The Feasibility of Developing a Program of Computer-Assisted Instruction in Nevada's Public Schools

Legislative Counsel Bureau

Bulletin No. 93-2

September 1992

THE FEASIBILITY OF DEVELOPING A PROGRAM OF COMPUTER-ASSISTED INSTRUCTION IN NEVADA'S PUBLIC SCHOOLS

Bulletin No. 93-2

September 1992

TABLE OF CONTENTS

SUMMARY OF RECOMMENDATIONS

The Legislative Commission's Subcommittee to Study the Feasibility of Developing a Program of Computer-Assisted Instruction for Pupils in Kindergarten and Grades 1 Through 12, Inclusive, recommends that the 1993 Session of the Nevada Legislature:

1. **Require the State Board of Education to develop and implement a statewide educational technology plan. Create a Technology Advisory Board and corresponding Educational Technology Coordinator in the State Department of Education to assist the board in the development and implementation of the plan.** (BDR 34-333)

2. **Establish a Legislative Committee on Education to provide an ongoing review of all aspects of Nevada's public school system, including the integration of technology into the curriculum.** (BDR 34-332)

REPORT TO THE 67TH SESSION OF THE NEVADA LEGISLATURE BY THE LEGISLATIVE COMMISSION'S SUBCOMMITTEE TO STUDY THE FEASIBILITY OF DEVELOPING A PROGRAM OF COMPUTER-ASSISTED INSTRUCTION FOR PUPILS IN KINDERGARTEN AND GRADES 1 THROUGH 12, INCLUSIVE

I. INTRODUCTION

The 66th Session of the Nevada Legislature adopted Senate Concurrent Resolution No. 43 (File No. 188, *Statutes of Nevada 1991*, pages 2648-2649; Appendix A) which directed the Legislative Commission to conduct an interim study of the feasibility of developing a program of computer-assisted instruction for students in Nevada's public schools. The resolution also directed the study to include an examination of the feasibility of private industry sharing in the cost of establishing such a program.

A. SUBCOMMITTEE MEMBERS

The Legislative Commission appointed a subcommittee consisting of the following legislators:

Senator Raymond D. Rawson, Chairman
Assemblyman Wendell P. Williams, Vice Chairman
Senator Ernest E. Adler
Senator Stephanie Tyler
Assemblyman Mike McGinness
Assemblyman Bernard Anderson
Assemblyman Douglas A. Bache

The resolution also specified that the subcommittee include the State Superintendent of Public Instruction, Dr. Eugene T. Paslov, as a member.

B. SUPPORT STAFF

Support for the subcommittee was provided by the following Legislative Counsel Bureau staff members:

Dana R. Bennett, Primary Staff (Research Division)
Timothy M. Chandler, Legal Counsel (Legal Division)
Gloria Johnson, Secretary (Research Division)

C. HEARINGS AND RECOMMENDATIONS

The subcommittee met four times, twice in Carson City and twice in Las Vegas, Nevada. Although these cities alternated in providing the primary location for the hearings, the subcommittee actually met in both cities simultaneously via the Legislature's new video teleconferencing system. By using this system, the subcommittee enjoyed two important benefits: minimum travel costs and a direct experience with technology.

As a result of its hearings, the subcommittee adopted two recommendations. This document outlines the subcommittee's activities and recommendations.

II. DISCUSSION OF SUBCOMMITTEE ACTIVITIES

The subcommittee began its study with a discussion of the current state of education in Nevada and the Nation. Statistics were presented which concerned high school dropouts, standardized test results, and literacy rates. The chairman suggested that the integration of computers and other technology into the curricula could be a positive and powerful enhancement of Nevada's educational system. He noted that technology has become an intimate part of people's daily lives, both at work and at home. By including computers in school, Nevada's students will be better prepared to live and work in a technologically-rich society.

Over the course of the study, the subcommittee received numerous reports on various aspects of computer-assisted instruction. Witnesses included computer experts, education specialists, business representatives and other interested persons. Many of the presentations to the subcommittee provided vivid demonstrations of the unlimited capabilities of computers to assist teachers in educating children of all ages and abilities.

A variety of specific illustrations of the use of technology in education were presented to the members. These examples ranged from the display of computer-enhanced reports from elementary school children, to the use of computers for communication between schools and students' homes to the advantages of networking classrooms with major libraries and research centers around the Country. Following are more detailed summaries of the information provided to the subcommittee during this study.

A. COMPUTER EXPERTS

Representatives from Wicat Systems, a software development company, gave the subcommittee members their first look at some of the computer programs being used in various classrooms throughout the Nation. Discussion ensued about the integration of technology into schools in other states. One of the witnesses explained that a benefit of computer-assisted instruction is that it assists a teacher in adapting the curriculum to meet each student's individual needs.

The subcommittee also heard from the major computer vendors for Nevada's schools: International Business Machines (IBM) and Apple Computer, Inc. These companies provided detailed information concerning the benefits of the daily use of technology in the classroom. Through the use of video, computer-enhanced overheads and computer workstations, the subcommittee saw striking and exciting demonstrations of some of the ways technology can be used to teach diverse subjects and grade levels.

The companies also provided information about the methods other states have used to develop educational technology plans. States that have completed such plans include California, Hawaii, Idaho, Nebraska, North Carolina, Oregon and Utah. It was noted that an educational technology plan should not name certain hardware, software or vendors because of rapid, ongoing changes in the computer industry. A plan that is too specific could be rendered obsolete before it is completed.

B. EDUCATION SPECIALISTS

The subcommittee received reports from representatives of Nevada's local school districts, State Department of Education, University System and an educational research organization as well as teachers who are currently using technology in their classrooms.

Department and District Personnel

Dr. Paslov presented the results of a subcommittee-requested survey concerning the current use of computers in Nevada's schools. The survey is attached as Appendix B to this report.

Most of the schools in Nevada reported the use of some computers, many of which are outdated and do not have sufficient memory to run the available software. The

current ratio of pupils to computers in Nevada's public schools is approximately 14 to 1. However, the majority of the machines are in laboratories where students are exposed to computers less than 1 hour per week. Therefore, the ratio of students to computers used primarily for instruction is about 42 to 1. Additionally, all of the schools reported that their teachers have received some instruction on the use of computers, but noted that the quality of the training is uneven and not always related to specific classroom instruction.

Both Clark and Washoe County School Districts provided overviews of the use of technology in their schools. Although many Clark and Washoe County schools are already extensive users of computers and other technology, district representatives indicated that improvements in hardware and software are needed. In particular, the districts noted that the key to effectively using technology in the classroom is to provide new and continuing teachers with thorough and timely training.

University Training

Representatives from the Colleges of Education at the University of Nevada, Las Vegas, and the University of Nevada, Reno, provided an overview of the training provided to prospective and current teachers in the uses of technology in the classroom. The universities have determined that computer technology should not be isolated from the rest of the curriculum but should be viewed as one of many educational tools used for accessing and transmitting information. Additionally, they have found that, by utilizing appropriate software, educational technology can facilitate learning, making it more efficient, relevant and interesting. The professors indicated that technology classes are currently part of the required curriculum for students majoring in education.

Educational Research Organization

Far West Laboratory, Inc., of San Francisco, California, presented some of the conclusions the organization has reached based on its extensive research in this topic. Specifically, Far West has determined that technology in education improves students' attitudes, self-confidence and performances on specific tasks. Additionally, teachers become less directive and more supportive as well as more involved in planning with colleagues.

The organization has also concluded that certain factors contribute to a successful technology plan. These include:

- Involving teachers and administrators in evaluating technology options, conducting long-term followup, and participating in decisionmaking about the use of technology within the classroom;

- Building technology use into the existing curriculum and program review;

- Allowing local businesses to participate in establishing an educational technology program;

- Providing State oversight of plan implementation and incentives for the development and validation of emerging technology;

- Identifying and disseminating new programs and practices; and

- Continually evaluating the plan and its programs, the results of which are reported to decisionmakers on a regular basis.

Teachers Using Technology

Representatives of the "Computer Using Educators of Southern Nevada," consisting of around 400 teachers, provided information about their use of technology in daily instruction. Graphic demonstrations showed the subcommittee that even young elementary students can use computers and other technology to produce high-quality reports and products.

C. BUSINESS REPRESENTATIVES

Several businesses expressed support for the concept of computer-assisted instruction. Representatives from some of Nevada's largest employers, including St. Mary's Regional Medical Center, Sierra Pacific Power Company, Washoe Health Systems, and Humana Hospital Sunrise, discussed the problems they encounter with new employees who are not familiar with technology. These businesses indicated an interest in working with the State and local school districts to increase and improve the use of computers in classrooms.

In particular, the Humana representative noted that employers are interested in assisting with funding computer-assisted instruction in return for representation in the

planning process to ensure that Nevada students gain computer skills which are applicable to the workplace. Private businesses also encouraged the creation of an equitable educational technology program that includes Nevada's rural schools as well as the urban ones.

III. DISCUSSION OF RECOMMENDATIONS

Based on the information presented during the study, the Subcommittee to Study Computer-Assisted Instruction determined that computers and other technology are valuable instructive equipment, like a textbook or other tools, in almost any subject and at practically every grade level. The subcommittee members also agreed that the use of computers in Nevada's public schools should not be limited to the typical computer class that teaches data input and programming. They concluded that technology should be integrated into existing course work and serve as the focal point in the creation of new curricula.

A. STATEWIDE EDUCATIONAL TECHNOLOGY PLAN

Therefore, the subcommittee recommends that the 1993 Session of the Nevada Legislature:

1. **Require the State Board of Education to develop and implement a statewide educational technology plan. Create a Technology Advisory Board and corresponding Educational Technology Coordinator in the State Department of Education to assist the board in the development and implementation of the plan.** (BDR 34-333)

The subcommittee concluded that an educational technology program in Nevada could be implemented in two phases.

Phase I

The first phase of the program would begin with the passage of the subcommittee's suggested legislation. This bill requires that a statewide educational technology plan be written and finalized within the first year of the biennium.

The centerpiece of the measure is the creation of a Technical Advisory Board. This uncompensated group would be responsible for working out the details of the educational technology plan and overseeing its implementation. Assisted by a Technology Coordinator in the State Department of Education, the board would be responsible for activities including, but not limited to:

- Conducting annual surveys of existing and needed technology equipment in each school;

- Suggesting and demonstrating specific uses of technology by teachers and other school personnel;

- Directing the establishment of specific model programs;

- Overseeing the long-range implementation of educational technology throughout Nevada's public school system; and

- Providing recommendations to the State Board of Education and the Legislature, when appropriate, of policy and funding support needed to ensure the continued success of Nevada's educational technology plan.

The subcommittee also determined that certain elements should be included in the board's development of a statewide educational technology plan. Some of these factors include:

- Recognizing the individuality of the various schools and school districts and encouraging them to adopt a technology program, within the parameters of the State's plan, that will meet their specific needs;

- Integrating and building on existing equipment and programs;

- Advocating a strong staff development program;

- Setting a goal ratio of one computer per five students;

- Addressing the concept of distance learning and interfacing school computers with libraries and other information sources;

- Encouraging active business/school partnerships and other involvement by the business community in the integration of education technology in Nevada's schools; and

- Establishing an accountability program that demonstrates the effectiveness and results of educational technology.

Additionally, the subcommittee agreed that one of the primary functions of the board during Phase I would be the development of recommendations to the 1995 Legislature to continue the program. In particular, the subcommittee

expects the board to determine the amount of money needed to fully implement the educational technology plan throughout the State and a consistent source of revenue for these funds.

Finally, the subcommittee stated that the plan must be approved by the Nevada Legislature's Interim Finance Committee before implementation may begin.

The implementation of the plan would commence with the second year of Phase I (which would be the second year of the biennium). Using some of the money appropriated in the enabling legislation, grants would be provided by the board to individual schools, based on a competitive program, to purchase equipment and software. Those schools or districts awarded grants would be expected to provide some matching funds. Most likely, the first schools to receive grants would be those that already have some type of technology program in place.

Additionally, staff development programs would be fully operational during this second year of Phase I. An important factor in these programs would be the creation of a model classroom at each College of Education in the University of Nevada System. These two classrooms would serve as the major tool in educating current and future teachers about the use of technology in daily instruction.

An outline of the funding needs for Phase I is provided in Appendix C.

Phase II

The subcommittee envisions that Phase II of the plan would begin with the 1995 Nevada Legislature. At that session, it is hoped that significant funding will be provided to aggressively implement the educational technology plan in all of the State's schools. The subcommittee expects that the Technical Advisory Board will work diligently to ensure the continuance of this report's recommendations at the 1995 and subsequent sessions of the Nevada Legislature. Phase II is expected to encompass the remaining years of the Twentieth Century. Thus, all of Nevada's schools would have a strong educational technology program firmly in place by the year 2000.

B. LEGISLATIVE COMMITTEE ON EDUCATION

Although the subcommittee agreed that the Legislature should not dictate every aspect of the technology plan and its

implementation, the members deemed it important to provide a mechanism for legislative overview of this program. Discussion ensued about the Legislature's involvement in other educational issues and the large percentage of the State's budget that is allocated to education.

Therefore, the subcommittee recommends that the 1993 Session of the Nevada Legislature:

2. **Establish a Legislative Committee on Education to provide an ongoing review of all aspects of Nevada's public school system, including the integration of technology into the curriculum.** (BDR 34-332)

IV. CONCLUDING REMARKS

This report presents a summary of the deliberations of the Legislative Commission's Subcommittee to Study the Feasibility of Developing a Program of Computer-Assisted Instruction for Pupils in Kindergarten and Grades 1 through 12, inclusive. The subcommittee determined that the development of such a program is feasible and imperative.

Over the past few years, computers and technology have become intimate parts of the daily lives of Americans, both at work and at home. Obviously, these advances in technology are certain to continue. Consequently, Nevada's schools must produce students who are equipped to live and work in a technologically-advanced world. Establishing a well-planned and effective educational technology program statewide is an important step in preparing Nevada's children for the future.

The members of the subcommittee take this opportunity to thank all of the individuals and organizations who participated in the study's hearings. A special note of appreciation goes to Apple Computer, Inc., IBM, Wicat Systems and the Computer Using Educators of Southern Nevada. Each entity provided superb demonstrations of the power of technology in education. The subcommittee's meetings were immeasurably enhanced by the valuable assistance provided by all of the talented people who willingly contributed their expertise in oral and written testimony.

V. APPENDICES

APPENDIX A

Senate Concurrent Resolution No. 43
(File No. 188, *Statutes of Nevada*, 1991)

Senate Concurrent Resolution No. 43—Senators Rawson, Hickey and Coffin

FILE NUMBER 188

SENATE CONCURRENT RESOLUTION—Directing the Legislative Commission to conduct a study on the feasibility of developing a program of computer-assisted instruction for pupils in kindergarten and grades 1 through 12, inclusive.

WHEREAS, There is tremendous daily use and reliance on computer skills in the work force by all occupational groups in the State of Nevada; and

WHEREAS, It is commonly required by employers as a condition of employment that an applicant possess basic computer skills; and

WHEREAS, It is advantageous to both our youth and to private industry as future employers to develop these basic computer skills at an early age; and

WHEREAS, The use of computer-assisted instruction provides educational opportunities not otherwise available to the youth of this state; now, therefore, be it

RESOLVED BY THE SENATE OF THE STATE OF NEVADA, THE ASSEMBLY CONCURRING, That the Legislative Commission is hereby directed to appoint a committee to conduct a comprehensive study of the feasibility of developing a program of computer-assisted instruction for pupils attending kindergarten and grades 1 through 12, inclusive; and be it further

RESOLVED, That the study include an examination of the feasibility of private industry sharing in the cost of developing and establishing such a program; and be it further

RESOLVED, That the Legislative Commission is hereby directed to appoint the superintendent of public instruction as a member of the committee to conduct the study; and be it further

RESOLVED, That the results of the study and any recommended legislation be reported to the 67th session of the Nevada Legislature.

19 91

APPENDIX B

"Survey Of Computers Currently In Use In Nevada Schools," January 1992

LEGISLATIVE COMMISSION'S SUBCOMMITTEE TO STUDY THE
FEASIBILITY OF DEVELOPING A PROGRAM OF COMPUTER-ASSISTED
INSTRUCTION FOR PUPILS IN KINDERGARTEN AND
GRADES 1 THROUGH 12, INCLUSIVE
S.C.R. 43

PRELIMINARY REPORT

SURVEY OF COMPUTERS CURRENTLY IN USE IN NEVADA SCHOOLS

January 1992

Prepared by
The Nevada Department of Education

Eugene T. Paslov
Superintendent of Public Instruction

LEGISLATIVE COMMISSION'S SUBCOMMITTEE TO STUDY THE FEASIBILITY OF DEVELOPING A PROGRAM OF COMPUTER-ASSISTED INSTRUCTION FOR PUPILS IN KINDERGARTEN AND GRADES 1 THROUGH 12, INCLUSIVE

S.C.R. 43

COMMITTEE MEMBERS:

Senator Raymond D. Rawson, Chairman
Assemblyman Wendell P. Williams, Vice-Chairman
Senator Ernest E. Adler
Senator Stephanie S. Tyler
Assemblyman Bernie Anderson
Assemblyman Douglas A. Bache
Assemblyman Mike McGinness
Eugene T. Paslov, Superintendent of Public Instruction

SURVEY OF COMPUTERS CURRENTLY IN USE IN NEVADA SCHOOLS

January 1992

At the request of the Legislative Commission's Subcommittee to Study the Feasibility of Developing a Program of Computer-Assisted Instruction for Pupils in Kindergarten and Grades 1 through 12, Inclusive, S.C.R. 43, Nevada school districts were asked to survey their schools to determine the number and types of computers in the following categories:

Number of computers assigned to computer labs.

Number of computers assigned to classrooms used primarily for instruction .

Number of computers used primarily for administrative/management functions.

Number of computers in teacher workstations for lesson plans, grading, etc.

Number of computers used for routine drill/practice/ remedial work.

Number of computers used as an integrated problem solving tool that is part of classroom teachers regular lesson plans.

In addition, districts were also asked to gather information on the number of the following peripheral devices used as part of computer assisted instruction:

Dot Matrix and letter quality printers
Laser printers
File servers
Tape back up systems
Networked labs
Video disk players
CD ROMS
Modems
LCD displayers for computer and overhead projectors

Forms that were sent to individual schools were compiled by school districts onto a district summary form that was submitted to the Department of Education for compilation into a state summary report. On page 3, the information is presented as totals of the numbers taken directly from the forms submitted by the districts. Page 4 looks at the same information as percentages and provides some additional summary information. The individual district reports are also included with this report for reference.

With 98% of the schools covered by the report, it is possible to get a good idea as to how computers are being used in the state. However, in reviewing the information included in this report, it is important to keep in mind that there has not been a systematic process in place to gather this type of information on an ongoing basis. Although several districts had an opportunity to comment on the form before it was completed, it was the first time this form was used in the state. Therefore, there may not be consistency between schools and districts on how the data was reported. Some concerns reported by the districts regarding the process include:

The form did not ask for information on computers in libraries that are also used in the instructional process. Some schools included them on the form, others did not.

Many computers are used for more than one of the categories on the form during the course of the day but were only reported in one category. A good example is machines that are assigned to computer labs and reported in that category that may also be used at some time during the day for instruction in another curricular area.

The form does not distinguish well between the differences in the power of the machines nor does it take into account the age of the machines. Both of these factors do have an effect on the degree to which the machines are used in the instructional process.

Not all schools submitted their forms to the districts in time to be included in the district summary submitted for compilation into the state report. In some cases districts submitted estimates for the missing schools, in others the schools were left out of the report.

Some schools did not report machines in their schools that were not purchased with school district funds.

There was some question about including computers in the district office that were also used by teachers for classroom related activities.

Almost 96% of the schools reported teachers and other users as having had some inservice training on the computer. There were some questions as to what constituted "training" which ranged from having a co-worker demonstrate how to get started to attending specific workshops.

CONCLUSIONS

The survey report herein presented provides the reader with excellent baseline information regarding the current status of computers in Nevada schools.

- Virtually all schools report using some computers. However, many of the machines were old and outdated and do not have sufficient memory for software currently available to the schools.

- Virtually all schools report teachers receiving training of some sort on the use of computers, however, the quality of the training is uneven and not always related to specific classroom instructions.

- The ratio of pupils to computers is 14.4 to one, however 63.8% of machines are in laboratories wherein students are exposed to computers less than one (1) hour per week. The ratio of students to computers used primarily for instruction is 42.2 to one or 34.2%.

This survey should be administered on an annual basis, modified to address the concerns raised by school district officials.

NEVADA SCHOOL COMPUTER USE SURVEY
STATE SUMMARY

	Apple IIe	Apple IIgs	Mac +, SE's, Classics	Mac LC	Mac II's, (si,x, cx)	IBM	IBM Clones	Tandy	Commodore	Amiga	Other	Total computers in use
Number of computers assigned to computer lab.	3,240	2,549	527	420	328	1,356	667	206	90		215	9,598
Number of computers used primarily for instruction (assigned to classrooms, not in computer labs).	2,654	497	145	289	45	525	269	85	113	19	357	4,998
Number of computers used primarily for administrative/management functions.	168	65	166	64	53	765	375	28			77	1,761
Number of computers in teacher work-stations (A place open to all teachers to access computer for lesson plans, grading, etc.).	280	115	22	34	13	82	45	9			16	616
Total computers in use in the district.	6,342	3,226	860	807	439	2,728	1,356	328	203	19	665	16,973
Number of computers used for routine drill/practice/ remedial work.	4,347	943	263	302	179	827	658	232	44	9	416	8,220
Number of computers used as an integrated problem solving tool that is part of teachers regular lesson plans.	4,050	941	413	349	220	933	702	184	108	14	389	8,303

Number of:

Dot Matrix and Letter Quality Printers	Laser Printers	File Servers	Tape back up Systems	Networked Labs	Video disk Players	CD ROMS	Modems	LCD displayers for computer & Overhead Proj.
5,341	252	174	87	163	109	185	333	253

Number of schools 350 Number of schools reporting 344 Number of students 210,731

Number of schools reporting teachers and other users received inservice training 328

NEVADA SCHOOL COMPUTER USE SURVEY
STATE SUMMARY - PERCENTAGES

	Apple IIe	Apple IIgs	Mac +, SE's, Classics	Mac LC	Mac II's, (si,x, cx)	IBM	IBM Clones	Tandy	Comm-odore	Amiga	Other	Total computers in use
Number of computers assigned to computer lab.	19.1%	15.0%	3.1%	2.5%	1.9%	8.0%	3.9%	1.2%	0.5%		1.3%	56.5%
Number of computers used primarily for instruction (assigned to classrooms, not in computer labs).	15.6%	2.9%	0.9%	1.7%	0.3%	3.1%	1.6%	0.5%	0.7%	0.1%	2.1%	29.4%
Number of computers used primarily for administrative/management functions.	1.0%	0.4%	1.0%	0.4%	0.3%	4.5%	2.2%	0.2%			0.5%	10.4%
Number of computers in teacher work-stations (A place open to all teachers to access computer for lesson plans, grading, etc.).	1.6%	0.7%	0.1%	0.2%	0.1%	0.5%	0.3%	0.1%			0.1%	3.6%
Total computers in use in the district.	37.4%	19.0%	5.1%	4.8%	2.6%	16.1%	8.0%	1.9%	1.2%	0.1%	3.9%	100.0%
Number of computers used for routine drill/practice/ remedial work.	25.6%	5.6%	1.5%	1.8%	1.1%	4.9%	3.9%	1.4%	0.3%	0.1%	2.5%	48.4%
Number of computers used as an integrated problem solving tool that is part of teachers regular lesson plans.	23.9%	5.5%	2.4%	2.1%	1.3%	5.5%	4.1%	1.1%	0.6%	0.1%	2.3%	48.9%

Number of schools:	350	
Number of schools reporting:	344	98.3%
Number of schools reporting teachers and other users received inservice training:	328	95.3%
Number of students:	210,731	
Number of computers assigned to labs and for instruction:	14,596	
Ratio of students per computers assigned to labs and for instruction:	14.4	
Number of computers assigned primarily for instruction:	4,998	34.2%
Ratio of students per computers assigned primarily for instruction:	42.2	

SURVEY OF COMPUTERS CURRENTLY IN USE IN NEVADA SCHOOLS

January 1992

INDIVIDUAL DISTRICT SUMMARY REPORTS

DISTRICT COMPUTER USE SURVEY SUMMARY

District: CARSON CITY Number of students 6,446 Person filling out survey Diane Rhea, Technology Coordinator

	Apple IIe	Apple IIgs	Mac +, SE's, Classics	Mac LC	Mac II's, (si,x, cx)	IBM	IBM Clones	Tandy	Comm-odore	Amiga	Other	Total computers in use
Number of computers assigned to computer lab.	106	7	18	1		1					10	143
Number of computers used primarily for instruction (assigned to classrooms, not in computer labs).	142	91	3	8		11	1		4		25	285
Number of computers used primarily for administrative/management functions.	9	14	20	4		5	2				7	61
Number of computers in teacher work-stations (A place open to all teachers to access computer for lesson plans, grading, etc.).	2	6									1	9
Total computers in use in the district.	259	118	41	13		17	3		4		43	498
Number of computers used for routine drill/practice/ remedial work.	131	66							4		15	216
Number of computers used as an integrated problem solving tool that is part of teachers regular lesson plans.	106	30	1	5							4	146

Number of:

Dot Matrix and Letter Quality Printers	Laser Printers	File Servers	Tape back up Systems	Network-ed Labs	Video disk Players	CD ROMS	Modems	LCD displayers for computer & Overhead Proj.
225	13	2	1	2	1		5	5

Number of schools 10 Number of schools reporting 10

Number of schools reporting teachers and other users received training 10

Ratio of students per computers assigned to labs and for instruction 15.1

Ratio of students per computers assigned primarily for instruction 22.6

DISTRICT COMPUTER USE SURVEY SUMMARY

District: CHURCHILL COUNTY Number of students 3,634 Person filling out survey Jane Scheible, Administrative Secretary

	Apple IIe	Apple IIgs	Mac +, SE's, Classics	Mac LC	Mac II's, (si,x, cx)	IBM	IBM Clones	Tandy	Comm-odore	Amiga	Other	Total computers in use
Number of computers assigned to computer lab.	29					127	32					188
Number of computers used primarily for instruction (assigned to classrooms, not in computer labs).	39	13				16	26		10		7	111
Number of computers used primarily for administrative/management functions.	5	1	2		1	8	12	6			2	37
Number of computers in teacher work-stations (A place open to all teachers to access computer for lesson plans, grading, etc.).	2	2		2		1	1				2	10
Total computers in use in the district.	75	16	2	2	1	152	71	6	10		11	346
Number of computers used for routine drill/practice/ remedial work.	31	5				67			4		3	110
Number of computers used as an integrated problem solving tool that is part of teachers regular lesson plans.	31	2				38	8		6		1	86

Number of:

Dot Matrix and Letter Quality Printers	Laser Printers	File Servers	Tape back up Systems	Networked Labs	Video disk Players	CD ROMS	Modems	LCD displayers for computer & Overhead Proj.
94	3	5	3	8		2	1	5

Number of schools 6 Number of schools reporting 6

Number of schools reporting teachers and other users received training 6

Ratio of students per computers assigned to labs and for instruction 12.2

Ratio of students per computers assigned primarily for instruction 32.7

DISTRICT COMPUTER USE SURVEY SUMMARY

District: CLARK COUNTY Number of students 128,705 Person filling out survey CCSD Micro Computer Center: Ray Mitchell

	Apple IIe	Apple IIgs	Mac +, SE's, Classics	Mac LC	Mac II's, (si,x, cx)	IBM	IBM Clones	Tandy	Comm-odore	Amiga	Other	Total computers in use
Number of computers assigned to computer lab.	1,621	570	394	402	325	999	16	2	73		67	4,469
Number of computers used primarily for instruction (assigned to classrooms, not in computer labs).	1,359	236	61	251	38	376	35	2	34	5	52	2,449
Number of computers used primarily for administrative/management functions.	74	15	77	54	50	654	104	1			38	1,067
Number of computers in teacher work-stations (A place open to all teachers to access computer for lesson plans, grading, etc.).	192	94	14	29	13	61	4				2	409
Total computers in use in the district.	3,246	915	546	736	426	2,090	159	5	107	5	159	8,394
Number of computers used for routine drill/practice/ remedial work.	2,429	521	117	276	173	505	19		11		42	4,093
Number of computers used as an integrated problem solving tool that is part of teachers regular lesson plans.	2,293	565	242	322	216	685	34	2	92	5	63	4,519

Number of:

Dot Matrix and Letter Quality Printers	Laser Printers	File Servers	Tape back up Systems	Network-ed Labs	Video disk Players	CD ROMS	Modems	LCD displayers for computer & Overhead Proj.
2,743	184	127	69	113	85	116	280	213

Number of schools 169 Number of schools reporting 169

Number of schools reporting teachers and other users received training 169

Ratio of students per computers assigned to labs and for instruction 18.6

Ratio of students per computers assigned primarily for instruction 52.6

DISTRICT COMPUTER USE SURVEY SUMMARY

District: DOUGLAS COUNTY Number of students 5,828 Person filling out survey Judi Waite

	Apple IIe	Apple IIgs	Mac +, SE's, Classics	Mac LC	Mac II's, (si,x, cx)	IBM	IBM Clones	Tandy	Comm-odore	Amiga	Other	Total computers in use
Number of computers assigned to computer lab.	125		5	2			25					157
Number of computers used primarily for instruction (assigned to classrooms, not in computer labs).	202	2	5	2		1	1					213
Number of computers used primarily for administrative/management functions.	14		2			5	34					55
Number of computers in teacher work-stations (A place open to all teachers to access computer for lesson plans, grading, etc.).	14					3	8					25
Total computers in use in the district.	355	2	12	4		9	68					450
Number of computers used for routine drill/practice/ remedial work.	158		1									159
Number of computers used as an integrated problem solving tool that is part of teachers regular lesson plans.	173		10	1		1	24					209

Number of:

Dot Matrix and Letter Quality Printers	Laser Printers	File Servers	Tape back up Systems	Network-ed Labs	Video disk Players	CD ROMS	Modems	LCD displayers for computer & Overhead Proj.
256	8	9	4		3	2	3	2

Number of schools 9 Number of schools reporting 9

Number of schools reporting teachers and other users received training 9

Ratio of students per computers assigned to labs and for instruction 15.8

Ratio of students per computers assigned primarily for instruction 27.4

DISTRICT COMPUTER USE SURVEY SUMMARY

District: ELKO COUNTY Number of students 8,271 Person filling out survey Dr. Gretchen Greiner

	Apple IIe	Apple IIgs	Mac +, SE's, Classics	Mac LC	Mac II's, (si,x, cx)	IBM	IBM Clones	Tandy	Comm-odore	Amiga	Other	Total computers in use
Number of computers assigned to computer lab.	132	9				1	16					158
Number of computers used primarily for instruction (assigned to classrooms, not in computer labs).	192	7		16		5	18	1			16	255
Number of computers used primarily for administrative/management functions.	27	4		5			35					71
Number of computers in teacher work-stations (A place open to all teachers to access computer for lesson plans, grading, etc.).							2					2
Total computers in use in the district.	351	20		21		6	71	1			16	486
Number of computers used for routine drill/practice/ remedial work.	47			10								57
Number of computers used as an integrated problem solving tool that is part of teachers regular lesson plans.	2						3					5

Number of:

Dot Matrix and Letter Quality Printers	Laser Printers	File Servers	Tape back up Systems	Network-ed Labs	Video disk Players	CD ROMS	Modems	LCD displayers for computer & Overhead Proj.
338				7	2	17	8	2

Number of schools 14 Number of schools reporting 14

Number of schools reporting teachers and other users received training 14

Ratio of students per computers assigned to labs and for instruction 20.0

Ratio of students per computers assigned primarily for instruction 32.4

DISTRICT COMPUTER USE SURVEY SUMMARY

District: ESMERALDA COUNTY Number of students 156 Person filling out survey Harold Tokerud, Superintendent

	Apple IIe	Apple IIgs	Mac +, SE's, Classics	Mac LC	Mac II's, (si,x, cx)	IBM	IBM Clones	Tandy	Comm-odore	Amiga	Other	Total computers in use
Number of computers assigned to computer lab.	8	1										9
Number of computers used primarily for instruction (assigned to classrooms, not in computer labs).	17	6										23
Number of computers used primarily for administrative/management functions.	2	1										3
Number of computers in teacher work-stations (A place open to all teachers to access computer for lesson plans, grading, etc.).												
Total computers in use in the district.	27	8										35
Number of computers used for routine drill/practice/ remedial work.	11	1										12
Number of computers used as an integrated problem solving tool that is part of teachers regular lesson plans.	6	2										6

Number of:

Dot Matrix and Letter Quality Printers	Laser Printers	File Servers	Tape back up Systems	Network-ed Labs	Video disk Players	CD ROMS	Modems	LCD displayers for computer & Overhead Proj.
9								

Number of schools 3 Number of schools reporting 3

Number of schools reporting teachers and other users received training 1

Ratio of students per computers assigned to labs and for instruction 4.9

Ratio of students per computers assigned primarily for instruction 6.8

DISTRICT COMPUTER USE SURVEY SUMMARY

District: EUREKA COUNTY Number of students 128 Person filling out survey Eureka High School

	Apple IIe	Apple IIgs	Mac +, SE's, Classics	Mac LC	Mac II's, (si,x, cx)	IBM	IBM Clones	Tandy	Comm-odore	Amiga	Other	Total computers in use
Number of computers assigned to computer lab.	1					20						21
Number of computers used primarily for instruction (assigned to classrooms, not in computer labs).	16					7						23
Number of computers used primarily for administrative/management functions.						2	1					3
Number of computers in teacher work-stations (A place open to all teachers to access computer for lesson plans, grading, etc.).	16					7						23
Total computers in use in the district.	33					36	1					70
Number of computers used for routine drill/practice/ remedial work.	1					20						21
Number of computers used as an integrated problem solving tool that is part of teachers regular lesson plans.	7											7

Number of:

Dot Matrix and Letter Quality Printers	Laser Printers	File Servers	Tape back up Systems	Network-ed Labs	Video disk Players	CD ROMS	Modems	LCD displayers for computer & Overhead Proj.
25		1		7		2		

Number of schools 3 Number of schools reporting 1
Number of schools reporting teachers and other users received training 1
Ratio of students per computers assigned to labs and for instruction 2.9
Ratio of students per computers assigned primarily for instruction 5.6

DISTRICT COMPUTER USE SURVEY SUMMARY

District: HUMBOLDT COUNTY Number of students 2,952 Person filling out survey Joe deArrieta, Asst. Supt.

	Apple IIe	Apple IIgs	Mac +, SE's, Classics	Mac LC	Mac II's, (si,x, cx)	IBM	IBM Clones	Tandy	Comm-odore	Amiga	Other	Total computers in use
Number of computers assigned to computer lab.	43	16	6			25	1	5			2	98
Number of computers used primarily for instruction (assigned to classrooms, not in computer labs).	22	9	1				1				9	42
Number of computers used primarily for administrative/management functions.						4	7					11
Number of computers in teacher work-stations (A place open to all teachers to access computer for lesson plans, grading, etc.).						1						1
Total computers in use in the district.	65	25	7			30	9	5			11	152
Number of computers used for routine drill/practice/ remedial work.	30	8	1			25		5			10	79
Number of computers used as an integrated problem solving tool that is part of teachers regular lesson plans.	26		1				1				4	32

Number of:

Dot Matrix and Letter Quality Printers	Laser Printers	File Servers	Tape back up Systems	Network-ed Labs	Video disk Players	CD ROMS	Modems	LCD displayers for computer & Overhead Proj.
33	2	1	1	1		2	1	1

Number of schools 6 Number of schools reporting 6

Number of schools reporting teachers and other users received training

Ratio of students per computers assigned to labs and for instruction 21.1

Ratio of students per computers assigned primarily for instruction 70.3

DISTRICT COMPUTER USE SURVEY SUMMARY

District: LANDER COUNTY Number of students 1,523 Person filling out survey Diana Smith

	Apple IIe	Apple IIgs	Mac +, SE's, Classics	Mac LC	Mac II's, (si,x, cx)	IBM	IBM Clones	Tandy	Comm-odore	Amiga	Other	Total computers in use
Number of computers assigned to computer lab.	27					1	27					55
Number of computers used primarily for instruction (assigned to classrooms, not in computer labs).	43	6					11		29	5	7	101
Number of computers used primarily for administrative/management functions.	4	3	4		1	3	4				4	23
Number of computers in teacher work-stations (A place open to all teachers to access computer for lesson plans, grading, etc.).	26						1					27
Total computers in use in the district.	100	9	4		1	4	43		29	5	11	206
Number of computers used for routine drill/practice/ remedial work.	87	3	3				25				7	125
Number of computers used as an integrated problem solving tool that is part of teachers regular lesson plans.	10	1				1	31				3	46

Number of:

Dot Matrix and Letter Quality Printers	Laser Printers	File Servers	Tape back up Systems	Network-ed Labs	Video disk Players	CD ROMS	Modems	LCD displayers for computer & Overhead Proj.
62	2					1	2	

Number of schools 5 Number of schools reporting 5
Number of schools reporting teachers and other users received training 4
Ratio of students per computers assigned to labs and for instruction 9.8
Ratio of students per computers assigned primarily for instruction 15.1

DISTRICT COMPUTER USE SURVEY SUMMARY

District: LINCOLN COUNTY Number of students 1,060 Person filling out survey Berl A. Gordon

	Apple IIe	Apple IIgs	Mac +, SE's, Classics	Mac LC	Mac II's, (si,x, cx)	IBM	IBM Clones	Tandy	Comm-odore	Amiga	Other	Total computers in use
Number of computers assigned to computer lab.	3	18	6	2		17	19	27	17		2	111
Number of computers used primarily for instruction (assigned to classrooms, not in computer labs).	9	3	4	1		16	67	34	26		12	172
Number of computers used primarily for administrative/management functions.	2					5	16	1				24
Number of computers in teacher work-stations (A place open to all teachers to access computer for lesson plans, grading, etc.).	5		1			2	8	5				21
Total computers in use in the district.	19	21	11	3		40	110	67	43		14	328
Number of computers used for routine drill/practice/ remedial work.	8	21	1	1		9	20	28	15		4	107
Number of computers used as an integrated problem solving tool that is part of teachers regular lesson plans.	7	21	4	1		9	17	17				76

Number of:

Dot Matrix and Letter Quality Printers	Laser Printers	File Servers	Tape back up Systems	Networked Labs	Video disk Players	CD ROMS	Modems	LCD displayers for computer & Overhead Proj.
75	1		2			2	2	2

Number of schools 8 Number of schools reporting 8

Number of schools reporting teachers and other users received training 5

Ratio of students per computers assigned to labs and for instruction 3.7

Ratio of students per computers assigned primarily for instruction 6.2

DISTRICT COMPUTER USE SURVEY SUMMARY

District: LYON COUNTY Number of students 4,300 Person filling out survey John Snyder

	Apple IIe	Apple IIgs	Mac +, SE's, Classics	Mac LC	Mac II's, (si,x, cx)	IBM	IBM Clones	Tandy	Comm-odore	Amiga	Other	Total computers in use
Number of computers assigned to computer lab.	125	15	30	6	1	1	14				3	195
Number of computers used primarily for instruction (assigned to classrooms, not in computer labs).	99	12	30	1			5				6	153
Number of computers used primarily for administrative/management functions.	1		44				2				1	48
Number of computers in teacher work-stations (A place open to all teachers to access computer for lesson plans, grading, etc.).	3		6				7				2	18
Total computers in use in the district.	228	27	110	7	1	1	28				12	414
Number of computers used for routine drill/practice/ remedial work.	81	9	41	1	1						2	135
Number of computers used as an integrated problem solving tool that is part of teachers regular lesson plans.	113	17	52	6	1	1	10				5	205

Number of:

Dot Matrix and Letter Quality Printers	Laser Printers	File Servers	Tape back up Systems	Networked Labs	Video disk Players	CD ROMS	Modems	LCD displayers for computer & Overhead Proj.
182	13	6	1		2	1	3	5

Number of schools 12 Number of schools reporting 9

Number of schools reporting teachers and other users received training 9

Ratio of students per computers assigned to labs and for instruction 12.4

Ratio of students per computers assigned primarily for instruction 28.1

DISTRICT COMPUTER USE SURVEY SUMMARY

District: MINERAL COUNTY Number of students 1,113 Person filling out survey Dr. Ihsan Qureshi

	Apple IIe	Apple IIgs	Mac +, SE's, Classics	Mac LC	Mac II's, (si,x, cx)	IBM	IBM Clones	Tandy	Comm-odore	Amiga	Other	Total computers in use
Number of computers assigned to computer lab.	6	2				29	8				4	49
Number of computers used primarily for instruction (assigned to classrooms, not in computer labs).	20	2	1			11	2					36
Number of computers used primarily for administrative/management functions.						4	1					5
Number of computers in teacher work-stations (A place open to all teachers to access computer for lesson plans, grading, etc.).												
Total computers in use in the district.	26	4	1			44	11				4	90
Number of computers used for routine drill/practice/ remedial work.						3						3
Number of computers used as an integrated problem solving tool that is part of teachers regular lesson plans.												

Number of:

Dot Matrix and Letter Quality Printers	Laser Printers	File Servers	Tape back up Systems	Network-ed Labs	Video disk Players	CD ROMS	Modems	LCD displayers for computer & Overhead Proj.
30	1					4		

Number of schools 4 Number of schools reporting 3

Number of schools reporting teachers and other users received training 3

Ratio of students per computers assigned to labs and for instruction 13.1

Ratio of students per computers assigned primarily for instruction 30.9

DISTRICT COMPUTER USE SURVEY SUMMARY

District: NYE COUNTY Number of students 3,472 Person filling out survey Larry Loving & Mary Bayer

	Apple IIe	Apple IIgs	Mac +, SE's, Classics	Mac LC	Mac II's, (si,x, cx)	IBM	IBM Clones	Tandy	Comm-odore	Amiga	Other	Total computers in use
Number of computers assigned to computer lab.	114	7				65	7	1			12	206
Number of computers used primarily for instruction (assigned to classrooms, not in computer labs).	131	7				18	3	4			14	177
Number of computers used primarily for administrative/management functions.	6	7				15	1	3				32
Number of computers in teacher work-stations (A place open to all teachers to access computer for lesson plans, grading, etc.).		1				1						2
Total computers in use in the district.	251	22				99	11	8			26	417
Number of computers used for routine drill/practice/ remedial work.	136	7				75	9	5			26	258
Number of computers used as an integrated problem solving tool that is part of teachers regular lesson plans.	149	7				79	1	1			19	256

Number of:

Dot Matrix and Letter Quality Printers	Laser Printers	File Servers	Tape back up Systems	Networked Labs	Video disk Players	CD ROMS	Modems	LCD displayers for computer & Overhead Proj.
146	1	4	4	4		7		3

Number of schools 15 Number of schools reporting 15

Number of schools reporting teachers and other users received training 15

Ratio of students per computers assigned to labs and for instruction 9.1

Ratio of students per computers assigned primarily for instruction 19.6

DISTRICT COMPUTER USE SURVEY SUMMARY

District: PERSHING COUNTY Number of students 828 Person filling out survey James P. Kiley Superintendent

	Apple IIe	Apple IIgs	Mac +, SE's, Classics	Mac LC	Mac II's, (si,x, cx)	IBM	IBM Clones	Tandy	Comm-odore	Amiga	Other	Total computers in use
Number of computers assigned to computer lab.	14	1	2			1	19					37
Number of computers used primarily for instruction (assigned to classrooms, not in computer labs).	47	5										52
Number of computers used primarily for administrative/management functions.	1	1		1		2	3					8
Number of computers in teacher work-stations (A place open to all teachers to access computer for lesson plans, grading, etc.).												
Total computers in use in the district.	62	7	2	1		3	22					97
Number of computers used for routine drill/practice/ remedial work.	32	5										37
Number of computers used as an integrated problem solving tool that is part of teachers regular lesson plans.	17	4										21

Number of:

Dot Matrix and Letter Quality Printers	Laser Printers	File Servers	Tape back up Systems	Network-ed Labs	Video disk Players	CD ROMS	Modems	LCD displayers for computer & Overhead Proj.
69	2						1	

Number of schools 4 Number of schools reporting 4

Number of schools reporting teachers and other users received training 4

Ratio of students per computers assigned to labs and for instruction 9.3

Ratio of students per computers assigned primarily for instruction 15.9

DISTRICT COMPUTER USE SURVEY SUMMARY

District: STOREY COUNTY Number of students 423 Person filling out survey Virginia Warner

	Apple IIe	Apple IIgs	Mac +, SE's, Classics	Mac LC	Mac II's, (si,x, cx)	IBM	IBM Clones	Tandy	Comm-odore	Amiga	Other	Total computers in use
Number of computers assigned to computer lab.		5		2								7
Number of computers used primarily for instruction (assigned to classrooms, not in computer labs).	23	3	7			4	10	1			13	61
Number of computers used primarily for administrative/management functions.						3	10					13
Number of computers in teacher work-stations (A place open to all teachers to access computer for lesson plans, grading, etc.).												
Total computers in use in the district.	23	8	7	2		7	20	1			13	81
Number of computers used for routine drill/practice/ remedial work.	23	8	9	2		5	10	1			13	71
Number of computers used as an integrated problem solving tool that is part of teachers regular lesson plans.	23	8	9	2		5	10	1			13	71

Number of:

Dot Matrix and Letter Quality Printers	Laser Printers	File Servers	Tape back up Systems	Network-ed Labs	Video disk Players	CD ROMS	Modems	LCD displayers for computer & Overhead Proj.
32	2	2	1	1		1	6	2

Number of schools 4 Number of schools reporting 4

Number of schools reporting teachers and other users received training 4

Ratio of students per computers assigned to labs and for instruction 6.2

Ratio of students per computers assigned primarily for instruction 6.9

DISTRICT COMPUTER USE SURVEY SUMMARY

District: WASHOE COUNTY Number of students 40,192 Person filling out survey Ross Thompson/Carl Meibergen

	Apple IIe	Apple IIgs	Mac +, SE's, Classics	Mac LC	Mac II's, (si,x, cx)	IBM	IBM Clones	Tandy	Comm-odore	Amiga	Other	Total computers in use
Number of computers assigned to computer lab.	874	1,898	65	5	2	67	471	121			115	3,618
Number of computers used primarily for instruction (assigned to classrooms, not in computer labs).	193	87	25	7	1	48	95	42	10	9	183	700
Number of computers used primarily for administrative/management functions.	16	18	11		1	50	138	14			24	272
Number of computers in teacher work-stations (A place open to all teachers to access computer for lesson plans, grading, etc.).	18	11		2		6	14				5	56
Total computers in use in the district.	1,101	2,014	101	14	4	171	718	177	10	9	327	4,646
Number of computers used for routine drill/practice/ remedial work.	1,106	284	89	12	3	113	563	161	10	9	289	2,639
Number of computers used as an integrated problem solving tool that is part of teachers regular lesson plans.	1,070	284	89	12	3	113	562	161	10	9	274	2,587

Number of:

Dot Matrix and Letter Quality Printers	Laser Printers	File Servers	Tape back up Systems	Network-ed Labs	Video disk Players	CD ROMS	Modems	LCD displayers for computer & Overhead Proj.
935	16	16	1	18	16	23	20	12

Number of schools 70 Number of schools reporting 70

Number of schools reporting teachers and other users received training 66

Ratio of students per computers assigned to labs and for instruction 9.3

Ratio of students per computers assigned primarily for instruction 57.4

APPENDIX C

Memorandum From State Department Of Education
Concerning S.C.R. 43 Budget Estimates

EUGENE T. PASLOV
Superintendent of Public Instruction

400 W. King Street
Capitol Complex
Carson City, Nevada 89710
Fax: (702) 687-5660

STATE OF NEVADA

SOUTHERN NEVADA OFFICE
1850 E. Sahara, Suite 200
State Mailroom Complex
Las Vegas, Nevada 89158
Fax: (702) 796-3475

DEPARTMENT OF EDUCATION

June 9, 1992

MEMORANDUM:

TO: Dana Bennett, Senior Research Analyst
LCB - Research Division

FROM: Eugene T. Paslov
Superintendent of Public Instruction

SUBJECT: **SCR 43 Budget Estimates**

As we discussed at our June 4th meeting the following cost estimates are offered for your consideration as you prepare the final report for the SCR 43 Interim Study.

PHASE I 1993-1995 BIENNIUM:

- Year I July 1993 to June 30, 1994:

  State Board of Education develops a statewide education technology plan consistent with the recommendations of the SCR 43 interim study report.

  Governor appoints an eleven person Advisory Council to advise the State Board of Education on the State Plan for Educational Technology.

  COST: Four meetings per year of 11 members' transportation and per diem 4 x $1,500 = $ 6,000

  Legislation to create an Education Technology Consultant position in the State Department of Education. The Education Technology Consultant will work with 11 State Board of Education members and its gubernatorially appointed advisory council. Council to develop an education technology plan, to conduct annual surveys of school technology equipment and its appropriate use by teachers and other school personnel, and to provide technical assistance and oversight to the implementation of model programs and Phase II long range implementation of model programs and Phase II long range implementation of educational technology in all Nevada schools and classrooms where appropriate.

COST: Grade 39 Education Technology Consultant Salary/benefits plus operating:	$ 80,000
TOTAL YEAR I ESTIMATED COST:	$ 86,000

- Year II July 1994 to June 1995:

GRANT FUNDS:

Funds will be made available to the State Department of Education to grant to the two Nevada Colleges of Education (UNLV, UNR) for purposes of teacher preservice and professional development activities which include two completely equipped classroom technology sites. Additionally, funding will be available for nine model classroom technology sites in Nevada county school districts to be identified through an application process.

Grants for model classroom technology sites to the colleges and to the county school districts will be consistent with the State Board of Education's technology policy guidelines developed by the advisory council. Grants will also be based upon a matching provision: 1/3 local match requirement (in-kind equipment/staff training or dollar amount) and 2/3 state funding.

Year II Grant Amounts:

Cost per technology classroom site:

4 computers	$ 8,000
1 CD-ROM	500
1 Laserdisk Player	800
1 Printer	1,000
1 Modem	200
Networking/staff training cost	4,500
TOTAL COST:	$ 15,000
Local Match Requirement - 1/3=	$ 5,000
State Grant (per classroom site)	10,000

. Continuation of Advisory Council	$ 6,000
. Education Technology Consultant/Support	80,000
. Equip two model technology classroom sites at the two universities (1/3 local match - 2/3 state - 2 x $10,000)	20,000
. Equip nine model technology classroom sites (1/3 local match and 2/3 state - 9 x $10,000)	90,000
TOTAL YEAR II GRANT AMOUNT:	$196,000
TOTAL 1993-95 BIENNIUM APPROPRIATION AMOUNT:	**$282,000**

CONCLUSION:

The Technology Advisory Council, through the State Board of Education will be expected to report to the Legislative Commission in August of 1994 on its recommendations for Phase II of Nevada's comprehensive educational technology plan. The plan shall include estimated costs for equipping all Nevada schools, training all the necessary personnel and recommendations to the legislature for revenue sources to fund the comprehensive plan.

Please let me know if you need any additional information.

ETP/da
c: Marcia R. Bandera
Pat Boyd
Roy Casey
Ann Marek
Frank South

APPENDIX D

Suggested Legislation

SUMMARY--Requires development of state plan for educational technology. (BDR 34-333)

FISCAL NOTE: Effect on Local Government: No.

Effect on the State or on Industrial Insurance: Contains Appropriation.

AN ACT relating to education; requiring the state board of education to develop a state plan for educational technology; providing for the award of grants of money for the development of model classrooms for educational technology; creating the educational technology advisory board and the position of coordinator of educational technology; providing the state board of education with the power to make the final selection of all computer hardware and certain computer software used in the public schools; making appropriations; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. Chapter 385 of NRS is hereby amended by adding thereto the provisions set forth as sections 2 to 8, inclusive, of this act.

Sec. 2. *As used in sections 2 to 8, inclusive, of this act, "educational technology" means any electronic device, system or network, or any item intended for use with such a device, system or network, which may be used for instructional purposes in the classroom, and includes, without limitation, computers, televisions, electronic bulletin boards, video discs, compact discs, robotics and telecommunication satellites.*

Sec. 3. *1. The state board, with the advice of the educational technology advisory board, shall develop a state plan for educational technology. The plan must include, without limitation, provisions for:*

(a) The training of teachers in the use of computers in the classroom and the integration of educational technology into curricula.

(b) The training of principals and superintendents of county school districts concerning the use of educational technology in the classroom.

(c) The placement in each public school in this state of a person with specialized knowledge of computers and computer technology, whose duties include training, consulting with and assisting teachers in the use of computers and computer technology.

(d) The development of curricula that more effectively utilize educational technology.

(e) The restructuring of classrooms to make them more efficient for the utilization of educational technology in the instruction of pupils.

(f) The linking of computer systems between schools, classrooms and libraries, including state, local, national and university libraries.

(g) The development of a program to loan money to teachers to allow them to purchase computers for use in their classrooms or homes, and to allow those teachers to repay the money through payroll deductions.

(h) The wiring of all classrooms to make them compatible for the installation and use of computers and modems.

(i) The equitable distribution of educational technology to each public school and county school district in this state.

(j) The encouragement of private businesses to become involved in the educational process, including the training of pupils concerning computers and their use in the workplace, the placement of pupils in jobs which utilize computers to allow them to gain valuable experience, and the donation of computer hardware and software to public schools throughout this state in a manner which ensures that each public school receives an equitable distribution of such donations.

(k) The methods by which the effectiveness of the plan will be measured, including comparisons of the performance of pupils on standardized tests and their level of skill in the use of computers.

2. The state board, with the advice of the educational technology advisory board, shall review the state plan for educational technology not less than every 6 months and amend it as necessary.

3. The state plan for educational technology, and any amendment thereto, does not become effective unless it is approved by the senate standing committee on finance and the assembly standing committee on ways and means during a

regular or special session of the legislature, or by the interim finance committee if the legislature is not in session.

Sec. 4. *1. The state plan for educational technology must provide for the creation of a program pursuant to which grants of money are made available for the development of model classrooms for educational technology.*

2. Grants may be made only to the following entities:

(a) The University of Nevada, Reno;

(b) The University of Nevada, Las Vegas; and

(c) The various county school districts.

3. The department shall administer the program and award grants in a manner consistent with the guidelines for the program set forth in the state plan.

4. As a condition of receiving a grant of money pursuant to the program, a recipient must provide matching money of $1 for the development of a model classroom for every $2 provided by the grant.

Sec. 5. *The state board shall make the final selection of all computer hardware to be used in the public schools in this state.*

Sec. 6. *1. There is hereby created the educational technology advisory board. The board consists of 11 members.*

2. The governor shall appoint to the board:

(a) One person who teaches in the public school system.

(b) One person who is a principal of a school in the public school system.

(c) One parent of a pupil in the public school system.

(d) One person who is a member of the board of trustees of a county school district.

(e) One person who represents the state board.

(f) One person who represents the University of Nevada System.

(g) One person who represents an employer which employs more than 20 persons in this state.

(h) One person who represents a manufacturer of computer hardware or software.

(i) One person who has expertise concerning educational technology.

3. The legislative commission shall appoint to the board:

(a) One member of the senate; and

(b) One member of the assembly,

who must be appointed with appropriate regard for their experience with and knowledge of educational technology. No person appointed pursuant to this subsection may continue to serve on the board if he ceases to be a member of the house of the legislature from which he was appointed.

4. The members of the board are not required to be residents of this state.

5. The governor shall appoint the chairman of the board from among its members.

6. After the initial terms, each member serves a term of 4 years. A member may be reappointed. If a vacancy occurs during a member's term, the governor or legislative commission, as the case may be, shall appoint a person qualified

under this section to replace that member for the remainder of the unexpired term.

7. The members of the board serve without compensation, except that each member of the board is entitled to the per diem allowance and travel expenses provided for state officers and employees generally.

Sec. 7. *1. The educational technology advisory board shall:*

(a) Advise the state board concerning the state plan for educational technology;

(b) Annually conduct a survey of the public schools in this state concerning the use of computers in such schools and to determine the additional educational technology needed by those schools, and report the results of its survey to the state board; and

(c) Recommend to the state board sources of funding to enable this state to continue with the state plan for educational technology.

2. The state board shall report to the senate standing committee on finance and the assembly standing committee on ways and means during a regular or special session of the legislature, or to the interim finance committee if the legislature is not in session, concerning:

(a) The results of the annual survey conducted by the educational technology advisory board pursuant to subsection 1; and

(b) The sources of funding identified pursuant to subsection 1.

Sec. 8. *1. There is hereby created within the department the position of coordinator of educational technology.*

2. The coordinator shall:

(a) Establish the goals and objectives of this state concerning the use of educational technology;

(b) Conduct surveys of schools in other states to identify curricula, computer hardware and computer software that would be of beneficial use in this state;

(c) Serve as liaison between the various county school districts and the University of Nevada System concerning the training of teachers in the uses of educational technology;

(d) Seek funding from both public and private sources to increase the use of educational technology in this state;

(e) Solicit proposals from schools for programs concerning new or innovative uses of educational technology and cause the programs that are successful to be carried out on a statewide basis;

(f) Encourage research concerning the use of new educational technology in the classroom and evaluate the results of the research; and

(g) Serve as secretary of the educational technology advisory board.

Sec. 9. NRS 390.005 is hereby amended to read as follows:

390.005 As used in this chapter, unless the context requires otherwise:

1. "Basic textbook" or "textbook" means any medium or manual of instruction [containing] , *including computer software, which contains* a presentation of the principles of a subject and *is* used as a basis of instruction.

2. "Supplemental textbook" means any medium or material , *including computer software, which is* used to reinforce or extend a basic program of instruction.

3. A basic or supplemental textbook becomes "unserviceable" when 4 years have elapsed since its removal from the adopted list.

Sec. 10. 1. There is hereby appropriated from the state general fund to the department of education for the payment of the salary, benefits and related operating expenses of the position of coordinator of educational technology created in section 8 of this act:

For the fiscal year 1993-94.....$80,000

For the fiscal year 1994-95.....$80,000

2. Any balance of the sums appropriated by subsection 1 remaining at the end of the respective fiscal years must not be committed for expenditure after June 30 and reverts to the state general fund as soon as all payments of money committed have been made.

Sec. 11. 1. There is hereby appropriated from the state general fund to the department of education for the payment of the per diem allowance and travel expenses of the members of the educational technology advisory board created in section 6 of this act:

For the fiscal year 1993-94.....$6,000

For the fiscal year 1994-95.....$6,000

2. Any balance of the sums appropriated by subsection 1 remaining at the end of the respective fiscal years must not be committed for expenditure after

June 30 and reverts to the state general fund as soon as all payments of money committed have been made.

Sec. 12. 1. There is hereby appropriated from the state general fund to the department of education the sum of $110,000 for making grants of money to the University of Nevada, Reno, the University of Nevada, Las Vegas and county school districts for the development of model classrooms for educational technology pursuant to section 4 of this act.

2. Any remaining balance of the appropriation made by subsection 1 must not be committed for expenditure after June 30, 1995, and reverts to the state general fund as soon as all payments of money committed have been made.

Sec. 13. 1. The state board of education shall, on or before July 1, 1994, develop the state plan for educational technology required by sections 3 and 4 of this act and submit it to the interim finance committee for its approval.

2. The plan must provide that the provisions concerning the training of teachers, principals and superintendents of county school districts required by paragraphs (a) and (b) of subsection 1 of section 3 of this act, and the provisions concerning grants of money for the development of model classrooms required by section 4 of this act, become effective on July 1, 1994.

3. The plan must provide that its remaining provisions become effective on specified dates on or after July 1, 1995. All provisions of the plan must become effective no later than July 1, 1999.

Sec. 14. As soon as practicable on or after July 1, 1993, the members of the educational technology advisory board created pursuant to section 6 of this act must be appointed as follows:

1. The governor shall appoint:

(a) Two members to terms that expire on June 30, 1994;

(b) Two members to terms that expire on June 30, 1995;

(c) Three members to terms that expire on June 30, 1996; and

(d) Two members to terms that expire on June 30, 1997.

2. The legislative commission shall appoint:

(a) One member to a term that expires on June 30, 1995; and

(b) One member to a term that expires on June 30, 1997.

Sec. 15. 1. This section and sections 1 to 11, inclusive, 13 and 14 of this act become effective on July 1, 1993.

2. Section 12 of this act becomes effective on July 1, 1994.

3. Section 4 of this act expires by limitation on June 30, 1995.

SUMMARY-- Creates legislative committee on education. (BDR 34-332)

FISCAL NOTE: Effect on Local Government: No.

Effect on the State or on Industrial Insurance: Yes.

AN ACT relating to education; creating a legislative committee on education; providing its duties; specifying its powers; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. Chapter 385 of NRS is hereby amended by adding thereto the provisions set forth as sections 2 to 6, inclusive, of this act.

Sec. 2. *1. There is hereby established a legislative committee on education consisting of three members of the senate and three members of the assembly, appointed by the legislative commission. The members must be appointed with appropriate regard for their experience with and knowledge of matters relating to education.*

2. The legislative commission shall select the chairman and vice chairman of the committee from among the members of the committee. Each such officer shall hold office for a term of 2 years commencing on July 1 of each odd-numbered year. The chairmanship of the committee must alternate each biennium between the houses of the legislature.

3. Any member of the committee who does not return to the legislature continues to serve until the next session of the legislature convenes.

4. Vacancies on the committee must be filled in the same manner as original appointments.

5. The committee shall report annually to the legislative commission concerning its activities and any recommendations.

Sec. 3. *1. The members of the committee shall meet throughout each year at the times and places specified by a call of the chairman or a majority of the committee. The director of the legislative counsel bureau or a person he has designated shall act as the nonvoting recording secretary. The committee shall prescribe regulations for its own management and government. Four members of the committee constitute a quorum, and a quorum may exercise all the powers conferred on the committee.*

2. Except during a regular or special session of the legislature, each member of the committee is entitled to receive the compensation provided for a majority of the members of the legislature during the first 60 days of the preceding regular session for each day or portion of a day during which he attends a meeting of the committee or is otherwise engaged in the business of the committee plus the per diem allowance provided for state officers and employees generally and the travel expenses provided pursuant to NRS 218.2207.

3. The salaries and expenses of the committee must be paid from the legislative fund.

Sec. 4. *1. The committee may:*

(a) Review and evaluate the quality and effectiveness of programs for using educational technology in the classroom.

(b) Review and compare the quality of education among communities in this state with similar communities in other states.

(c) Analyze the overall system of education in this state to determine ways to achieve the most efficient use of all available resources.

(d) Encourage, conduct and participate in research concerning any aspect of education or the use of educational technology in the classroom.

(e) Examine and develop alternative methods of financing education and the use of educational technology in the classroom.

(f) Formulate suggested policies and plans for the improvement of public education in this state.

(g) Apply for any available grants and accept any gifts, grants or donations to aid the committee in carrying out its duties pursuant to sections 2 to 6, inclusive, of this act.

(h) Conduct investigations and hold hearings in connection with its review and analysis.

(i) Do such other things as may be necessary or incidental to the performance of its duties pursuant to sections 2 to 6, inclusive, of this act.

(j) Direct the legislative counsel bureau to assist in its research, investigations, review and analysis.

(k) Recommend to the legislature as a result of its review any appropriate legislation.

2. As used in this section, "educational technology" means any electronic device, system or network, or any item intended for use with such a device, system or network, which may be used for instructional purposes in the classroom, and includes, without limitation, computers, televisions, electronic bulletin boards, video discs, compact discs, robotics and telecommunication satellites.

Sec. 5. *1. In conducting the investigations and hearings of the committee:*

(a) The secretary of the committee, or in his absence any member of the committee, may administer oaths.

(b) The secretary or chairman of the committee may cause the deposition of witnesses, residing either within or outside of the state, to be taken in the manner prescribed by rule of court for taking depositions in civil actions in the district courts.

(c) The chairman of the committee may issue subpenas to compel the attendance of witnesses and the production of books and papers.

2. If any witness refuses to attend or testify or produce any books and papers as required by the subpena, the chairman of the committee may report to the district court by petition, setting forth that:

(a) Due notice has been given of the time and place of attendance of the witness or the production of the books and papers;

(b) The witness has been subpenaed by the committee pursuant to this section; and

(c) The witness has failed or refused to attend or produce the books and papers required by the subpena before the committee which is named in the subpena, or has refused to answer questions propounded to him,

and asking for an order of the court compelling the witness to attend and testify or produce the books and papers before the committee.

3. Upon such petition, the court shall enter an order directing the witness to appear before the court at a time and place to be fixed by the court in its order, the time to be not more than 10 days from the date of the order, and to show cause why he has not attended or testified or produced the books or papers before the committee. A certified copy of the order must be served upon the witness.

4. If it appears to the court that the subpena was regularly issued by the committee, the court shall enter an order that the witness appear before the committee at the time and place fixed in the order and testify or produce the required books or papers. Failure to obey the order constitutes contempt of court.

Sec. 6. *Each witness who appears before the committee by its order, except a state officer or employee, is entitled to receive for his attendance the fees and mileage provided for witnesses in civil cases in the courts of record of this state. The fees and mileage must be audited and paid upon the presentation of proper claims sworn to by the witness and approved by the secretary and chairman of the committee.*