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A faculty technology training program for the teachers of Washington Charter School

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A FACULTY TECHNOLOGY TRAINING PROGRAM FOR THE TEACHERS OF

WASHINGTON CHARTER SCHOOL

A Project

Presented to the

Faculty of

California State University,

San Bernardino

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

in

Education: Instructional Technology

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by

Susan Amanda Young

September 1997

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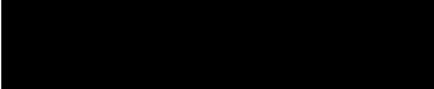WASHINGTON CHARTER SCHOOL

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Approved by:

_____   8/27/97
Dr. Rowena Santiago, First Reader   Date

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Dr. Sylvester Roberston, Second Reader

ABSTRACT

The goal of this project is to design and develop a teacher training plan or program for teachers at Washington Charter School. The project will apply the systematic approach in program development and will include the following phases: goal analysis, needs analysis, design of the program, development, implementation and evaluation. This project contains a technology training program for teachers at Washington Charter School, Palm Desert, California. The program was designed based on review of literature on why teachers need technology training, the characteristics of a good technogloly program for training teachers, various models of technology training, the problems of technology training, the effects of technology teacher training and student learning, and the characteristics of competent instructors. Also included, as part of the project, is a manual on technology training for the first year of technology training at Washington. The manual, comprised of a timetable and lesson plans, was written to further serve as a guideline to technology mentors and trainers.

ACKNOWLEDGMENTS

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CHAPTER ONE

INTRODUCTION

<u>Overview</u>

Technology has become a significant part of our world today, especially in the job market. When students graduate from high school, they must know basic computer skills in order to go into the work force and keep up with the ever-changing business world. Almost everything is being organized and controlled by technology. One must know how to use technology to be able bank, word process, give a professional presentation, or communicate within a company.

If students graduate from high school or college and go into a new job, it is highly likely that they will be expected to know how to operate a computer and be able to be trained on new programs quickly. Businesses expect this knowledge to come from the schools so that they do not have to do basic computer training. Technological literacy is just as important as any other kind of literacy a student who graduates from high school should possess. However, some schools are not preparing their students for the technological world. There are various reasons for this lack of technological preparation. In order to give the students the chance to learn how to use technology, the hardware and software must be made available in schools.

Also, the teachers must be trained and prepared to teach their students in this area of curriculum.

Some school districts have invested a lot of money into technology so that their students can become computer literate. Some schools have very impressive set ups of a wide range of equipment and technology. Unfortunately, some districts' teachers are not being trained in using these new technology. In fact, Congress Office of Technology Assessment, which has been disbanded, found that U.S. schools spend an average of fifty-five percent of their technology budget on hardware and thirty percent on software. Only fifteen percent or less was going towards staff development and training (Harrington-Lueker, 1996).

Many teachers have been teaching for a number of years and technology training was not required for them. These same teachers do not have the time, and sometimes the desire, to train themselves. Integrating technology into one's school curriculum requires faculty and staff to have a working knowledge of using technology in the educational setting. Staff development needs to be offered to the staff so that they can be properly trained in computer literacy. However, staff development for technology is often sporadic and delivered in one-shot sessions. It usually exposes educators to technology, and then attendees are expected to

explore and learn more about computers on their own (Zeitz, 1995).

The technology is in place and ready for the students, but a small percent of funding is going to teacher training on technology. Much of the money spent on technologies is going to waste, because the teachers do not want to deal with technology. Staff development will bring staff members closer to understanding the computer. When staff development does exist, it relies on volunteers who have the desire to train themselves. Staff members attend workshops after school or on the weekends without being paid or compensated somehow.

It is not uncommon for computers to be sitting in classrooms without being used by either the teacher or students. It is necessary that teachers use their computers for more than just a fancy typewriter and get their students on the computers in effective ways. Proper staff development is the only way for this to happen.

Principals are also getting in the way of technology. Many like to purchase a lot of new equipment in order to look good to the public. They do not think of spending money on teacher training. Also, if principals are not trained, they will not understand the importance of the training. Too many principals are not computer literate and this extends to higher levels of decision-makers. State

legislators want to make one-time investments in technology and do not provide funds for training (Harrington-Lueker, 1996).

Statement of Problem

The problem that led to this project is that Washington Charter School has acquired and installed a good deal of new technology on campus, and much of it is not being used. Three years ago, each teacher was given an IBM compatible computer for use in the classroom that they assembled themselves. Since then, each computer has been upgraded so that it now has Windows '95, a CD-ROM, a sound card, speakers, and memory upgrades. The school district has all computers networked by microwave towers. Each classroom has access to the Internet and teachers can e-mail from their own desk. Washington Charter School also has a portable laptop computer lab with fifteen computers, three computers in the library for students use, a color scanner, a multimedia cart, two TV links and a well-rounded supply of software. Technology hardware and software is a priority at Washington. Funds are set aside each year to purchase the latest equipment and software. Also, the Parents' Club is very supportive of technology and is willing to supply whatever is needed. In addition, Washington is involved in programs from the community where businesses will match technology funds for the school. In spite of the

availability of technology, the students at the school do not receive the best possible education in the area of technology. There are teachers at the school site that have computers in their rooms and do not use them or leaves it to the students to use the equipment. Also, many teachers use their multimedia computers only as word processors, because they do not know how to use it efficiently. Teachers need to utilize what Washington Charter School has and support learning and increase the educational use of technology by students.

After the training on assembling the computers, very little has been offered to the teachers of Washington Charter School. The district has offered staff development classes for those interested. However, these have been off-campus and not mandatory. Washington had a computer mentor last year that offered a few voluntary classes after school. Unfortunately, teachers did not want to spend their valuable time attending these classes. The range of computer knowledge among teachers at the school site is vast and it is hard to get one staff development session that would address a specific level. Much of the mentor's time was spent repairing computers and communicating with the district computer office instead of teacher training. There has never been a full-time technology coordinator at Washington. Most of the training that the staff had has

been self taught. Very little training has been given at the school site and none of it was mandatory. Also, any training that has been done has been a one-time class without any follow-up. Those teachers that have been well-trained have spent their own money and time in training themselves. If the appropriate training was given and required for staff development, teachers may feel more comfortable using computers and would know how to utilize it in their classroom.

By having a teacher training program, teachers can be better equipped with the means to support Desert Sands Unified School District's goal of both teachers and students becoming computer literate. This training needs to be ongoing, required, and built into the contractual days. Without teacher training, teachers are holding back their students from being computer literate, because they do not know how to instruct the students on computer skills. On the other hand, with adequate training, teachers at Washington can be the key to preparing their students for the future. The equipment has been purchased, and it is now time to focus on teacher training. The students just need a guide down the technology road, and they can grow themselves. Teachers need to give the students the opportunity to take that path.

Project Overview

The goal of this project is to design and develop a teacher training plan or program for teachers at Washington Charter School. The project will apply the systematic approach in program development and will include the following phases: goal analysis, needs analysis, design of the program, development, implementation and evaluation.

CHAPTER TWO

REVIEW OF LITERATURE

For the purpose of this project, the terms staff development and teacher training are used interchangeably.

Why Teachers Need Technology Training

Technology has been in the school systems for over a decade now. Unfortunately, many students are not getting a good technological education, because teachers are not being trained on how to use the technology. Siegel (1995) states that teachers have to be trained to use technology. Only then can the innovation become a part of their teaching repertoire, and not just a reward for students when they finish work. This is one reason why teachers need to be trained. Siegel also says that training is equally important to the actual equipment. A school site can have $20,000 worth of equipment, but if teachers are not aware of the capabilities, it will just sit there and they will not use it. Teachers cannot let this new teacher tool go to waste. Siegel put together eight key elements of an exemplary technological staff development:

1. Even if outside consultants are used for workshops, local staff is available for follow-up.

2. Following workshops, teachers have easy access to the same technology they were trained on.

3. Teachers are the primary trainers of teachers.

4. Training is tied directly to classroom/curriculum/ school reform objectives.

5. A minimum of 25 percent of the technology budget is set aside for staff development.

6. Learning to use technology is required, not voluntary.

7. Principals, superintendents, and other administrators take technology staff development courses along with their teachers.

8. Time for technology staff development is integrated into teachers' work schedules.

Technology plays an important role in all aspects of life today. This will only increase in the years to come. Teachers need to be trained, because technology training benefits young children a great amount. According to the National Association for Educating Young Children (NAEYC) Position Statement (1996), as technology becomes easier to use and early childhood software proliferates, young children's use of technology becomes more widespread. It is essential for teachers to teach students in primary grades how to use the computer. The NAEYC believes that early childhood educators have a responsibility to critically examine the impact of technology on children and be prepared to use technology to benefit children.

If technology is used appropriately in the classroom, it can enhance a child's ability. Computers are very interesting to young students, and age appropriate software can engage students in a variety of areas. Teachers can use technology to support and extend their daily material in many ways. The NAEYC also states that technology extends benefits of collaboration beyond the immediate classroom environment for children in the primary grades who can already read and write.

Another reason why teachers need to have training in technology is because computers can be used everyday for both administrative tasks and classroom instruction. Solomon (1993) says that administratively, the computer can expedite grade reporting, test generation, attendance, and more. For instructional purposes, however, a teacher's use of a computer is more open ended. The teacher is limited only by his or her imagination.

Computer training is not only an issue for school staffs, it is also a big issue for businesses today. Companies all across the United States spend a great deal of money on training their employees on technology to help improve their work day. Schools need to give the same amount of time and energy to their employees. Kowall (1995) states in his article that by keeping employees' computer skills up-to-date, they are likely to be more productive.

This is very true in the teaching field. Training teachers to be more organized and use technology to help keep track of data is another reason why teachers need training in technology.

Contradictory arguments suggest that teachers will either embrace computing or resist it (Evans-Andris, 1995). More than likely school decision makers hoped that teachers would embrace the technology. In other professions computers seem to help in worker performance. Evans-Andris found that educational research reveals that teaching routines typically remain stable in the face of technological change. Even when schools adopt change, teachers prefer more traditional and familiar methods of teaching and end up resisting technology.

New teachers just graduating from universities are not being thoroughly trained in technology. It is not being covered in their curriculum to prepare them for teaching students. It is then left to schools and districts that have hired computer illiterate teachers to train them. This is not the fault of the teacher being hired, but schools are forced to have to train their teachers. One major reason why universities do not train their graduates is because they do not have the equipment that K-12 schools have. Barksdale (1996) states in her article that the nation's software and hardware companies who offer educational deals

are more likely to target K-12 schools than schools of education. One education-school dean that Barkdale interviewed said that companies get more public relations bang for the buck by outfitting elementary and secondary schools with high-tech, up-to-date equipment than schools of education. Again, K - 12 schools have the equipment but not the training.

Siegel (1994) reports good and bad news in her special report. The United States leads the world in the number of computers in its schools. Ninety-nine percent of all elementary and secondary schools have installed computers. Also, ninety-three percent of the students use them during the school year. However, she states that American students are less computer-knowledgeable than students in Austria, Germany, and the Netherlands. In addition, their teachers get less computer training than their counterparts in Europe and Japan. Siegel's report calls for long-term planning on how technology is used in United States schools. It is very important that we keep up with our foreign neighbors and that our teachers give the same education to our students.

Hawkins and MacMillan (1993) have discovered in their research that teachers are using technology for rote purposes and not in support of real problem-solving by students. Research shows that the equipment is in place in schools and now money and time need to go into training

teachers in technology. Teachers need to be trained so that the students of the United States have an equal opportunity to be computer literate.

Characteristics of a Good Technology Program for Training Teachers

Staff development is essential for success of any program. Without the proper training, no program, especially in technology, will be successful. The first thing that a good staff development program has is a set of target goals, usually stated as competencies. Eisele and Eisele (1990) have compiled a list of competencies that are essential in staff development for technology. They are divided into four categories: hardware competencies, software competencies, programming competencies, and social impact competencies. Programming competencies are no longer the responsibility of the teacher, but have been included anyway. After competencies are established for a training program, the trainer will need to determine who needs training for what kind of competencies.

The competencies are as follows:

Hardware Competencies

- To identify, by name and function, the essential parts of any computer system.

- To select appropriate hardware for an application to solve a given problem.

- To operate all essential components of at least one computer system.

- To use documentation (manuals) to learn functions of at least one computer system.

- To describe at least five alternate devices and their functions.

Software Competencies

- To know which resources to use to obtain information about available software.

- To recognize high quality software from low quality software.

- To select software suitable for solving a given problem.

- To use documentation (manuals) to learn how to operate any software package.

- To organize and maintain software so that it remains accessible and usable.

Programming Competencies

- To clarify and state a problem in clear and unambiguous terms.

- To write a step-by-step solution to solve a given or stated problem.

- To translate the algorithm into an appropriate code such as a flow chart.

- To convert a flow chart, or other suitable code, into a programming language.

- To modify computer code in an existing application program.

Social Impact Competencies

- To list five ways in which technology has affected life in the past fifty years.

- To identify at least five applications of technology in today's society

- To describe the "miracle" of the microchip.

- To identify at least three major milestones in the history of technology.

While staff development is in place, four general phases of evaluation activities are used to inform the decision making process. Flag (1990) gives an approach for program development and evaluation.

Phases of Program Development	Phases of Evaluation
Planning	Needs Assessment
Design	Pre-production
	Formative Evaluation
Production	Production Formative
	Evaluation
Implementation	Implementation
	Formative Evaluation

People want to learn in a natural process by overlapping four stages, according to Ellington, Percival, and Race (1993). The first stage is wanting to learn. This includes motivation, enthusiasm, and interest. The next stage is doing. In this stage people have to try things out. They experiment, practice and learn from mistakes. The third stage is feedback. This is when someone finds out whether it was right or wrong or good or bad. Digesting is the fourth stage. This stage makes sense of the learning experience and of the feedback. It also lets the person gain a sense of ownership of what has been learned. Technology training can be closely identify with these natural processes.

Another problem with training teachers is that when staff development is offered at schools, it is usually not consistent and done in one-time sessions with no follow-up. Zeitz (1995) found out that at her school a semester-long, weekly series of technology workshops worked well. Zietz's workshops were designed to accomplish three goals:

1. It would provide a wide range of technology experiences.

2. It would create a network of learners who would provide each other with assistance and encouragement while learning new technologies.

3. It would show the school's sincere desire to encourage teachers to use technology in their classrooms.

Smith, Houston, and Bernard (1994) did a study on the Houston Consortium of Urban Professional Development and Technology Centers redesigning the curriculum for their teacher training. They recommend that each teacher being trained purchase their own laptop computer so that the teacher can use it in everyday life. The program consists of monthly training sessions and intensive summer telecommunications workshops. Their workshops focus on four areas:

1. foundation level computer skills

2. how to access and retrieve materials from a large body of multimedia curricular materials from computer sites on the Internet

3. how to develop multimedia curricular materials

4. how to share multimedia information and materials with other classrooms

One factor that is very important in teacher training is that each teacher have his/her own computer. Without the access to a computer, teachers cannot be expected to be computer literate. In addition to helping them train, computers improve their work day. McCarthy (1993) states in his article that a teacher with his or her own computer

spends more time with individual students, feels empowered and more professional, spends less time on clerical work than ever before, and much more.

Models of Technology Training

Many schools and districts around the United States are not afraid to invest a lot of money into their staff development in technology. These schools are exemplary models in this field. Both teachers and students are using the technology, and the teachers have been trained to use the equipment in educational ways. Everyone benefits from good teacher training in technology.

Calcasieu Parish in Louisiana is a middle school that invests $55,000 a year in its staff development (Bruder, 1992). Theriot, the assistant superintendent of Middle Schools, encourages teachers to submit proposals for pilot programs. The training, hardware, software, and any other assistance is offered to get the programs off the ground. The teachers have access to use the equipment in the classrooms, and they agree to train other teachers if their pilot program is successful. In 1989 their school district opened a training center for teachers called the Improved Instruction Through Technology Lab. The money for funding the technology equipment and training came from the community with a one-half cent sales tax to cover the cost. After four years of building the public's trust, they voted

overwhelmingly to continue the sales tax by eighty-two
percent.

Another successful school is the Thomas Jefferson
School for Science and Technology in Alexandria, Virginia
(Bruder, 1992). Their school philosophy is to have a
laboratory for advancing scientific and technological
literacy. They have a staff development budget of $53,000.
Principal Geoffrey Jones says that their staff development
program has many characteristics of their educational
program. They believe that people learn from other people
and ideas are generated through collaboration and
cooperation. Teachers are provided the opportunity to use
new ideas with their students and given flexibility and
control to be able to experiment in classrooms.

Bruder (1992) also states that John Gould is the
Assistant Superintendent of Curriculum at Norristown Area
School District in Norristown, Pennsylvania. He prides his
district on having district-wide training sessions in
instructional strategies, reflective study groups, workshops
in whole language and mathematical problem solving, and
technology workshops in Hyper Card and multimedia. The
entire professional staff participates. They use
substitutes and form twenty member K-12 teams and attend
four full-day workshops. Between each workshop teachers
have a month-and-a-half to practice the newly learned

strategies. Gould makes staff development mandatory and says that they are creating a structural change in creating the future now.

Balli and Diggs (1996) did a report on the technology pilot program at the University of Missouri. They preserviced a group of beginning teachers which was conducted in a sixth grade classroom. The preservice teachers participated in four activities. The first activity was to attend the university workshop on technology. Next, they worked with one or more participants to develop a technology-based lesson plan. The third activity was to conduct the technology-based lesson in the classroom. Finally, the teachers were to participate in a reflection interview following the lesson. They found the preservice to be successful, and when the teachers had completed the activities they knew how technology was valuable when applied in the classroom. The teachers also knew, based on their experience, what they would do differently the next time.

Washington, D. C. is another school district who spends a lot of money on teacher training in using technology. Buchsbaum (1992) says that they spend two million dollars a year just on training. That is double what they spend on hardware and software. In 1983 the school board decided to establish the Center for Instructional Technology and

Training. The board voted on a budget of $1.6 million

dollars dedicated solely to staff development for the

Center. The center is opened weekdays from 8:30 a.m.. to 7

p.m. and teachers, principals, and staff all become students

there. The training classrooms insist of three IBM labs,

three Macintosh labs, an Apple lab, a Digital lab, and a

multimedia lab. They have one hundred twenty-five personal

computers, thirty printers, and miscellaneous CD-TVs,

CD-ROMs, laserdisc players, video recorders, monitors, and

even a Yamaha musical keyboard. The center offers

forty-seven courses throughout the year with a wide variety

of topics. Also, any course can be offered at a school site

with a minimum of ten participants. Washington, D. C. is

devoted entirely to making their teachers computer literate

with any type of help they could possibly need.

The Scarsdale district in New York State offers many

ways to train their teachers on technology. Flaherty (1992)

states in his article that Scarsdale has set up the

Scarsdale Teachers' Institute to offer courses that carry

credit. Many courses are offered, which include computer

courses. In addition to the institute, teachers at the

middle school have daily on-site help to implement

technology in the classroom. Workshops are run before and

after school. The district believes that in order for

technology to grow , more teachers have to use it in their

classrooms. They want to provide every opportunity for teachers to do that.

Lopez (1996) took a look at Forshay Learning Center in South Central Los Angeles. Forshay took technology to bring its school back from being at-risk. In 1994 they spent $10,000 to send six teachers to the Institute for Information Age Education in northern California. These six staff members where then the district staff developers. In 1995 they spent over $100,000 to send its teachers through an intensive thirteen-day technology training workshop taught by its own staff members. Afterwards, technology support was set up at its Product Development Center where teachers and students can go to work on projects or get help when needed. Forshay is also designated as a Learning Center, which makes it possible to pay teachers to come for training during their "off track" time. Palazzo stated that Forshay's principal says that in order for this to happen a school has to have a vision with technology part of it.

Finally, at Pueblo School District 70 Superintendent Johnson says they have changed their approach on staff development in technology dramatically (Stinson, 1994). The school district has six guidelines which help give excellent training to their staffs. They are as follows:

1. By lengthening the school day ten to fifteen minutes, staff development days have grown from one to nine days per year.

2. The district provides half and full-day technology training courses. Typically, substitute teachers are brought in to provide additional support for teachers who are being trained.

3. Economic incentives are built in to the grant writing process.

4. Staff at all district sites are being trained to build consensus by whittling away differences until, as Superintendent Johnson says, there are no dissenters.

5. All hiring decisions are made by teams. Faculty members and support staff help conduct interviews and make recommendations on staffing.

6. As faculty members gain expertise in particular areas - from being versed in software modeling programs to understanding how to best get to a consensus - they are expected to plow that knowledge back into the system.

Each of these models are successful in their own way. However, two characteristics are obvious. First, the decision-makers for the schools were willing to support the teacher training in technology. Secondly, money was invested in the programs. Everyone, including staff members

to superintendents, must be able to see why technology training is essential and be willing to invest time, energy, and money.   The characteristics of a successful training program can be summarized as follows:

1. The teachers have access to the use of computers daily.

2. Ideas for training are generated through collaboration and cooperation.

3. Workshops are given to help train the teachers.

4. Teachers have ample time between workshops in order to practice what is being taught.

5. Workshops are run at times that teachers can attend.

6. Daily on-site help is provide for any questions or problems.

Problems of Technology Training

Unfortunately, much of technology training for teachers is not done with satisfaction for its participants. Tally (1995) states that the problems with current training practices lie in both their content and their form. Most training gets teachers familiar with the computer and teaches just the basics. While this is important and must be done, it usually stops there. If just the "nuts and bolts" are taught, it may be wasted if an understanding of educational concepts is not taught. According to Tally,

creative workshops are very beneficially. However, if
follow-up occurs, it usually consists of a session or two
devoted to more practice. There is rarely anyone available
to help teachers sort out what they are learning, or to help
them rethink and modify their initial practices. This is
the kind of help teachers need in order for their staff
development to be worthwhile.

Financial dedication is also a problem with technology
training for teachers. Not may schools are willing to put
aside a lot of money for this. Harrington-Lueker (1996)
reported that an average fifty-five percent of technology
budgets is spent on hardware and thirty percent is spent on
software. This leaves only fifteen percent on staff
development and training. Harrington-Lueker also feels that
staff development budgets are squeezed and shortchanged.
Usually, workshops only cover basic operations and leave out
the teachers who are ready for more advanced training.
Schools are also working with limited budgets and rely on
goodwill and volunteers to teach the courses. They also
rely on volunteers to take the training. These volunteers
attend unpaid and after their contractual day. Technology
training needs to be required and given during working days.

Teacher preparation programs in technology are not
effective. Faison (1996) stated that colleges and
universities with limited resources have not supplied the

financial support or the state-of-the-art equipment
necessary to provide adequate technology instruction. Most
of the instruction given is about technology and does not
provide experiences in using and integrating technology in
the curriculum. Also, technology is usually limited to one
course. New teachers are coming into the schools with a
very limited knowledge of technology. When the schools
train them, they are getting the same type of unsuccessful
program as they received in college. These problems are
consistent throughout the teacher training process.

Effects of Technology Teacher Training and Student Learning

Good teacher training is beneficial for the students.
After all, the goal of training is to help better oneself as
a teacher for the good of the students. Many times if a
teacher shows the way to the students, then the student will
be able to take off and use the equipment beyond what is
expected. Teachers need to motivate and give students their
chance to learn and explore.

Schurman (1994) interviewed Vickie Schoppe, principal
of O'Donnell Middle School in Houston, Texas. At her school
the staff has learned vast information about technology and
they are allowed to implement technology in their
curriculum. The teachers are motivated and it reflects to
the students. Their goal is to try to make computers so
transparent that it will be the students' natural reaction

to go to the computers. If you give students a great
foundation, they will be as successful as any student
anywhere. This is true with technology. Schurman states
that if you give the student a choice of researching
environmental pollution using a textbook or using multimedia
encyclopedia and information gleamed from a discussion with
a scientist on the Internet, that student will not hesitate
in choosing the computer. With the right training, teachers
can make learning interactive and fun for today's students.

When students get more involved in their projects they
learn more. Cross (1995) reported that he believes that
active participation is one of the most powerful
interventions in teaching. Students learn more when they
research, organize, and report their content. Technology
gives students many ways to present their findings. Cross
says that when students do this in a classroom, they
experience the power of making technology work for them.
Everyone does their best when they know what they are doing
is important. Projects using technology motivate, promote
retention, and give the students familiarity with some
powerful means for expressing themselves to others. Many
teachers have the key to let their students report in this
way. However, teachers do not know how to get their
students on the equipment. Effective teacher training can
open the door to both teacher and student achievement.

Frick (1991) wrote about student-content relationships. He found the following on how students feel about the content they are learning:

- Students too often find subject matter to be meaningless and disconnected from real life.

- Student interaction with content is mostly passive (listening, reading, or watching).

- Students most often must deal with content that is abstract or in symbolic form (written or spoken words) and less often with content that is in iconic, representational, or in concrete form.

- Students encounter content that typically is static, not changing as knowledge or events change.

- Students seldom choose what content to learn, when to learn it, how long to spend on it, or how deeply to delve into it.

- Many students fail to master learning objectives since the rate of learning is externally paced much of the time.

- Many students are bored with, or alienated from, the subject matter they are expected to learn.

If teachers provide a good technology education, students will become more actively engaged in learning by interacting with technological learning materials. These types of materials would give students numerous

opportunities to provide feedback. They would also have

more control over the pace of their learning. Teachers can

also further their own learning by using the same kinds of

materials. They could develop some of their own content

and motivate their students with it. Also, now teachers and

students can be linked to the rest of the world in

fascinating ways. Teacher and students' relationships with

their content can be entirely different than the present.

Bias (1996) reported that one way to train teachers and

students is to do it together as teams. The reasoning

behind this was because many teachers do not feel

comfortable with technology when they first encounter it.

Students, who feel more comfortable, can provide backup and

support when the teachers are back at school, away from the

training. These teachers and students can go back into

their own schools and work together to train other teachers

and students. This is a productive way to have teachers and

students sharing their knowledge with each other. To be

able to do all the above for students, teachers need the

training first.

Characteristics of Competent Instructors

After teacher training in technology, the product is

hopefully a competent instructor. An instructor who can go

back in the classroom and teach their students how to be

computer literate. Anglin (1991) reports that a competent instructor is able to fourteen things. They are as follows:

1. Analyze course materials and learner information.

2. Assure preparation of the instructional site.

3. Establish and maintain instructor credibility.

4. Manage the learning environment.

5. Demonstrate effective communication skills.

6. Demonstrate effective presentation skills.

7. Demonstrate effective questioning skills and techniques.

8. Respond appropriately to learners' needs for clarification and feedback.

9. Provide positive reinforcement and motivational incentives.

10. Use instructional methods effectively.

11. Use media effectively.

12. Evaluate leaner performance.

13. Evaluate the instruction.

14. Report evaluation information.

Today's students need competent instructors to help guide them into computer literacy.

The following chapters will describe the first phase of teacher training in technology at Washington Charter School.

Chapter Three will outline the project objectives. Chapter

Four will detail the plans for the training.

CHAPTER THREE

GOALS AND OBJECTIVES OF THE PROJECT

The goal of this project is to design and develop a technology teacher training plan at Washington Charter School. The finished product will focus on both the process and product of the plan. At the conclusion of the project, a model of the plan will be provided. A manual will be created with lesson plans and handouts that can be used to train the staff. Faculty development personnel will be able to use the plan in guiding the staff at Washington Charter School in becoming knowledgeable in technology, especially on the computer.

At the end of the technology training, the teachers will be able to use the computer for educational purposes on a daily basis. They will also be able to instruct their students on the computer in order to give them a well-rounded education.

The teachers will be able to use Windows '95 to help with their time management skills and teach their students to become familiar with the program. They will also be able to fix logical troubleshooting problems that arise without having to ask for help from others. The teachers will learn vocabulary associated with technology and how to use their E-mail to communicate with other staff in the district, schools, and other people in general. The staff will also

be trained to use the Internet for different educational purposes. Finally, the teachers will learn various ways of getting each student in their classroom on a computer daily.

CHAPTER FOUR

PROJECT DESIGN AND DEVELOPMENT

In this chapter the terms "session" and "lesson" will be used interchangeably, to refer to the actual training lessons that are provided in the manual and taught by the school technology coordinator.

The technology training manual for teachers at Washington Charter School includes the implementation plan, timetable, and training materials for the first year of staff development in technology. The manual was designed to serve as a resource for the technology coordinator or technician in his/her efforts to train the teachers at the school. For this chapter, this person will be referred to as the coordinator. The purpose of the manual is to help the staff at Washington Charter School become computer literate. See Appendix A for a hard copy of the manual and Appendix B for a computer disk of the manual.

Washington Charter School has a lot of new technology on campus, and much of it is not being used. Purchasing technology hardware and software is a priority at Washington. Funds are set aside each year to purchase the latest equipment and software. There are teachers at the school site that have computers in their rooms and do not use them or leaves it to the students to use the equipment. Also, many teachers use their multimedia computers only as

word processors, because they do not know how to use it efficiently. Teachers need to utilize what Washington Charter School has and support learning and increase the educational use of technology by students.

Very little has been offered to the teachers of Washington Charter School as far as technology training is concerned. The range of computer knowledge among teachers at the school site is vast, and it is hard to get one staff development session that would address a specific level. Most of the training that the staff had learned has been self-taught. Very little training has been given at the school site and none of it was mandatory. Also, any training that has been done has been a one-time class without any follow-up. The manual was created as part of an appropriate training program. This is to be given to and required for staff development so that the staff may feel more comfortable using computers and would know how to utilize it better in their classroom.

By having a teacher training program, teachers can be better equipped with the means to reach the goal of both teachers and students becoming computer literate. This training needs to be on-going, required, and built into the contractual days. With adequate training, teachers at Washington can be the key to preparing their students for the future.

Project Structure

The manual is provided in a hard-copy form (see Appendix A) and also on a computer disk (see Appendix B). It is the first step in training the teachers in technology and covers only the first year of an on-going training process. The manual was written to be easy to read and self explanatory. Its table of contents include an introduction, a timetable, an overview of the sessions, a teacher survey for needs analysis and assessment, six full-length lessons with appropriate handouts, and four outlined lessons.

The introduction is a brief statement on why the manual was created. It explains that it is part of a five-year plan and covers only the first year of training. It states that the main goal of first year of training is to get the teachers familiar with the computers and get their students involved. A description of the sections of the manual is also given.

The timetable lays out the dates and process of the lessons. The training sessions will be offered on the first Wednesday of every month from 2:00 - 3:00. After the technology coordinator reviews the pre-training needs assessment, he/she will determine who should attend which sessions. If the technology coordinator requests a staff member's attendance at a training session, it is required

for that person to attend. If a staff member is not required to attend a session, they are welcome to attend anyway. The sessions are scheduled one month apart so that motivation is not lost. To keep that motivation up, the technology coordinator will be available every Wednesday from 2:00 - 3:00 for individual requested lessons and follow-up on previous lessons.

The overview of the sessions explains that the manual was designed to meet the needs and schedules of the teachers at Washington Charter School. It also states that the lessons are aimed at what the staff is lacking in knowledge. As a result of the training, teachers will use the computers as an organizational tool and get their students involved by sharing their knowledge.

The teacher survey will be given prior to any training given at the school site. It is designed to measure the teacher's entry level of computer knowledge. The trainer or technology coordinator will use the survey to determine what type of lessons will be taught and who needs to attend.

Lessons One through Five are centered around basic Windows' 95 information. Each teacher at the school has Windows' 95 loaded on their computer. The first five lessons would be for those who are at a beginning or intermediate level on the computer. This would include about seventy percent of the staff. Each lesson consists of

the lesson's objectives, the time allotment, a preparation activity, a presentation activity, a hands-on activity, and an assessment. At each lesson, handouts are provided to help the trainees during the lesson and for reference once they are back at their own computers. Lesson Six covers the topic of how to utilize the one-computer classroom. Lessons Seven through Ten are outline lessons on troubleshooting, the Internet, and HyperStudio. The lessons are all just suggestions. After the teacher survey is analyzed, a change may need to be made to accommodate the needs of the staff.

Needs Assessment

The systematic approach was used to develop the manual. The technology training at the school was studied. After researching past preservices, it was found out that not a lot of technology training had been offered to the teachers. The teachers were also asked to see which ones used their computers in their classrooms. After finding that many teachers had not had any training and did not use their computers or let their students use the computer, it was decided to create a program to help the teachers begin their technology training. The faculty shared concerns that they did not like lecture classes and wanted hands-on activities when being trained. They felt that they would remember more information this way. Based on the needs assessment, a training plan was created and a list of important topics to

be covered was made. Since the needs assessment showed that many of the teachers had hardly ever used the computers, a need for basic Windows '95 was apparent. A survey was created to analyze the needs of the teachers. From there, an outline of topics was made consisting of the topics for one year of beginning training. Lessons plans and handouts were made for each topic and the manual was put together. To evaluate the manual, a technology mentor teacher reviewed the manual and made suggestions to improve it. After the manual's formative evaluation, the manual was to be implemented the next school year.

Implementation

The first step in the implementation of the training manual is the development of a five-year plan by a technology committee. Goals of hardware, software, curriculum, and teacher training were set. From these goals, the first phase in teacher training was established.

A technology coordinator or technician is to be responsible for the coordination and teaching of the training session. That person will need to be familiar with the operations of Windows '95 and a variety of educational software. The coordinator should have experience in technology training. The coordinator starts by administering the pre-training survey to all teachers at Washington Charter School. After analyzing the results of

the survey, the coordinator determines which teachers need what kind of training. The staff will be divided into three categories: the beginner, the intermediate, and the advanced. The Beginners will be required to attend all training sessions. They are the teachers who do not have any computer knowledge. They need to be trained on the basics of the computer. Intermediate level teachers will not need to go through the first two lessons. They should be comfortable with basic Windows '95. They will start with the third lesson because, even though it is still basic Windows '95, it covers items that are a little more advanced within the program. The Advanced Group will not need to start attending until the fifth session. They are expected to already know much of the information given, but they can share their teaching strategies with the rest of the staff, which will be very valuable. The coordinator can collaborate with these teachers to help enhance the training sessions. Towards the end of the year, the advanced teachers join the training when lessons are catered to their needs. There will also be individual sessions given to these staff members throughout the year. These sessions are discussed in a later section.

The coordinator needs to be sure that each teacher has access to a computer during the sessions and in their own classroom. Given that Washington has a portable laptop lab,

the sessions can be taught in the library using laptops. The computers in each of the teachers' rooms need to be working and loaded with Windows' 95. If a problem with a teacher's computer comes up during the year, the coordinator will need to have the problem fixed so that the teacher will be able to use what he/she has learned on a daily basis.

The coordinator should be flexible when it come to teaching the lessons. When questions are asked, he/she should be able to answers those questions and change the lesson plan format if need be. Also, if after teaching the first few lessons and the information is being learned quicker than anticipated, the coordinator should be able to accelerate the pace of the training and teach more material or move up the scheduled lesson dates. This will leave time for more information to be taught at a later date.

After each lesson, the coordinator conducts follow-up activities on the new material with each teacher. A stop by the classroom to ask for any questions or to see if they need any help can be a starting follow-up activity. Also, the coordinator will be available for any questions from teachers that need help. There will be time set aside on Wednesdays from 2:00 - 3:00 for this. However, the coordinator will need to be available on a daily basis. He/she should have hours before and after school each day for this kind of help for the teachers.

The coordinator will also schedule individual lessons whenever needed. These lessons can be a review of what has been already taught for teachers who need the information a second time. It can also be a lesson on a particular program or content area that a teacher would like to know more about. This is where the advanced computer teachers could take active participation. They could learn more about programs in content areas or authoring programs. It could be possible that the coordinator would have to spend some time to research and be familiar with a particular program.

Evaluation

There will be four types of evaluation as the first year of training is implemented. The first will be evaluation at the end of every lesson for the teachers. The second will be an evaluation of individual lessons or follow-up activities given by the coordinator. Next, there will be a on-going evaluation of the whole program as the year progresses. Finally, there will be a year-end evaluation to see what was successful and what was not. It will also be used to help plan the training for the second year of staff development at the school.

At the conclusion of each lesson, an assessment is provided to see if the teachers understood the concepts being taught. The coordinator would be responsible in

making sure that each teacher did understand the concepts.
If not, he/she would need to follow-up with individual
tutoring for that teacher. The coordinator would also have
to assess if all the information was covered and if any
changes or teaching techniques would need to be made in any
future sessions.

An evaluation of follow-up lessons or individual lesson
would also need to be made. The coordinator can do this by
asking the participants what new information were learned,
and if they are using it in the classroom. If teachers are
not taking advantage of the times that are available for
help, the coordinator would need to motivate the teachers
into using this time or come up with another way to use this
time valuably to train the teachers. Also, if teachers are
not requesting individual lessons, a rescheduling of lessons
may be needed. If possible, a wider variety of lessons
could be offered, scheduling one session every two weeks
instead of once a month.

An on-going evaluation will need to be considered
throughout the year. The evaluation of the lessons will
help carrying this out. Also, the coordinator will need to
make sure that everything is going as planned. Doing
classroom observations to see if students are involved in
technology is one way to assess this. Possible surveys
given to the teachers throughout the year may be helpful in

continuing or changing the planned lessons. Questions on the survey could include the following: Are you learning new information during the training sessions? Are you using the computer on a daily basis? Are your students using the computer on a daily basis? Are there any particular areas that you would like to learn more about? These survey could help in many ways to make sure time is not wasted with information already known to the teachers, and to get in the best possible lessons for everyone during the year. Finally, the technology committee, consisting of the technology coordinator and a representative from each grade level, and a member of administration should meet on a regular basis to discuss the training procedure and make suggestion that might help improve the process.

Finally, a year-end evaluation needs to be made by the entire staff. A survey, like the one mentioned in the previous paragraph, should be administered at the end of the year. Once again, the technology committee will need to meet to evaluate how the first year of technology training went and how to plan the second year to best fit the staffs' needs. Finally, a formative evaluation will be made by a technology coordinator to evaluate the first year of the plan. The coordinator will be asked to evaluate specific features such as the organization of the material, the

timetable of the sessions given, and the content of the activities.

Formative Evaluation

The formative evaluation was done on the Washington Charter School campus after the manual had been written. The technology mentor, Matt Blansett, served as the evaluator. He has been the technology mentor at the school for the last three years. He also has a Master's Degree in Instructional Technology and has done a lot of teacher and student technology training for the school district. The formative evaluation was important because the manual is only a year-long plan of a five-year project. The actual implementation of the manual requires a time commitment that could not coincide with the timeline and deadline of this Master's Project. Thus, the formative evaluation is critical in determining and improving the strengths and limitations of the project. This research has been reviewed and approved by the Institutional Review Board of California State University, San Bernardino. See Appendix C for the IRB approval letter.

After looking over the manual and listening to the plan of the program, the evaluator made some comments and suggestions. He pointed out that the plan could not be carried out in the time frame that the manual covered. This was already being considered and the reason for this

evaluation. He recommended that there be more detailed questions in the needs assessment of the staff at Washington. His reasoning was that the more information the technology trainer had, the better he or she could implement the plan. He agreed strongly with the way that the implementation plan for the first year and the evaluation plan was outlined. He also commented that the design of the manual was easy to follow. He recommended that classes for teachers with advanced computer skills be offered earlier in the year. In addition, he wanted to see lessons seven through ten outlined. No information was given as to what the lesson content was in these lessons.

After the evaluation was complete, the evaluator's suggestions were considered and some changes were made. It was already known that the time frame limited the full implementation of the project. This was stated in the manual and thus the reason the formative evaluation by the aforementioned evaluator was given. The needs assessment for the staff was rewritten with more questions to give the technology coordinator. This would give he or she a better idea of what kind of information needs to be taught. Classes for teachers with advanced computer skills will be offered at appropriate times after analyzing the needs assessments. Finally, a short description of lessons seven

through ten was added. The comments and recommendations given by the evaluator were very helpful and useful.

Strengths of the Project

An obvious strength to this project is that it meets the needs of the teachers at Washington. It was based completely on the needs of these teachers. Teacher training in technology is the first step to educate the teachers in getting their students on the computers. Washington has had the equipment in place for over three years now. During that time very little training has been provided. Although this first year is just the beginning to a long and ever-changing program, it is one that is vitally important to the school and is a huge step in the school becoming computer literate.

The teachers also become comfortable on the computers. When they attend the workshops and use the information they have learned, it makes their work much more manageable. The teachers use the computer as an organizational tool and cut their paperwork time down quite a bit. Also, when the teacher is comfortable on the computer, that teacher is willing to let the students use the computer. When a teacher is at ease on the computer, he/she will be more motivated to learn different technical programs and to bring a variety of content areas into the classroom.

Another strength to this project is that it was developed in a systematic manner. Any technology coordinator or school can use the manual as a start to any technology training program. It is provided in hard copy for easy reference. It is also provided on computer disk so that if a school needed to change anything to adapt it to their school, it could be done easily. Washington has never been provided with any program that would train the teachers in technology. This is an organized tool to start what is greatly needed at the school.

The final strength, and the most important, is that the plan trains the teachers to get the students on the computers. The goal of the training manual and any technology training at the school is to get the students computer literate. Providing the hardware and software and training the teachers is the best way to help the students. If a student is given the opportunity, the possibilities are endless.

Limitations of the Project

Although technology training is a huge step in the right direction, there will still be some limitations that will have to be dealt with. As with any program that is newly implemented, there is no way to predict what will happen as it is being established. It is hard to implement the program in the time frame that the project was done

since it is a year-long project. There are possibilities
that the staff will not take the training seriously or
reject it altogether. If the right motivation is not given
and the staff does not want to be trained, it could be
considered a failure after the first year and replaced the
next year with training in another area.

As with anything provided in a school system, the
training will cost money. Fortunately, technology is a top
priority at Washington. However, as with time, new
philosophies and programs take priority. Each year money
needs to set aside for the training. Also, if the staff
would like to be trained in software that is not available
or would like to purchase new hardware to be trained on, it
needs to be provided. Otherwise the teachers may not be
motivated to continue training. Furthermore, if the current
principal, who supports technology, retires, it is essential
that the new one be as supportive.

Another limitation, as with any job, is that there will
be turnover. Two years into the training process, a new
teacher could be hired who has very little computer
training. At that point, it will need to be decided what to
do with that particular teacher. Training will need to be
given on an individual basis and will need to start
immediately.

A limitation to the design of the manual is that it is very specific to meet the needs of the teachers at Washington Charter School. It could not be given to another school and implemented in the same exact manner because the teacher needs at that school may not be the same as the needs of Washington Charter School's teachers. The plan is limited to teachers of a specific school who have a specific need. The plan is also limited because it is only one year of a five year plan.

Although every program has its limitations, technology training is a must at Washington Charter School. The equipment is in place and ready to be utilized. The next step is getting the teachers and students involved. This has been long awaited and a positive step in getting the students at the school prepared for the future.

Recommendations

The best recommendation that can be made is to implement the plan with the flexibility to make changes when necessary. If the lessons are too easy or the teachers are more advanced in their computer skills than thought, the coordinator needs to change the lessons to meet that of the staff's needs. It is also recommended that the manual be continued to cover the last four years of the five year plan.

APPENDIX A: TRAINING MANUAL

Introduction

This manual was created to help the teachers at Washington Charter School become trained in technology. Currently, Desert Sands Unified School District and Washington Charter School have invested a lot of money and time in equipment for the school site. Very little training has been given to the staff on how to use the new equipment. This project is the first step to training the staff. It covers a full school-year of technology in-services for teachers. Monthly staff development classes will be offered with additional individual training on a need-to-know basis. Realistically, a five year plan will be established for the school to follow and put in to place. Teacher training will be a big part of budgeting and part of the plan. The first year's main goal is to get all teachers familiar with the computer and not afraid to get their students involved.

The following pages will give a timetable for completion of the first year of staff development. It will also include a survey to assess the needs of all the teachers at Washington Charter School. Sample lesson plans and ideas are given to help get started. These are recommendations only. After surveying the teachers, changes may need to take place.

Table of Contents

Timetable

Washington Charter School

Technology Staff Development

1997 - 1998

Washington Charter School staff has Wednesdays from 12:30 - 3:00 as their planning time. Technology staff development will be take place on the first Wednesday of every month from 2:00 - 3:00. Attendance to the training sessions will be determined using a pre-training needs assessment. The timetable is as follows:

September:	Basic Windows '95, Lesson One
October:	Basic Windows '95, Lesson Two
November:	Basic Windows '95, Lesson Three
December:	Basic Windows '95, Lesson Four
January:	Basic Windows '95, Lesson Five
February: March:	Utilizing the One-Computer Classroom Minor Troubleshooting Techniques
April:	Netscape and the Internet
May:	Hyper Studio, Lesson 1
June:	Hyper Studio, Lesson 2

In addition to these scheduled classes, the trainer will be available on the other Wednesdays from 2:00 - 3:00. During these times, individual lessons can be given upon request. Follow-up on previous lesson can also be given.

Overview of Training Sessions

These training sessions are designed to fit the needs
and schedule of the staff at Washington Charter School. Its
content is aimed at addressing the needs of the teachers in
the area of technology. It also supplies a wide variety of
training levels so that everyone can benefit. The sessions
are schedules one month apart with follow-up activities and
individual lessons. The trainer will have contact with each
staff member during the month to make sure that motivation
is maintained and momentum is not lost. The main goal of
each lesson is to have the teacher get back into the
classroom and use their computers. They will use technology
as an organizational tool to help them with paperwork and
classroom bookkeeping, and they will get their students
involved by sharing their knowledge.

Teacher Survey

Each teacher at the school site will be given a survey
prior to any training. The survey will measure the
teacher's entry level of computer knowledge. After taking
the survey, the trainer will use the results to determine
who needs what kind of training. If an in-service is given
over on a topic that a staff member is familiar with, then

that staff member will not need to attend unless they want.
A copy of the survey is provided in the following section.

Washington Charter School

Teacher Training in Technology

Teacher Survey

Name: _____ Grade Level: _____

Years of Teaching: _____

List the technical equipment that you have in your room

right now:

_____

_____

_____

Please answer the questions below by circling the answer.

1. Have you ever used a computer before?   Yes   No

2. Have you ever used Windows '95?   Yes   No

3. If you answered yes to number 2, would you consider

yourself:

     A beginner   Comfortable with it   An expert

4. Can your format a disk?   Yes   No

5. Can you open a file?   Yes   No

6. Can you save a file?   Yes   No

7. Can you delete a file?   Yes   No

8. Can you create a shortcut in Windows '95?

                                               Yes   No

9.   Have you ever used WordPad?   Yes   No

10. Can you change the font and size of text?

                                               Yes   No

11. Can you edit text in a word processing program?

                                               Yes   No

12. Can you print a document?   Yes   No

13. Can you Copy and Paste?   Yes   No

14. Can your format a disk?   Yes   No

15. Do you know what the Recycle Bin is?   Yes   No

16. Have you used the Recycle Bin before?   Yes   No

17. Have you ever used the Paint program?   Yes   No

18. If you answered yes to number 17, would you consider
yourself:

     A beginner   Comfortable with it   An expert

19. Have you ever used the Notepad program?

                                               Yes   No

20. If you answered yes to number 19, would you consider
yourself:

     A beginner   Comfortable with it   An expert

21. Do you use your Electronic Mail?   Yes   No

22. If you answered yes to number 21, would you consider
yourself:

     A beginner   Comfortable with it   An expert

The following questions refer to Electronic Mail:

23. Can you add addresses to you Personal Address Book?

Yes   No

24. Can you send a message?   Yes   No

25. Can you delete a message?   Yes   No

26. Can you read your incoming mail?   Yes   ,   No

27. Can your reply to an e-mail?   Yes   No

28. Can you use Netscape?   Yes   No

29. If you answered yes to number 28, would you consider
yourself:

A beginner   Comfortable with it   An expert

30. Can you use the Internet for educational purposes?

Yes   No

31. If you answered yes to number 30, would you consider
yourself:

A beginner   Comfortable with it   An expert

32. Can you use Hyper Studio?   Yes   No

33. If you answered yes to number 32, would you consider
yourself:

A beginner   Comfortable with it   An expert

List anything you would like to be trained on using Windows
'95:

_____

_____

_____

List any particular programs (such as authoring programs)
that you would like to be trained on:

_____

_____

_____

Lesson One

Basic Windows '95

Objectives:

- To be able to turn on and off the computer.
- To be able to load and exit Windows '95.
- To be able to drag and drop using the mouse.
- To be able to maximize and minimize a window.

Time Allotment:

1 hour

Preparation Activity:

Discuss each objective and lead a discussion on why it is important for the trainee to be able to do this. Also, lead participants in sharing ideas on knowing how to do the information covered will benefit them as a classroom teacher.

Presentation Activity:

Using the trainer's computer, a TV, and a TV Link, show the trainees how to do the following:

1. Turn on the computer and load Windows.

2. Exit Windows.

3. Drag and drop using the mouse

4. Maximize and minimize, using the mouse.

Hands-On Activity:

Have each trainee follow the directions given on the handouts. Afterwards, let each trainee play Solitaire to practice dragging and dropping with the mouse.

Assessment:

Have the trainees divide into pairs and repeat the lessons activities. Each pair will assess each other. The trainer will go from pair to pair, helping when something is unclear.

TECHNOLOGY TRAINING FOR TEACHERS
WASHINGTON CHARTER SCHOOL
HANDOUTS FOR LESSON ONE

TURNING ON THE COMPUTER AND LOADING WINDOWS

1. Turn on the monitor.

2. Press the computers "power" button.

3. If the computer is hooked up to the school's networking system, it will ask you for a password. Type in *1234* and press enter.

4. Windows '95 desktop should appear on your screen.

EXITING WINDOWS

1. Find the "Start" button at the bottom of the screen and click on it.

2. Find the button that says "Shut Down" and click on it.

3. Click on the "Yes" button.

4. Wait for the message It's now safe to turn off your computer and press the power button.

OPENING AND CLOSING A WINDOW

1. Click on the "Start" button.

2. Click on the "Programs" button.

3. Click on the "Windows Explorer" button at the bottom of the menu. This will open the Windows Explorer window.

4. Click on the little "X" in the window's upper right-hand corner to close the window.

5. Practice loading other programs.

DRAGGING AND DROPPING USING THE MOUSE

TO:	DO THIS:
Change a window's size around.	Drag its corners or boarders
Move an entire widow across the screen	Drag the window's top-most edge, which usually contains the program's name.
Change settings	Slide levers back and forth.
Create on icon for a program onto your desktop.	Drag and drop a shortcut icon
Scroll your view	Drag the square in the bar on the right side and drop it in a new location.
Move an icon on your desktop	Drag it to the new location.
Copy files from place to place	Drag them and drop them into new locations while in the "My Computer" or "Windows Explorer" programs.

MAXIMIZING A WINDOW

Sometimes when you run a program it will come up in a little screen and sometimes it will take up the whole screen. Different people like have their programs full-screen (maximized) or a small window for different reasons.

To practice maximizing, a window do the following:

1. Click on the "Start" button and load Windows Explorer.

2. The program should be in a small window. Now find the three little boxes in the top right-hand corner of the window. Click on the middle box with the square in it. This will maximize your window.

3. Click on the middle box again. It should have two little squares in it now. Now the window will be small again.

Also, practice doing both by double-clicking on the bar at the top of the window. This will do both, depending what is already on the screen.

MINIMIZING A WINDOW

Click on the little box at the top right corner that has the small line in it. Your program's name will be at the bottom of your screen next to the "Start" button. The program is still running but is now hidden. It can be brought up for reference or to use later. To bring it back up, just click on the name at the bottom of the screen.

Lesson Two

Basic Windows '95

Objectives:

- To be able to use the task bar.
- To be able to create a shortcut.
- To be able to create a document in Word Pad.

Time Allotment:

1 hour

Preparation Activity:

1. Review turning on and off the computer and the use of the mouse.

2. Discuss each objective and lead discussion on why it is important for the trainee to be able to do this. Also, lead participants in sharing ideas on how knowing how to do the information covered will benefit them as a classroom teacher.

Presentation Activity:

Using the trainers computer, a TV, and a TV Link, show the trainees how to do the following:

1. Use the task bar.

2. Create a shortcut.

3. Use the Word Pad program.

Hands-On Activity:

Have each trainee follow the directions given on the
handouts. Afterwards, have the trainees write a letter to
their students' parents using the Word Pad program.

Assessment:

Have the trainees divide into pairs and repeat the
lessons activities. Each pair will assess each other. The
trainer will go from pair to pair, helping when something is
unclear. Also, peer edit the letter written to the parents
and exchange with classmates when finished.

TECHNOLOGY TRAINING FOR TEACHERS
WASHINGTON CHARTER SCHOOL
HANDOUTS FOR LESSON TWO
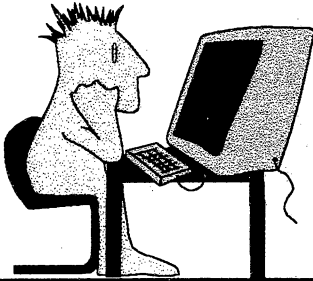
USING THE TASK BAR

1. Look for the task bar along the bottom of the screen.

2. If it is not there, look for the gray boarder along the bottom.
   When the mouse arrow has two sides to it, drag and drop the
   task bar to where you can see it.

3. Click on the "Start" button. When you click on the "Start" button,
   a menu appears. The meanings of the menu are below:

   Programs: Lets users start a Windows program.

   Documents: Lists the last fifteen files the user has used and
   he/she can click on a particular one and bring it up without
   loading the program.

   Settings: Lets users change their computer's settings.

   Find: Lets users search through their computer to find
   misplaced files.

   Help: Brings the Help System to the screen.

   Run: Lets users run Windows programs.
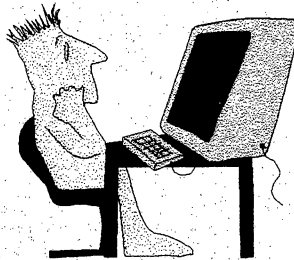
CREATING SHORTCUTS

Shortcuts are used to make a quick path to get somewhere. If a program is used a lot, a shortcut can be created for the desktop.

1. Click on the desktop with right mouse button.

2. Click on the "New" button.

3. Click on the "Shortcut" button.

4. Click on the "Browse" button and double-click on the the windows folder.

5. Double-click on the icon your want to make into a shortcut.

6. Click on the "Next" button.

7. Type the name you want to appear on the desktop for the program in the box and click the "Finish" button.

A shortcut to calculator should appear on the desktop.

WORDPAD

WordPad will let you create nice looking documents such as letters or memos.

1. Click on the "Start" button.

2. Click on the "Accessories" button and then click on the "WordPad" button.

3. Maximize the WordPad window and type a letter. Press "Enter" only when you want to start a new line or paragraph.

To Save the letter do the following:

1. Click on the icon of a computer disk on the tool bar. The "Save As" dialog box appears.

2. Type a name for your letter where it says "File name:" and then click on the "Save" button.

The document is now saved and the name will appear at the top of the screen. From this point on, the dialog box will not appear when you click on the computer disk icon; it will just automatically save it for you. It is a good idea to save your work every five to ten minutes to avoid losing your work.

To Open the new document do the following:

1. Close the document by clicking on the "X" at the top right-hand corner of the screen and restart program.

2. Click on the icon on the toolbar that looks like an open file folder. The Open dialog box appears.

3. Find the name of the document that was just saved. Click on the name so that it is highlighted and then click on "Open".

The document should now be on the screen.

To change the font type and size, do the following:

1. Click on "Ctrl" and "A" at the same time. All the text should be highlighted.

2. Click on the down arrow by the "Font" box at the top of the screen.

3. Move the mouse to another type of font and click. Another font should now appear.

4. Click on the down arrow by the "Font Size" box.

5. Move the mouse to another size font and click. The size of the text should change.

6. Click outside the highlighted area to deselect the text.

To insert text in the document, do the following:

1. Move the mouse to where something needs to be added.

2. Type the text to be inserted. The words to the right of the text move forward and the inserted part now appears.

To bold, italicize, or underline text, do the following:

1. Highlight the text to be changed.

2. Move the mouse over one of the options (B, I, or U) on the toolbar and click on it.

3. To remove a bold, italic, or underlined script, repeat steps 1 and 2.

To align the text, do the following:

1. Highlight the text that should be aligned differently.

2. Click on of the three alignment options. The new alignment should now appear. Practice aligning different parts of the text.

To print the document, do the following:

1. Click on "File" at the top of the screen.

2. Click on "Print". The Print dialog box will appear.

3. Click on "OK". The document should now print.
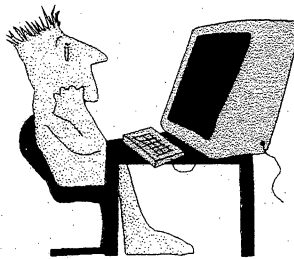
Lesson Three

Basic Windows '95

Objectives:

- ✒ To be able to copy and paste in WordPad.

- ✒ To be able to use Page Setup.

- ✒ To be able to delete a file.

- ✒ To be able to use the Recycle Bin

- ✒ To be able to format a disk.

Time Allotment

1 hour

Preparation Activity:

1. Review previous lesson.

2. Discuss each objective and lead a discussion on why it is important for the trainee to be able to do this. Also, lead participants in sharing ideas on how knowing how to do the information covered will benefit them as a classroom teacher.

3. Have a teacher that has already mastered this skill, bring in a sample lesson plan where the integrate technology into their curriculum.

Presentation Activity:

Using the trainers computer, a TV, and a TV Link, show the trainees how to do the following:

1. Copy and paste in Word Pad.

2. Design a page layout in Page Setup.

3. Delete a file

4. Use the Recycle Bin

5. Format a disk.

Hands-On Activity:

Have each trainee follow the directions given on the handouts. Have them copy a letter already loaded on their computer onto their own disk. They can edit that letter and then dump it into the Recycle Bin.

Assessment:

Have the trainees divide into pairs and repeat the lessons activities. Each pair will assess each other. The trainer will go from pair to pair, helping when something is unclear. They can also share by "show and tell" their edited letter before dumping into the Recycle Bin.

TECHNOLOGY TRAINING FOR TEACHERS
WASHINGTON CHARTER SCHOOL
HANDOUTS FOR LESSON THREE

COPY AND PASTE IN WORDPAD

1. Highlight the text you want to move.

2. Click on the scissors icon on the toolbar. The text should disappear.

3. Move the mouse to where the text needs to be placed and click.

4. Click the clipboard icon on the toolbar. The text should now reappear in the new spot.
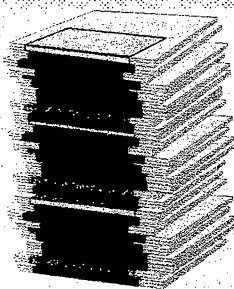
PAGE SETUP

1. Click on the word "File" at the top of the screen.

2. Click on "Page Setup".

The size of paper to be printed on can be selected. Margins can be adjusted here. Portrait or Landscape selections can also be made.

DELETE A FILE

1. Go to the Windows '95 desktop.

2. Double-click on the "My Computer" icon.

3. Double-click on where the file to be deleted is located. (i.e. a: drive or c: drive). The File window will appear.

4. Highlight the file by clicking on it.

5. Press "Delete" on your keyboard. The File Delete dialog box will appear.

6. Click on the "Yes" button. The file will disappear. into the Recycle Bin.

RECYCLE BIN

When a file is deleted, it will go Bin. Deleted files can be retrieved by doing the following:

1. Double-click on the "Recycle Bin" icon on the desktop. The Recycle Bin window and a list of all deleted files will appear.

2. Click on the name of the file that is to be restored.

3. Click on the word "File" at the top of the window. A menu should appear.

4. Click on the word "Restore". Windows '95 will place the file back in its original location.

If there is a document that will never be needed again, the Recycle Bin can be empty by doing the following:

1. Click on the name of the file that is to be deleted

2. Click on the word "File" at the top of the window. A menu should appear.

3. Click on the words "Empty Recycle Bin". A dialog box will appear.

4. Click on the "Yes" button.

5. The file will be deleted forever.

FORMATTING A DISK

1. Insert the floppy disk to be formatted into a drive.

2. Double-click on the "My Computer" icon. The "My Computer" window will appear.

3. Click on the drive containing the floppy disk to be formatted.

4. Click on the word "File" at the top of the window. A menu will appear.

5. Click on the word "Format". The Format dialog box will appear.

6. Select the type of format needed.

7. Click on the "Start" button. The format results dialog box will appear when the disk is completely formatted.

8. Click on the "Close" button. The Format dialog box will reappear.

9. Click on the "close" button. The disk in the drive is now formatted.

Lesson Four

Basic Windows '95

Objectives:

   ✏ To be able to use Paint.

   ✏ To be able to use Note Pad

Time Allotment:

   1 hour

Preparation Activity:

   1. Review previous lesson.

   2. Discuss each objective and lead a discussion on why
it is important for the trainee to be able to do this.
Also, lead participants in sharing ideas on how knowing how
to do the information covered will benefit them as a
classroom teacher.

   3. Have students from the school come in and share
what they have created using Paint.

Presentation Activity:

   Using the trainers computer, a TV, and a TV Link, show
the trainees how to do the following:

   1. Start the Paint program.

2. Use the tool bar in the Paint program.

3. Use the Notepad program.

Hands-On Activity:

Have each trainee follow the directions given on the handouts. Have each trainee create the cover of a book that could be used in the classroom.

Assessment:

Have the trainees divide into pairs and repeat the lessons activities. Each pair will assess each other. The trainer will go from pair to pair, helping when something is unclear. When finished, have each trainee share their book cover with the rest of the class.

START PAINT

1. Click on the "Start" button.

2. Move the mouse over "Programs".

3. Move the mouse over "Accessories".

4. Click on "Paint". The Paint window will appear. Maximize the screen.

USING THE TOOL BAR

On the left side of the screen is the tool bar. It lets the user do tasks quickly. Moving the mouse over the tool and waiting a few seconds will let the name of the tool appear.

Drawing Lines:

1. Click on a line tool.

2. Click on a color at the bottom of the screen.

3. Select the thickness of the line by clicking on one of the lines underneath the tool bar.

4. Move the mouse to where you want to begin the line. The arrow will turn into a plus sign.

5. Click and drag until the line is where it should be and release. The line should appear.
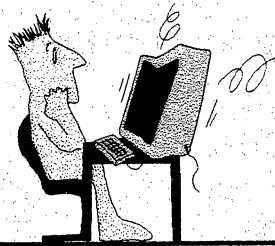
Drawing Shapes:

1. Click on a shape tool.

2. To select a color for the outline of the shape, click on a color with the left mouse button.

3. To select a color for the inside of the shape, click on the color with the right mouse button.

4. Move the mouse to where you want to begin the shape.

5. Click and drag to the size shape you want and release the mouse.

To Erase an Area:

1. Click on the "Eraser" icon.

2. Select the color for the eraser.

3. Move the mouse to where you want to start erasing.

4. Click and drag over the area to be erased. Release the mouse button to stop.

Undo Your Last Change:

1. Click on "Edit" at the top of the screen.

2. Click on "Undo". This will change the very last editing that was done.

To Add Text:

1. Click on the "A" icon.

2. Select a color for the text.

3. Move the mouse to where the text is going to go.

4. Click and drag over the area where the text will be. Release the mouse.

5. A box with dotted lines will appear.

6. Click inside the box and start typing.

Drawings can be saved and reopened just like any other document.

USING NOTEPAD

Notepad is a place to jot down quick notes, just like a "notepad".

1. Click on a blank portion of the desktop.

2. Click on "New".

3. Click on "Text Document".

4. Title the file and press "Enter".

5. Double-click on the new file and start typing notes.

6. Save the work.
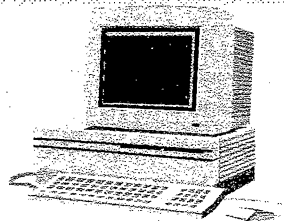
Lesson Five

Basic Windows '95

Objectives:

- To be able to open Microsoft Exchange.
- To be able to add a name to the Address Book.
- To be able to send a message using Electronic Mail.
- To be able to delete a message.
- To be able to read a message.
- To be able to reply to a message.

Time Allotment:

1 hour

Preparation Activity:

1. Review previous lesson.

2. Discuss each objective and lead a discussion on why it is important for the trainee to be able to do this. Also, lead participants in sharing ideas on how knowing how to do the information covered will benefit them as a classroom teacher.

Presentation Activity:

Using the trainers computer, a TV, and a TV Link, show the trainees how to do the following:

1. Open Microsoft Exchange.

2. Add names to the Address Book.

3. Send a message.

4. Delete a message.

5. Read a message.

6. Reply to a message.

Hands-On Activity:

Have each trainee follow the directions given on the handouts. Have them send two e-mails to two other staff members at the school and one person they know that works in the districts but outside of the school.

Assessment:

Have the trainees divide into pairs and repeat the lessons activities. Each pair will assess each other. The trainer will go from pair to pair, helping when something is unclear. Have the pair e-mail each other and go to their own rooms to check their messages.

TECHNOLOGY TRAINING FOR TEACHERS
WASHINGTON CHARTER SCHOOL
HANDOUTS FOR LESSON FIVE

OPENING MICROSOFT EXCHANGE

1. Double-click on the "Inbox" icon. The Microsoft window will appear.

2. Double-click where it says "Inbox". The folders that display the messages will appear.

3. To read a message, double-click on the name of the message.

ADDING NAMES TO THE ADDRESS BOOK

1. Click on the "Address Book" icon on the top tool bar. The Address Book window will appear.

2. Click on the first icon on the tool bar that looks like a page out of a rolodex. The New Entry dialog box will appear.

3. Click on the type of address you want to add.

4. Click on the "OK" button.

5. Enter the information requested, pressing "Tab" to move to the next line.

6. Click the "OK" button.

7. Close the Address Book by clicking on the "X" at the top-right-hand corner of the screen.
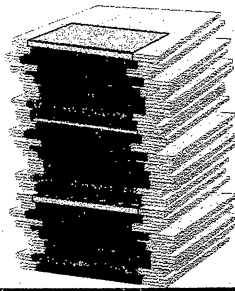
SENDING A MESSAGE

1. Click on the icon that looks like a yellow envelope. The New

    Message window will appear.

2. Click on the "To..." button.

3. Click on the name of the person receiving the e-mail and click

    "OK".

4. Click in the box next to the word "Subject", and enter the subject

    of the e-mail.

5. Click over the area to write the message in and type the message.

6. When the message is typed, click the first icon, which is the

    yellow, flying envelope.

TO DELETE A MESSAGE

1. Highlight the name of the message to be deleted.

2. Click on the "X" (delete) icon on the tool bar.
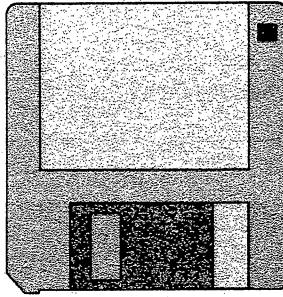
TO READ A MESSAGE:

1. Click on the "Inbox" folder. All the un-deleted messages will

    appear. Unread messages will appear in bold type.

2. Double-click on any message you want to read. The message will

    appear.

3. Close the message by clicking on the "X" at the top-right-hand

    corner.

TO REPLY TO A MESSAGE

1. Open a message to be read.

2. Click on the "Reply" icon on the tool bar.

3. Type the reply and send the message as usual.

Lesson Six

Utilizing the One-Computer Classroom

This lesson will provide each trainee activities that will enable each of their students to use a computer each day, no matter how few computers they might have in the classroom. It will also require teachers to generate lessons that can be delivered and enhanced by using a computer in the classroom.

Objectives:

‐۰ To generate strategic and creative ways to have each child on the computer each day.

‐۰ To share ways that teachers utilize their computers to help their students.

Time Allotment:

1 hour

Preparation Activity:

1. Review previous lesson.

2. Use a laser disk, video tape or visit a teacher who uses technology to teach. Have trainees discuss how the lesson was enhanced by the use of technology.

Presentation Activity:

Brainstorm on various ways of using one computer in the classroom as teachers are grouped according to subject and grade.

Hands-On Activity:

Have each trainee discuss how they get their students on the computer (if they do) and share with the others. Trainees should take notes on the different ideas.

Assessment:

Have the trainees divide into pairs and create a lesson that has students on the computer and can be utilized in the classroom. Have each pair share what they created.

Lessons Seven - Ten

The remaining lessons will be ones that are designed around the needs of the survey. Staff development needs to be offered at all levels of literacy. Sample suggestion are outlined below:

Lesson 7: Minor Troubleshooting Techniques

This lesson will teach trainees minor troubleshooting techniques that can be done before having to call for services. These techniques will save time and money.

Lesson 8: Netscape and the Internet

This lesson will get trainees familiar with using Netscape and the Internet. It will also teach different ways to use the Internet educationally and list e-mail addresses of good educational resources.

Lesson 9: Hyper Studio, Part One

This lesson will get trainees familiar with the authoring software, HyperStudio. They will learn effective ways to use it in the classroom.

Lesson 10: Hyper Studio, Part Two

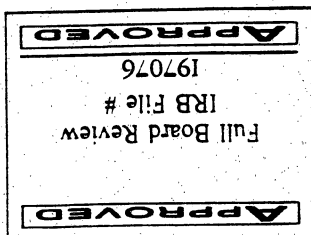This is a continuation of Hyper Studio.

APPENDIX C: IRB APPROVAL LETTER

CALIFORNIA STATE UNIVERSITY
SAN BERNARDINO

May 20, 1997

Susan A. Young
c/o Dr. Rowena Santiago
California State University
5500 University Parkway
San Bernardino, California 92407

Dear Ms. Young:

Your application to use human subjects in research has been reviewed by the Institutional Review Board (IRB). Your application has been approved. Please notify the IRB if any substantive changes are made in your research prospectus and/or any unanticipated risks to subjects arise.

Your informed consent statement should contain a statement that reads, "This research has been reviewed and approved by the Institutional Review Board of California State University, San Bernardino."

If your project lasts longer than one year, you must reapply for approval at the end of each year. You are required to keep copies of the informed consent forms and data for at least three years.

If you have any questions regarding the IRB decision, please contact Lynn Douglass, IRB Secretary. Ms. Douglass can be reached by phone at (909) 880-5027, by fax at (909) 880-7028, or by email at ldouglas@wiley.csusb.edu. Please include your application identification number (above) in all correspondence.

Best of luck with your research.

Sincerely,

Joseph Lovett, Chair
Institutional Review Board

JL/ld

cc: Rowena Santiago, Science, Mathematics and Technology Education

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