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A Technology Survey of Teachers in a Midwestern School District

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A Technology Survey of Teachers in a Midwestern School District

Abstract

The number of computers in schools are growing daily. Today there are over 2.1 million computers in use in our nation's elementary, middle, and high schools, one computer for every thirty students (Henry, 1993). In 1988 $550 million was spent for computer hardware and $130 million for software in our nation's school systems (Schultz, Morrison, and Pruit, 1989). There is no longer a question of whether computers play an important role in our society; that is a known fact. The question now becomes how will educators react to the changing role of computers. What will they teach about technology and how will they teach it? Will teachers use this technology to merely improve the process of memorizing information or will they use it to improve learning and the thought process of their students?

A Technology Survey of Teachers in a

Midwestern School District.

A Graduate Paper

Submitted to the

Department of Curriculum and Instruction

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts in Education

University of Northern Iowa

By

Richard Vettraino

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This Research Paper by: Richard Vettraino

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Has been approved as meeting the research requirement for the Degree

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Chapter 1

Introduction

The number of computers in schools are growing daily. Today there are over 2.1 million computers in use in our nation's elementary, middle, and high schools, one computer for every thirty students (Henry, 1993). In 1988 $550 million was spent for computer hardware and $130 million for software in our nation's school systems (Schultz, Morrison, and Pruit, 1989). There is no longer a question of whether computers play an important role in our society; that is a known fact. The question now becomes how will educators react to the changing role of computers. What will they teach about technology and how will they teach it? Will teachers use this technology to merely improve the process of memorizing information or will they use it to improve learning and the thought process of their students?

Information is doubling every five years; teachers are complaining that there is no time left to teach all that needs to be taught. Are we to continue teaching students to memorize and accept as truth all the claims made in textbooks and teacher lectures? Technology provides an opportunity to change the direction of our teaching and empower students to become self-directed thinkers. Whitehead (1929) put it most succinctly when he spoke of the horrible burden on the mind made by "inert-ideas".

He spoke of "ideas that are received into the mind without being utilized, or tested, or thrown into fresh combinations (Whitehead, 1929 p. 4). Such ideas, Whitehead concluded, "are not only useless but harmful."

Technology can help facilitate systematic thinking by allowing teachers to converse with students about the information students obtained from on-line searches, or chatting on the Internet with other students or authorities on a subject. The teacher can change the classroom environment from a class where inert ideas are hurried and evolve that environment into a nurturing enabler of problem solvers and thinkers.

Purpose

Innovation in schools is met with caution and even hostility. The American education system in its attempt to change the way in which we educate students has tried various methods. Technology is seen by the majority of teachers as just another fad in education. The attitude seems to be, if we ignore it, this too, will go away (Cuban 1986). The difference is that technology permeates every aspect of society and is here to stay. You cannot buy a candy bar at a grocery store or transact business at a bank without coming face-to-face with technology. Schools need to prepare the students for this modern world, but first they need to prepare their teachers. All teachers should be exposed to classes on the basic use of computers and this new methodology. The intent of these workshops is not to make teachers into programmers or computer

science majors, but instead to make teachers literate in word processing and other programs, which makes daily tasks of grading and test development easier. The goal is not to overwhelm the teachers but to advance their knowledge at a slower pace.

Past innovations in instructional technologies have been abandoned for many reasons, but computers and the "new technologies" will not disappear. The citizens of the modern world are interacting everyday with computers, e-mail, faxes, the Internet, and numerous other productivity tools of the modern world. Instructors in learning environments will need to embrace the computer in order to prepare students for life outside the hallowed walls of learning.

Will the new technology of computers, CD-ROM, and the Internet go by the way of the old technology of radio or film? The promises of earlier technology to improve instruction and revolutionize education has disillusioned us. The result of these earlier failures is abandonment and return to the traditional style of memorization and lecture. What or who is to blame for this? One answer which surfaces most often is the teacher reluctance to adapt their teaching styles. This paper will examine reasons why teachers are not embracing new technology which promises again to revolutionize education. It will also explore reasons why some staff members are not only using computers and other forms of technology in their classrooms. Achieving success through using technology will be examined.

<u>Research</u>

A great deal of research has gone into the use of computers in the classroom, but the most relevant to this project were surveys conducted to assess the attitudes of teachers toward computer-assisted instruction. The literature provides an insight into two sides of the problem: 1)those who are using computers, and how they are incorporating them into the classroom, and 2)those teachers who do not use computers in the classroom and their reasons for not using them.

This study surveyed teachers at a rural Midwestern high school to determine the use of computers and attitudes toward the use of computers in the classrooms.

Based on the responses obtained and a review of the literature, the paper will suggest a strategies to follow to help increase the usage of computers and other technology in classroom instruction. These strategies will be designed to accomplish two objectives: 1) to develop non-using teachers to become active computer users and, 2) to help teachers who are using computers to expand use.

Chapter 2

Review of the Literature

Years have past since computers were introduced into the classroom. Sixty-six percent of classroom instructors are now using computers in some way. Seven percent of those using computers indicated use was intensive. Thirty-two percent said they used it regularly. Thirty-five percent cited occasional use and the remaining sixteen percent do not use computers (McCoy & Haggard 1989). Language arts and word processing software were the most commonly used software by Maryland teachers in the beginning of their experience with new computers. The Maryland teachers list problem solving in math and physical science as the second most popular software (Salehi, 1989). Many teachers begin using computers as management aids and, after seeing the value of computers, introduce them to students for help in writing papers or research. Teachers find that these management aids can now allow the teacher to simultaneously manage students of varied abilities (Salehi, 1989). There are many tools available to students and teachers alike that make the computer in school a must.

Computers are being used more by experienced teachers when compared to new teachers (McCoy & Haggard 1989). This may be attributed to newer teachers having less time to develop other activities. The demand on new teachers to develop new lesson plans, and not relying on past years' experience, leave them no time to learn to use the

computer as a teaching tool. Elementary teachers use the computer more when compared to high school teachers. Elementary teachers tend to teach more fundamental and basic skills, and there seems to be an abundance of software available for that sort of instruction.

Of those teachers using computers, the majority stated that their principals were very influential in selecting the subjects where the computers were used. Knupfer (1989) stated that "a supportive and informed principal is needed to promote and maintain enthusiasm for instructional computing among teachers" (p. 4). Principals, by the nature of their positions, have an enormous control over what teachers put in their curriculum and how they present that curriculum. If this type of authority exists, then it stands to reason the principals, who have a deep interest and knowledge in technology, would have teachers who develop and share this interest and knowledge. D'Amico (1990) suggested that strong leadership from school administrators is important for the entire technology integration process. The principal and the superintendent are the decision makers when it comes to budgets. If they want technology in the budget, then it will be there. More importantly if they do not feel the need for computers or other forms of technology, the items will be cut from the budget. Administration can influence teachers to adopt a positive attitude toward computer instruction.

The principal has influence over the teacher as far as introduction with this technology, but it is ultimately the teacher who decides to

embrace it and to use it in the classroom. The teacher with significant knowledge of computers and/or instructional technology has a larger tendency to use this knowledge in the classroom. The mere existence of technology in the schools today does not guarantee that the technology will be used effectively. Considerable training and staff development need to be done. The teacher has to feel comfortable with its use in the classroom. Mahmood and Hirt (1992) state, "Research studies also indicate that a teacher's attitude toward computer and implementation of computer instruction are inseparable" (p. 8). Schumacher and Hossain (1990), for example, suggested "the teacher's usage and perceptions of a computer learning center are important in reaching the goal of utilizing computer-based instructional technology" (p.89).

Positive attitudes toward technology is influenced by staff development and continued use of technology in the classroom and office (Johnson and Vaughan, 1992). The Colton School District undertook a project to transform their school into a technology-using rural school (Stuebing, Gidding & Cousineau, 1992). The project was implemented in two phases each phase lasted three years. Phase I consisted of having all staff use technology as an everyday working tool. The second goal of Phase I was to incorporate technology into the curriculum at all levels and into every subject area where possible. In Phase II of the project the staff would address these questions: Once technology becomes a working tool for everyone, does it allow or require

changes in other structures, such as: length of school day, week, year, sequence of courses and/or length of courses? (Johnson and Vaughan, 1992) In order to accomplish these goals, the school district needs to do two things: 1) gain individual staff commitment from the beginning, and then; 2) develop and achieve a staff development plan. The ability to use a computer affects the confidence of the teacher and, therefore, has a direct correlation over the amount of usage of the computer in the classroom. Johnson and Vaughan (1992) stated, " Teachers' attitudes toward technology and their own reported confidence in their abilities to use computers and technology increased with each year of this project. The teachers reported a reduction in the anxiety they felt in using computers, and an increase in their confidence in using computers during each year" (p. 21). The confidence results from a gain in knowledge and experience over the course of each of the years.

Teachers not using computers in the classroom.

What is keeping teachers from using the computers in their classroom? In a telephone survey taken from July 6 - July 10 , 1989 (McCoy, 1989), the responders cited the lack of resources as the greatest obstacle for computer use. The resources cited involved money, more computers, proper software and space. Declining enrollments in schools mean declining state funds, which result in tightened budgets. Tight budgets mean no added space to already crowded buildings. Students need to have access to the computers in order to find them useful. This

does not mean sharing the terminal with four or five other students. Instructors presenting a lesson on the computer find it more effective when all students can see the lesson simultaneously on their own monitor or an overhead screen. The equipment to do this costs money.

Maloy's survey also states another main reason for teachers non-use of computers is their own lack of training. Another survey taken (Tech Trends, 1989) stated that 90% of the teachers not using computers in their classroom cited the need for more training. They also wanted more time to review appropriate software. Lack of training leads to a subconscious belief by teachers that they are inferior to their students when it comes to computer literacy. The confidence level is low when teachers go into the classroom and do not have the right training.

Schulz, Morison & Pruit (1989) describes teacher concerns for not using computers are 1) it is not easy to schedule time for use on the computer, 2) computers tend not to reduce paperwork, and, 3) principals are not encouraging the use of computers in their classrooms. These concerns by math teachers were echoed throughout the country by teachers of other disciplines.

What are some of the shortcomings for the teachers who are using computers in their classrooms? Oqnibene (1989) in his status report on computers in the classroom cited two reasons for the lack of enthusiasm by teachers who use computers in their classrooms: "There is an inherent conservatism among educators, and a resistance of teachers to

practice what they perceive is a threat to their interpersonal relationships with students" (p. 3).

The results of the survey by Schulz, Morrison & Pruit (1989) described how math teachers were integrating the computer into their classrooms. The teachers surveyed said the reasons for inadequate use of computers were; 1) there were few guidelines to aid teachers in classroom use, 2) they did not have the skills or knowledge needed, and 3) the failure of education to maintain and update hardware and software. Schulz, et al., also commented about the large number of computer labs, rather than having the computers in the classroom, they were concentrated into a few labs. The labs seem to distract from lessons by having to move the class from the classroom into another room. Teachers were perhaps looking for clusters of computers rather than large labs.

The promise of better teaching because expanded use of computers in the classroom should bring about a change for the better. According to Becker (1990) this has not always happened. Teachers in Becker's survey expressed concern about the effectiveness of computer-assisted-instruction. They stated that although computer-based instruction is helping with logical thinking, it is not helping to advance students who have a learning handicap. The reasons could be the random way in which schools have implemented computer-assisted-instruction. Few schools have enough computers to allow teachers to use them in a

classroom setting. Few schools use a sequence of programs that provide skill, practice, and instructional dialogue on the full range of objectives covered in a particular course. Lack of computers, appropriate software, and training are some of the reasons cited by teachers who do not use computers.

In 1985, Apple computer began a collaboration with a number of schools throughout the country to investigate learning and teaching when children and teachers have access to interactive technologies (Stuebing, Et Al., 1992). The name of this project was called Apple Classrooms of Tomorrow (ACOT). Communication was set up among all teachers of the project across the country. Weekly reports were sent via e-mail and postal mail. Bimonthly audio tapes, for teachers to reflect on their experiences were also used. The results of the research at the ACOT schools showed that some of the obstacles to the use of technology in the classroom resulted not as much from the lack of experience or knowledge, but from the lack of communication skills between teachers. The barrier needs to be eliminated regardless of what technologies are used. Sandholtz, Ringstaff, and Dwyer (1991) observed "at the secondary school level teams have to break through the established subject matter boundaries and overcome the independent orientation of the teachers" (p. 10). Like many teachers, ACOT teachers felt strongly about their teaching philosophies and styles. Consequently, they were resistant to change and were hesitant to impose their

technique on other teachers. Technology involves more interaction among teachers and among students. Teachers are not always willing to allow the interaction among students in their classrooms, and are often reluctant to share ideas with other teachers.

Hannafin and Savenye (1993) discussed poorly designed software applications and a lack of teachers time to design their own. Some teachers just don't believe that the computer improves learning outcomes. Some teachers resent the computer as an invasion into their classroom and a competitor for students' attention. Coulson (1971) found that the enthusiasm by teachers for computer use was directly proportional to the amount of work the computer did for them. Hannafin and Savenye (1993) cited fear as another reason for computer resistance.

The teachers not using computers in their classroom offer many reasons for this. The main reasons seem to be lack of time and money. Teachers need time to learn about the new technologies and how to integrate it into their classrooms. The staff development time cost school districts money and money is already in short supply. Money is also an issue in equipping classrooms with up-to-date technology.

Chapter 3

Methods

Subjects

The people surveyed in this project were 108 teachers in grades kindergarten through twelfth grade. These teachers teach in a medium-sized Iowa town of about 10,000 people with a total school enrollment of 1552 students. Of the 108 teachers surveyed, 75 responded to the questionnaire for a 69% response rate. The elementary teachers' (grade K-4) response rate was 75%, or 28 out of 37 possible. The middle school teachers (grade 5-8) rate was 70%, or 24 out of 34 teachers. The high school teachers (grades 9-12) responded at a 62% return rate, or 23 out of a possible 37. The teaching experience of teachers ranged from one to thirty six years and subjects taught were all grades and levels of English, mathematics, business education, physical education, science and industrial arts.

Design

The survey was conducted during the fall semester (Appendix A). Most of the teachers surveyed did not have computers accessible in their classrooms before they responded to the survey. Descriptive research is used in this study because the researcher is not testing a hypothesis, but rather trying to find out what type of computer use is taking place in the school and the attitudes of the teachers towards using computers. The

survey consisted of 14 questions with five of the questions asking for a statement pertaining to the previous yes/no question. Question ten and eleven ask for a brief explanation of their answer to question six and nine respectfully.

Procedure

The technology coordinator of the school district surveyed the faculty of the school district. The questionnaire was distributed through the school mail with directions attached. The teachers were instructed to answer all questions as best they could. The teachers were told to keep the survey anoymous. They were also told that the results would be tabulated and used as a basis for further staff development decisions.

Chapter 4

Results

The first question asked if teachers used a computer. Seventy-nine percent of the teachers who responded said they used a computer (see table 1). Elementary teachers had the highest "yes" response at 86%. Middle school teachers were in the middle with 75% saying they used a computer. The high school followed with a 70% yes response. The teachers responding to "no" about computer use gave two main reasons for their lack of computer usage: #1)they do not feel confident enough with the computer, and #2)they do not have computers in their room.

Table 1

Question #1, Do you use a computer?

	Yes	No
1. Elementary	86%	14%
2. Middle School	75%	25%
3. High School	70%	30%

The third question ask the teachers who responded "Yes" to the first question was "For what did they use the computer for". They were given the following choices : A) Manage student data, B) Word process, C) Create tests, D) Correct test, E)Teach or help teach a concept, and F)

Other. One hundred percent of the teachers surveyed said they used computers as a word processor (B), with the second choice (54%) to manage student data (E). The third choice was to "create tests" (47%). The fourth choice was (5%) to teach or to help teach a concept (see table 2).

Table 2

Question #3, How do you use computers?

	Use as	Do not use
A. Manage Student Data	54%	46%
B. Word Process	100%	0%
C. Create Test	47%	53%
D. Correct Tests	2%	98%
E. Teach or help to teach a concept.	5%	95%
F. Other	0	100%

The fourth question dealt with the students' use of computers in classes. Seventy one percent of the teachers surveyed said "yes" to the question about students use of computers in their classrooms. The elementary teachers again had the highest "yes" response with 93% of

the teachers in grades K-4 using computers in their classrooms. High

school teachers had the second highest "yes" response with 70%, while

middle school teachers had only a 50% "yes" response (See Table 3).

Table 3

Question #4, Do your students use computers in your classroom?

	Yes	No
1. Elementary	93%	7%
2. Middle School	50%	50%
3. High School	70%	30%

The fifth question asked " If you answered "No" to question #4, why do

students not use computers in your classes? Reasons for non use of

computers in the classroom varied from lack of availability to inability to

schedule time in the lab. One teacher said, "There is no supervision in

the computer lab. I want students to do their own discovery, not copy."

Another responded by saying, "I don't have software and I have no

access to a computer in my room." Most of the responses were related to

not having computers in the classroom or no availability of software. One

teacher did say available software currently would not work with the

curriculum.

Of those teachers responding "yes", 31% said the students used them on a daily basis, 37% said weekly and 19% monthly. The elementary schools acknowledged that 24% of the teachers used the computer in the classroom on a daily basis, while 57% said they used the computer on a weekly basis and 19% said they used the computer on a monthly basis. The middle school answered the average daily use was about 42%, compared to 17% for both weekly and monthly, and 25% stated other uses. The high school acknowledged that 37% of the teachers who use computers use it on a daily basis, 32% on a weekly basis, 21% on a monthly basis and 11% used it less often than that.

The seventh question asked whether you use the computer labs. Forty-seven percent of the teachers said "yes". The use of the computer labs follows the trend of the responses on previous questions. The elementary teachers responding that 48% use a computer lab, while only 26% of the middle school and high school teachers claim to use the computer labs in their respective buildings (See Table 4).

Table 4

Question # 7, Do you use any of the computer labes with you students
as a class?

	Yes	No
1. Elementary	48%	52%
2. Middle School	26%	74%
3. High School	26%	74%

The eighth question asked for reasons why the teacher did not use
the computer lab. Some of the responses included:

"There is not enough time in my schedule."

"Time available for students doesn't lend itself to this."

"I'm not familiar enough, and have limited time."

"Because it is always full."

"Technology is done in individual or small groups."

"Difficult to finish projects as the students move at different
speeds."

"Not many good programs available."

"Don't know all the ways it could be used."

"Don't know all the programs on the network."

"Not planned into lessons."

"I need my classroom time."

"Hard to get for all sections"

Availability also seems to be a big concern for the teachers. There was only one lab per school when this survey was taken so lab space was a problem. Lack of confidence in the use of a computer also seems to prevail in the comments. The lack of confidence seems to coincide with lack of use.

When asked how they use the computers in the classroom or labs, teachers mention word processing the most. The elementary teachers used programs like *Kid Pix* and *Print Shop*. Middle school teachers used computers and labs for keyboarding and word processing. The high school teachers mentioned word processing for papers and projects as the biggest use of computers in their classrooms and labs. The high school teachers also mentioned some specialized use of computers.

Question number twelve dealt with seven different types of technologies other than computers: 1)CD ROM, 2)laser discs, 3)fiber optics, 4)distance learning, 5)interactive learning, 6)electronic mail, and 7)telecommunications. The question asked about which technologies the teachers were familiar.

Of the seven listed types of technologies, CD-ROM was the one most teachers identified. Laser discs came in second in familiarity, with e-mail and telecommunications following closely.

Comments to this question were not solicited but some of the responders did write in comments. Teachers said they did not know what some of these new technologies were. Perhaps the author needed to give a short explanation of some of these technologies.

Chapter 5

Summary

The purpose of the paper was to review the attitudes of teachers in a mid-size Midwestern school district in Iowa. Literature reviewed was directed toward the attitudes of teachers across the United States regarding the use of computers in the classroom.

The results of this survey followed the general pattern of previous surveys. Teachers in this group were slightly higher than teachers across United States in their use of computers. Sixty-six percent of teachers across the nation use computers (McCoy, and Haggard, 1989) as compared to 77% in this survey. Nationwide, elementary teachers use computers more often than do teachers in other grades (McCoy, and Haggard, 1989). The results of this survey coincides with those national statistics. Elementary teachers were the highest percentage of teachers using the computers, followed by middle school and then the high school teachers. Nationwide language arts and word processing were the highest ranked for computers use (Salehi, 1989). Again, this group of teachers match with colleagues across the nation using computers for word processing followed by helping students with a project. The majority of the teachers used computers once a week rather than daily.

Comments gathered from the survey share similar results with national surveys. Those teachers who do not use a computer or use it very little say they are not comfortable enough to use it. Lack of

resources ranks high nationally as a reason for non-computer uses (McCoy, and Haggard, 1989). In this survey, the teachers' response to the question of why they do not use a computer in the classroom stated, "lack of training," as their main reason for not using a computer. In a national survey teachers also stated that lack of training was their main reason for not using a computer (McCoy, and Haggard, 1989). In many instances these teachers are comparable with counterparts across the United States in both their attitudes about computer use and their actual use of computers. Problems in this particular school district are the same as those across the nation.

Recommendations

Some possible recommendations to change the attitudes of these non-using teachers need to be examined. According to the review of the literature, one of the main reasons for non-use is lack of knowledge about the technology available and lack of sufficient software available in curriculum areas. This author's recommendations would be to design in-service meetings and to set up an electronic mail system in the school district.

The in-service meetings might have the following objectives: 1) to help the teachers gain basic knowledge about computers and how to use them, 2) to identify the needs of the teachers in curriculum integration,

3) to identify the software needed to integrate the technology into the curriculum, and 4) to train the teachers on the use of the technology in the curriculum.

The next step in the training phase is to take a small group of teachers willing to spend the time and effort to investigate software available in their subject areas for possible integration into the curriculum. Brunner (1992) stated in his paper, "We do know that demanding innovation does not work. Our best strategy, at this point, is to find and nurture small groups of faculty, give them the opportunity to integrate technology in their curricula, and hope that their success will inspire others to give it a try" (p.6). This is why this author wants to take a small group of teachers, who are willing to learn about using technology in their curriculum, (therefore the success rate will be relatively high), and create a model for other faculty members.

In order to increase the rate of success even more, training would have to be designed to give the teachers in this small group the opportunity to learn the software that they have selected. In giving them the ability to gain extensive knowledge on all aspects of this technology, they will feel more comfortable in its use. This will increase the amount of success immensely and give technology integration a better reputation.

The electronic mail system would help to reinforce what the teachers have already learned in the staff development workshops. Teachers who have learned the basics of computer use can use electronic mail to

further enhance their skills. Responding to e-mail messages, the teacher has to know how to turn the computer on, open applications, and basic word processing. E-mail has many advantages. D'Souza (1992) cites these advantages of electronic mail for businesses, "Companies have discovered that e-mail offers five essential advantages over traditional communication modes: an overall cost reduction, reduced paper handling, faster communications, improved communication effectiveness, and integration of data communication with records management. Additionally, e-mail as well as other computer-mediated communications . . . are fast being adapted for nontechnical users" (p.22). Using an e-mail system provides teachers with first-hand experiences on the advantages of these technologies. Expanding the use of e-mail to find experts on a particular subject, the teacher can bring other sources into the classroom with just a click of the mouse. A fifth grade class studying Iowa, for instance, can e-mail different cities asking for historical background of those cities. D'Souza (1992) also states, "The most obvious benefit of using e-mail is that students gain access to a tremendous amount of variety of informational resources, far beyond what is normally available to learners studying outside formal classrooms" (P.23). Since electronic mail is asynchronous, the user can send a message to a colleague but the colleague does not have to attend the beginning of this conversation. When the colleague returns to his/her computer, the message is there waiting for his/her response. As a

result, the sender of the message did not have to waste time talking to an answering machine or secretary, and also does not have to interrupt a busy schedule to talk. This type of system could thrive in an educational setting where the staff can send and receive messages to teachers, administrators, students or parents. The teachers can send messages when it is convenient for them and the teacher can receive a message without being interrupted in the classroom. The use of e-mail by teachers will not only increase their confidence in using the computer but will also make them more aware of the advantages of this application.

A by-product of the workshops and electronic mail can easily be collaboration among teachers. Using e-mail should increase dialogue between teachers. The convenience of e-mail makes it easier for faculty to converse because both parties do not need to be a simultaneous part of the conversation. In-service will segregate teachers according to abilities and , therefore, small groups will be formed. The teachers who volunteer to expand of integration of technology will form their own groups as a result of the training sessions involving software evaluation and training. Sandholtz, Ringstaff and Dwyer, (1991) suggest this, "As teachers began to experiment with learning experiences based on the technology, the substance of their interaction shifted from offering technical assistance to sharing instructional strategies. Collaboration about instructional topics emerged when teachers ventured beyond, using the technology for test-based drill and practice instructions" (p. 11).

Sandholtz, et al, also stated, "Our investigation suggests that innovations, such as high-access technology classrooms, tended to drive teachers to engage in more collegial interaction and instructional sharing in order to prepare for their classes and update their curriculum" (p. 5).

In conclusion, the teachers at the school district in this study are not different than their counterparts across the country. The majority of them feel uncomfortable when it comes to the use of technology in the classroom. They state many reasons for this but the two most frequently stated reasons are lack of training on such technology and lack of appropriate software in their subject areas. The elimination of these reasons can be accomplished by proper training and selection of quality software. Training, followed by continued use of the computer through e-mail, hopefully, will convert non-users into users.

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Appendix A
Community School
Technology Survey

____High School ____Middle School ___Elementary School

Directions: Please make <u>brief comments</u> and return to Rick Vettraino.
Your input will be used to assist the District Technology
Committee in developing the long range plans and in
developing future in-service meetings. **Please return by
Feb. 15th. !!!!**

1) Do you currently use a computer?
Yes
No
2) If the answer to #1 is No, then why do you not use a computer?

_____

3) If the answer to #1 is Yes, then do you use the computer to: (you may
answer more than one)
A. Manage student data
B. Word Process
C. Create Tests
D. Correct Tests
E. Teach or help to teach a concept.
F. Other, Specify_____

4)Do students use computers in your classes?
Yes
No
5) If you answered No to question #4, then why do students not use
computers in you
classes._____

6) If the answer to question #4 is yes, then how often do they use the computer in your classes:

	All Classes	Upper Level	Lower level
A. Daily	_____	_____	_____
B. Weekly	_____	_____	_____
C. Monthly	_____	_____	_____
D. Other, Specify _____		_____	_____

7) Do you use any of the computer labs with you students as a class?

8) If you answered No to question #7, why do you not use the computer lab with you classes._____

9) If you answered yes to question #7, how often do you use the lab:(you may answer more than one)

	All Classes	Upper Level	Lower level
A. Daily	_____	_____	_____
B. Weekly	_____	_____	_____
C. Monthly	_____	_____	_____
D. Other, Specify _____		_____	_____

10) If you answered Question #6, briefly explain in what way(s) you utilize the computer.

_____

11) If you answered Question #9, briefly explain in what way(s) you utilize the computer.

_____

12) What forms of technology are you familiar with:

    ___   CD ROM
    ___   Laser Discs
    ___   Fiber Optics
    ___   Distance Learning
    ___   Interactive Learning
    ___   Electronic Mail
    ___   Telecommunications
    ___   Other_____

13) Of these forms of technology listed above which one do you utilize?

    ___   CD ROM
    ___   Laser Discs
    ___   Fiber Optics
    ___   Distance Learning
    ___   Interactive Learning
    ___   Electronic Mail
    ___   Telecommunications
    ___   Other_____

14) Of these forms of technology listed which one would you be interested in utilizing?

    ___   CD ROM
    ___   Laser Discs
    ___   Fiber Optics
    ___   Distance Learning
    ___   Interactive Learning
    ___   Electronic Mail
    ___   Telecommunications
    ___   Other_____

Other Comments: