Approved by:
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ACKNOWLEDGEMENT

I would like to express my appreciation to Judy Oberlander for her advice, willingness to work with me, and support through this process. Thanks for the guidance and kindness.
DEDICATION

To my children, husband, parents, family, and friends,
    thank you for all of your cooperation
throughout the duration of not only this project,
    but also the endeavor of my education.
CHAPTER I

INTRODUCTION

Purpose for the Study

This study was conducted in order to help the writer better understand teachers' opinions of technology usage in their curricula, and to research their opinions of personal benefits from technology usage. The writer also wanted to have a better understanding of factors that affect teachers' opinions of technology. The last purpose of this study was to assist the writer in helping teachers implement the use of technology.

Research showed that one of the most valuable skills that students could have learned in today's educational setting was the use of technology. Once these skills were acquired, students would be able to take these skills and put them to use in higher education or the work force (Lammel, 1995). Most students were expected to graduate from high school with more knowledge than just how to use a computer to do word processing tasks. They were expected to know how to use many different technologies for resources and multimedia presentations (Brunner, 1992). Literature indicated that
employers needed workers with technical skills (Mahmood and Hirt, 1992). Students without some type of technology skills were put at a disadvantage and were not prepared for what lay ahead of them. So the first reason for doing this survey was to help the writer determine if teachers held the same opinion of technology. Did they feel that it was an important skill to teach to students?

Not only were students not receiving the full benefits of technology usage, but teachers were not receiving these benefits as well (Standish, 1993). Teachers needed to be aware of the benefits that technology could bring to them not only in classroom instruction, but also in classroom management for such things as grades, interim reports, attendance records, and budgeting. Another reason for doing this study was to determine teachers' opinions about using technology for their own benefit.

Another purpose for this study was to research what factors affect teachers' opinions of technology usage in their curricula. Students and teachers could have benefited from technology, if the right decisions were being made by administrators, committees, or what ever group was responsible for technology planning, purchasing equipment, and buying software. Many schools were systematically purchasing equipment, software, and resource materials to be used by the students and teachers without first seeing what was needed to reach the instructional goals. Many times these resources were
sitting idle because bad decisions were made, or the equipment was not being used for the purposes intended. Was this a waste of taxpayers monies or errors in budgeting? This line of thinking was not necessarily true if teachers and students made use of everything that was available to them, but in order to make full use of resources, the proper decisions had to be made from the beginning.

The writer felt that it was necessary to research these issues to better help teachers with implementation of technology. The writer, a computer facilitator, felt that by surveying secondary teachers it could be determined why some teachers were implementing technology into their curricula or why some teachers were not using technologies in their curricula. With this information, the computer facilitator could then focus on areas of concern and provide support for teachers. One of the duties as the facilitator was to assist teachers with project ideas, implementation, execution, and training. This research conducted for this project aided in this process.

There were several purposes to this study. One was to further research the issues found in the literature. Another was to survey the opinions of the teachers in the same school district as the researcher. Finally, the writer wanted to get an understanding of these issues to better assist the teachers in this school district.
Problem Statement

The purpose of the study was to analyze the opinions of secondary teachers toward the use of technology in their curricula.

Assumptions

Several assumptions were made in order to carry out the survey and analyze why teachers were or were not using technology in their curricula. The writer assumed that teachers were answering the Likert-type survey truthfully. The writer also assumed that technology was an important skill to be taught to students at the secondary level because students at the secondary level were preparing to leave the school environment to enter the work force or the higher education atmosphere. Both situations required some type of technology usage (Heinemann, 1996).

The last assumption made by the writer was that the technology survey device that was used for attitude assessment measured attitudes accurately.
Limitations

A limitation of this study was the inability of the writer to survey more teachers. All of the teachers surveyed were from the same school district, and the district was considered to be part of a suburban community. Another limitation of the survey was that not all teachers returned the survey.

Definition of Terms

**Attitude** is a teacher’s positive or negative feeling towards a topic.

**Laptop** refers to a computer that is relatively small in size and is portable.

**Secondary** refers to grade levels six through twelve for the purpose of this study.

**Technology** refers to tools that can be used by the teacher to instruct, supplement, or enhance lessons with the use of computers, scanners, CD-ROM’s, laserdiscs, televisions, video cameras, presentation equipment, graphic calculators, or on-line services.

**Training** is some type of formal instruction on how to use a computer, software application, or some other type of technology related equipment.
CHAPTER II

LITERATURE REVIEW

For the purpose of this study, a positive factor was viewed as an element that lead to some type of opinion change by the teacher to use technology. A negative factor was one that for whatever reason lead the teacher to not use technology in his or her curriculum. Both positive and negative factors were presented in the following paragraphs, with the positives being followed by the negatives. The last section featured the issues that were considered to be of neutral nature depending upon how school districts approached and handled them.

Factors that Affect Teachers’ Opinions Towards Technology

Some factors that influenced teachers’ opinions of technology usage were seen as positive, while others were viewed as negatives. The first positive factor dealt with the issue of teacher exposure to technology. It was considered to be a positive effect if teachers were frequently exposed to technology. A factor that helped develop or form teachers’ opinions towards technology was their lack of skills
and exposure to technology in order to be effective educators in that specific area of their curricula (Kinnaman, 1995). In some cases, teachers had curricula that included technology usage, but many times the students were not exposed to this area of the curricula because the teacher did not feel comfortable with it. This problem was caused by a couple of obstacles. One such obstacle was that schools did not have equipment or at least not enough equipment for teachers to be exposed to it. Another obstacle was that teachers that did have equipment available to them, did not have the proper training needed to use it.

The next factor that affected teachers' opinions of technology dealt with the issue of training. An issue that went along with the previous section was that attitudes were directly affected by the opportunity for extensive training and exposure (Brunner, 1992; Pack, 1994; Wiburg, 1994). In order for teachers to feel competent with teaching technology or using technology for projects, they must feel comfortable using and talking about technology. One way to help teachers with this task was to give them the opportunity for training. They had to feel comfortable with the idea of using technology before they were willing to stand in front of a group and give instruction on it.

Another related factor affecting teachers' opinions in a positive way was the increased opportunity for inservice training (Wilson,
Teslow, Cyr, and Hamilton, 1994). The difference between training and inservice training dealt with who paid for the educational experience. Training was the opportunity for teachers to take classes and receive some type of continuing educational credit for that; it was paid for by the teacher. Inservice training was the opportunity for instructors to have time to learn a skill while either being paid or being given time "on the clock" to work. Many people did not want to or did not have the time to spend outside of the school day to learn additional material.

The next factor that had positive results on teachers’ opinions was being taught how to use technology in the curricula (Brunner, 1992; Troxel, 1994). Not only did teachers have to be taught the skills to be effective trainers to students, but they also needed to have the application knowledge to put it into use. Teachers needed to be able to realize when computer usage was applicable to a situation or lesson. Proper evaluation of the curricula could have aided in this effort. According to Troxel (1994), teachers should not have seen technology usage as a separate lesson to teach, but as an integrated learning process to compliment the curricula and not just add to it. Teachers needed to have demonstrations on how technology could be of an advantage to them, and then they needed to be trained on how to use these advantages.
The involvement of community and business support lead to a positive effect on teachers’ attitudes (Wiburg, 1994). This type of activity lead to a collaboration between the schools and the community. The community also felt ownership in the program and was more apt to help with providing resources or projects to the school system (Bergstein, 1996).

To go along with the issue of training, teachers had other concerns that affected their opinions. A negative factor existed when teachers felt that students had had more training than they had had (Hodas, 1993; Pack, 1994). Some teachers saw this as intimidating. Instead of feeling intimidated, teachers needed to be shown how this could have been an asset to a classroom setting. There were a number of ways that this situation could have been made into a positive learning experience for students. Students have proven to be great demonstrators. Rutherford and Grana (1995) suggested reversing roles between instructors and students. They have found role reversal lead to more active learning and cooperation on the part of the students. The teacher’s role needed to shift from that of an answer provider to more of a facilitator. A facilitator would give direction and guidance, but the learning responsibility would be the students.

Another negative factor in many school districts was the reality that the schools had not made adequate investments in technology.
The technology or equipment made available to teachers, in some cases, was outdated which could lead to frustration and negative attitudes (Peterson, 1990; Koontz, 1992). This could have occurred especially if a teacher had more updated equipment at home than he or she had available at school. Any work that could have been done at home often times would not operate at school because the equipment available in many schools was outdated or was in need of repair.

One factor that was considered to be negative dealt with administrators needing to be aware of the point that teachers were more accepting of technology and innovation if they were included in the development stages of planning and implementation (Rogers, 1991). The involvement in planning was an essential part of the teacher feeling that he or she had ownership in the procedure.

Exploration time was also a factor that was considered to have a negative effect on teachers and their opinions because they were not usually given ample time to learn, explore, and master new technologies (Hodas, 1993). If teachers did not have the time to spend learning how to use different equipment, then schools must come up with a way for teachers to be able to have time allotted to them for such activities. One way to do this was to allow for more inservice training time.
The Effects of Teachers' Backgrounds on Computer Usage

The next section of this study researched data that compared teachers that already had computer knowledge with those who did not, in order to find out if teachers' opinions were affected by previous knowledge. Also, the writer wanted to know if teachers with previous knowledge and skills were the same teachers using the equipment and exposing their students to it. The following data discussed the number of years of instructional experience teachers had and what part it played in teacher technology usage. The data also discussed whether or not teacher gender played a role in teacher usage. Lastly, the issue of personal computer usage and what role it played on affecting teachers' usage of computers in the classroom was presented.

Honey, M. and Henriquez, A. reported teachers that have several years of teaching experience were becoming involved with technology as cited by Hawkins, J. and MacMillan, K., (1993). Teachers just entering the field of education were not the only teachers implementing technology. Many teachers that have been teaching for years were also entering the realm of technology instruction. What some once thought as a "fad" that would leave in a matter of time has stayed in the schools and more teachers were seeing the need for acquiring and teaching these skills to students.
Many experienced teachers were focusing on using technology (Rogers, 1991). Rogers’ study showed that teachers with many years of teaching experience were interested in learning and teaching technology usage. Teachers were not set in their curriculum, but were open to ideas for teaching a combination of skills to students.

The next section dealt with teacher gender and what role it played in computer usage. The data showed that gender did not affect a teacher’s computer usage (Okinaka, 1991). This study showed that female teachers were just as interested in technology usage as male teachers.

The last section dealt with the issue of personal computer usage and how it affected teachers’ opinions of computer usage. A positive correlation between personal computer usage by teachers and attitudes existed and lead to more computer instruction in the classroom (Troutman, 1991). Teachers who have equipment at home were more likely to use equipment at school. Many school districts were making it possible for teachers to acquire equipment through special kinds of programs so that they could have equipment at home. These programs usually involved some kind of training offered through the school district and/or special financing associated with acquiring the equipment (low interest rate loans, leasing, and training hours in exchange for a computer).
In summary, the literature review indicated that teachers' opinions were directly affected by several factors. These factors mostly dealt with the issues of time and training. Teachers that have had sufficient training tend to have a more positive opinion about technology in their curricula. Teachers that had computers at home for personal use also tended to have a more positive opinion about technology compared to teachers who did not use or have computers at home. The literature also indicated that for teachers to have positive attitudes and opinions about technology usage that they needed to feel as if they were part of the planning process. After planning was completed, then teachers needed adequate technical training and curricula implementation training. To go along with implementation training, teachers needed to be given specific ideas for integrating it into their curricula. They also needed time to develop their ideas into projects.

Investments in time, training, planning, and implementation by school districts lead to a positive correlation between teachers' attitudes and opinions towards technology and the usage of the equipment.
CHAPTER III

PROCEDURE

Subjects

The subjects of this study included the teaching staff from two middle schools (grades six through eight) and one high school (grades nine through twelve) in the same school district as the writer. The sample involved approximately 105 secondary teachers. The subjects had various technology backgrounds with some teachers having had computer training, and some had their own personal computers at home or had portable laptop computers. The results of the survey (Table I on page 38) showed that 85 percent, or 55 actual respondents, of the secondary teachers used computers for some type of professional work, such as typing letters, figuring grades, doing lesson plans, and similar activities, while 15% (10) did not use computers for any personal or professional use.

The other background question used in this study asked teachers if they had a computer at home. Sixty-nine percent (45) said yes, they own computers. Thirty-one percent (20) said they do not own computers at home. These questions show the writer that at
least 10 teachers were using the computers made available to them by the school district or through some outside source. Forty-five people responded that they had computers at home, yet 55 people were using computers to do such things as grades, letters, or other school work. This data was located on Table I on page 38.

In this study, a comparison of female and male teachers indicated that: compared to the male teachers, more female teachers, both own and use computers more than male teachers. Question number one had 91% (31) of females responding that they used computers for personal application, while 79% (24) of the male teachers did. The second question had similar results with 80% (27) of female teachers stating that they owned computers, and 58% (18) of the male subjects owned computers. These results indicated to the researcher that the findings of Okinaka, 1991 were accurate. He stated in his study that gender does not play a role in computer usage. In this district, it seemed that female usage was greater than male usage. Total responses by males and females were similar. Thirty-four females responded to the survey, while 31 males responded.

The survey contained two bi-polar (yes or no) questions that indicated to the researcher how many teachers use technology outside the realm of the classroom (located on page 38).
School District. The school system involved in this study has a district wide technology plan to which it strictly adheres. This plan included regular funding for technology in each of the buildings within the district on a scheduled basis.

Once every year, in October, the district offered an inservice day for teachers. The inservice had many opportunities for technology experiences, but not all teachers chose to attend a technology session.

The district also offered courses throughout the year for staff personnel. Course offerings included beginning and advanced levels for staff members interested in the district’s integrated software package. Another class was offered on the district’s multimedia software package called HyperStudio. These courses were taught on a regular basis and participants could receive graduate credit or continuing education credits (CEU’s) for attending. Courses were offered at various times during the school year. Workshops and courses were also offered throughout the summer in order to accommodate teachers’ schedules. Some of the courses offered were Claris Works I, Claris Works II, HyperStudio, and Advanced HyperStudio.
The teachers and students of this school district were provided with computer labs in each of the two middle schools and the high school. Teachers could also sign-out equipment from the computer lab or media center to use in their classrooms. Each lab contained thirty computers. Teacher workstations with a computer and printer were located in each of the buildings. These stations were for teacher use only.

The school district also had on staff a media coordinator who was in charge of overseeing each building's technology, media center, and certain staff personnel. This district also had on staff one computer facilitator whose job was to oversee each of the two middle schools and the high school. One of the facilitator's responsibilities was to help teachers with training, implementation, and execution of projects involving the use of different technologies. The facilitator also maintained and repaired the equipment in the buildings.

Community. The community where the study took place was a suburban, small town of about 6,000 people. The town was made up of many small businesses, but very few major industries. These small businesses were supportive of the school district. Many parents and former students volunteered within the schools. The community was considered to have primarily a low socio-economic status. This put the school district into a classification by the state as
“an equity district.” This was going to enable the district to acquire new technology equipment in the future that it otherwise would not have been able to afford to purchase.

Data Collection

Construction of the Data Collecting Instrument. The writer developed a research opinion survey based on questions found in previous surveys on related topics. The questions were arranged to reflect the negative and positive opinions that teachers have towards using technology in their curricula. The survey included questions about training, implementation, availability of equipment, and feelings towards technology.

The eighteen questions followed the Likert-type questionnaire with response choices as follows: strongly disagree (SD), disagree (D), agree (A), and strongly agree (SA). These questions pertained to feelings, beliefs, and opinions toward technology (see page 43).

A field test was done on four teachers in the writer’s district that understand and use technology on a regular basis. These teachers provided suggestions on clarity and wording of the survey. The survey was then revised based on the suggestions of the field test participants.
Administration of the Data Collecting Instrument. The data collection took place at the beginning of the 1995-1996 school year. For distribution, the survey was placed in each teacher’s professional school mailbox. The finished surveys were returned to the computer facilitator’s professional school mailbox. One hundred and five surveys were distributed and 65 surveys were returned. This return rate of 62% was reported and used throughout the analysis process.
CHAPTER IV

RESULTS

Presentation of the Results

The writer presented the results of the survey in four tables. Each table was labeled to indicate the type of data being analyzed. The tables, one for female responses, one for male responses, and one for total responses, included percentages and number of responses for each question asked from the Likert-type survey questionnaire. These percentages, which have been rounded, were placed under the appropriate response categories. These tables were located starting on page 39.

Another table was developed to show the bi-polar responses. Each question was represented in rounded percentages as well as actual numbers and the results were placed under the appropriate response categories. This table was titled Results of Personal Computer Usage Questions From The Technology Survey and can be found on page 38.
Discussion of the Results

One hundred and five surveys were distributed between two middle schools and one high school all located in the same school district. Out of one hundred and five, sixty-five were returned to the computer facilitator. All tables were based on this sixty-two percent return rate. Thirty-four female teachers returned the survey and thirty-one male teachers returned the survey. Fifty-two percent of the responses came from female teachers while forty-eight percent of the responses came from male teachers.

This study was done to help determine factors that contribute to teachers' opinions regarding technology usage. The results and discussions were based on the responses found in Tables I, II, III, and IV located on pages 39, 40, 41, and 42. Each question's results was analyzed and discussed by comparing the total group responses to an issue or by comparing the female responses to the male responses. The first four questions analyzed how teachers felt about technology in general. They were designed to assist in analyzing how teachers felt about students acquiring technology knowledge as well as how important they felt technology was in education.
They were designed to assist in analyzing how teachers felt about students acquiring technology knowledge as well as how important they felt technology was in the educational process.

Question One (I do not feel that technology should be taught to students.) results showed that a substantial amount of teachers shared the same opinion. Eighty-nine percent of the teachers either strongly agreed or agreed to this statement, while only three percent agreed. This indicated that educator in this school district felt that technology was an important factor in the education process. As the literature review indicated, in today’s society technology skills were to be an expected skills that students should graduate with in order to continue their education or enter the work force (Lammel, 1995). The majority of the secondary teachers in this school district agreed with, even if they themselves did not have the skills to teach to the students. To go along with how important teachers regarded teaching technology skills to students, the researcher asked the teachers if they felt that technology was a “fad” and would not last.

Again, the teachers responded similar to the first question. Ninety-one percent felt that technology was here to stay in our schools. Five percent, however, felt that technology would eventually fade away or were undetermined about the future role of technology in the educational process.
All of the female respondents either disagreed or strongly disagreed with this statement, while 20% of the males either agreed or were undetermined. Some of the male teachers in this district were more skeptical about how long technology would be in the schools in the future.

The next question that aided in determining teachers' opinions of technology asked them if using computers had helped them to improve their teaching. The results of this question were very mixed. Fifty percent of males and females accepted with statement. However, 35% of the males did not feel that this was true, compared to 15% percent of the females. A total of 49% of the teachers felt that computers has helped them to improve their teaching. It was not known if they felt that their actually teaching skills were improved or if the technology had aided in other professional work. The teachers that responded favorably to this question could have seen technology as aiding in lesson plans, grades, progress reports, or other professional tasks, thus improving their teaching by reducing time spent on other activities besides instruction. They also could have interpreted the question to mean that their actual teaching styles and lessons had improved. One respondent noted these differences on the survey.

The last question that helped determine teachers' opinions asked if they felt that computers should be used with students at all
levels of learning. The least responses were in the strongly disagree
category with zero returns. Next, 3% (all males) disagreed with the
statement. Nine percent were undetermined. The majority of the
responses fell into the agree category with 54%. Lastly, 34% strongly
agree with the statement. A substantial 88% of the respondents felt
that students at all levels of learning should use computers.

Overall, these four questions indicated that the teachers in this
school district had positive opinions toward using technology as well
as positive opinions of the importance of technology in the future of
education.

The next four questions pertained to the issue of implementing
technology usage into the curriculum. Did teachers feel that it was
important? Did they need help with it? Or did they implement it
because it was required of them? These questions were answered
with the following statement results.

Question five asked teachers if they thought technology fit into
my curriculum. This statement alluded to how important teachers
regarded technology skills in their curricula. Was it important
enough for students to learn and for them to fit it into their
curricula? The results indicated that over half of the teachers felt
that it was important enough to include into the curricula. Eighty-
eight percent of the respondents disagreed (63% disagreed and 24%
strongly disagreed) with this question. Only one (2%) person was
undetermined and seven people (11%) agreed with the statement. Thirty-nine teachers saw technology as an area in their curricula, while 23 did not. There were not substantial differences in responses between males and females. The majority of the teachers felt that technology fit into their curricula. For the purpose of this study, this was regarded as a positive opinion by teachers in this district. The next question was asked to teacher to give the researcher an indication if teachers wanted to implement technology or if they did just because it was required of them.

Question six which stated, “I use technology with my students because it is required in my course of study”, had an overwhelming 81% (53) responding unfavorably to this question. These results gave the indication that teachers did not implement technology just because they were required to do so by their course of study, but because they wanted to or felt it was important enough to do so. Only 5% saw it as something they had to do. Secondary teachers in this school district had a very positive opinion about the importance of technology skills in the curricula. Not only were teachers asked about the importance of technology in their curricula, but they were also asked about their opinion of implementation of the technology in the curricula.

Question seven inquired if teachers thought they would use technology if someone showed them how to implement it into their
curricula. Teachers responded very favorably to this statement. Sixty-eight percent, 44 people, either agreed or strongly agreed. This may have demonstrated that teachers were willing to use technology, but would like to have more instruction or guidance on how to use it with what they already teach. Previous researched showed that teachers' opinion were strongly affected by the amount of instruction they received on implementing technology into their curricula. The teachers in this district agreed with the previous literature. They too would have liked more instructions or guidance on how to coordinate what they already teach with technology. The last question in this section inferred an overall opinion of technology importance.

"I use technology with my students because I feel that it is a skill that is needed", was the question asked in number eight. For this question, there were no significant differences between male and female responses to this statement. Overall, the majority of the responses fell into the strongly agree or agree categories, 63%. Next, 21% were undetermined and 15% disagreed. This indicated that the majority of the teachers, both female and male felt that technology was a skill that was important enough to teach students.

Combined with the other three questions in this category the research exhibited that the teachers in the school district also concurred with the earlier research. Early research stated that teachers' opinion were affected by the amount of training that they
had received in implementing technology into their curricula. These teachers also saw it as a benefit to have someone helping them integrate the subject matter with technology.

The following four questions pertained to how teachers regarded the amount of training that they had had on equipment and how this amount affected their opinions of technology. These questions also suggested to the researcher why teachers were or why they were not using technology for professional work or integrating into their curricula.

The ninth question asked teachers if the reason they did not use technology was because they did not know how. This question dealt with the factors of teacher comfort level and training issues before administering technology knowledge to students. The majority of the teachers disagreed; 35% or strongly disagreed; 24% with this statement or a total of 59%. These percentages were relatively close to the percentage of teachers having computers at home, which was 58%. So over half the teachers felt that they had received adequate training, and over half the teachers had computers at home. Could this training that they had received been self-taught? A difference between female and male responses was noted in the strongly agree category. Five females strongly agreed, while zero males strongly agreed. This was the only substantial difference in numbers between male and females teachers. Thirty-
two percent felt that they did not know enough about technology. Almost one third of the secondary teachers in this school district felt that they had not received adequate training. The next question was closely related to the previous question. Even if teachers had received training maybe it was not enough training to feel secure in using technology.

This question pondered whether or not teachers felt that they needed further training before using technology. This question was designed to show how comfortable teachers felt about their current training levels or if they had not received training were they afraid to use technology anyway. Sixty-one percent of the teachers agreed or strongly agreed with this question, while 30% (19) disagreed or strongly disagreed. So for the most part, 61% (almost two-thirds) felt that they needed further training. Even though 58% of the teachers surveyed had computers at home, some still felt that they needed further training. About one-third of the respondents felt comfortable with their current training levels. The next question also dealt with comfort levels of training.

"I have had sufficient training on other technologies besides computers", was the eleventh question. It was designed to give the researcher an indication of how many teachers use technology equipment such as graphic calculators, laser disc players, CD-Roms, and other peripherals. The results showed that teachers felt that
they needed further training on computers as well as other technologies associated with computers. With 40% disagreeing and 20% strongly disagreeing, teachers feel that they have not had sufficient training on technologies. The results were similar to the previous question with two-thirds of the teachers feeling that they needed further training on peripheral equipment. Nearly one-third of the respondents did feel that they had received sufficient training on peripherals.

Question twelve also dealt with teachers' feeling about technology. Hodas (1993) and Pack (1994) stated that if teachers have feelings that students know more than they do, then teachers will be less likely to use technology with students. Question twelve asked teachers if they were afraid that students would know more than they do. The majority (39%-females and 29%-males) of the educators in this study did not feel that this statement was accurate. The survey indicated that 54 people were not afraid that students would know more than they did, while 10 respondents did have this as a concern. However, a substantial 15% did feel that this was an accurate statement, while 17% was undetermined about the statement. Nearly one-third felt some degree of concern if students knew more than they did. Both male and female responses were similar for this question. This was the last question dealing with comfort levels of technology knowledge. These questions indicated
that the majority of the secondary teachers did not feel that they had received enough training on computers or peripherals.

The next question on the survey dealt with the issue of equipment availability. Kinnaman (1995) found teachers’ attitudes were affected by equipment accessibility. Question thirteen asked teachers if they felt that they had equipment available to them to use technology. The results of this question were varied. Some teachers, 32%, felt that the district was not supplying adequate technology equipment to meet their needs. Nearly one-third of the respondents felt that they needed more equipment made accessible to them. A little over half, 56%, of the teachers did feel that their technology needs were being met.

Question fourteen inquired about the time factor that affects teachers’ opinions about technology usage. The question read: “I do not have the time in my lesson plans to implement technology.” This question corresponds with the research previously mentioned regarding the issues of teachers being taught how to implement technology into their curricula instead of seeing it as an extra subject to be taught in addition to the “regular” lessons. The results show a great variety of answers. It appears that the majority of the teachers, 34% (22), disagreed with the statement and 18% (12) strongly disagreed. Many teachers, 23% (15), however, were undetermined about the implementation of technology due to time
factors. Then 22% (14) agreed and only 3% (2) strongly agreed. The outcome was split nearly in half. Fifty-two percent of the people thought that they did have enough time to implement technology into their curricula, while the other forty-eight percent did not have time or were unsure.

The last section of questions from the survey were inserted to give the researcher a guide to how many secondary teachers in the district were actually using the equipment and how helpful they found the resources in their building to be.

The first question of this section referred to the media center. Did teachers take their students there and did the students find the resources helpful? The female teachers responded that they agreed or strongly agreed with this statement, 92%. Fifty-two percent of the male teachers agreed or strongly agreed with this statement. From this survey it was not determined why there was such a drastic difference between male and female responses. A total of 8% in some way disagreed. They either did not take their students to the media center or did not find it to be helpful while they were there.

To go along with the previous question teachers were asked if the used the technology in the media center and found it helpful. Similar to the previous question, this question showed a large difference between male and female responses. Seventy-nine percent of female teachers either agreed or strongly agreed
compared to forty-five percent of male teachers. Thirty-three males have not used the media center or did not find it helpful, while only 3% of female teachers have not used to the media center or found it to be helpful.

These two questions had the largest differences between male and female responses. Further studying would have to have been done to determine the factors involved in these results.

The next two questions were parallel with the last two questions except teachers were now asked about the computer lab resources instead of the media center.

Question seventeen stated: “I have taken my students to the computer lab.” The responses to this statement were wide spread. Almost an equal number of male and female teachers responded in each of the categories. Also, the responses for agreeing and disagreeing were almost equal. Forty-five percent agreed and 45% disagreed. It appeared that half the staff had taken their students to the lab and found the students found the resources to be helpful, while the other half had not taken their students or the students had not found the resources helpful. The last question was asked to give the researcher, the computer facilitator, some ideas for change or improvement for the future when working with teachers and students. The question examined if the teachers themselves had found the facilitator to be helpful. This question was designed to
give the researcher, the computer facilitator, an indication of how teachers saw the facilitator as a resource of assistance to aid in curricular needs and training. No one responded negatively to this statement. However, the facilitator had not either made connections with or had not been helpful to 34% (21) of the staff members, whose responses were undetermined to this question. Sixty-eight percent responded favorably by agreeing; 34%, or strongly agreeing; 34%.

These 18 questions were designed to give the researcher an indication of the areas of concerns that teachers in this school district had. The survey results showed that these teachers had some of the same concerns found in the literature research, such as: equipment availability, time, implementation into the curricula, and training.
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of this study was to analyze the attitudes of secondary teachers towards using technology in their curricula. In the past, many assumptions have been made as to why teachers do not use technology or were reluctant to use technology in their areas of instruction. The researcher wanted to gather data that would have given some kind of inclination as to which assumptions were accurate. The following procedures were completed in order to complete the study process.

The writer, a computer facilitator in this school district, developed this study in order to find out why teachers were not using the technology equipment made available to them by the district. To accomplish this task, research was conducted to give the writer some background information in this area. Then a questionnaire was developed and administered to 105 teachers in the district. The results of this survey were discussed and analyzed below. The results were stated in percentages rounded to the
nearest whole number, actual number of responses can be found in the table located on page 38.

Conclusions

After analyzing the results of the literature researched and surveys, the writer concluded that technology training was a very important factor that affected teachers’ opinions towards using technology in their curricula.

The study also conveyed in the findings that gender did not play a part in teachers’ opinions towards using technology.

The last conclusion that affected teachers’ opinions was the amount of training teachers received on how to implement technology into their curricula.

Recommendations

The writer recommended that school districts include teachers as much as possible in the decision making processes involving technology training and implementation. After the initial plans have been made, make sure that teachers have adequate equipment and staff support, such as computer facilitator or technology curriculum coordinator, for help with implementing technology into the
curricula. Teachers needed extensive opportunities for training. Not only training on the equipment itself, but they should receive training on how to integrate the equipment into the curricula, and how technology can be used to aid with the tasks that teachers have in addition to teaching (grades, reports, letters, and etc.). Lastly, teachers need access to technology in order to benefit from it. To facilitate this, school districts need to make equipment available to teachers in the school setting as well as at home.
Tables
TABLE I

RESULTS OF PERSONAL COMPUTER USAGE QUESTIONS
FROM THE TECHNOLOGY SURVEY

N=65
Responses in Rounded Percentages

<p>| Questions                                      | YES Responses | NO Responses |
|                                               |               |             |
|                                                | All | Female | Male | All | Female | Male |
| 1. Do you use a computer for your own use (grades, letters, school work, etc.)? | 85 | 91 | 79 | 15 | 9 | 21 |
| 2. Do you have a computer at home?             | 69 | 80 | 58 | 31 | 20 | 42 |</p>
<table>
<thead>
<tr>
<th>QUESTIONS</th>
<th>RESPONSES IN ROUNDED PERCENTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I do not feel that technology should be taught to students.</td>
<td>0  3  8  21  68</td>
</tr>
<tr>
<td>2. I feel that this is a “fad” in education and will not last.</td>
<td>0  5  5  26  65</td>
</tr>
<tr>
<td>3. Using computers has helped me to improve my teaching.</td>
<td>18 31 26 20 5</td>
</tr>
<tr>
<td>4. I feel that computers can be used with students at all levels of learning.</td>
<td>34 54 9 3 0</td>
</tr>
<tr>
<td>5. Technology does not fit into my curriculum.</td>
<td>8 28 5 35 24</td>
</tr>
<tr>
<td>6. I use technology with my students because it is required in my course of study.</td>
<td>0  5 11 61 20</td>
</tr>
<tr>
<td>7. I would use technology is someone helped me implement it.</td>
<td>11 57 18 11 3</td>
</tr>
<tr>
<td>8. I use technology with my students because I feel it is a skill that is needed.</td>
<td>26 37 21 15 0</td>
</tr>
<tr>
<td>9. I do not use technology because I do not know how.</td>
<td>6 26 12 35 24</td>
</tr>
<tr>
<td>10. I feel that I need further training before using technology.</td>
<td>26 35 9 22 8</td>
</tr>
<tr>
<td>11. I have had sufficient training on other technologies besides computers.</td>
<td>5 20 15 40 20</td>
</tr>
<tr>
<td>12. I am afraid that the students will know more than I do.</td>
<td>0 15 17 39 29</td>
</tr>
<tr>
<td>13. I do not have the equipment available to me to use technology.</td>
<td>6 26 12 45 11</td>
</tr>
<tr>
<td>14. I do not have time in my lesson plans to implement technology.</td>
<td>3 22 23 34 18</td>
</tr>
<tr>
<td>15. My students have used technology in the media center and found it helpful.</td>
<td>15 57 20 5 3</td>
</tr>
<tr>
<td>16. I have used technology in the media center and found it helpful.</td>
<td>20 43 20 11 6</td>
</tr>
<tr>
<td>17. I have taken my students to the computer lab.</td>
<td>17 28 9 21 24</td>
</tr>
<tr>
<td>18. I have found the computer facilitator to be helpful.</td>
<td>34 34 32 0 0</td>
</tr>
<tr>
<td>QUESTIONS</td>
<td>strongly agree</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>1. I do not feel that technology should be taught to students.</td>
<td>0</td>
</tr>
<tr>
<td>2. I feel that this is a &quot;fad&quot; in education and will not last.</td>
<td>0</td>
</tr>
<tr>
<td>3. Using computers has helped me to improve my teaching.</td>
<td>23</td>
</tr>
<tr>
<td>4. I feel that computers can be used with students at all levels of learning.</td>
<td>26</td>
</tr>
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<td>0</td>
</tr>
<tr>
<td>6. I use technology with my students because it is required in my course of study.</td>
<td>0</td>
</tr>
<tr>
<td>7. I would use technology is someone helped me implement it.</td>
<td>10</td>
</tr>
<tr>
<td>8. I use technology with my students because I feel it is a skill that is needed.</td>
<td>26</td>
</tr>
<tr>
<td>9. I do not use technology because I do not know how.</td>
<td>0</td>
</tr>
<tr>
<td>10. I feel that I need further training before using technology.</td>
<td>23</td>
</tr>
<tr>
<td>11. I have had sufficient training on other technologies besides computers.</td>
<td>0</td>
</tr>
<tr>
<td>12. I am afraid that the students will know more than I do.</td>
<td>0</td>
</tr>
<tr>
<td>13. I do not have the equipment available to me to use technology.</td>
<td>6</td>
</tr>
<tr>
<td>14. I do not have time in my lesson plans to implement technology.</td>
<td>0</td>
</tr>
<tr>
<td>15. My students have used technology in the media center and found it helpful.</td>
<td>10</td>
</tr>
<tr>
<td>16. I have used technology in the media center and found it helpful.</td>
<td>10</td>
</tr>
<tr>
<td>17. I have taken my students to the computer lab.</td>
<td>19</td>
</tr>
<tr>
<td>18. I have found the computer facilitator to be helpful.</td>
<td>32</td>
</tr>
<tr>
<td>QUESTIONS</td>
<td>strongly agree</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>1. I do not feel that technology should be taught to students.</td>
<td>0</td>
</tr>
<tr>
<td>2. I feel that this is a “fad” in education and will not last.</td>
<td>0</td>
</tr>
<tr>
<td>3. Using computers has helped me to improve my teaching.</td>
<td>15</td>
</tr>
<tr>
<td>4. I feel that computers can be used with students at all levels of learning.</td>
<td>41</td>
</tr>
<tr>
<td>5. Technology does not fit into my curriculum.</td>
<td>0</td>
</tr>
<tr>
<td>6. I use technology with my students because it is required in my course of study.</td>
<td>0</td>
</tr>
<tr>
<td>7. I would use technology is someone helped me implement it.</td>
<td>12</td>
</tr>
<tr>
<td>8. I use technology with my students because I feel it is a skill that is needed.</td>
<td>26</td>
</tr>
<tr>
<td>9. I do not use technology because I do not know how.</td>
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</tr>
<tr>
<td>11. I have had sufficient training on other technologies besides computers.</td>
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<tr>
<td>12. I am afraid that the students will know more than I do.</td>
<td>0</td>
</tr>
<tr>
<td>13. I do not have the equipment available to me to use technology.</td>
<td>6</td>
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<tr>
<td>14. I do not have time in my lesson plans to implement technology.</td>
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<td>16. I have used technology in the media center and found it helpful.</td>
<td>29</td>
</tr>
<tr>
<td>17. I have taken my students to the computer lab.</td>
<td>15</td>
</tr>
<tr>
<td>18. I have found the computer facilitator to be helpful.</td>
<td>35</td>
</tr>
</tbody>
</table>
Appendix A
Technology Usage Survey

Scale

<table>
<thead>
<tr>
<th></th>
<th>SA</th>
<th>A</th>
<th>U</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Strongly Agree)</td>
<td>(Agree)</td>
<td>(Undetermined)</td>
<td>(Disagree)</td>
<td>(Strongly Disagree)</td>
</tr>
</tbody>
</table>

Male _____ Female _____

Do you use a computer for your own use (grades, letters, school work, etc.)? Yes or No

Do you have a computer at home? Yes or No

Please use the above scale to answer the following questions:

1. I do not feel that technology should be taught to students.
   SA   A   U   D   SD

2. I feel that this is a “fad” in education and will not last.
   SA   A   U   D   SD

3. Using computers has helped me to improve my teaching.
   SA   A   U   D   SD

4. I feel that computers can be used with students at all levels of learning.
   SA   A   U   D   SD

5. Technology does not fit with my curriculum.
   SA   A   U   D   SD

6. I use technology with my students because it is required in my course of study.
   SA   A   U   D   SD

7. I would use technology if someone helped me implement it into my lesson plans.
   SA   A   U   D   SD

8. I use technology with my students because I feel it is a skill that is needed.
   SA   A   U   D   SD

9. I do not use technology because I do not know how.
   SA   A   U   D   SD

10. I feel that I need further training before using technology.
    SA   A   U   D   SD
11. I have had sufficient training on other technologies besides computers.
SA A U D SD

12. I am afraid that the students will know more than I do.
SA A U D SD

13. I do not have the equipment available to me to use technology.
SA A U D SD

14. I do not have time in my lesson plans to implement technology.
SA A U D SD

15. My students have used technology in the media center and found it helpful.
SA A U D SD

16. I have used technology in the media center and found it helpful.
SA A U D SD

17. I have taken my students to the computer lab.
SA A U D SD

18. I have found the computer facilitator to be helpful.
SA A U D SD


