THE EXPLORATION AND ASSESSMENT

OF TECHNOLOGY USE

IN

SECONDARY GIFTED AND TALENTED CLASSROOMS

THESIS

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By

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San Marcos, Texas

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The purpose of this study was to explore and evaluate current and projected usage of technology in the secondary gifted and talented classroom curriculum. This study examined the acceptance levels of computer integration and gauged a level of where and how computer technology is being integrated into the gifted and talented classroom. The data for this study was manifested through surveys directed toward teachers of gifted and talented students. The results of the study concluded that while the majority of teachers accepted that technology usage can benefit their gifted and talented students' learning, the means and availability of computer technology was not always accessible. It was additionally discovered that teachers wanted and were open to learning sophisticated software in order to help their students express ideas, problem solve, research and create through computer technology.

CHAPTER 1

INTRODUCTION TO THE STUDY

Problem statement:

Federal and State goals have been established for the complete integration of computer technology into the classroom curriculum by the year 2000. With the year 2000, less than one year away, preliminary research indicates that the U.S. educational system, as a whole, is falling short of these established goals. The causes could be attributed to problems with inadequate funding, adverse public opinion, educator acceptance or resistance to change, or lack of staff development.

Even with the problems of inadequate funding, adverse public opinion, and poor staff development solved and the technology integration in place, if the support and acceptance of the educator is deficient, then the goals can not be met. The complete integration of computer technology cannot take place and the established goals will not be met unless all parameters are in place. Since gifted and talented students are often the leaders in their school community and their teachers in turn are trend setters in the school, the acceptance level of teachers of gifted and talented students toward the integration of computers in the classroom curriculum is of particular interest.

The purpose of this study was to explore and evaluate current and projected usage of technology in the secondary gifted and talented classroom curriculum. This research examined not only the acceptance level of computer integration by teachers, but gauged a level of where and how computer technology is being integrated into the secondary gifted and talented classroom curriculum as manifested by teacher questionnaires.

Research Question:

To what extent do secondary teachers of gifted and talented students accept the use and integration of computer technology in the classroom curriculum?

Sub-Questions:

(a) How do these teachers envision technology benefitting the needs of gifted/talented students?

(b) Is the implementation of technology in the gifted and talented classroom curriculum affected by educator attitude, gender, or years of teaching experience?

Significance of the problem:

With the advent of the popularity of television in the 1960s, Marshall McLuhan coined the now famous terms, "global village" and "retribalizing society" to describe how the widespread use of television could revolutionalize the way people use media to communicate. These terms became part of the vocabulary of educators during the 1960's (Biagi, 1988). Personal computers, like television in the 1960's, are now revolutionizing the way people communicate as well as expand their body of knowledge. With

technology components, such as the Internet, E-Mail and long distance communication capabilities, the personal computer has now become the medium to champion McLuhan's concept of the "global village".

Shaughnessy (1997) argues that by the year 2000, computer technology, including the Internet ("information super highway"), will constitute itself as a major component of gifted education. Namely, interactive technology will provide the gifted student with new resources and avenues to learn about their world. Additionally, Shaughnessy contends that through the usage of interactive technology for the gifted, both directed and independent studies will increase as the students take television and college credit courses in their spare time. "Invariably and inevitably, gifted students will learn how to use electronic learning devices, and will increasingly become more responsible for their own learning" (p.41).

With this in mind, *Computer Technology* will be defined in this paper as, the capabilities that the medium of the electronic machine, called the computer, can provide to learning. Some examples of the utilization of computers in the classroom are access to outside information (Internet), long distance learning, software programs that simulate learning activities and problem solving exercises, presentation software utilized as a method to visually present student works and teacher lessons, and database software for teacher tracking of grades and student tracking of assignments or research materials collected. *Integration of Technology* is defined as, the application of incorporating personal computers as a singular or multi-faceted component of a lesson plan in order to attain a specific unit goal.

Background:

Goals introduced by President Clinton's 1996 State of the Union Address to Congress challenged educators to help lead an effort to "wire all of the nation's classrooms for computer access to the Internet by the year 2000." The President further called for the creation of an Educational Technology Fund to help fund and ensure that "every student has adequate access to a cutting-edge computer and every teacher has the skills and the software to make the best possible use of available technology" (http://www.whitehouse.gov).

Furthermore, U.S. Secretary of Education, Riley (1998) described four "pillars of challenge", or goals, in the educational reform movement to make American children technologically literate by the year 2000. The four pillars of our challenge are:

I - Modern computers and learning devices will be accessible to every student;

II - Classrooms will be connected to one another and to the outside world;

III - Educational software will be an integral part of the curriculum--and as engaging as the best video game; and,

IV - Teachers will be ready to use and teach with technology.

(http://www.ed.gov)

With political push such as Riley's four pillars of challenge, administrators in local and national school districts wrestle with growing opinions on how computer technology can instill itself in the educational system.

Limitation:

Teachers were issued a survey at the beginning of the school year requesting that if the teacher wished to participate in the study they must return a completed survey to the designated district coordinator within a specified time frame. By virtue of this process, natural limitations include the lack of structured time for follow-up interviews or observations and lack of control over which teachers from which academic departments returned the survey. Additionally, limitations arose by administrators (i.e. principals) objecting to the appropriateness of participation in the study for their particular school and delayed granting of permission to participate. These factors diminished the size of the research sample.

Delimitation:

Eligible participants were limited to those who teach established Honors, Advanced Placement (AP), and gifted and talented inclusionary programs in their secondary school curricula system. Subjects were both male and female with varied years of teaching experience in various sizes of schools.

CHAPTER II

REVIEW OF LITERATURE

Educational Reform Toward the New Frontier of Technology
The Review of Federal and State "Goals":

In this chapter I will explore the literature related to:

- Federal and state "Goals" toward technological educational reform as they affect all students;
- Support and opposition on computer technology integration;
- Staff development;
- Uniqueness of students who are identified as gifted;
- Examples of ways computer technology can afford opportunities to gifted students in the secondary classroom curriculum; and
- Acceptance levels among educators who teach gifted and talented students regarding computer usage in the classroom curriculum.

The passing of the Goals 2000: Educate America Act, signed into law in 1994 with amendments in 1996 allocated $1.7 billion dollars to the states to help bring

computer technology into the classroom. The allocated funds, through grants awarded to districts, would help in local reform, professional development, and preservice education (http://www.ed.gov).

To align districts with the goals of this Act and to help educational reform, the U.S. Department of Education advised school districts throughout the country that in order for technology to be effective in the classroom setting, the technology and the teacher must partner to provide challenging and educational lessons (http://www.ed.gov). Namely, that the computer is not a stand alone or substitute teacher, but a tool to support a given lesson and activate a student's higher level thinking skills. For example, computer technology can provide support in teaching a student the scientific process by way of the Internet and the World Wide Web. "It can help make the scientific method more personally relevant for students, involve them in seeing real world connections, and engage them in exploring abstract ideas in concrete ways" (Peterson, Nicholson & Mandeville, 1996, p. 38).

Through three laws enacted in the 74th Texas Legislature , Senate Bill 1, House Bill 2128, and House Bill 85, Texas has cemented a long-range plan for the integration of technology in the classroom. Senate Bill 1 established the criteria to build a plan to acquire and use technology in the public school system as well as to foster professional development, computer literacy for students, distribution of information on emerging technology, and access of technology for students with disabilities. House Bill 2128 created the Telecommunications Infrastructure Fund. This fund provides grants and loans for computer equipment, wiring of schools, training of teachers, and the development and

delivery of courses and materials by distance. Lastly, House Bill 85 provides a link between public and higher education for the delivery of courses, materials, and professional development. In spite of these laws, the State Board of Education discovered that teacher commitment was among the top 10 critical factors for any technology initiatives to prove successful. Revisions to the State's long range plan are exhibited through an amended plan, *Impact on the Long-Range Plan for Technology*, 1996-2010. The state will incorporate noted critical factors into the newer plan, such as teacher commitment. For example, the state proposes that teachers will receive support, staff development, and classroom information on the integration of technology into their classroom curriculum (www.tea.state.tx.us). This proposal supports the notion that teacher acceptance levels are paramount to the effectiveness of computer technology in the classroom curriculum.

The *Long-Range Plan for Technology, 1988-2000*, adopted in 1988, provides a multi-faceted infrastructure for successful technology integration in Texas. The plan is sub-divided into classroom instruction, instructional management support and telecommunications. An example of how the state plan can elicit technology to benefit students is seen through various pilot programs of The Texas Library Connection (TLC) project. Through this project students will have opportunities to join local, regional, state, and national consortia as well as academic libraries participating in this initiative (www.tea.state.tx.us).

Support and Opposition to Computer Technology in the Classroom:

Technology can play a large role in maintaining student interest and gaining student attention. Computers have the capacity to captivate a student's interest and attention as a popular pop culture music video (Roblyer, Edwards & Havriluk, 1997). Furthermore, Roblyer provides additional rationale for the educational use of computer technology:

> Unique instructional capabilities- such as, linking learners to information sources, helping learners visualize problems and solutions, tracking learner progress, and linking learners to learning tools;
>
> Support for new instructional approaches- such as, cooperative learning, shared intelligence, and problem solving and higher level skills; and
>
> Increased teacher productivity- such as, freeing time to work with students by helping with production and record keeping tasks, providing more accurate information more quickly, and allowing teachers to produce better-looking more "student-friendly" materials more quickly (p. 29).

Technology carries the capability to motivate students and engage interest beyond traditional textbooks and other instructional materials. Technology introduces the student to authentic learning through multimedia simulations, interactive video, hyper media presentations, and the World Wide Web (Peterson, et al, 1996). Sandham (1998) comments that while direct evidence of technology's impact on motivating students to learn is still primarily anecdotal, many educators (who have used technology in the

curriculum) believe that computer technology can make students more enthusiastic about learning because of its interactive nature. Computer integration can also assist in decreasing discipline and attendance problems. Sandham also found that more than 75% of teachers surveyed agreed that computers increase student motivation and enthusiasm for learning, while close to 50% of teachers agreed that students can comprehend and discuss ideas through computer usage in the classroom (Sandham, 1998).

Opposition to computer technology in the classroom stems from either fear of change, fear of the unknown, or fear of the future. Oppenheimer (1997) argues that school districts are cutting important programs, such as music and physical education in order to fund computers in the classroom. He has concerns regarding the importance placed on computer technology, the need to prepare students for the job market in the 21st century, the extraordinary costs of funding classroom computers, and the physical risks awaiting students who use computers in the classroom. "Meanwhile, months after a New Technology High School opened in NAPA, California where computers sit on every student's desk and all academic classes use computers, some students were complaining of headaches, sore eyes, and wrist pain" (p. 46). Oppenheimer's arguments, however, are extremist reactions; constant use of computers on every child's desk causes physical distress does not justify doing away with computers all together. No physical distress has been reported in classrooms with one or several computers and the students taking turns using them.

Oppenheimer goes on to claim computers only stimulate visually and cites that experts call for student learning to be by a variety of sensory methods. Further,

Oppenheimer claims that students who use computers do not rapport well with their teachers, develop social isolation, limit their imaginations, and subject themselves to "ill" information on the Internet and sound well-rounded instruction in lieu of "expensive ways to create classroom thrills" (p. 61). Roblyer, Peterson et al, and others refutes these claims.

Due to the fast paced growth of technology, there is little research to determine the effects on the students themselves, or on the educational system. However, American education cannot ignore the impact of technology in today's society. "We remain myopically obsessed with print literacies while our pupils continue living in a world that is increasingly high-tech and electronically visual and auditory" (Healy, p .321).

Authors, like Healy, ponder the impact of computers on children's thinking and information processing. Piaget claims children develop cognitive skills throughout their youth and construct understandings of their society through absorbing, adapting, and balancing the information they encounter everyday (Willis, Stephens, and Matthew, 1996). "In Piaget's theory, telling children facts is not very helpful; they must experience things for themselves and create their own schema of the world. To do that they need interesting environments to explore, appropriate to their level of development" (p.55).

Hence, with the introduction of the Internet, videodiscs and educational CD-ROMs, the contention exists that computers can create a world, an environment, where children can construct their own meaning through experiences that they may not get in real life (Willis, et al., 1996). Research on the incorporation and the use of computer technology in the classroom is underdeveloped, the results are not yet in, and discussion

on the benefits and the disadvantages remain on-going.

Staff Development-The Biggest Step to Integration:

The U.S. Department of Education asserts that one of the most difficult steps in bringing technology into the classroom is that teachers must acquaint themselves with the ways in which technology can expand curriculum. Teachers must learn new skills; communicate openness to new ideas, find support for the new ideas, and discover how technology fits with their instructional goals (www.ed.gov). Caverly, Peterson & Mandeville (1997) observed that when teachers are learning technology they often revert back to the role of the novice. Subsequently, through this role, the teachers become reacquainted with the process of learning something new, which in turn, gives them new perspectives on their own student's learning process. "They then reconsidered their own teaching strategies, their role in the classroom, the contributions students make to their own learning, the authenticity of the curriculum, and their own evaluation of student work" (58-59).

Furthermore, with every cultural change, as with the advent of the "information age", comes two extremes, those who are resistant to the change and those who are exuberant. Many faculty members feel that technology has put them into a role of "being learners again". They also feel a common struggle and increased interaction with other staff on how to effectively utilize the technology available to carry out their instructional goals. (www.ed.gov).

Research recently conducted through the Educational Testing Service (1998)

concludes that the state of Texas does foster technology training for its teachers. Thirty-nine states, including Texas require teacher preparation to include technology. In addition to teacher preparation requirements, the state of Texas recommends that districts spend 30% of their technology allotment on training for those teachers already in the school system. Furthermore, Texas provides districts with programs on best practices in instructional technology to elevate teacher buy-in and assist the entire integration process. Texas also offers grants to model schools (Bradley, et al).

The newness and growing cost of technology makes the process of integration into the educational setting difficult. Human reactions to change also can become an obstacle. In understanding human behavior and planning staff development to ease or eliminate the obstacles, it is important to recognize the levels of human commitment. Joyce and Weil (1996) distinguish three levels of human activity; the gourmet omnivore, the passive consumer, and the reticent consumer.

The gourmet omnivore is the least negative of the levels. This type of person works well with others, learns informally from their peers, and generates initiatives, or in other words, is a leader in their teaching community. "When computers appeared on the educational scene, it was often groups of omnivores who learned how to use them and developed the computer centers in their schools" (p. 313-314).

The passive consumer is categorized by Joyce and Weil (1996) as 70% of the population. The passive consumer is traditionally an observer and their level of activity will go up, or down depending upon the level of activity of the people they are with. Additionally, the passive consumer do not visit colleagues classrooms and do not attend

staff development meetings that are not mandatory. The passive consumer did not object to attending workshops, but once back in their classrooms did nothing with the information. It was discovered, however, that when the passive consumer was motivated by the omnivore, the passive consumer becomes more enterprising. "They found themselves helping to set-up computer workstations for the students, cooperating with scheduling and selection of software, and learning word processing, and how to teach their students to use self-instructional programs" (p. 315).

Lastly, Joyce and Weil describe the third activity type as the reticent consumer. "Our reticents are busy protecting their present concepts and act offended by the presence of the unfamiliar" (p.317). The reticent consumer is basically the extremely negative person who pushes away opportunities for expansion and believes that organizations, such as one's administration, are "malign forces". Joyce and Weil's three activity types explain how teachers might approach an acceptance level to computer integration in the classroom curriculum.

If the omnivore activity type is the leader among educators, what would an omnivore's technology enriched classroom look like? Milone (1998) describes a model technologically enriched junior high school classroom as one where students have access to a video camera, scanner, laserdisc player, and digital camera. Milone continues by offering teachers advice on making school computer labs available for students during lunch and before and after school, which can help motivate students toward achieving (Milone, 1998).

The importance of staff development is best demonstrated by Milone's account of

one high school teacher's thoughts:

> Time, training, and technology. Teachers need the time to plan how technology can be integrated into the curriculum and to determine the availability of resources. They also need training to use various technology tools. Finally, they need the technology itself. It's difficult to make technology an important part of the curriculum if you are using hardware and software that are several generations old. (p. 14-15)

Giftedness-What Makes the Gifted Child Unique :

The Texas Education Code, §29.121, defines "gifted and talented" as:

> In this subchapter, a gifted and talented student refers to a child or youth who performs at or shows the potential for performing at a remarkably high level of accomplishment when compared to others of the same age, experience, or environment and who:
>
> (1) exhibits high performance capability in an intellectual, creative, or artistic area; (2) possesses an unusual capacity for leadership; or (3) excels in a specific academic area. (www.tea.state.tx.us)

Section 29.122 of the Texas Education code provides permission for school districts to adopt specific processes for identifying and serving gifted children. The statute also directs districts to establish programs for these gifted children in each grade level (www.tea.state.tx.us).

For example, Pflugerville Independent School District in Central Texas advertises

to the public that gifted education in their district encompasses 5% of the total student population. Additionally in this district, students are screened for acceptance into the gifted and talented program in various ways some of which include: intelligence tests, achievement tests, parent and teacher inventories, grade averages, and student products. Pflugerville proclaims to the public that the curriculum focus for these children is through content complexity, application of higher level thinking skills, within a learning environment where critical thinking and creative solutions are by products of the knowledge being gained *(Gifted Education in Pflugerville ISD*, Revised 1994).

The ERIC Clearinghouse on handicapped and gifted children (1990) reports that one of the most common ways students are identified as "gifted" is by measuring a child's level of intelligence. In the broadest terms, this determination factor is usually two standard deviations above the mean of a particular standardized intelligence test score. (www.cec.sped.org/ericec.htm)

> The key psychological basis of intellectual giftedness resides in insight skills that include three main processes: (1) separating relevant from irrelevant information, (2) combining isolated pieces of information into a unified whole, and (3) relating newly acquired information to information acquired in the past. (www.cec.sped.org/ericec.htm)

They have the greater impetus to seek out the *why* instead of the *how* in problem solving and the levels of intelligence to readily assimilate the reasoning.. These students take small pieces of information, or schema, and symphonically create works of art. They

have advanced ability to seek information, from Internet search, and incorporate the new information with their knowledge base already established in order to expand their knowledge. Gifted children are noted as having high levels of motivation and creativity. The basic characteristics identified in a gifted child include superior reasoning skills, expanded vocabulary, varied interests, social poise generally beyond his or her years, usually exhibits pleasure from intellectual challenges, and is an avid reader. (www.cec.sped.org/ericec.htm)

The Gifted & Computers:

One of the key features that separates gifted students from average students is their innate ability to cultivate and be responsible for their own learning. A series of articles from *The Gifted Child Today* (Riley and Brown, 1998) discuss how through the "magic" of multimedia, investing ideas through the Internet and workshops that teach computer programming to gifted students, gifted students heighten leadership skills and higher level thinking skills. Riley and Brown ascertain that "since the investigative process [i.e. multimedia and the Internet] is potentially more demanding, there is greater scope for higher level thinking. Furthermore, when multimedia is used in accordance with contemporary educational theory, it provides many advantages for children's learning by encouraging social interaction" (p.21-22). Further, they propose that computers can also offer high levels of learner control where gifted students can develop autonomy, creativity and individual problem solving techniques. Ramsay and Richards (1997) demonstrate that gifted students actually prefer working independently rather than in collaborative group

environments. Ramsay and Richards additionally discovered that even though the students rather work independently, it does not reflect upon their enthusiasm to learn in the different subject areas. A balance of small group, individual and whole class activities may be essential for teachers of gifted students to capture maximum success in incorporating technology into their curriculum. One early study in particular (Hersberger and Wheatley, 1989) incorporated small groups and "individual exploration" to measure if computers could be successfully integrated into a gifted mathematics program. The researchers established that not only was the integration successful, but that the students gained skills in mathematical problem solving. Additionally, they discovered that "experience in problem solving with computers can aid in the early attainment of advanced mathematical concepts and can be used for credit in college level computer science courses" (p. 106). Unfortunately, much more research is needed to provide concrete evidence that computers enhance gifted learning (Herrmann, 1989 and Riley and Brown, 1998).

Technology at Work: The Advantages of Long-Distance Education for the Gifted:

VTEL, a Central Texas video conferencing company, argues that secondary education can benefit from long distance technology equipment. The company in order to persuade school districts to buy their product quote supportive educators for advanced technology. VTEL proposes that with videoconferencing, school districts can not only bring the Internet and CD-ROMs into the classroom, but guest speakers as well as another class at another school in a different city, state, or country. The creation of distance learning is available through the computer, TV screen, and camera.

Videoconferencing can be instrumental in bringing the world closer to a gifted students with the thirst to learn. This can be done via university, special interest, or advanced courses. Shaughnessy, et al.(1997) argues that secondary gifted students enjoy the opportunities of enrolling in college level classes for both high school and college credits. "Directed and independent studies will increase and high school gifted students will take courses via the television and accumulate college credits in their spare time"(p. 41).

Additionally, the Internet is another means in which gifted students can bring an advanced world closer. Research displayed through a poll conducted by MCI asked teachers to rate the usefulness of the Internet and the most conducive ways in which the Internet could enhance learning. Fifty-six percent of the teachers polled said the Internet was exceptionally helpful in allowing students an avenue to interact with scholars, experts and other educators, while 67% of those polled stated that the Internet was most helpful in allowing students access to original source materials. The highest percent (73%) of those polled stated that the Internet gave students access to the most current information available (Bradley, et al.,1998, p.66).

Wilson, Little, Coleman, and Gallagher, (1998) contend that the advantages of distance learning for the gifted student are numerous. Among the advantages, and subsequently the most obvious, is that distance learning can bring upper level courses in math, science and the humanities to those students who were previously denied access because of a lack of teachers, or inadequate funding. In Durham, North Carolina, a group of researchers provided rural area gifted students with an expanded curriculum and more highly sophistication instruction through distance learning. They knew that these students

would possess the "right stuff" to participate in the study and make the distance learning experiment a success:

> To perform well in a distance learning course, a student must be highly motivated, self-disciplined, and able to work independently without constant supervision. These traits describe students of high academic potential who translate this potential into performance. (Wilson, p. 92).

The students were found sharing ideas with other students from other high schools "enlightening". They also experienced the courses more challenging and were pleased that they were afforded mastery of new material. Two disadvantages were noted: one, the students could not communicate face to face with their teachers, and two, the teacher could not directly see if the students were catching on to the material taught. Subsequently, the teachers needed to change their standard teaching strategies in order to fit with the distance learning model. This was established by increasing visual aids that included movie clips, cartoons, graphs, maps, etc. Additionally the lessons themselves needed to be more carefully planned by the teachers. Likewise, it was documented that the students were passively receiving the information being taught, similar to watching television. In order to break this habit, the teachers used questioning techniques, directly asked for input, structured debates and developed small group projects, among other tasks.

CHAPTER III

PROCEDURES

The type of research performed in my study was both quantitative and qualitative. However, since the majority of data collected gauged general educator attitudes toward the integration of computer technology in the classroom curriculum, the research sustained a more qualitative nature. Through the study, I hoped to capture the importance participants placed on technology usage in the gifted and talented classroom curriculum, as well as how often and by what means technology is currently being integrated into these classrooms. The following procedures were used to collect the data for my research study:

1. In August 1998, six Central Texas independent school districts were asked to participate in the study: Austin, Del Valle, Dripping Springs, Eanes, Killeen, and Round Rock. These six school districts were selected due to their geographic proximity to the high-growth, high-profile computer industry of the Austin area. I chose this area specifically to observe if the affluence of a technologically advanced area had any baring on the integration of computer technology in the classroom curriculum. Approval for involvement was obtained from the superintendents,

personnel designated to coordinate outside research, and district coordinators of gifted and talented programs. The Dripping Springs, Eanes, and Round Rock independent school districts approved the distribution of the survey and were included in the study, while, the Del Valle and Killeen independent school districts opted not to participate. The Austin school district's approval came too late to participate in the study.

2. Subjects for the study were male and female teachers with varied years of professional teaching experience. The teachers were subdivided into groups representing experience of 1-2 years, 3-5 years, 6-10 years, 11-20 years, and beyond 20 years. Additionally, teacher participants represented a variety of academic disciplines in various sized schools.

3. The gifted and talented coordinator in each of the participating districts distributed a survey to each middle and high school teacher who they acknowledged as currently teaching a secondary "AP", Honors, or inclusionary gifted and talented class. From these teachers of gifted and talented students, a self-selected percentage chose to complete and return the survey. These teachers were selected as participants because they taught gifted and talented students in affluent school districts, and therefore were likely to have access to the computers and advanced technology I was researching. This purposeful (non-probability) sampling of teachers who teach gifted and talented students represented a subgroup of the entire teacher population.

Because of the small amount of teachers who teach gifted and talented students, the return of surveys was proportional to the entire subgroup population.

4. The surveys were distributed and collected within a 10 day period and consisted of four parts. *Part One* requested specific demographic information; name of district and school, school level (junior or senior high) and size, curriculum content area assignment, participant's gender, and years in the teaching profession. This demographic data was compiled to evaluate differences, if any, in given responses.

Part Two required teachers to rank ideas and concepts relating to technology usage in the classroom curriculum. This section was developed to help determine the participants perspectives regarding long range teaching options, importance of staff development, Internet access, computer availability for students and student training in technology, purpose of computer technology in secondary curricula, and the appropriate placement of computers in secondary schools. A Likert type scale, ranging from *Critical* to *Definitely Not,* was used to identify the level of importance the participants placed on each concept.

Part Three of the survey utilized multiple choice questions to establish what, where, and how often computer technology is integrated into the classroom curriculum. The subject foci in this section were independent learning practice, teacher record keeping, teacher presentation tool, student research tool, student self-assessment

tool, and student word processing tool. Additionally, in this section, participants were asked their opinions on the best way computer technology might enhance gifted learning; what factors prohibit the integration of computer technology into the classroom; and what subject content areas are best suited for computer technology curriculum integration. Lastly, this section included an opportunity for open comments by the participants on the issue of technology usage in the secondary curriculum.

In *Part Four*, subjects circled statements that best reflected their attitudes toward computer technology in the classroom. The participants were also asked to put a checkmark next to the statements they believed would best reflect the attitudes of their colleagues. The statements in this section correlated with and juxtaposed the statements in *Part One* of the survey. This was done to verify consistency of the answers between *Part One* and *Part Four.*

5. The data from the surveys was compiled as averages, medians, modes, percentages, and descriptions. Means, medians and modes were calculated based on the data obtained in *Part One* of the survey. From these measures of central tendency, the study shows how the participants scored their responses, as well as, any trends or disparities in the study itself. Percentages were calculated for *Part Two* and *Part Three* respectively. A descriptional analysis was completed for the open comments section in *Part Three*. Percentages were also calculated for *Part Four.*

Additionally, percentages were calculated and descriptional analyses completed for the separate school levels (middle/high), content discipline areas, districts, school sizes, and years of professional teaching experience.

CHAPTER IV

FINDINGS

Research Question:

To what extent do secondary teachers of gifted and talented students accept the use and integration of computer technology in the classroom curriculum?

Sub-Questions:

(a) How do these teachers envision technology benefitting the needs of gifted/talented students?

(b) Is the implementation of technology in the gifted and talented classroom curriculum affected by educator attitude, gender, or years of teaching experience?

Results of Surveys Returned:

The following statistics represent the number of surveys returned from the three respective school districts that participated in the study, Round Rock, Dripping Springs, and Eanes Independent School Districts. Table I, (page 27) reflects the study distribution numbers and response percentages per district. The first column represents the data concerning the numbers of surveys distributed to the perspective districts. The second and

third columns of Table I respectively represent the actual numbers of surveys returned by the individual districts and the percentage of return. Although nearly six times the number of surveys were distributed to Round Rock as to Dripping Springs, or Eanes, the percentage of return was equal. Additionally, the distribution volume to Dripping Springs and Eanes were nearly equal. The difference in distribution can be attributed to Round Rock Independent School District's size (number of schools in the district) and subsequently the number of teachers who teach gifted and talented students. Specifically, Round Rock has three high schools and seven junior/middle schools compared to Eanes with one high school and two junior highs and Dripping Springs at one high school and middle school respectively. A last notable difference is attributed to the fact that of the two smaller districts, two schools opted not to participate in the study.

Distribution and Return of Surveys

School District	*No. Distributed*	*No. Returned*	*Percent Returned*
Round Rock	70	22	31%
Dripping Springs	12	4	30%
Eanes	10	2	20%

Table I. Numbers and percentages of surveys distributed and returned.

Table II, (page 28) represents the numbers and percentages of surveys returned by school level. Survey results were slightly higher from junior/middle schools than high schools, represented by 57% to 43% respectively. The percentage differences might indicate slightly more interest in computer technology by junior/middle school teachers than

high school teachers.

Number and Percentages of Return for Junior/Middle and High Schools

School Level	*Number Returned*	*Total Percentage*
Junior/Middle School	16	57%
High School	12	43%
Total	28	100%

Table II. Differences between return of high schools and junior/middle schools.

Results for Part One of the Survey: Demographic Data

Table III (page 29) depicts the demographics of school size, male/female respondents, and years of professional teaching experience per junior/middle school, high school, and the culmination of the two. The survey respondents exclusively listed teaching in 5A and 4A schools. A school categorized as a 5A school contains a student population of 1780 and up. The 4A classification school educates between 780 and 1779 students. The male to female ratio of respondents was overwhelmingly female for the junior high/middle school and nearly a 50/50 split for the high school respondents. One respondent in each group left gender blank. The male/female ratio response may be not out of relationship to the normal demographics of most American school districts. Experience and personal observation show that the majority of teachers, especially in junior/middle schools, are female with a smaller percentage of males. Male teachers are notably represented in larger numbers in high schools. In the category of the number of years of professional teaching experience, the returns depicted greater than 71% of

respondents having more than 10 years of teaching experience and 46% of that percentage having beyond 20 years' teaching experience.

Part One Survey Results: Demographic Data

	Junior High	High School	Total
School Size			
4A	16	4	20
5A	0	8	8
Male	0	5	5
Female	15*	6	21
Experience			
1-2 Years	0	0	0
3-5 Years	4	1	5
6-10 Years	1	2	3
11-20 Years	3	4	7
20+	8	5	13

*In two responses, gender was left blank.

Table III. Teacher survey results: Demographic data of respondents

Curriculum assignments reported by the respondents are displayed in Table IV on page 30. The curricula and combination of subjects taught ranged from *inclusive gifted and talented classes to Honors or Advanced Placement (AP) Language Arts and Math classes. The following table indicates the given responses for curriculum assignments and the frequency of which those responses appeared among all the respondents.

Curriculum Assignments and Frequency

Subjects	Junior/Middle	High School	Totals
Math	5	6	11
Language Arts	6	0	6
Language Arts/Math	1	0	1
Journalism/Reading	1	0	1
Social Studies/World area studies	0	2	2
Visual Arts/Graphic Arts	0	1	1
Spanish	0	1	1
Math/ESL	1	0	1
Inclusive G/T	2	0	2
English	0	1	1
Unlisted	0	1	1
Total	**16**	**12**	**28**

*Just gifted and talented exclusively, not an Honors class (Eanes ISD)

Table IV. Reported curriculum assignments and frequency among respondents

Results for Part Two of the Survey:

Part Two encompassed a measurement of educator perspectives, or acceptance levels for pertinent ideas and concepts regarding computer technology usage in the classroom curriculum. A Likert-type scale was used to determine how strongly the respondents felt in regard to ten specific statements. The scale ranged from a response of "Critical" with a numerical value of "6", to 'Definitely Not" with a numerical value of "1". Measurements of central tendency (mean, mode and median) were performed on data

returned on the surveys. Table V (page 32) delineates the modes, medians and means of junior/middle schools, high schools, and the totals of both per specific survey statement. The results suggest that the surveyed teachers a took a positive view of the integration of technology in the classroom. For example, for statement number seven, "Computer usage for students in specified areas only, i.e. library, computer room)", the total mode, or most common answer, carried a numerical value of "3", in other words, the respondents believed that the use of computers only in a library, or computer lab was not effective. The survey results concluded by a mean score of 5.25 that integrating computer technology into the everyday student curriculum was critical. However, the respondents also indicated that teacher and student training in computer technology was critical. The highest scoring areas, as reflected by a score of "6" or denoting a response of "Critical" included the following:

- Teacher training on integrating computer usage into the curriculum;
- Teacher training in basic computer literacy and software usage;
- Computers issued to all teachers for their professional use;
- Student training on basic literacy skills; and,
- Student training on ways computers can enhance research, problem solve, organize thoughts, and present ideas.

There was very little overall viewpoint distinctions between how the junior/middle school and high school respondents scored this section of the surveys. This was generally characterized by only one point. For example, the difference made between "Critical" and "Important" from the majority of junior/middle schools scoring the statements was

generally one point different to the high school respondents. The middle school response was equal to or more positive than the high school response.

Central Tendency on Part Two

Quest.	MS Mode	MS Median	MS Mean	HS Mode	HS Median	HS Mean	Total Mode	Total Median	Total Mean
1	5	5	**4.75**	4	4	**4.5**	4	5	**4.64**
2	6	6	**5.44**	5	5	**5.00**	6	5	**5.25**
3	6	5	**5.25**	4	4	**4.42**	4	5	**4.89**
4	5	5	**4.56**	4	4	**4.08**	4	4	**4.36**
5	6	6	**5.81**	6	6	**5.50**	6	6	**5.68**
6	6	6	**5.38**	5	5	**5.08**	6	6	**5.25**
7	3	3	**3.13**	5	4.5	**4.17**	3	3.5	**3.57**
8	5	5	**4.88**	4	4	**4.67**	4	5	**4.79**
9	6	6	**5.69**	6	6	**5.50**	6	6	**5.61**
10	6	6	**5.69**	5	5	**5.42**	6	6	**5.57**

Table V. Measurements of central tendency on Part Two of the survey

The mean averages more than 5.0 constitute trends found among the teachers surveyed. The most important trend indicates that most of these teachers of gifted and talented students held training in computer technology for themselves and for their students as the most critical need in order to integrate computer technology into the classroom curriculum.

Results for Part Three of the Survey:

The first six questions of Part Three asked teachers to evaluate the frequency of computer technology usage in the classroom curriculum. These first six questions represented six areas of computer usage. The areas of inquiry comprised use of computers for student practice of basic skills, teacher record-keeping, teacher presentation tool of daily lessons, student research, student self-assessment, and student word processing. The surveyed teachers were offered responses to each question by responding to, "At least once a week or more"with an alphabetical value of "A", "Once a month or more" represented by selecting "B", "Once a year or more"by selecting "C", and "Never" by selecting"D". Table VI, the first table of a set of three depicting results from Part Three, reflects in percentages junior/middle school scores per each questioned computer usage area and letter response.

Junior/Middle Totals for Computer Usage Areas in Part Three

Question/Usage	MS* Weekly%	MS Monthly%	MS Yearly%	MS Never%
1. Student Practice	18.75%	18 75%	31.25%	31.25%
2 Record-Keeping	87.50%	6.25%	6.25%	0.00%
3 Presentation Tool	25.00%	12 50%	56.25%	6 25%
4 Research	12.50%	12 50%	50.00%	25.00%
5 Self-Assessment	0.00%	25.00%	25.00%	43 75%
6. Word Processing Tool	31.25%	43 75%	18.75%	6 25%

*MS signifies junior/middle school

Table VI. Junior/Middle school data calculations and percentages for Part Three

The highest usage frequency ("At least once a week or more") reported by junior/middle school teachers was for teacher record keeping at 87.5%. High school

teachers also reported teacher record keeping as their highest usage response at 50%. In the frequency category of "Once a month or more", both junior/middle and high schools selected using the computer as a student word processing tool at 43.75% and 58.33% respectively. In the third option of using computers "Once a year or more", teachers at both school levels reported student tutorial, or independent learning practice as the usage with the highest percent given in this category, 31.25% and 25% respectively. In the last usage frequency category of "Never", teachers at both levels responded again to the same usage area reflected by the largest percent given in the category. The respondents denoted that student self assessment was a usage area in which they never utilized computers, represented by 43.75% for junior/middle schools and 75% for high schools. Notably, a third of the high school respondents selected the usage area of teacher record keeping as one where computers are never used. However, this is also the area that reflected the highest usage ("At least once a week or more") of computers reported by high school respondents at 50%. Table VII below reflects the percentages of each usage area in the four categories for high school respondents.

High School Totals for Computer Usage Areas in Part Three

Question/Usage	HS* Weekly %	HS Monthly %	HS Yearly %	HS Never %
1. Student Practice	8.33%	25 00%	25.00%	41 67%
2 Record-Keeping	50.00%	8 33%	8.33%	33 33%
3 Presentation Tool	33.33%	8 33%	16.67%	41.67%
4 Research	8.33%	33.33%	16.67%	41 67%
5 Self-Assessment	0.00%	0 00%	16.67%	75 00%
6 Word Processing Tool	8.33%	58.33%	8.33%	25 00%

*HS signifies high school

Table VII: High School data calculations and percentages for Part Three

Interestingly, the high school usage percentages are more diversified, or spread out among the different usage categories than the junior/middle high school percentages. The high school respondents selected more usages among fewer teachers, while the junior/middle school teachers selected fewer usages with a greater teacher return. Table VIII below is the third and last table depicting the data results from Part Three. This table reflects the highest and lowest usage areas in percentages from junior/middle and high school responses. The percentages were calculated by adding the percentage totals of "at least once a week or more" and "once a month or more" for both junior/middle and high school.

Total Highest and Lowest Usage Areas Indicated in Part Three

Highest	Questions/Usage	MS %	HS %
	2 Record-Keeping	93.75%	58.33%
	6 Word Processing Tool	75.00%	66 66%
Lowest			
	4 Research	37.50%	41 66%
	3. Presentation Tool	25.00%	41 66%
	1. Student Practice	37.50%	33 33%
	5 Self-Assessment	25.00%	0%

Table VIII: Highest and lowest usage areas in percentages for middle and high schools

Questions 7-9, reflected teachers responses concerning how computers could best enhance gifted learning, what limitations the teachers believe is preventing technology integration in the classroom, and the subjects (content areas) that are best taught through computer technology. There were no differences in the junior/middle and high school responses to the final three questions of Part Three of the survey. The highest percentages

reflected identical areas of use. The three final questions in Part Three are represented by the following:

Question 7, "In your opinion, what is the best way computers can enhance gifted learning?":

School Level	Answer	Percentage
Junior/Middle School	Research	56.25%
High School	Research	75.0%

Question 8, "Which of the following best describes what may limit your integration of computer technology into the classroom curriculum?":

School Level	Answer	Percentage
Junior/Middle School	Soft/Hardware Availability	62.5%
High School	Soft/Hardware Availability	41.67%

Question 9, "In your opinion, which subjects are best suited for computer technology curriculum integration?":

School Level	Answer	Percentage
Junior/Middle School	All Subjects	75.0%
High School	All Subjects	58.33%

Results for Part Four of the Survey:

In Part Four, teachers participating in the survey were asked to circle the statements that best reflected their personal perspectives concerning the use of computer

technology in the classroom. The teachers were then asked to place a checkmark next to the statements that they felt best reflected the attitudes of their colleagues. Table IX (page 38) reflects the percentages of statements circled by all respondents. Table X (page 40) reflects the statements respondents felt reflected attitudes of colleagues, also presented in percentages of responses.

For both the personal and projected colleague perspective statements clear differences between junior/middle school and high school teachers are observed. From the personal statements, a difference revealed that 1/3 of high school respondents indicated that they did not know how to integrate computer technology into their curriculum. None of the middle school respondents rated this statement. Additionally, 1/3 of middle school respondents marked statement number 11, "Computers enhance writing skills through teaching the student how to gather, arrange and present their ideas.". While, none of the high school teachers marked this particular statement. The reason for this particular difference could be attributed to the fact that 50% of high school teachers responding taught Math, and therefore the statement itself did not stand out to them. As the results in *Part Two* of the survey previously indicated, training was of particular interest to the teachers surveyed. The statements that received the highest percentage (62.5% each) of middle school responses were statement numbers 7 and 9, "I am open to learning sophisticated software in order to teach my students how to present their ideas through technology; and, With proper training, the Internet can provide a wealth of learning for students." The highest percent of personal perspective responses for the high school teachers (at 62.5%) was statement number 2, "Computers have tremendous potential in

helping students learn." None of the survey participants marked the statements that encompassed computer usage only being at home or only used for drill type exercises. Table IX below displays how the surveyed teachers in the junior/middle and high school levels responded to each of the 13 statements. The data is represented in percentages.

Personal Responses to Statements in Part Four

Question/Statement	MS %	HS %	Total %
1; *"I do not know how to integrate computer technology"*	0 00%	33.33%	14.29%
2; *"Computers have tremendous potential in helping students learn"*	56 25%	66.67%	60 71%
3; *"Machines do not have a legitimate place in schools; besides, students already have access to computers at home."*	0.00%	0.00%	0 00%
4; *'Computers are primarily appropriate for helping drill essential skills."*	0 00%	0.00%	0 00%
5; *"I think students work better in pairs or small groups at a computer than they do independently."*	6.25%	16.67%	10 71%
6; *"I am open to learning how long distance learning can help my students reach out to the world."*	43.75%	33.33%	39 29%
7; *"I am open to learning sophusticated software in order to teach my students how to present their ideas through technology."*	62 50%	41.67%	53.57%
8; *"Computers too often hinder the student's ability to learn spelling and grammar skills."*	0.00%	16.67%	7 14%
9; *"With proper training, the Internet can provide a wealth of learning for students."*	62 50%	33.33%	50 00%
10; *"Secondary education's responsibility is to teach student's how to enter the job market, including computer technology "*	50.00%	33.33%	42.86%
11; *"Computers enhance writing skills through teaching the student how to gather, arrange, and present their ideas."*	31 25%	0.00%	17 86%
12; *"Computers can only enhance gifted education."*	37 50%	16.67%	28 57%
13; *"My administrators would probably agree with my answers."*	25 00%	16.67%	21 43%

Table IX: Personal teacher responses to Part Four of the survey

In regard to the statements respondents thought best reflected their colleagues attitudes, 50% of the high school respondents thought that their colleagues would select statement number 1, "I do not know how to integrate computer technology in my curriculum." Slightly more than half the middle school respondents (56.25%) responded with statement number 2, "Computers have tremendous potential in helping students learn." No respondents the following statements: Statement number 3, "Machines do not have a legitimate place in schools; besides, students already have access to computers at home."; and, statement number 5, "I think students work better in pairs or small groups at a computer than they do independently." The differences between the viewpoints of teachers of middle and high school are recognized in the last three statements. Middle school teachers responded to the statements concerning use of computers to enhance writing skills, only enhancing gifted education, and that their respective administrators would probably agree with their chosen answers. The high school teachers did not respond to any of these statements. Table X (page 40) reflects in percentages projected colleague attitudes in Part Four by the surveyed teachers.

Projected Colleagues Responses

Question/Statement	MS %	HS %	Total %
1; *"I do not know how to integrate computer technology"*	31.25%	50.00%	39.29%
2; *"Computers have tremendous potential in helping students learn"*	56 25%	41.67%	50.00
3; *"Machines do not have a legitimate place in schools; besides, students already have access to computers at home."*	0 00%	0.00%	0.00%
4; *'Computers are primarily appropriate for helping drill essential skills."*	12.50%	0.00%	7 14%
5; *"I think students work better in pairs or small groups at a computer than they do independently."*	0 00%	0.00%	0.00%
6; *"I am open to learning how long distance learning can help my students reach out to the world."*	12.50%	16.67%	14 29%
7; *"I am open to learning sophisticated software in order to teach my students how to present their ideas through technology."*	12.50%	8.33%	10 71%
8; *"Computers too often hinder the student's ability to learn spelling and grammar skills."*	12.50%	0.00%	7.14%
9; *"With proper training, the Internet can provide a wealth of learning for students."*	37 50%	33.33%	35 71%
10; *"Secondary education's responsibility is to teach student's how to enter the job market, including computer technology."*	31.25%	41.67%	35 71%
11; *"Computers enhance writing skills through teaching the student how to gather, arrange, and present their ideas."*	37.50%	0.00%	21.43%
12; *"Computers can only enhance gifted education."*	18 75%	0.00%	10.71%
13; *"My administrators would probably agree with my answers."*	37 50%	8.33%	25.00%

Table X: Teacher projected colleagues responses in Part Four of the survey

Responses from Comments:

Many teachers wrote comments that provided support on the essential use of computer technology in the classroom, as well as the drawbacks and frustrations of

computer integration. Many respondents reported frustration at the lack of equipment, shortage, unavailability and forced sharing of computer labs, lack of teacher training, and no available Internet access. Teachers remarked that they would like to see additional computer labs, technicians to provide assistance in the computer labs, and computer hardware in the classroom. Success stories of computer integration included, a teacher assigned to the computer lab, as the regular classroom, and having the "luxury" of students using computers every day. Another remarked witnessing enhanced learning in students using spreadsheets in their gifted and talented Math classes. Two teachers responded that they did not see the urgent importance of computers in the classroom. One remarked while computers offer valuable "school to work skills", "character education classes" should be a first priority. Another respondent could not envision a classroom of 30-32 students each having computers at their desks, as well as, questioned where computer usage could be taught in the already tight constraints of the curriculum. A couple of teachers commented that if computers were in classrooms, one for each student, they would like to explore computers for self-assessment and portfolio work. Another wrote that for the gifted and talented math students, the math software programs available can provide "depth and open up modes of learning for gifted students." In summary, one teacher summarized the total mood of the majority of the respondents by writing, "Projection devices in concert with a computer in the classroom is an efficient, effective, and essential tool for the modern teacher."

CHAPTER V

CONCLUSION

Research Question: To what extent do secondary teachers of gifted and talented students accept the use and integration of computer technology in the classroom curriculum?

The survey results conclude that the teachers surveyed do accept technology and what to learn how to use it and incorporate it into their curricula. These teachers placed critical value to each statement that had to do with training. They wanted to learn and wanted their students to learn basic computer literacy skills and how to use sophisticated software, as well as how computers can enhance research, help problem solve, organize thoughts and present ideas. Therefore, the results revealed that the teachers surveyed wanted to learn how to incorporate computer technology into their curricula

Furthermore, the data also suggests that among the three school districts surveyed, computer technology is not being fully integrated into the curriculum. The two most common areas of usage were teacher record keeping and using the computer only as a word processing tool for the student. Few teachers responded to the incorporation of computer technology in the student-centered usage areas of self assessment, student

presentations, enhancement of writing skills to gather , arrange and present ideas, and small group collaboration. Additionally, although most of the surveyed teachers viewed research as the best usage of technology in gifted learning, according to the survey results, half of those teachers never used computers for research purposes. This reasoning could be due to the fact that the teachers do not know how to integrate computer technology into their curricula. However, for the affluent, advanced technology enriched, living in the shadow of legislation area I surveyed, this is not acceptable.

Subquestions:

(a) How do these teachers envision technology benefitting the needs of gifted/talented students?

(b) Is the implementation of technology in the gifted and talented classroom curriculum affected by educator attitude, gender, or years of teaching experience?

The majority of surveyed teachers envision research as one way technology can benefit gifted students. I believe that through proper training, these teachers can "buy in" to other ways computers can enhance gifted learning pertinent to the principles of gifted education, such as long distance education and research on the Internet. Answers to the second subquestion are inconclusive. I can not evaluate the influence of educator attitude on implementation of technology in the gifted and talented classroom because I lack sufficient data. In a future study, this type of information can be attained though attitude surveys, observations, and follow-up interviews with the surveyed teachers. I found by the results of the study that gender and years of experience had no outstanding effects on

how the acceptance level of technology in gifted and talented classrooms. Forty six percent of the sample surveyed had more than 20 years teaching experience. No clear distinctions could be made between gender, or years of experience, and attitude regarding acceptance of computer technology in the classroom curriculum. Here are some thoughts I have not related to the data. For the gifted student, time will play a key role in the advanced opportunities afforded for these students in the area of computer technology. Computer technology can provide many opportunities for not only the gifted child, but for all children.

Recommendation for Further Study:

This study would have been more effective if a broader sample was used. The broader sample base could include lower income areas in central Texas, such as districts as Hutto, Bastrop and Taylor. In addition to the sample, opportunities for observation and follow-up interviews of the teachers surveyed would be instrumental., as well as help identify attitude.

Additional recommendations would include:

- Observing differences between junior/middle and high school acceptance levels of computer technology in the classroom; and
- Survey teachers who teach average, or low average students and compare those results with the results from teachers of gifted and talented students.

APPENDIX

Technology & Curriculum Survey

Part One

Dear Teacher: Thank you for completing this survey. I am a graduate student completing a study on technology use in secondary gifted/talented classrooms. The purpose of the study is to evaluate and explore current and progressive usage of technology in the classroom among secondary gifted and talented students. Your support of this survey is greatly appreciated. Results of the survey will be shared with your district. The information below is necessary for broad demographic reasons only and will not be reported by names of individual schools, teachers, students, or districts.

Name of District: _____

Name of School: _____

School Level: (A) Middle/Junior (B) High School

School Size: _____

Curriculum Assignment: _____

Gender: (A) Male (B) Female

Years in the teaching profession:
(A) 1-2 years
(B) 3-5 years
(C) 6-10 years
(D) 11-20 years
(E) Beyond 20 years

Part Two

Assuming you had the appropriate training & equipment, please rank the following ideas & concepts using the Likert scale below.

Long-range teaching (i.e. using video conference equipment, Internet links, etc.)

Critical	*Important*	*Okay*	*Not Okay*	*Not Important*	*Definitely Not*
6	*5*	*4*	*3*	*2*	*1*

Teacher training on integrating computer usage into the curriculum.

Critical	*Important*	*Okay*	*Not Okay*	*Not Important*	*Definitely Not*
6	*5*	*4*	*3*	*2*	*1*

Integrating computer technology into the everyday student curriculum.

Critical	*Important*	*Okay*	*Not Okay*	*Not Important*	*Definitely Not*
6	*5*	*4*	*3*	*2*	*1*

One computer for every student.

Critical	*Important*	*Okay*	*Not Okay*	*Not Important*	*Definitely Not*
6	*5*	*4*	*3*	*2*	*1*

Teacher training in basic computer literacy and software usage.

Critical	*Important*	*Okay*	*Not Okay*	*Not Important*	*Definitely Not*
6	*5*	*4*	*3*	*2*	*1*

Computers issued to all teachers for their professional use (i.e. grades, test-making, correspondence, etc.) only.

Critical	*Important*	*Okay*	*Not Okay*	*Not Important*	*Definitely Not*
6	*5*	*4*	*3*	*2*	*1*

Computer usage for students in specified areas only, (i.e. library, computer room).

Critical	*Important*	*Okay*	*Not Okay*	*Not Important*	*Definitely Not*
6	*5*	*4*	*3*	*2*	*1*

Internet access and projection devices in each classroom.

Critical	*Important*	*Okay*	*Not Okay*	*Not Important*	*Definitely Not*
6	*5*	*4*	*3*	*2*	*1*

Student training on basic computer literacy skills.

Critical	*Important*	*Okay*	*Not Okay*	*Not Important*	*Definitely Not*
6	*5*	*4*	*3*	*2*	*1*

Student training on ways computers can enhance research, problem solve, organize thoughts, and present ideas.

Critical	*Important*	*Okay*	*Not Okay*	*Not Important*	*Definitely Not*
6	*5*	*4*	*3*	*2*	*1*

Part Three

Please circle your response to the following multiple choice questions.

In the following areas how often do you employ computer technology in your classroom curriculum?

(1) Tutorial/Independent Learning Practice (i.e.TAAS Practice)
- (A) At least once a week or more
- (B) Once a month or more
- (C) Once a year or more
- (D) Never

(2) Teacher Record keeping (Grades, Correspondence to Parents, etc.)
- (A) At least once a week or more
- (B) Once a month or more
- (C) Once a year or more
- (D) Never

(3) Teacher Demonstration or Presentation Teaching Tool
- (A) At least once a week or more
- (B) Once a month or more
- (C) Once a year or more
- (D) Never

(4) Student Research (i.e. Internet, CD-ROMS)
- (A) At least once a week or more
- (B) Once a month or more
- (C) Once a year or more
- (D) Never

(5) Student Self-Assessment Presentation Tool
- (A) At least once a week or more
- (B) Once a month or more
- (C) Once a year or more
- (D) Never

(6) Student Word Processing Tool
- (A) At least once a week or more
- (B) Once a month or more
- (C) Once a year or more
- (D) Never

(7) In your opinion, what is the best way computers can enhance gifted learning?
- (A) Research (The Internet)
- (B) Portfolio Presentation through Desktop Publishing (Student Self Assessment)
- (C) Problem Solving (Interactive Software Programs, or Simulation Games)
- (D) Communication Tool (E-Mail, Long Distance Learning, User Groups)
- (E) Teacher Grading Tool

(8) Which of the following best describes what may limit your integration of computer technology into the classroom curriculum?
- (A) Training
- (B) Money
- (C) Software/Hardware availability
- (D) Concern over student misuse, or theft
- (E) Computers have no place, or limited place, in the regular curriculum

(9) In your opinion, which subjects are best suited for computer technology curriculum integration?
- (A) Math
- (B) Science
- (C) Language Arts
- (D) Journalism
- (E) Social Studies
- (F) All of the above

Please place any comments on the subject of computer curriculum integration into the spaces below.

Part Four

Please circle three of the following statements that best represent your attitude toward computer technology in the classroom. Then, please put a checkmark next to the statements that would reflect attitudes of most teachers you know.

(1) I do not know how to integrate computer technology in my curriculum.

(2) Computers have tremendous potential in helping students learn.

(3) Machines do not have a legitimate place in schools; besides, students have already have access to computers at home.

(4) Computers are primarily appropriate for helping drill essential skills.

(5) I think students work better in pairs or small groups at a computer than they do independently.

(6) I am open to learning how long distance learning can help my students reach out to the world.

(7) I am open to learning sophisticated software in order to teach my students how to present their ideas through technology.

(8) Computers too often hinder the student's ability to learn spelling and grammar skills.

(9) With proper training, the Internet can provide a wealth of learning for students.

(10) Secondary education's responsibility is to teach student's how to enter the job market, including computer technology.

(11) Computers enhance writing skills through teaching the student how to gather, arrange, and present their ideas..

(12) Computers can only enhance gifted education .

(13) My administrators would probably agree with my answers.

Thank you for your time in filling out this survey.

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