase Plan? Y ___ N ___
2. Which grade level(s) do you teach? _______________

3. Do you currently use a computer at home?  
   If “yes,” which type of computer: ________________

4. Do you currently use a computer at school?  
   If “yes,” which type of computer: ________________

5. Do you use any of the following software?  
   ___ word processing ___ graphics
   ___ database ___ music
   ___ spreadsheet ___ utilities
   ___ drawing ___ classroom administration
   ___ CSL Marks
   ___ LXR Test
   ___ other... please specify: ____________

6. How many hours do you spend doing school-related work on a computer per week?

7. Have you had any formal training on computer use?  

8. Would you like to see training available on computer use?  

9. Would you take a computer course if one were available?  

10. Would you like a course on:  
    ___ word processing ___ graphics
    ___ database ___ music
    ___ spreadsheet ___ utilities
    ___ drawing ___ classroom administration
    ___ CSL Marks
    ___ LXR Test
    ___ other... please specify: ____________

11. Please rate yourself in terms of computer competence:  
    ___ expert
    ___ proficient
    ___ neophyte
    ___ illiterate
    ___ other... Please specify: ____________

12. What do you currently use a computer for? ________________

13. What would you like to use a computer for? ________________

14. Do you presently have a computer in your classroom?  
    If “yes” to above, please specify type:
    ___ Apple 2e
    ___ Mac PowerMac
    ___ iMac
    ___ iBook
    ___ G3 Powerbook
    ___ Titanium Powerbook
    ___ Linux PC
    ___ Windows 386
    ___ Windows 486
    ___ Windows Pentium
    ___ Windows Pentium II
    ___ Windows Pentium III
    ___ Windows Pentium IV
    ___ other
15. Do you think the school district should have...
___ DOS/Windows (Wintel) machines?
___ Macintosh machines?
___ a mix of both?
___ a central mainframe with terminals?
___ no opinion on this

16. Does your school have access to the State fiber network and the Internet?
___ yes
___ no
___ don’t know what it is

17. If “yes” to the previous question, how easy is it for you to access this service?
___ very easy to access
___ somewhat easy to access
___ difficult to access

18. Do you think that we need more access to the State Fiber Network and other networks?

19. Of the following choices, which is a good district-wide goal?
___ one computer per classroom—with access to computer labs during a scheduled block (with a
computer facilitator)
___ computers divided evenly among all classrooms
___ access to computer labs during a scheduled block (with a computer facilitator)
___ other... Please explain: ______________________________

20. Should computers be available to students to use after school?

21. If “yes” to the above...
___ on a sign-out basis
___ in a lab setting that remains open

22. Should computers be available for students to borrow and take home for out-of-school use?

23. Should the district standardize the purchase and use of computer programs through the acquisition of
site licenses? (Note: A site license allows for the legal use of a software program on a specified site, e.g.,
an entire school district.)

24. How often should we be upgrading computer equipment/software to keep the technology current?
___ when it is totally worn out
___ 20% per year per school

25. Should each school have a trained software consultant either on staff or available?

26. Should laptop computers be purchased?

27. What percentage of computer purchases should be laptop?

28. It is going to be mandated by the State Department of Education in the next few years that students
will be required to complete a part of all courses by using computers. As a teacher, will you require
inservice training to be able to manage this?

29. Which of the following methods should the Department use to provide inservice training for you?
   (a) district-based time
   (b) school-based time
   (c) both
30. Should we be developing a district-wide computer-related curriculum specifying what should be learned at each grade level?

31. Should we be developing a district-based computer resource center?

32. If we had a district-based computer resource center, should it be:
   ___ library-based
   ___ on line

33. Should each school have a software facilitator?
   ___ Yes
   ___ No
   ___ No opinion

34. Should the software facilitator be a:
   ___ teacher?
   ___ administrator?
   ___ student?
   ___ whoever is interested?

35. Should all computer purchases be checked by the district hardware technician to make certain that schools do not buy incompatible or poor quality equipment?

36. Should computer purchases be performed by individuals, schools, or by central bulk purchase to try to get better prices?

37. Please write a short note to identify any concerns pertaining to computers in this district that have not been covered in this survey.
PART TWO

OBSERVATIONS
PART TWO: DIRECTIONS FOR USE

As was noted in the beginning section of this workbook, this Part Two—Observations is designed to serve as a compilation of suggestions, comments, and input from some of the fictional users of this hypothetical technology plan at Mitchell Heights. The designers of Visions and Revisions wanted you to use the material in this section much as you would if there were journals, diaries, and/or suggestion boxes to which users had been contributing their thoughts during the first year of implementation. Then, it would be the job of the planning committee to pull out these observations, discuss strategies for addressing the observations, and prepare a modified technology plan, if necessary, that reflects the new directions that the Mitchell Heights school would take.

While we submit these Observations for you, we encourage you, at the same time, to incorporate a process of collecting user-level reflections and suggestions as you move through the actual implementation of your technology plan. We believe that, if local users see how the real suggestions they have offered are being incorporated in the formalized plan for your school, they will be much more receptive, supportive, and willing collaborators with you in ensuring the success of technology infusion into your instructional activities.

Now, enjoy reading what the users in Mitchell Heights had to say about their experiences during their first year of implementing their technology plan.
Part 2— The Observations

O/1 Cover Sheet

The committee members realized the cover sheet wasn’t attractive. It lacked the location of the school and the date the plan was created.

O/2 Title Page

The committee members observed that the title page was a duplicate of the cover page. They wanted a cover page that will show how the school and world can communicate successfully.

O/3 Table of Contents

Several committee members questioned the table of contents format. They believed it wasn’t in a concise order. One of their major concerns was whether or not the executive summary should come before the acknowledgments.

O/4 Acknowledgments

There is no list of specific committee members who contributed to the technology plan.

Members of the Board of Education complained that the Board as a whole was mentioned in the acknowledgments, but each member was not. Some members contributed valuable time to the development of the technology plan.

Mitchell Heights Superintendent, Tristal Bender, noted that there were no specific acknowledgments given to community contributors and stakeholders who donated their financial support, leadership, technical expertise, and time to the development of the technology plan.

The end of the section ends rather abruptly.

O/5 Executive Summary

General information about the new technologies to be included in the plan and sources of funding have not been introduced in the executive summary.

O/6 & O/7 Vision and Mission Statements

Tom Brooks (Manager, Sharpon McDonald’s Restaurant): “Would someone please explain to me the difference between ‘Vision’ and ‘Mission’?... I’m a bit confused, and don’t really understand the usefulness of these two sections in our Plan... They both seem like ‘motherhood and apple pie’ to me!”

Joy Robertson (Public Relations Coordinator, City of Sharpon): “Well, Tom, you’re right... The Vision and Mission that we have in our plan currently just might be a bit too nebulous. Typically, the Vision statement is a more general, ‘big picture,’ ‘floodlight’ view of where we want to go, whereas the Mission statement is a more focused, ‘spotlight’ view of what we actually want to accomplish with a plan. I have to admit that, perhaps, our current Plan is a bit too vague in these areas—particularly in the Mission statement.”

Cindy Ward (Parent): “One thing I might add to that, Joy, is that, in regard to educational technology plans, the Vision and Mission statements should both relate to learners and the learning process; and they should both state how technology will impact the multiple stakeholder groups involved in education—i.e. learners, teachers, administrators, and the community-at-large. In this regard, we’ve done pretty well.”
Committee Membership

It was noticed that there were not any Board of Education members on this committee. What impact do you think this will have on the technology planning process?

There was no explanation detailing how the technology committee was created and who determined the make-up of the group. Also, were all members chosen or did some volunteer? Were members screened according to any criteria? What was the tenure of membership on this committee?

Why are the members in alphabetical order rather than by interest group? (Administrators, Board of Education Members, Mitchell Heights School Staff and Students, Community Resources [Members])

General Introduction

No observations recorded. See if participants have any input.

Data Collection, Analysis, & Reporting

In reviewing our technology plan, we discovered that data from our initial survey was insufficient.

Also, we have decided that sending out a follow-up survey to the faculty and staff would be a good idea. This second survey would ask questions about how they view the implementation, training, support, and other critical areas. We could use those data to know if we are headed in the right direction and if the advances we hope are happening truly are manifested in the classroom with students.

In addition, our committee felt that surveying parents from time to time would be a good way to measure the perceptions of our parent community. We decided to form a committee composed solely of parent representatives to formulate discussions and then write a survey that would be sent out randomly to the parents in our school district.

Mel Desjardins and Shari Grainger, technology coordinators for the school district, reported that teachers did not immediately report broken or dysfunctional equipment. This caused classes to run behind schedule.

When trying to gain community resources, Joy Robertson, Public Relations Coordinator, found the committee had overlooked possible resources and stakeholders in the beginning who could have provided potential support or helped with the makeup of certain focus groups such as vendors, curriculum and teacher training, etc.

At each school's first PTA meeting in the fall, the principals informed parents about the technology plan in force already. As a result, parents proposed many questions, suggestions, and criticisms of the plan. Many parents knew nothing or little about the technology in their child's classroom. Some were very supportive and offered assistance, and some parents did not understand the importance of technology in education.

Plan Preparations

It is hard to visualize the anticipated time frame when in paragraph format only. The period of time to implement our plan should be presented in a better format.

The goals section of the plan places much emphasis on meeting the goals for networking, providing equipment, planning the curriculum, and using the technology, but it does not place enough emphasis on preparing the staff to use the technology or getting them committed to the overall process.

The technology committee took the summer off after completing the written document. Several incidences arose during the summer that were related to the technology plan, but there was no one available to handle the situation (equipment purchase orders, construction of the labs, teacher workshop plans, etc.).
Teachers found that students who had previous computer experience were more excited and committed to the technology in the classrooms that students who had little or no computer experience.

The plan provides team-building exercises and similar activities for the committee members which are so important to the effectiveness of the committee. Looking back at disagreements and problems that occurred between faculty this past year, we realize that we should also place more emphasis on the relationships between the staff and the students.

Public Relations

Teachers noted that parents complained of not knowing or understanding what kind of learning was taking place with the technology integration.

Teachers expressed difficulty coming up with different activities using the technology with their classroom instruction.

Four teachers quit the school district because they did not want to adjust or could not adjust to the technology-based instruction.

Positive feedback from students showed they felt they were making a contribution to the overall picture of the technology process because they could write entries in the “Technology in Today’s Classroom” section of the local paper. It seems that the students are enthusiastic about the resources offered to them using the technology.

Equipment

Students and teachers have expressed their desire to be able to use a computer for classroom projects. Coming to a lab from the classroom is not always practical and often takes away precious time that could be devoted to exploration of material or creating our own.

Increasingly, schools are adopting 1:1 laptop programs in which all teachers have their own portable computing capability. In addition, portable carts containing laptop computers can be rolled from room to room, as needed, if the school cannot yet afford a 1:1 laptop-to-student ratio.

Access to graphics programs is slow. Newer software programs are requiring large chunks of RAM to operate. Color monitor and mouse are hardly used on the server.

OOPS! Plan focused on computer hardware only. Much software now works from CD-ROMs. Projection units for presentations have been requested.

Many mouse and keyboard repairs and replacements needed near the end of the first year.

Enrollment increases by 1% and there are not enough computers per student/computer ratio.

Implementation

We chose in our implementation plan to add personnel and offer more training. That was initially a wonderful thought—but what we found was that we did not have the resources to employ someone with the salary that he/she was use to receiving in the business world. So we have decided to try to find either volunteers or part-time people—maybe mothers or fathers who have the necessary background, but who want a school schedule and wouldn’t mind accepting less pay. We thought that we would need to hire a full-time network specialist. However, we have found that sending a person from each school site to network administrator training will suffice. Also, that person at each school is working half-time as a teacher and half-time as the network administrator, except at the elementary school level where we are paying her to come early and stay late to handle the network needs.
In networking the buildings we found that many times the schools wanted to “do it themselves.” We have written some district standards to distribute to the schools, PTO's, etc. This way those schools that want to go ahead and purchase some of the needed equipment can do so and make sure that they are buying the right materials.

We have also written a checklist of “Items for Consideration” when going through the process of networking a building. This way we won’t forget things like ordering enough patch cords or having ladders present at the time of the actual networking activity.

**O/13-D  New/Emerging Technologies**

The original plan omitted New and Emerging technologies. There have been several new advancements in technology which should be investigated.

Several teachers wish to have LCD Projectors. They feel this would enhance their ability to teach with computer technology. Surfing the Internet would be more productive if the entire class could watch and see what is going on.

After we discovered the Internet capabilities, the word has spread fast. The teachers want CU-SeeMe (desktop videoconferencing) capabilities. They feel it could affect learning positively by having the capability to talk to individuals at organizations/institutions, such as: universities; business and industry; and government agencies, etc.

Marie Cimolini (District Assistant Director, Media Services): “There’s something pretty exciting that I’d like to report to y’all... Ralph (i.e. District Assistant Director of Instruction Ralph Klein) and I attended Apple’s ‘non-disclosure’ meeting yesterday, and it was pretty impressive... They’re unveiling a whole new suite of ‘Power Macs’ that are looking better and better at providing a completely seamless, dual Macintosh/IBM platform... Why, the new ‘9800’ has a 580-MHz Mac chip and a 300-MHz Pentium SuperXL chip built-in—effectively two computers in one!... plus it comes with an Internet Connection Kit! And, they have a new leasing option which would allow us to upgrade our equipment periodically at a much-reduced cost!”

Walt Gonsalvez (District Assistant-Superintendent): “No offense intended, Marie, but we’ve already made a decision to go completely with Pentium 75s... I really do think it’s time to get off the dime, and go ahead and purchase them... After all, the paperwork has been started, and a contract with our supplier “King of Computers” has almost been signed... To reopen negotiations now would hurt the relationship that I’ve been working hard to develop with them... Plus the Macintosh models that you’re talking about, Marie, are outside of our budget... we simply can’t afford them!”

Ralph Klein (District Assistant-Director of Instruction): “It’s never too late to reopen discussions, Walt, particularly when it comes to computer suppliers... We’re talking about a big investment here—both in financial terms, as well as in the quality of learning that we can provide to our students.... Certainly anything that affects improved learning is never a closed discussion!”

Mel Desjardins (Teacher, Sharpon High): “If this means anything to the discussion, folks, let me tell you that those three Macs we have now are seeing yeoman’s duty... There’s lineups of students now waiting to use HyperStudio for their class projects... Plus I get requests weekly for certain Mac software, such as Macromedia Director...” “In my opinion, we’re much too weak in the Mac area... While I do admit there’s some pretty neat IBM software out there, in terms of graphics and multimedia, the Mac still seems to rule!... Plus, I’ve seen some of the IBMs that we have sitting idle from time to time... The big question I guess is this: Do we really know what different learning needs each of these computer platforms best addresses? And another important question: ‘Which should come first—hardware or vice-versa?’... It’s clear that we have needs in both of these areas!”

Preston Morris (Vice-Principal, Sharpon High): “Reality-check here, people! Before we could even think about getting more Macs, we’d definitely have to look at ways either to increase our funding or change our technology plan. The State Superintendent has made it perfectly clear that budgets are frozen, and there will be absolutely no money available beyond what is budgeted for currently!”
Fred Hill (President, Beaver Electronics): “Preston, I was just wondering if there’s anything that the parents and local business people can do to help, if we’re talking about a simple funding problem here.”

**O/13-E Professional Development**

The computers in most classrooms are being used more as furniture than a tool. (The computers simply are not receiving widespread, effective use.) The inservice training is not productive.

Too much personal time spent, after school and on weekends, in staff development training sessions.

We had hoped that professional development would be ongoing, consistent, and broad in ranges of abilities. However, what we discovered was that only the teachers who were interested signed up for training—leaving those who were not interested without the necessary skills to utilize technology in their classrooms effectively and appropriately, and that is unfair to their students. We also discovered that, due to the fact that we used the training to count for staff development credits, the largest participation came at the end of the year when staff development credits are totaled and turned in to the State Department of Education.

We have elected to write a training model that will be mandatory for all teachers, even those who aren’t interested initially. Also, for those teachers who are approaching retirement, we have decided to give them the choice of retirement or training. Our training sessions will be every other week throughout the entire year and will count for staff development points. Those teachers who attend six (6) training sessions or more will be able to accumulate their staff development credits to exchange later for cash. We hope this will encourage teachers to get as much training as possible.

Maureen Valikoski (Teacher-Librarian, Lee Hall Elementary School): “Here’s something that y’all should be aware of as you plan for your own schools... The technology coordinator and LAN manager at our school—Randy Jones—gave us his two weeks’ notice yesterday... Apparently, he’s been offered a Director’s job over at the community college with a 30% increase in pay... Randy is Novell-certified and we’re going to be in a real jam at Pineridge until we can find someone to replace him... Besides Randy, there’s no one else in the school who knows the first thing about LANs... And the way the job market is right now, Novell-certified people are extremely hard to find... Any suggestions, anyone?”

**O 13-F Rewards/Incentives**

Teachers are not “going the extra mile” to benefit from the grant money or to receive new equipment. They do not seem motivated.

The percentage of teachers in Sharpon High School who attended training workshops was considerably less than those teachers who attended from Lee Hall Elementary School and Mitchell Middle School. The technology planning committee needs to find a way to get teachers more involved in technology training at the high school.

The incentives/reward section also needs to measure the achievements of how well the students are doing and adapting to the technology, not only the achievements of the teachers.

Principal John Max from Lee Hall Elementary School is so proud of his teachers for their hard work and willingness to adapt to the technology. He would like to recognize publicly the outstanding teaching efforts of those teachers throughout the school district who have excelled in instruction in their classroom.

Teachers complained of not receiving pay for the school days missed due to attending training workshops.

Students at the middle and high schools complained that substitutes did not know how to use the technology in the classrooms or how to apply it to the lesson plan left by the original teacher.
Purchasing

The company who supplied the maintenance service (which was not the sales vendor) is short on staff and cannot keep their contract.

The contracts for the purchase of new equipment were made for 3 years. In this time new technology has come out on the market. The cost of the equipment we have contracted for has dramatically reduced in price.

Shelly Hodgins, a high school teacher reports:
These computers were not built to the specifications we requested. To upgrade has become extremely difficult. The computers were purchased locally. It is believed to have been done “less than ethically.” The company which sold the contract to the school district is owned by the brother-in-law of one of the school board members. These systems can be upgraded, but only components from the original supplier will work. These components are also extremely expensive.

Shari Grainger, Art teacher and Technology Coordinator at Mitchell Middle School, pointed out a related problem to the one mentioned by Mel Desjardins: “We’re not having a problem with software theft at Mitchell, but it’s also a waste of taxpayers’ money when teachers just go out and buy software without first checking that the school doesn’t already have what they’re looking to buy... Why just last week, one of our teachers bought a brand new copy of ‘City 2000’ simulation software, when we already had a copy of it that was not being used just down the hall from him... It’s pretty frustrating!... I would say that what we need is a bit more communication, as well as some method of control!”

Bob Manning (Vice-Principal, Lee Hall Elementary School): “Well folks, I don’t like to complain but it would seem that we’ve been sold a false bill-of-goods here... A good portion of that so-called ‘Four Star’ educational software recommended to us by State Technology Coordinator Evans turns out to be mostly useless with very little pedagogical value or motivational appeal in it... Our students get so bored with it after only a few minutes of use... What does that guy take us for up here, anyway... complete morons?”

Community Resources

The local business that provided the school district with discounted computer maintenance went out of business. Volunteer labor for certain projects was low.

We need to find alternate means of resources and funding other than those we have now.

Legal Aspects

Faculty, staff, and students remain uninformed, generally, about the responsible use of the Internet and e-mail.

We have done spot inspections of software on the computer systems in the district. It has been noticed that a large amount of “pirated software” has been found on the machines.

The Acceptable Use Policy (AUP) was written to reflect unacceptable uses rather than acceptable. It should be rewritten to address those things that are acceptable.

Curriculum, Instruction, Evaluation

After the technology committee held its second meeting, it was discussed whether technology should be woven into the district’s existing curriculum in each subject area. Teachers felt like adding a technology strand to the curriculum was simply piling on more skills they had to introduce to students.

Since we are already teaching with integrated thematic units and have placed computers in the classrooms, most of the teachers think that technology skills should be introduced as students become developmentally ready for them. We have chosen to begin introducing the computer keyboard at the kindergarten level.
However, we wait until at least third grade to teach keyboarding skills.

The committee decided that a list of suggested activities for technology that is grade-level specific would be the most effective way to see that technology skills are introduced.

**O/13-K**  
**Philosophy**

Specific information about the role of technology in the school and service to the community is not stated.

**O/13-L**  
**Networking**

If more than one lab is accessing the Internet at one time, retrieval of data is too slow for effective use in a class period.

Visiting technology professor from State University noticed our category 5 wiring hung with phone wire from building A to building B at the high school. Informed us of potential lighting damage to both networks.

James Harris—a 17-year-old Senior and hacker-extraordinaire at Sharpon High—remarked during the course of the meeting: “I was using one of the computers in the new lab last week, and it just froze on me for no reason at all... And it would seem that other students in the lab have been having problems with some of the other computers on the LAN as well—data get changed for no apparent reason!... Maybe our Internet ‘firewall’ is breaking down!... Could it be outside hackers?”

Tony Francesi and Marco Fernandez questioned why our school doesn’t offer provisions for wireless networking. Both of them have laptop computers with wireless capability. They can network and share files with each other—and report that they do so effortlessly. Although they acknowledge some of the security issues, they think the school would benefit from expanding into wireless solutions.

Preston Morris (Vice-Principal at Sharpon): “Folks, we’ve been having problems with that LAN ever since the cable was laid and the system installed by B & S Communications... Any idea what the problem might be, George?”

George Jurczak (Technology Consultant, Networks): “Well, Preston, I’ve checked out the server and the networking software, and everything checks out there...It could be the wiring... I’m not sure about those folks over at B & S... Superintendent Smith recommended that we go with them since he said he knows the folks over there, but in all honesty, they’ve only been in the cabling business for six months... Before that, they were in landscaping!... I was nervous about going with them from the very beginning.”

**O-13-N**  
**Special Needs**

Our special needs students responded well to the technology in their instruction, aided by the special equipment. Theresa Davenport, special education teacher at Sharpon High School, reported that several of her students have excelled in certain areas using the technology. She feels like these students would be able to help younger special needs students adapt to the curriculum better.

A request from several families in the community who have a special needs member who cannot attend school have expressed a desire to continue this person’s education in some way without mainstreaming the child.

The workstations for students in wheelchairs were not adequate. Some students had difficulty getting close enough to work comfortably with the mouse devices and keyboard.

There have been reports of problems throughout the year with the voice-activated mouse devices used for the special needs classroom.
Network files and processes have been corrupted or interrupted by student “hackers.” Detection and prevention have been difficult and time-consuming.

Discipline of “hackers” who were caught was not sufficient because no policy was in place for guidelines. Accident at paper mill knocked out power one weekend. Networks lost power and files were corrupted by abrupt interruption. Took days to restore files.

Mel Desjardins, a Science teacher in his mid-50s, complained that despite the large quantity of software and computer manuals that had been purchased during the preceding summer, quite a bit of them had disappeared since the beginning of the school year. “It’s ridiculous,” he said. “We’ve spent a bundle on software and computer books, and a significant portion of them just seem to be mysteriously disappearing... And it’s not just students who are guilty here... I have a sneaking suspicion that some of our teachers are a cause of this problem, too!”

The security section did not mention providing all users of the systems with a password to protect their information.

This section did not delineate the three aspects of security: 1) security of personnel; 2) security of data; and 3) security of facilities. These should be specified clearly in the revised plan.

Approximately 50% of the community does not know about the technology. About 67% of the employees are blue collar workers, and the unemployment rate is 14%. Many do not have any access to computer technology and are not aware of its capabilities. We need to upgrade our community involvement plan to increase community knowledge regarding the capabilities of technology.

Some community members who support the school district complained that they don’t understand how technology is benefiting education. They feel like the whole plan is a waste of money and the money should be spent to upgrade the high school auditorium or football field.

The taxpayers voted down the proposal for the sales tax increase. Local sources are not sufficient to keep up with technology change.

Since many graphic imaging programs are extremely memory intensive, separate computer facilities should be allocated for the teaching of these programs. Problems may arise in the memory storage of students’ class projects.

The technology coordinator was hired. Bill McKay, a former chemistry teacher from our district, has a Masters Degree in Computer Science. He has been most helpful in ordering equipment, training teachers, maintaining and repairing machines, overseeing the networking of the schools with the district, and many other responsibilities.

However, as the year has progressed we see the need to hire a separate person to handle only maintenance and repair of equipment. This could be a part-time position.

We also have several parents and assistant teachers who have become very involved in the technology implementation process. These people have attended training and held informal training sessions with Bill.
We are considering placing each one at a specific school site so that we would have an on-site “expert” for each school. This would mean reshuffling funds and positions, but we think it is certainly worth it.

O/13-T Lifelong Learners

Shari Grainger (Teacher, Sharpon High School): “Well, folks, we’ve got this swell technology plan in place all right, but there might be one important ingredient that we’ve forgotten about — the learner! The other night I started teaching my adult evening course on how to use the World Wide Web, and as soon as I got my students onto the computers, I quickly found out that at least 30% of my students had never even used a computer before!

Mel Desjardins (Teacher, Sharpon High School): “You’re not the only one with that problem, Shari. Last week, we started our new adult evening course in Internet-based genealogy, and now we’re faced with the same problem — various levels of basic computer skills among the students... It makes it hard on the teacher when their students have three different levels of computer expertise — i.e. beginner, intermediate, and expert!”

O/13-U Facilities

Construction of a new facility will be completed within the next five years but was not mentioned in the plan.

O/13-V Other Critical Issues

O/14 Evaluation

We have evaluated the plan implementation, achievements, student progress, goal achievement, budget commitment, staff competency, but we feel that we don’t know the attitudes and reactions to the overall human-technology interaction.

Our initial plans were to have formal evaluations of who was using technology and how it was being utilized. We soon realized that when we scheduled a particular time for a teacher or a school to be observed and evaluated; that they put their “tap dancing shoes on.” In other words, people, classrooms, and schools that were not using technology in accordance with the plan — as an integrated part of daily instruction — were “pretending” that they used it by planning lessons that were totally crafted around the technology.

O/15 Budget

Budget was scant, unclear, incomplete, and uninterpretable.

O/17 Glossary

Throughout the technology plan, there are many acronyms and words used that are not defined.
PART THREE

ADJUSTMENTS
Part 3—The Adjustments

A/1 Cover Page

The committee members have decided to place the school’s name and location on the cover sheet.

A/2 Title Page

The Mitchell Heights School committee has decided to use a picture that best shows the way students, faculty, and administrators will be able to communicate successfully with other people.

A/4 Acknowledgments

List each member of the technology committee alphabetically and their position.

List alphabetically each member of the Board of Education and any specific contributions.

List each stakeholder, sponsor, contributor, etc. and the specific contributions each made.

Include a closing paragraph in the plan section that ties all resources’ contributions together.

A/5 Executive Summary

In addition to what is written, the executive summary should include general information about the new technologies to be addressed in the plan and possible funding sources. With the inclusion of this information, the reader will have a clearer understanding of the complete technology plan.

A/6 & A/7 Vision and Mission Statements

The school district revised its Mission to include the following goals, which are more specific, action-oriented, measurable, and attainable:

Incorporate technology into the curriculum to enhance and support basic skills, learning strategies, and creative and critical thinking skills.

Improve the effectiveness and efficiency of the educational process through the thoughtful and equitable selection and distribution of hardware and software.

Plan and implement—including the necessary time and funding required—a comprehensive professional development training program so that all teachers will be able to use the technology tools provided effectively and efficiently.

Develop and coordinate an ongoing staff support system which will facilitate a continuous and coordinated implementation of technology into the school district’s curriculum.

Replace outmoded or outdated equipment to ensure that the district remains current in technology.

Develop and include new technologies in the school’s curriculum which have been proven to enhance student learning.

Provide appropriate equipment and resources to allow for intra- and inter-district data exchange.

Explore and pilot networking solutions—to support curricular and administrative needs—locally, regionally, nationally, and globally.

Encourage teachers to engage in research and pilot projects.
Inform the Board of Trustees of present and future technological needs for staff development, curriculum implementation, and administrative needs.

Develop an action plan which ensures implementation and ongoing evaluation, as well as any required modifications to the plan to meet the above goals.

**A/9 Committee Membership**

Add two Mitchell Heights School District Board of Education members.

**A/11 Data Collection, Analysis, & Reporting**

After listening to the teachers’ concerns about the number of times that equipment is being broken and not repaired very quickly, a new system was established. Each media specialist was taken through some very basic troubleshooting workshops in hopes that they could help the onsite technology managers with the repairs within the school building. Also a new form was written—a Technology Repair Request form. This form is filled out by the classroom teacher with the help of either the media specialist or the technology manager. The specific problem is identified, if possible. For example, the G and W keys on the keyboard are sticking or the mouse won’t move on the screen. The form is then e-mailed to the Technology Technician. Once the equipment is repaired or the parts are ordered, the technician e-mails the teachers letting her/him know the current status of her/his request. This way, all lines of communication are left open, and children are being served in a more efficient manner.

Due to the concerns of many parents about the direction the district is moving regarding technology infusion, a committee of parents and community members was established. The first meeting was with the district’s technology support staff and administration so parents could ask questions about what was actually taking place in each school. The meetings most recently have been to find interested volunteers, sponsors for classrooms to purchase new equipment and software, and to set up a training schedule where parents, as well as teachers, can go through technology training at the school.

After the discussions about which platform the district should “go with” or if we should move toward a dual-platform environment, much research was done to see if there really was a “better” product. We learned that students can be quite successful on either platform and that students who learn in a dual-platform environment obviously have a greater base of experiences. The decision was made to reassign some of the district’s equipment. Since each school is going to receive new computers anyway, we decided to place all Macintosh computers in the elementary school, to have a Mac lab and a PC lab at the middle schools, and have all PC’s at the high school. This way students can transition into using both types of computers. We did pledge, though, that this decision would not prevent having other platforms than specified at the various schools; the goal is to give students maximum flexibility in the technologies they are empowered to apply to their learning.

**Note to Instructor - here is a copy of a new survey that could be used to add to data from the initial survey.**

Additional Note (created during revision, dated March 2002): Since the original creation of the survey instrument that follows, many things have changed. Technology advancements have come at a blurring pace. In light of this, I recommend that you adapt/modify this survey to meet your individual needs. The following survey is presented merely as an example, albeit somewhat “dated.” Further, I encourage you to check out the needs assessment section of the NCTP web site (http://www.nctp.com).

—Larry S. Anderson, Founder/Director, National Center for Technology Planning
Mitchell Heights School District Technology Needs Assessment Survey

Directions: With a No. 2 pencil, DARKEN the response of the numbered BUBBLE that reflects your experience with and/or opinion regarding technology. Please darken the bubble by your school name. You do not need to put your name on this document.

Sharpon High School o
Mitchell Middle School o
Lee Hall Elementary School o
Sharpon Pre-School o

Part I  Instructional Uses for Technology

1 = Yes  2 = No

In relation to planning and creating technology programs/enhancements, my individual school:

1. Is currently integrating technology into daily instruction.  1  2

2. Has staff who feel comfortable using technology where appropriate to enhance curriculum skills.  1  2

Using the scale below, rate how frequently the typical student and typical teacher:

1 = Never  2 = Sometimes  3 = Often

3. Use the following type of technologies.

<table>
<thead>
<tr>
<th>Technology</th>
<th>Student</th>
<th>Teacher</th>
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</thead>
<tbody>
<tr>
<td>Television</td>
<td>1 2 3</td>
<td>1 2 3</td>
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<tr>
<td>VCR</td>
<td>1 2 3</td>
<td>1 2 3</td>
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<tr>
<td>Computer</td>
<td>1 2 3</td>
<td>1 2 3</td>
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<tr>
<td>Laptop Computer</td>
<td>1 2 3</td>
<td>1 2 3</td>
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<td>CD-ROM</td>
<td>1 2 3</td>
<td>1 2 3</td>
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<tr>
<td>Videodisc Player</td>
<td>1 2 3</td>
<td>1 2 3</td>
</tr>
<tr>
<td>Scanner</td>
<td>1 2 3</td>
<td>1 2 3</td>
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<tr>
<td>Digital Camera</td>
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<td>1 2 3</td>
</tr>
<tr>
<td>LCD Panel/Projector</td>
<td>1 2 3</td>
<td>1 2 3</td>
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<tr>
<td>Camcorder</td>
<td>1 2 3</td>
<td>1 2 3</td>
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<tr>
<td>Distance Learning Equipment</td>
<td>1 2 3</td>
<td>1 2 3</td>
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<tr>
<td>Telecommunications</td>
<td>1 2 3</td>
<td>1 2 3</td>
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<tr>
<td>Graphing Calculators</td>
<td>1 2 3</td>
<td>1 2 3</td>
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</tbody>
</table>

PART II  Training and Professional Development

To facilitate the design and implementation of technology training, the following terms and definitions have been accepted by the Mitchell Heights School District to describe learners (students and teachers).

Emergent User: a beginning, dependent user of technology at the introductory stage of learning; making connections between technology and enhanced instructional opportunities for students.

Initial User: a skilled user of technology at the elementary stage of earning; moving from dependence to independence and making designed, preestablished connections between technology and enhanced instructional opportunities for students.
Advanced User: an accomplished, interdependent user of technology who becomes a model, provides leadership and assistance to others in identifying and making new connections between technology and enhanced instructional opportunities for students.

Please rate how comfortable you are using technology in your classroom.

4. I feel the term that best describes how I perceive my technological expertise is:

- Emergent User
- Initial User
- Advanced User

Mark the THREE technological areas in which you would most like to receive training.

1 = Yes 2 = No

- Basic computer operations
- Productivity tools (word processing, database, spreadsheets, etc.)
- Telecomputing (Internet, Netscape, electronic mail, etc.)
- Desktop publishing
- Evaluation of educational software
- Hypermedia
- Distance Learning equipment
- Audio-visual equipment
- Integrating technology into curriculum
- Networking
- Basic operational troubleshooting
- Other

6. Do you feel adequately trained to integrate technology properly into your curriculum? 1 2

7. Would you like our district to offer more training for technology? 1 2

8. Should technology training be an important part of staff development? 1 2

Part IV General Information

1 = Yes 2 = No

9. If you have computers in your classroom, are they networked together? 1 2

10. If so, is the network functioning most of the time? 1 2

11. Would you like to learn more about technology? 1 2

12. Would you use technology in your classroom if it were available? 1 2
<table>
<thead>
<tr>
<th></th>
<th>Question</th>
<th>1</th>
<th>2</th>
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<tbody>
<tr>
<td>13.</td>
<td>Should the district place a higher priority on getting more technology into the classroom?</td>
<td></td>
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<tr>
<td>14.</td>
<td>Have you gained technological skills mostly through formal training?</td>
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<tr>
<td>15.</td>
<td>Have you gained technological skills mostly through personal exploration?</td>
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<tr>
<td>16.</td>
<td>Do you feel the equipment in our schools is outdated?</td>
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<tr>
<td>17.</td>
<td>Are students using computers mostly for productivity operations?</td>
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<tr>
<td>18.</td>
<td>Are students using computers mostly for multimedia operations?</td>
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<tr>
<td>19.</td>
<td>Should this technology planning process be ongoing?</td>
<td></td>
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</tbody>
</table>
Mitchell Heights School District Technology Needs Assessment Follow-Up Survey

Directions: With a No. 2 pencil, DARKEN the response of the numbered BUBBLE that reflects your experience with and/or opinion regarding technology. Please darken the bubble by your school name. You do not need to put your name on this document.

Sharpon High School o
Mitchell Middle School o
Lee Hall Elementary School o
Sharpon Pre-School o

1 = Yes 2 = No

1. Is technology integrated into the daily instruction in your classroom? 1 2
2. Is technology integrated into the daily instruction in most of the classrooms in your school? 1 2

3. Please rate the following areas of technology planning as

1 = Unsatisfactory 2 = Satisfactory 3 = Excellent

Local Area Network Functionality 1 2 3
Wide Area Network Functionality 1 2 3
Access to Technologies 1 2 3
Access to Appropriate Software Programs 1 2 3
Training/Professional Development Opportunities 1 2 3
Maintenance/Support 1 2 3
Time to learn, practice, share, and implement new software and hardware applications 1 2 3

4. Of the areas listed, please choose only THREE that pose the greatest need for improvement.

Local Area Network Functionality o
Wide Area Network Functionality o
Access to Technologies o
Access to Appropriate Software Programs o
Training/Professional Development Opportunities o
Maintenance/Support o
Time to learn, practice, share, and implement new software and hardware applications o

5. List areas that have not been mentioned and need to be addressed.

6. Using the scale below, assess the degree to which the following present barriers/problems for typical teachers in their use of technology for instruction in your school.

1 = Never 2 = Sometimes 3 = Often

Lack of school technology plan 1 2 3
Lack of access to technology 1 2 3
Lack of administrative support 1 2 3
Lack of funds 1 2 3
Lack of time to learn, practice, and plan  1  2  3
Lack of integration of technology into curriculum  1  2  3
Lack of training or professional development  1  2  3
Lack of an on-site technology coordinator  1  2  3
Lack of on-site technological support  1  2  3
Lack of appropriate hardware  1  2  3
Lack of appropriate software  1  2  3
Lack of adequate facilities  1  2  3
Fear of technology  1  2  3

**Mitchell School District Technology Needs Assessment Survey for Parents**

Please fill out this survey and return it in the enclosed envelope to the District Administrative Offices. Thank you for your participation in the process of technology planning and evaluation. You are a vital link to the success of our students.

1. What do you think are the major issues related to technology in our schools and/or district?

2. What suggestions do you have for using technology to address these issues?

3. Of the suggestions that have been identified in response to the above question, which one do you think is most important and should be top priority?

4. If the recommendations were implemented, what benefits would be realized?

5. As you take an optimistic look into the future, how do you see technology enhancing instruction in our schools and/or district?

6. What other comments or observations would you like to add?

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**A/12 Plan Preparations**

Include a graphic timeline into the plan preparations that outlines the plan’s objectives, then correlate them into a specific time frame.

The technology committee decided there was much work to be done in the summer months in preparation for the upcoming school year. Therefore, the technology committee will work part-time during the summer and hire a full-time secretary.

The technology committee will plan field days for teachers at each of the three schools. Activities will focus on building relationships, learning about each other, and increasing commitment to each other. The teachers will visit other school districts, share ideas, and focus on self-improvement. This, in turn, should improve their teaching relationships, build a desire to be a competitive school district, and increase commitment and enthusiasm for the overall plan.

Getting students excited about technology? MOTIVATION! The school district will start off the school year by sponsoring a spirit contest among all three schools. The theme will be to “Get Excited About Technology.” The grade that demonstrates the most school spirit and is the most creative by making posters, wearing ribbons, constructing a float, etc., will receive a free day off from school and a banana split party.
Each school will have one winner. Students will be grouped by grade and centralized into their homerooms. Students, teachers, and administrators can become involved in this because each grade will be working together as a team to demonstrate the most enthusiasm for technology.

**A/13-A/P Public Relations**

Develop a Family Technology Night so that teachers and students can show parents how technology is used in the classroom. Students will be able to demonstrate their computer skills, exhibit brochures or books they created, participate in a distance learning activity with another country, or any other project they created during the year.

The PR team will hold a brainstorming session for each grade or subject area in each school to discuss teaching methods that incorporate technology into their class. This will help the teachers feel more comfortable with the software and create a sense of teamwork among teachers of the same grade and subject area. Hopefully, the teachers will feed off each other's ideas and improve their classroom activities.

The PR Team will create a special committee composed of two representatives from the original technology committee and two teachers representing each grade from all three schools. This committee will meet once a month to discuss student feedback, ideas, etc., that deal with the technology. This will help keep good communication among all schools and build good relations between schools and the technology committee by promoting a sense of a team with all members working together for the best interests of the students.

The PR Team and the Technology Committee will work with a possible special event in the community to gain exposure or publicity for the educational cause as a whole.

**A/13-B Equipment**

Form subcommittee to investigate possibility of putting computers in classrooms, connected to server and Internet. The subcommittee is also charged with providing a recommendation dealing with a laptop or handheld computer initiative.

Budget for purchase of faster servers with more RAM, larger/faster hard drives, and monochrome monitors. Move current servers to student workstations or into classrooms as per point 1 above.

Form subcommittee to determine what technologies should be included in the plan.

Research to find more durable mouse and keyboard. Set specifications for these in future purchases.

**A/13-D New/Emerging Technology**

The budget for next year will include one CU-SeeMe unit per classroom and one LCD projector per grade level in each school.

Choosing appropriate hardware and software can be a serious, delicate, and difficult issue... Discussions should never be closed—decisions should never be final... Technology changes, peoples' needs change... even the nature of change changes! Frank, open, and ongoing discussions and dialogue are keys to enjoyable and effective teamwork and decision-making.

**A/13-E Professional Development**

A training model has been written and will be implemented as soon as possible. The training is scheduled on three-day rotations so that teachers will be participating in training for the entire three days. Teachers will come together in groups based on ability level and comfort level with technology. The teachers have identified themselves already as either emergent, initial, or advanced users; however, they will be given the opportunity to change that, if needed. We will not separate by grade level, but rather mix elementary with middle with high school teachers. Substitutes will be provided by the district so that teachers can be released of classroom responsibilities. Groups will be held to a maximum of 14 people per session. Once
the initial training is undergone, the group will meet back on a once per month basis to ask questions and share ideas. Teachers will be given ongoing support at their school by the presence of the onsite technology manager. Training will focus on the “how and why” of technology—how do I use it and why should I? Software that supports our curriculum goals will be evaluated and purchased for teachers to become familiar with in training before it’s put on the network. A new student database program will be purchased so that teachers can keep grades, attendance, and reports electronically. Training is one of the wisest ways that we can spend our money. We hope that by having the teachers trained, more knowledgeable, and excited, technology will be utilized more effectively in the classroom.

**A/13-F  Incentives/Rewards System**

Leaving substitutes who are not familiar with the basic capabilities of technology in a technology classroom has been a problem when teachers attend a conference or workshop. Therefore, anyone who wishes to substitute at Mitchell Heights must attend at least two staff development sessions before substituting so that they will become familiar with the technology classroom.

The PR staff will work with the local TV station to get media coverage at the schools. They could do a segment on technology for the newscast. They will work to develop a spotlight each week or twice a month on a different classroom and ways they are using the technology. These newscasts will feature a “Classroom of the Month” or “Teacher of the Month” to exhibit outstanding teaching and learning efforts. The newspaper will also feature the winners in the “Technology in Today’s Classroom” section of the paper.

The monthly winner (see #2) will gain access to a digital camera, create a presentation about what the classroom is learning with the technology, and present the presentation to the monthly PTA meeting. The name of the monthly winner will be posted on the school district’s web page.

Teachers were not paid for days missed for attending staff development workshops. In the upcoming budget revision, the school board plans to allot pay for days missed for the technology workshops or conferences. The school district will pay any expenses for the teachers when they attend teacher training sessions.

Teachers will have the opportunity to attend a nice luncheon at the local country club where they will review new software and demonstrations and applications of technology in the classroom.

The “Classroom of the Month” will receive a pizza party.

The top classroom from each school in the district in raffle ticket sales will receive either a digital camera, scanner, or color printer for their classroom. The proceeds from the raffle sales will go toward the purchase of new equipment.

Mitchell Heights School District will have a competition among classrooms for equipment bought with the grant money. This competition will be based on a point system where teachers or classrooms gain points for: receiving things like classroom of the month, teacher of the month; creating creative/beneficial class projects using the technology; volunteering time to help with after-school lab time; teachers attending training workshops; designing or participating in some type of activity for community service benefit (i.e., students working with special needs students, designing a publication for the benefit of a charity or special cause, etc.).

**A/13-G  Purchasing**

All vendors who place bids must be registered with the school district and also must be a well-respected company. No contract will be valid for a period longer than one year. Vendors will be required to honor their prices for one year. Because the technology market is changing so quickly vendors will be expected to pass on the cost savings during the specified year. At the end of the year a new contract may be drawn up. The vendors must also honor their maintenance and support agreement, as specified in the contract.

Requests bids for other companies to provide service.
The policy has changed. In the future all purchases will go through a technology coordinator. Purchases over $300 must be done by bidding. If this is not available or practical, it can be purchased on the open market, but it must have the school superintendent's and three school board members' signatures.

A software library was set up in each school, inventorying software and manuals owned by the school. Purchasing was centralized through the technology coordinator and this library. Each teacher and student now has to sign out software and manuals before using them.

There is a whole range of evaluation criteria that determine the effectiveness of educational software—such things as scope, sequence, manageable steps, lesson structure, format, appropriateness, interest and motivation, etc. A system should be devised for each school so that they are able to evaluate educational software (and other educational technologies) properly before purchasing it. And every school technology coordinator should be provided with proper training on how to evaluate educational software (as well as other educational technologies) effectively.

**A/13-H Community Resources**

Local civic clubs (Jr. Auxiliary, Kiwanis, Jr. Civic League) have volunteered their time to help construct the classrooms or any other service they can provide.

The PR Team will send out newsletters to businesses and the Chamber of Commerce. This will increase community support for the school and, hopefully, interest future stakeholders.

Mitchell Heights School District will provide free computer literacy training workshops for the employees from businesses, members of groups, or individuals who contribute by donating funding, labor, or other needs to the district's technology implementation.

**A/13-I Legal Issues**

Specific information concerning ethics of e-mail use and appropriate Internet censorship will be addressed.

Included in the Professional Development will be classes on the legal aspects and consequences of illegal software. Topics covered will be:

What is illegal software?
Who is allowed to use the software?
What is a site license?
What does a site license cover?
How do you get a site license expanded?

**A/13-J Curriculum, Instruction & Evaluation**

Activities—Elementary Years

Appropriate learning experiences would include the following:
- writing, editing, publishing
- contour and continuous line drawings
- science simulations
- problem-solving and decision-making software
- number operations
- video overlay for presentations
- making rhythmic and melodic patterns
- composing music
- applications as graphics and telecommunications
- electronic encyclopedia or other reference
- reading
Activities—Junior Years

Students will require an increasing amount of time each day to access computers for appropriate learning experiences in the Intermediate years. Students must also begin to make intelligent and meaningful use of the vast amount of information being generated each year. The skills involved in information processing and searching must be developed and practiced during this time since they will become essential elements of the students’ tools and strategies for learning.

Appropriate learning experiences in the Junior Years would include the following:
- writing and editing individual reports
- keyboarding skills
- business applications
- computer-assisted instruction
- information management
- graphic representation and design
- electronic encyclopedia or other reference
- access to information and the ability to communicate globally
- recording and graphing data
- simulations
- problem-solving and decision-making software experience
- music composition
- school newspaper publishing
- subject-specific applications
- career planning software
- information management
- multimedia presentation
- interactive video

Such activities as these will facilitate interdisciplinary learning. Technology will support activities which span and integrate all curriculum strands and individual needs.

Activities—Senior Years

Students will require access to computers for appropriate learning experiences. Computers and related technologies will play a significant role as a tool for learning, particularly for career and personal planning. Information management skills are fast becoming life and career skills. Students in the Senior Years must continue to develop skills in research and information management to be able to evaluate information effectively and make meaningful decisions in the world beyond the secondary school.

Appropriate learning experiences in the Senior Years would include all learning experiences listed in the Junior Years, as well as the following activities:
- individualized programs of learning
- use of computer-mediated expert systems
- business applications
- information management
- personal/career resumes and covering letters
- experience with computers in the workplace
- programming
- computer-aided design
- computer-aided manufacturing
- simulations in electronics and automotive
- diagnostics in electronics and automotive
- interfacing tools to computers
- computer-controlled laser, communications, and robotics
- musical composition, arranging, and sequencing
• self assessment
• telecommunications
• graphic arts
• multimedia capability and exploration
• access to information and ability to communicate globally

A/13-K  Philosophy

The benefits of technology to the school and community, as well as use of technology by the people of the community in the school, will be addressed.

A/13-L  Networking

It seems the problems with our networking capabilities all point back to inadequate wiring and improper installation. When hiring an installation company we will start investigating the reliability and reputation of company. We will also ensure they are certified to do the work. Issues to be considered include LAN and WAN technology and topology, network operating systems and protocols, connectivity and access to the outside world, network hubs, bridges, routers, gateways, dial-up access, LAN and WAN terminating equipment, telephone system, cable TV distribution, satellite solutions, network software etc. The level of network service must be matched with user requirements and availability of funding. We have determined the most affordable balance between cost and service is the use of T1 lines.

Form subcommittee to investigate faster Internet access. (Local cable company has made tentative offer of faster, affordable access through existing TV cable!).

Purchase equipment and fiber optic cable to connect buildings A and B at Sharpon High School for electrical isolation purposes.

Cabling installation is a very fast-growing industry which is not well-regulated, thereby allowing for a large number of “fly-by-night” operations. Cabling installation companies that schools contract with should be checked for: (a) the kind of certified training their employees have; (b) how long the company has been in the cabling business; (c) the quality of previous cabling work done, and their compliance with industry standards (as checked by a cabling/networking specialist); and (d) the level of satisfaction of previous customers with their work.

Designing and laying cabling systems is both an art and a science. There are a number of important issues—and industry standards—associated with both fiber optics and Category 5 wiring installation. For instance, with Category 5 (twisted-pair) wire, it’s important that (a) the cable tension not exceed 25 lbs.; (b) that the position/integrity of the twists in the wire not be disturbed at all; (c) that the wire not be laid near any electrical current; and (d) that the wire be secured adequately from the roof infrastructure and not laid on the ceiling tile system.

Suggestion: Create networking maps of LAN and WAN topologies.

A/13-O  Security

Add network security issues to plan. Purchase software needed to protect server and student data files and processes.

Form subcommittee to draft acceptable use policy for student and parents to sign.

Purchase uninterruptible power supply and power chute software (to shut the system down gracefully) for each network server.

Develop an automated tape back schedule and tape rotational system for each server.

A software library was set up in each school, inventorying software and manuals owned by the school.
Purchasing was centralized through the technology coordinator and this library. Each teacher and student now has to sign out software and manuals before using them.

Designate a single individual to have lead responsibility in dealing with data and security problems.

Install anti-virus software on all computers.

**A/13-P Community Involvement**

The PR staff will work with the media to gain positive publicity for the school's technology plan. They will create a classroom of the month spotlight that will air weekly on the local television newscast. This could also be featured in the newspaper as well. This will help show the community how effective the technology is to the learning environment.

The technology committee will work to develop and co-sponsor a public service announcement (PSA) with a local business that focuses on illiteracy, special needs students, or other educational issues. This PSA will run on local radio and television stations.

A Business Technology Night will be held for interested businesses, non-profit organizations, and other community members. They will visit the school and see how a technology classroom is conducted. Children will be present to demonstrate what they are learning. This could help bring in new funding resources and sponsors as well as establish better relations between the school district and the community.

**A/13-Q Funding**

The district will cut out programs which are considered to be the least beneficial to the majority of students. The increase was not going to be a large portion of the technology funds, so very few programs will be cut or watered down. This was due to the voters failure to pass the 1/2% sales tax increase. Mitchell Heights School District will request the state university to hold night classes in the public school. The University will receive access to the public school building; in return, the university must help fund/supply technology support. We will petition the state to allocate a larger of funds to technology in the schools. We will reallocate funds within the school district.

**A/13-R Fine Arts**

Students should be encouraged to save their drawings on disks (floppy disks or Syquest), as well as on the hard drive. At the end of the school year, the instructors of these classes should delete the drawings done by the students to save memory storage space. The teacher should be responsible for saving each student's work on disks throughout the year.

**A/13-S Support**

We found the right man—Bob Smith. He is a television repair man who is repairing our equipment at night and on the weekends. Teachers go to see the on-site technology manager when they have repair needs. The on-site technology manager writes up a report on the equipment needing repair and sends that report to Bill, the technology coordinator. Bill then contacts Mr. Smith to have him come take a look at the problem. The district keeps spare parts at the district office in a closet so Mr. Smith can access them quickly and not have to wait to order something. Some parts have to be special ordered and then Bill does that. This arrangement is working out well. We spend anywhere from $1000 to $1500 per month on Mr. Smith's salary, and it is well worth it. We have also hired three on-site technology managers—one per school.

Frank Bishop is at the high school. He was a former teacher at the Vo-Tech School in the next county over. Adelia Ramaraz is at the middle school. She is a parent who was working at the local hospital as the network consultant, but she wanted a school schedule and didn’t mind the large pay cut. At our elementary school, Leigh Hawkins is serving as the technology manager. She was formerly the media center's assistant.

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teacher so she was familiar with the teachers and the equipment within that school. All of these people are acting as the contact people for each school, providing ongoing—even daily—training for both teachers and students. We have also reassigned some of the budget funds so that the technology manager can order simple supplies like ink cartridges and mouse devices. This has been working quite well so far.

A/13-T Lifelong Learners

A basic principle of adult education is that adult learners come to the classroom with different experiences, different learning styles, and different knowledge and skill bases. As such, preprogram assessment is important. In the future, Mitchell Heights School District will assess students’ abilities in using computers before registering them for any course which requires an intermediate level of computer expertise.

A/14 Evaluation

We have decided to reevaluate the manner in which we evaluate the implementation of this technology plan. We are considering “drop-in” visits or consistent, ongoing evaluations...something less formal so that we can get a true picture of what is working and what isn’t.

We are working on a way to evaluate administrative accountability for the technology plan.

The committee will survey and interview students, committee, and faculty to determine the overall effectiveness of the plan. They will address issues such as: committee participation and commitment; students’ feelings about the confidence and capability in their work as a result of the technology; faculty adaptation to using technology—was instruction easier or more difficult?; faculty’s perception of students’ attitudes and adaptation to the technology; work distribution among the committee; dependency of the faculty on technical personnel or the technology committee, etc.

A/15 Budget

Make budget more detailed and for multiple years.

A/17 Glossary

Revise the glossary to include ALL unfamiliar terms utilized in the technology plan.