AN ANALYSIS OF TEACHERS' OPINIONS TOWARD INCORPORATING TECHNOLOGY INTO THE

CURRICULUM

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THESIS

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The Degree

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by

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DEDICATION

To my husband, Alvin and my children Aaron and Alyssia, thanks for being so understanding and patient. I could not have done this without your love and support.

CHAPTER I

INTRODUCTION

Purpose for the Study

Throughout the twentieth century, each time a new form of media or technology appears on the market, predictions have been made concerning the vast changes that it will undoubtedly bring to classrooms and to the educational process. The arrival of personal computers was no exception. In 1984, researchers and futurists predicted great changes would emerge due to the presence of computers in schools. (Hall & Hord, 1987). Although there were numerous computers in classrooms by 1986, the envisioned positive changes were not realized. In fact, many teachers have been slow to transition from traditional teaching to computer oriented instruction (Bitter & Yohe, 1989).

Computers continue to have an enormous and pervasive impact on the business world and on society. Due to this, the scope of their effect within the educational system has focused more on teachers' use and/or misuse of technology and the perceived failure of educators to fully utilize computers in the instructional process rather than to focus on its effect concerning students' comprehension.

Therefore as the educational community continues to incorporate this technology into its work and instructional environment, there appears to be reluctance among teachers and administrators to interact with computers (Manhmood & Medewotz, 1989). This resistance has led to under-utilization of computers in the public school classroom. Computers have not yet been integrated well into the curriculum (Ognibene & Skeele, 1990). To counter this problem, programs have been developed that provide training for teachers in computer use and in the integration of computers into the classroom. Programs of this sort provide instruction to teach in hardware, software, and the instructional integration of computers in the classroom. The goal of these programs is to encourage more effective teaching through the extensive use of computers in classrooms.

Effective teaching can change teachers' attitudes and opinions toward computers and by improving their teaching of computer skills. Oftentimes, teachers' attitudes determine their achievements or their downfalls concerning implementing technology in the curriculum. These attitudes may effect the level of the students' interest and success pertaining to the educational use of computers. Thus, it is very crucial that teachers' realize the importance of positive interaction with technology in the classroom setting.

The writer's inability to interact with advanced computer systems prompted the writing of this thesis. Since the beginning of a teaching career now three years old, the writer has taken several professional developmental courses utilizing state-of-the-art technology. These courses were designed to give teachers knowledge and confidence to incorporate technology into their individual curriculums. Since these courses were not mandatory, some teachers chose not to enroll in the training seminars.

In order to prepare students for the future, it will be imperative to include the utilization of computers and other technologies into the instructional environment. It is important that students are comfortable with this system of knowledge. In addition, they should fully comprehend and understand the importance of computers and understand the importance of computers and understand the system of their learning experience. As educators it is important for us to model the appropriate applications of

authentic technology in order to facilitate the students' productivity within the educational setting and ultimately in the workplace.

Problem Statement

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The purpose of this study is to analyze the opinions of elementary teachers toward incorporating technology into the curriculum.

Assumptions

To conduct this study a Likert-type questionnaire will be used to gather and analyze the attitudes of elementary teachers toward incorporating technology into the curriculum. It is assumed that the questionnaires will be filled out honestly. It is further assumed that the instrument used is valid in measuring the attitudes that it intends to measure. No validation study of the instrument will be conducted but field-testing will occur.

Limitations

The research findings of this study limited by the scope of the sample. The survey population will be from one school district, so generalizations beyond that site cannot be done.

Definition of Terms

Elementary Teacher

Elementary Teacher is a teacher who instructs kindergarten through sixth grade in a regular classroom.

Integrate

Integrate is the process of combining two or more topics.

Opinion

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Opinion is the teacher's positive or negative feeling towards a given subject.

Authentic Technology

Authentic Technology occurs when students use technology in the same capacity as adults within their professional setting.

<u>Novice</u>

Novice is a person that is new to learning a particular skill.

Technology

Technology for the purpose of this study refers to the inclusion of computers and its usage in the classroom.

CHAPTER II

REVIEW OF THE RELATED LITERATURE

This chapter of the project addresses the writer's review of the related literature. The literature review consisted of books, academic and professional articles and the information relative to an integrated technological curriculum used by other school districts. This information has expanded and broadened the writer's knowledge of the issue.

As previously mentioned the purpose of this paper is to analyze the attitudes and opinions of elementary teachers' toward incorporating technology into the curriculum. With the rapid spread and advancement of computer technology throughout the field of education over the last decade, there are teachers at all grade levels in academia who use computers routinely in their jobs. Spurred by efforts to improve learning, productivity, and competitiveness, the number of computers in schools increased dramatically from the early 1980s to the 1990s (Becker, 1991).

The review of the literature portion of this study is broken down into four sections. The first section is a brief history of computer use in education. The next section deals with factors that contribute to the use of technology. The third section is why do we want teachers to use technology. Finally the last section is how teachers can integrate technology.

A Brief History of Computer Use in Education

In 1976, there were numerous predictions concerning the success of the personal computer within the academic setting. John Brown declared that the personal computer would be a determining factor by the early 1980's. The adoption and use of computers in schools and classrooms has not matched these predictions (Bitter & Yohe, 1989). Various authorities cite numerous reasons for the ineffectiveness of the computer in the classroom. Several reasons include the expensive hardware and inadequate instructional software for teachers. These are definitely substantial deterrents.

On the other hand, some educational institutions exist that have adequate hardware, software, and training, but the technology is not being incorporated in the curriculum due to the equipment sitting in the back of classrooms unused (Jost, 1994).

With the placement of computers, some schools that identified the importance of computer skills chose to focus on teaching computers as a separate curriculum while others carefully planned and integrated computer literacy objectives into the curriculum (Vockell & Schdwartz, 1992). Still others chose to implement some combination of these approaches.

When personal computers first appeared in classrooms, their instructional use took one of two roles. The first use was to teach about the technology itself, including computer literacy and programming language courses. The second use was to support the curriculum through the use of educational software such as tutorials and drill and practice. In most cases computers were used to support traditional goals, using established methods with as little change as possible to the classroom setting or well-

established routines (Carlson, 1991). In such settings, the computer did little to change the curriculum or to truly impact education (Grabinger & Dunlap, 1994).

With the growing expectation for the instructional use of computers in classrooms and the identified need for teacher training, colleges and universities began to offer computer literacy courses for teachers (Black & Ammon, 1990). The evolution of these courses has paralleled that of computer literacy courses in schools. Computer literacy courses have evolved from courses that taught about computers (their history and component parts) and introductory computer programming, to courses that have replaced programming languages with basic software application (word-processing, spreadsheets and databases) (Sacks, Bellisimo & Mergendoller, 1993). These courses have attempted to address how these skills can be used to support instruction and how the use of computers can be integrated within the curriculum. They have, however, supported teachers' views of computers as additional content that needs to be taught within an already crowded curriculum.

Factors Contributing To the Use of Technology

There are many factors that contribute to the use of technology in the classrooms. Educators view computers in many different ways. Those who are familiar with the use of the computer generally have more favorable attitudes towards its implementation in the classroom (Koohang, 1989). Educators familiar with the research conducted in this field are aware of the positive impact that computers can have on school age children at all grade levels (Zammit, 1992).

Teacher development has focused on training in the use of technology. Learning to use technology is not sufficient for teachers to make this change in their teaching styles. Teachers, like all learners, need to see the relevance for using the technology. Teachers need to understand how technology can support instruction and learning, how technology can help us to do things (accomplish important educational goals) that either would be very difficult or impossible to do without the technology. This requires a change in seeing the role of computers (or technology) as instructional and learning tools, not as add-ons or content. Demonstrating and discussing the potential of various technologies, introducing new uses of technology, and supporting teachers in exploring different technologies and software can support teachers in constructing a different understanding of their own discipline. Teachers can benefit through activities that support their reflection of what they teach and why.

In order to have teachers use technology in constructive ways that support educational change and goals, we must first assess their views on learning and instruction. Research regarding teachers' integrating technology with instruction, found that teachers' views concerning instruction, learning, and teacher-student roles were not only reflected in the goals that teachers hold for their students but also mirrored in the teaching styles they use (Jost, 1994). Some teachers deem it imperative to have an opportunity to reflect on their computer training to ascertain what is important for today's students to learn (Black & Ammon, 1990).

Teachers must construct an understanding of the changing roles of technology, teachers, and students. Learning environments require change in the roles of both teachers and students. The teacher's role in student-centered learning environments is to

guide, stimulate, facilitate and support students' learning activities. Teachers also facilitate student-to-student interaction, modeling desirable thinking and learning behaviors. Using technology as learning tools in the classroom also requires teachers to see their class, including themselves, as a community of learners (AIT, 1994).

There are some local school districts that provide minimal technical support that creates a problem of inadequacy. The classes that are offered via the district's workshops familiarize teachers with basic computer skills. Yet, this training does not teach them how to incorporate the technology in a classroom. The instruction and exposure of the basic technological tools is not enough. Teachers are not given the time or the freedom to explore the instructional uses of technology or to redesign curriculum or lesson plans. Teachers need time to experiment and become comfortable with new instructional techniques and technology.

Why Do We Want Teachers' To Use Technology

There are many reasons why teachers need to use technology. Research indicates that technology has a positive impact in the classroom (Finnegan & Ivanoff, 1991). Studies have also shown that the computer is an effective tool in instilling motivation, promoting the success of the educationally handicapped (even to the point of easing the "mainstreaming process"), promoting critical thinking skills, and enhancing learning retention (Fullan & Stiegelbauer, 1991).

A study conducted by Collins (1989) uncovered some interesting finding. He found that technology enriched classrooms had much more independent work occurring, while student in the whole-class instruction group spent a greater amount of time

"waiting". On the other hand the students in the technology-integrated classroom were observed being on task more often than the whole-class instruction group. The study also showed that students in the technology rich group were observed having instructional interactions with their teachers more. This research basically showed that students who were involved in technology integrated environments tend to work more independently and efficiently. It also showed that their conversations with the teacher were more instructional and content related, thus freeing up time for the teacher to work with other students who needed more individualized attention. LaFrenz & Friedman (1989) states, "that technology in the classroom will help teachers move from the traditional, direct instruction approaches to more student-centered approaches that incorporate independent student work. These educators maintain that technology enriched environments change the role of the teacher from deliverer of knowledge to facilitator of learning"(p.75).

How Teachers Can Integrate Technology

In order to integrate technology, first, we need to make teachers aware of the capabilities of the computer. Many teachers have already formed pre-conceived notions of the computer as a difficult, impersonal machine that may never be mastered. Even those teachers who have a favorable attitude towards the use of the computer have not necessarily moved towards using the computer in their classrooms (Resnick & Klopfer, 1989). A large part of this problem is the result of not having the knowledge to use the machine, and not having any kind of familiarity or expertise with computer based or computer managed instruction (Chen, 1986).

Before teachers can begin to integrate technology into the curriculum they must first understand what this means. "Integrating technology with teaching means the use of learning technologies to introduce, reinforce, supplement and extend skills"(Carlson, 91). For example, if a teacher merely tells a student to read a book without any preparation for follow up activities that put the book in context, the book is not integrated. In the same way, if the teacher uses the computer to reward children by allowing them to play a game, the computer is not integrated.

How does a teacher prepare to integrate computers into the curriculum? McCarthy (1988) identifies steps that will help in preparing for integration. He suggests that the teacher first choose the subject or course, integration level and a developmental approach. Secondly, the curriculum needs to be divided into manageable portions and a schedule set for the development of each portion. Thirdly, the goals and objectives need to be identified. Fourthly, learning activities that would best be supported by a computer application need to be identified. Lastly, the arrangement for access to hardware and software that will help provide the application in the desired subject area is needed.(pg. 7)

Integrating technology into the curriculum may not be as complicated as some teachers may think. Many teachers use these basic procedures when planning to teach, and all well-prepared teachers go through these steps in the normal course of preparation. However, selecting the computer activities and the software are new steps in the organizational process. Any teacher who integrates computers into his/her teaching must have adequate training. This training should consist of fundamentals of computers and pertinent software selection for the classroom setting.

There are five basic computer configurations that can be used in the classroom (Todd, 1993). The first computer configuration uses one computer in the classroom to enhance the presentation of information. When the teacher is using the one-computer configuration for group demonstration, the following steps are necessary:

- plan in advance
- feel at ease with the equipment
- lead the discussion to integrate student comments into the point being made
- summarize and draw conclusions (Clark & Murphy, 1989)

The second configuration uses one computer as a class resource or to reinforce concepts being taught. In this mode, the teacher directs students to the activity as suitable times and monitors progress. The third configuration uses the computer with small groups. The teacher prepares students for the activity, answer questions, and quizzes students after the activity. When the computer is used with small groups, the teacher has the following responsibilities:

- plan the lessons in advance
- introduce the lesson so as to minimize later student questions about how to proceed
- be able to quickly solve equipment and software problems that arise for students
- sense the collective pace of the group
- Answer questions in a way that does not do the work for students summarize and draw conclusions (Carlson, 1991).

The fourth configuration uses the computer to present information to the student. The student uses the computer to gather information or to solve a problem. In this configuration, the teacher serves as a resource, where the students come to further receive information to complete a particular classroom task.

Technology has become a vital part of our world. It continues to impact the workplace. As a result the teachers skilled in technology must begin to integrate computers and other information technologies into their teaching in order to meet the challenges of a changing society.

CHAPTER III

PROCEDURE

This chapter details the demographics of the sampling group and the distribution of the questionnaire.

The purpose of this study is to analyze the opinions of elementary teachers toward incorporating technology into the curriculum.

Subjects

The subjects chosen for this study were a group of certified elementary teachers in an Ohio school system. The teachers included are both male and female participants. All of the teachers participating in this survey are employed in the same school district. These teachers have a wide range of educational background, teaching and technology experience.

Setting

School. The elementary buildings consist of students in kindergarten through the sixth grade. At the time of this study there is an average enrollment of about 625 students per school. The teacher to student ratio is about 27 to 1. Each school has a magnet theme that has an emphasis on a particular area such as communication technology, math/ science, computer technology, and international studies. However the curriculum is founded in basic skills.

<u>Community</u>. The school system in this research is located in Midwestern Ohio. It is a large school district located in the inner city. The population of the district is about 25000 students. The district consists of five high schools, seven middle schools and thirty-five elementary schools. <u>Construction of the Data Collecting Instrument</u>. The writer will use information gathered from the review of literature establishing content validity. The instrument used is a Likert-type questionnaire with forced choice answers.

The following topics are used: demographics, teacher's knowledge and opinions toward technology implementation.

The instrument was reviewed and field- tested by several elementary teachers at the writer's school. The writer revised the instrument based on the results of the field test.

Administration of the Data. The survey was distributed to three elementary schools via the school mail. The secretary was asked to place a survey in each teacher's mailbox. The teachers were asked to complete the survey within a week's time and return them to the writer. The writer distributed seventy-five surveys and fifty were returned.

CHAPTER IV

Results

Presentation of Results

The purpose of this study was to determine the opinion of teachers toward incorporating technology into the curriculum. The results of this study survey will be presented in chart form.

The sources for the analysis were employees of an Ohio school system. The surveys targeted elementary school teacher's grades (K-6) to measure their opinion toward integrating technology into the curriculum. A total of 75 copies of the survey questionnaire (see Appendix A) were distributed to school teacher's in the districts three elementary schools and 50 respondents returned the surveys with varying responses. A five-point Likert Scale was used for respondents to describe their perceptions concerning the use of computers in their classrooms. The following pages will include results of the questionnaire and a summary of the data.

Question #2 addresses the grade levels that the teachers taught at the time of the survey. Six percent were in kindergarten. Ten percent were in Special Education. Twelve percent were in grades second, third, and fifth. Fourteen percent were in grades first and sixth. The largest groups of Teachers at twenty percent were in the fourth grade. Results are displayed in Figure 1.



Question #3 addresses the number of years the teachers had been teaching in the district. Ten percent had been teaching between 1-7 years. Twenty percent had been teaching between 8-14 years. Thirty-six percent had been teaching between 15-22 years. Thirtyfour percent had been teaching for over 23 years. Results are displayed in Figure 2.

Figure 2



Question #4 determines which computer platform the teachers currently have in their classrooms. Sixty-six percent were using Windows 95 with state-of-art software and thirty-four percent used the outdated Macintosh with little or no software. Results are displayed in Figure 3.



Question #5 addresses the number of computers the teachers currently have in their classrooms. Fifty-two percent had 0-1 computers in their classroom. Forty percent had 2-3 computers. The researcher attributes the lack of computer usage by teachers was due to the fact that eight percent had 4 or more computers in the classroom. The researcher throughout the district observed this low number of computers. Results are displayed in Figure 4.



Figure 4

Question #6 asked the teachers to rate their level of computer knowledge. Fourteen percent rated themselves as novice. Sixty percent rated said they at the intermediate level. Twenty-six percent were at the advanced level. Results are displayed in Figure 5.



Figure 5

Question #9 asked teachers how frequently do you implement computers into the curriculum. Twenty-two percent replied daily. Twenty-eight percent replied once per week. Thirty percent replied once per month. And surprisingly, twenty percent stated they hadn't implemented computers into their curriculum. Results are displayed in Figure 6.



Figure 6

Question #10 asked teachers if technology incorporated into the curriculum greatly benefited the lessons. Twenty-four percent strongly agreed benefited the lessons. Forty percent agreed. Seven percent had no opinion. Twenty percent disagreed. And two percent strongly disagreed. Results are displayed in Figure 7.



Question #11 asked teachers it they felt that their teaching was enhanced by incorporating technology into the curriculum. Thirty-six percent strongly agreed that teaching was enhanced by technology. Forty-six percent agreed that technology enhanced the curriculum. Surprisingly twelve percent had no opinion to whether technology enhanced teaching. And finally, eight percent felt that technology did not enhance the curriculum. Results are displayed in Figure 8.



Figure 8

Question #12 asked the teachers if the technology in the classroom prepares students for high school, college and the workforce. Forty percent strongly agreed that technology does prepare students for the future. Sixteen percent agreed. Twenty-four percent had no opinion. Twenty percent disagreed. Results are displayed in Figure 9.



Figure 9

Question #13 states that technology can be a way to add variety and excitement to instruction. Sixty percent strongly agreed that technology could bring excitement into the instruction. Thirty-six percent agreed. And finally, four percent had no opinion. Results are displayed in Figure 10.



Question # 14 states that teachers are willing to incorporate technology into their curriculums but often feel unskilled and lack the proper training to do so. Seventy percent strongly agreed that they were willing to use technology, but they just did not feel skilled in that area. Twenty percent agreed that they would incorporate technology with proper training. Four percent had no opinion, and six percent felt it did not matter if they had the training or not that they still would not incorporate the technology. Results are displayed in Figure 11.





Question #15 state that incorporating technology is too time consuming and difficult to manage. Thirty-three percent strongly agreed that time was a big factor in not using technology. Forty-five percent agreed. Twenty percent disagreed, and two percent strongly disagreed. Results are displayed in Figure 12.



Figure 12

Discussion of Results

Results of this study are limited to the scope of the sample size. The surveyed populations consist of three elementary schools within one school district. Therefore generalizations beyond this scope cannot be affirmed.

After reviewing the results of the Likert-type questionnaire, there were some findings that were anticipated and those that were not expected. For instance, it was unforeseen that the data reflected in question #10 would show that 64% of teachers realized the benefits of using the computer in the curriculum. Also, the results from question #11 that eighty-two percent of the instructors believe that technology would enhance their teaching was not predicted. Although the data indicated that teachers are willing to embrace the technology and are excited about the prospect as shown by question #13, ninety-six percent of the teachers agreed that technology could add variety and excitement to their instruction. Finally, there were some results of the questionnaire that displayed abnormal conclusions within certain sampling groups. For example, a high percentage (86%) of the surveyed teachers are intermediate to advanced computer users as shown in figure 5, yet ninety percent of those teachers felt they lacked the proper training to incorporate technology in the curriculum as stated in question #4.

In this study, teachers who frequently used computers exhibited more of a positive attitude toward technology than their inexperienced co-workers. Gressand and Loyd (1985) reflect this occurrence in their attitude test findings administered to teachers after completing computer workshops. Consequently, familiarity with technology and its usage can create a positive atmosphere for the instructor within his/her classroom.

Minimal gender differences in attitudes towards computer were found in this study. Also, this study indicated that the majority of teachers were willing to implement technology to supplement his/her instruction.

In order to allow teachers to explore effectively and to become knowledgeable in this field of technology, schools need to provide the equipment and software associated with computers. This comfortability may precipitate an increased use of computers for instruction. Ultimately, the students' enhancement of learning would flourish.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS SUMMARY

Toward the end of 1996 and the beginning of 1997 school year this school district installed new computers in most kindergarten through sixth grade classrooms. The installation of computers was the first step by the district to assist teachers in educating their students with pictures and sounds that up until then could not be reproduced by textbooks.

The writer has personally witnessed classroom teachers not using computers to their fullest capacity. Problems range from fear of technology to not having the proper level of training in basic computer operations.

The purpose of this study was to analyze the opinions of elementary teachers toward incorporating technology into the curriculum. Research was accomplished through a comprehensive literature search primarily of technology in the classrooms. Through the reading of the literature the writer discovered that businesses expect future employees, to be authentic users of technology (Jost, 1994). This means that educator need to allow the students to use and explore technology in a ways that would be useful in the real world. Examples of this type of technology would be using the word processors and e-mail. If a student is taught to use these technologies he can begin to function in the outside business world.

The writer developed this study in order to get the opinions of teachers toward a technology rich curriculum. The writer was interested in discovering how teachers felt

about using technology in the classroom and if it is an effective tool for preparing the students for the future.

Research was conducted in order to give the writer some background information in this area. After reviewing the literature, a questionnaire was formulated to survey teachers about their attitudes and/or opinions about technology in the curriculum. The survey was administered to 75 teachers in three elementary schools. Fifty surveys were returned. The data gathered from the surveys were used to evaluate the effectiveness of technology usage in the classroom.

CONCLUSIONS

Computers have some true advantage as far as educational enhancement is concerned. There are many studies which show that the computer is an extremely effective tool that can not only improve the quality of education, but can also reduce the amount of time that is spent doing clerical or administrative type tasks associated with teaching.

The problem in this area is that teachers have been slow in moving towards the implementation of the computer in the classroom. This problem can be attributed to several causes. The most significant of which is the lack of knowledge or understanding of how computers can be use most effectively.

The research of the showed that the time necessary to master the used of the computer is an intimidating factor to many teachers. The literature revealed that teachers who are interested in using the computer are more likely to be those who already have some kind of computer experience, whereas those who have no knowledge of the machined are more hesitant. The question of how to motivate this portion of the teaching

population is a key issue especially since there are many teachers in the workforce who have never had any experience in using a computer. A reasonable suggestion might be to maintain open communication between curriculum planners and teaching staff, coupled with non-threatening opportunities to learn about computers.

RECOMMENDATIONS

The writer recommends that the district continue to offer computer training courses for teachers to support and help in teaching the integration of technology into the classroom. Teachers also need to learn to evaluate and integrate software into the curriculum. The writer also recommends that the district set up programs whereby the teachers can receive graduate credit for technology training as an incentive to acquire more knowledge pertaining to technology. Another recommendation is for the district to give teachers access to equipment (e.g., laptops, power-books, computers, etc.) year round to familiarize themselves with the technology. The more teachers are exposed to technology the more comfortable they will become in using it.

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Dear Teacher:

This survey is part of my research for my graduate project at the University of Dayton. The research topic is on teachers' opinions toward incorporating technology into their curriculum. The survey will be nonidentifying. I would greatly appreciate your help in answering the following questions. When you have completed the survey please place it in an interdepartmental mail envelope and send it to me. Please return by June 1, 1999.

Thanks You, Joy Stokes Carlson

Teacher Technology Survey

Please circle only one answer.

- 1. What sex are you? male female
- 2. What grade(s) do you teach? k 1st 2nd 3rd 4th 5th 6th
- 3. How many years have you been teaching? 1-7yrs 8-14yrs 15-22yrs 23+
- 4. Which computer platform do yo have in the classroom? Windows Macintosh
- 5. How many computers do you have in your classroom? 0-1 2-3 4 or more
- 6. How would you rate your self as a computer user? Novice (beginner) Intermediate Advanced
- 7. Have you taken any technology classes in the past year? Yes No
 - a. If so, how many? 1 2-3 4or more
 - b. Do you feel that these classes have helped you to use technology more? yes no
- 8. Do you have a computer at home? yes no
- 9. How often do you implement computer into the curriculum? daily weekly monthly never

Answer the following questions using this scale:

1= strongly agree 2= agree 3= undecided 4=disagree 5= strongly disagree

10. Technology incorporated into the curriculum greatly benefits lessons. 2 5 3 4 1 11. Incorporating technology into the curriculum enhances teaching. 2 3 5 1 4 12. Technology in the classroom prepares students for high school, college, and the work force. 5 1 2 3 4 13. Technology can be a way to add variety and excitement to instruction. 1 2 3 4 5 14. Teachers are willing to incorporate technology into their curriculums, but often feel unskilled and lack the proper training to do so. 3 1 2 4 5 15. Incorporating technology is too time consuming and too difficult to manage.

1 2 3 4 5