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COMMITTEE REPORT
SENATE

2/5/82

FURTHER: Finance

Date: 5/3/82

Mr. President:

The Committee on HEALTH, EDUCATION AND SOCIAL SERVICES has had SB 721

making a special appropriation to the Dept. of Education to assist in the purchase of computers for the school districts of the state

under consideration and (a majority of the committee) (the committee) reports it back with the following recommendations:

- do pass do not pass
- do pass with attached amendments(s)
- replace with CS for _____ same title
 new title
- and recommends _____
- AND attaches a "Letter of Intent" New Fiscal Note
- reports it back without recommendation
- referred to the _____ Committee

MEMBERS SIGNING
DO PASS

MEMBERS HAVING
OTHER RECOMMENDATIONS:

CHAIRMAN

Computers in Education

Rationale for Use

- . 50% of jobs today are in computer-related industry
- . 1990 -- 5 of 6 occupations with most openings will be in computer-related jobs
- . Vast majority of Alaskan educators and students have little or no exposure to computers

Uses in Education

- . Computer Science, study of how the computer works, programming, and computer systems
- . Computer-assisted instruction (CAI) an instructional tool for teachers, an instructional aid for students.

CAI Research Findings

- . Higher student achievement with CAI over traditional instruction alone
- . Less student time required to complete CAI learning tasks
- . Improved attitude toward subject matter
- . Retention consistent with traditional approaches

Basic Pre-requisites for Use of Computers in Schools

- . Computer budget must include planning, courseware purchase, training costs, and equipment costs to insure a successful application.
- . Computers do not replace teachers, however, they greatly enhance teacher effectiveness, and efficient use of teacher time.
- . School districts need in-service training from outside sources -- computer technology is advancing rapidly and educators have not had an opportunity to learn about computers through their pre-service preparation.

ETA INDIVIDUALIZED STUDY BY TECHNOLOGY
COURSE STATUS .FY'82

(A) 6 COURSES DEVELOPED AND TESTED:

ALASKA HISTORY
ENGLISH
DEVELOPMENTAL READING
GENERAL MATH

. 84 SITES, 1,450 STUDENTS CURRENTLY USE THESE
COURSES

(B) 2 COURSES DEVELOPED AND IN PILOT TESTING:

GENERAL SCIENCE
U.S. HISTORY

. 8 SITES, 75 STUDENTS ARE PILOT TESTING THESE
COURSES

(C) 2 COURSES UNDER PRODUCTION:

CONSUMER EDUCATION
HEALTH EDUCATION

* . PROJECTED FOR RELEASE SEPT. 1, 1982

* SINGLE DISK DRIVE PRESENTATION ONLY

ETA INSERVICE TRAINING
FY '82 STATUS

I. THREE PHASE INSERVICE TRAINING APPROACH

1. STATE-WIDE INSERVICE FOR KEY DISTRICT LIASON
-- (35 PARTICIPANTS)
2. DISTRICT-WIDE INSERVICE FOR TEACHERS AND
ADMINISTRATORS
(27 DISTRICTS, 600 STAFF)
3. AUDIO-TELECONFERENCE FOLLOW-UP ON REGIONAL
BASIS (3 CONFERENCES EACH REGION)

II. DISTRICT-WIDE PLANNING

1. DISTRICT-WIDE POLICY
2. 1-3 YEAR IMPLEMENTATION PLANS
(6 DISTRICTS)

III. ETA NEWSLETTER (BI-MONTHLY, 1,000 SUBSCRIBERS)

IV. CO-SPONSOR ALASKA ASSOCIATION FOR COMPUTERS IN
EDUCATION CONFERENCE

ETA SPONSORED MINNESOTA EDUCATIONAL
COMPUTING CONSORTIUM (MECC) MATERIALS
FY '82 STATUS

(A) INSTITUTIONAL LICENSE AGREEMENT

- 1) 50% USER COST REDUCTION
- 2) 250 SUPPLEMENTAL PROGRAMS

(B) MECC Use STATUS

- 1) 186 SITES
- 2) 20,000 STUDENTS

(C) ALASKA INDEX OF MECC MATERIALS

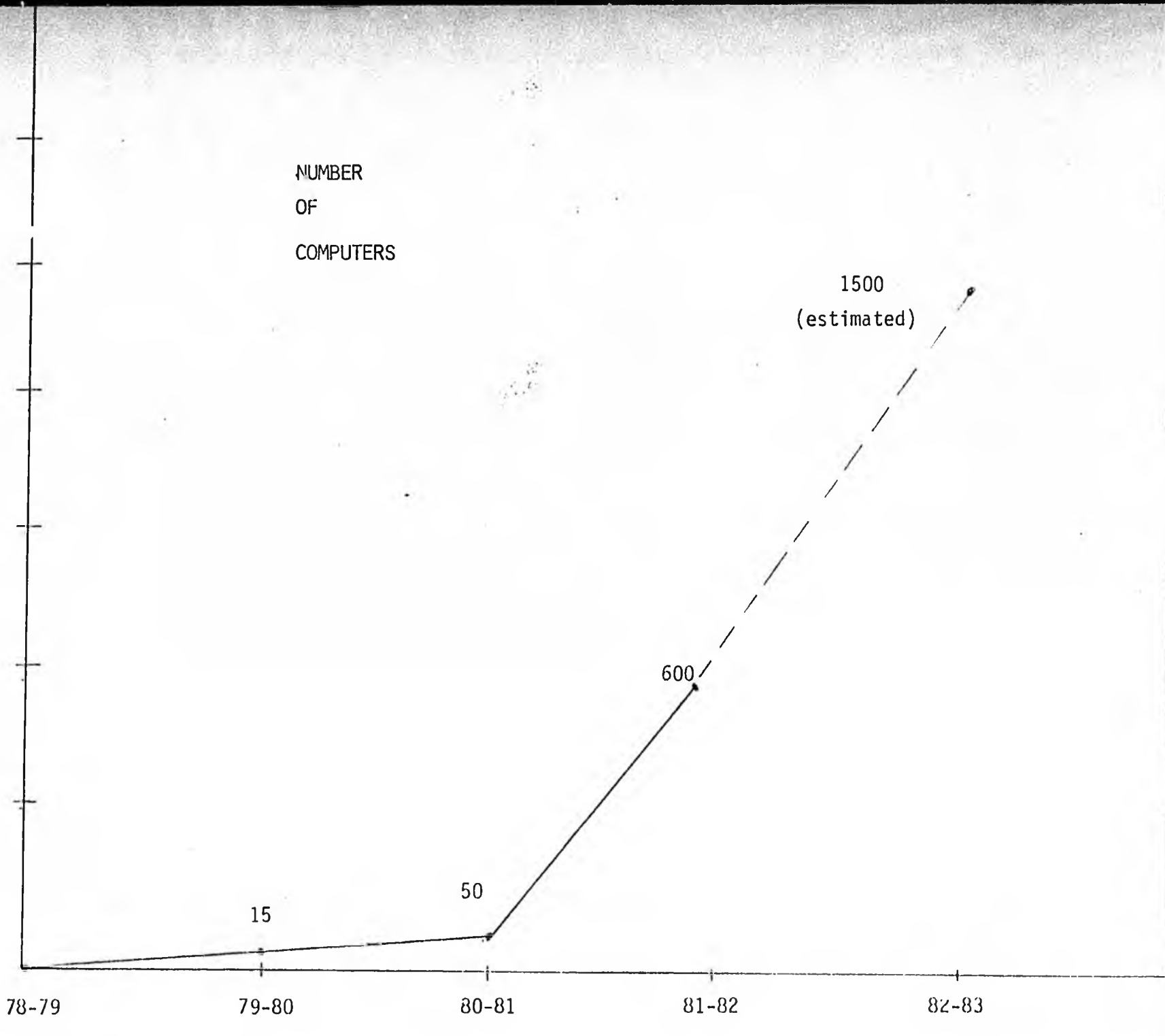
Number of
Microcomputers
Available
for Instruction
in Public
Schools

1800
1500
1200
900
600
300

NUMBER
OF
COMPUTERS

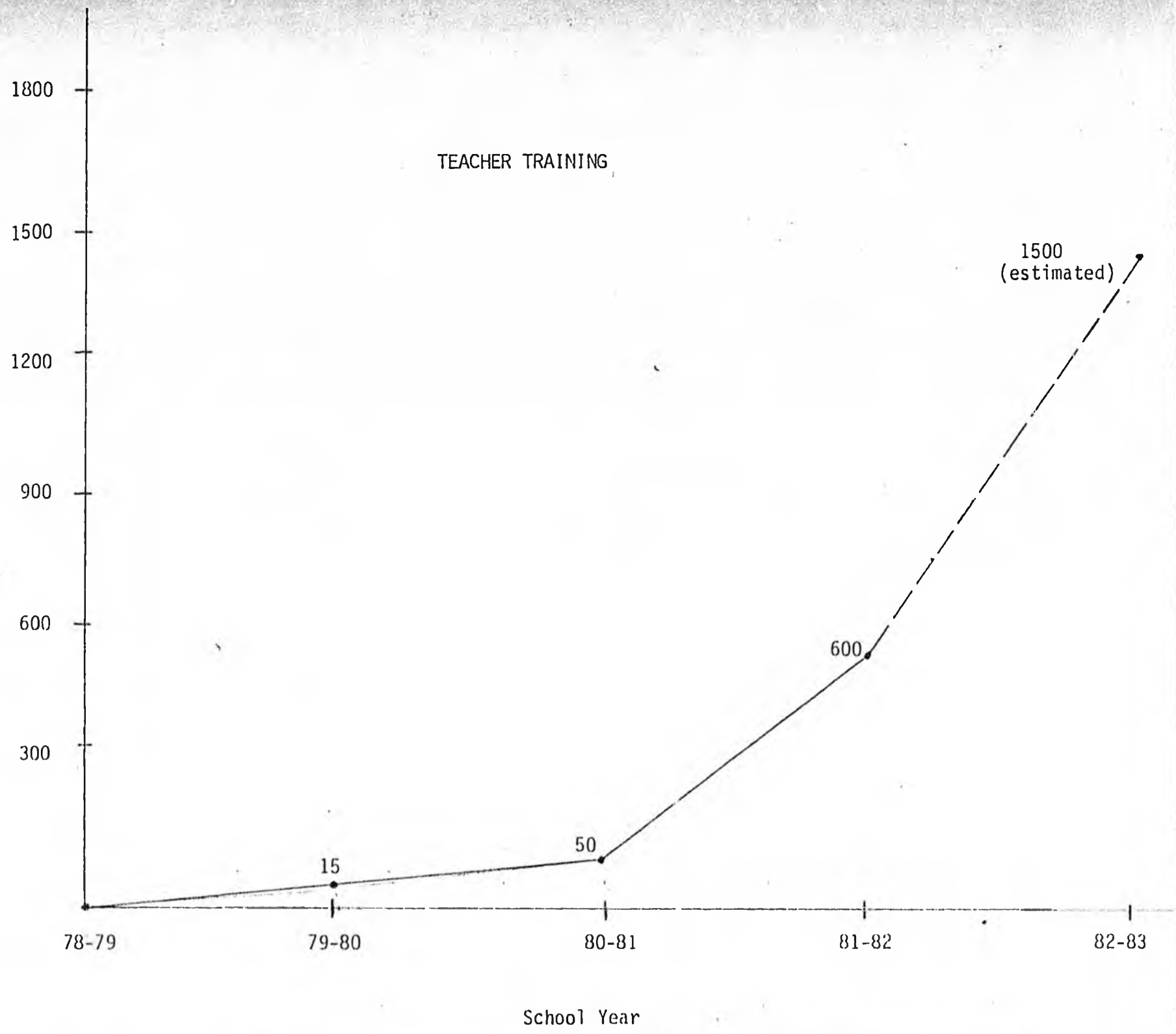
78-79 79-80 80-81 81-82 82-83

School Year

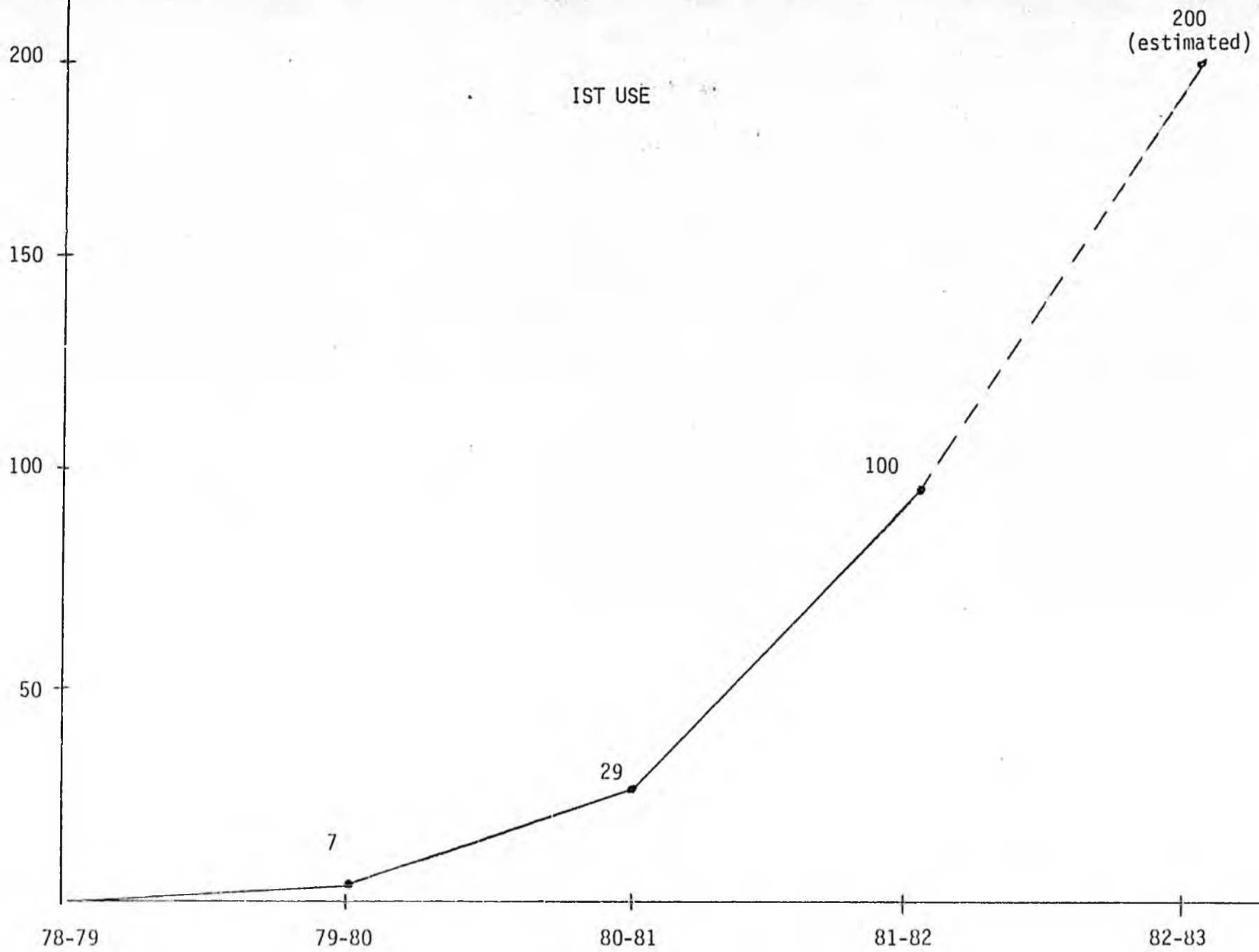


TEACHER TRAINING

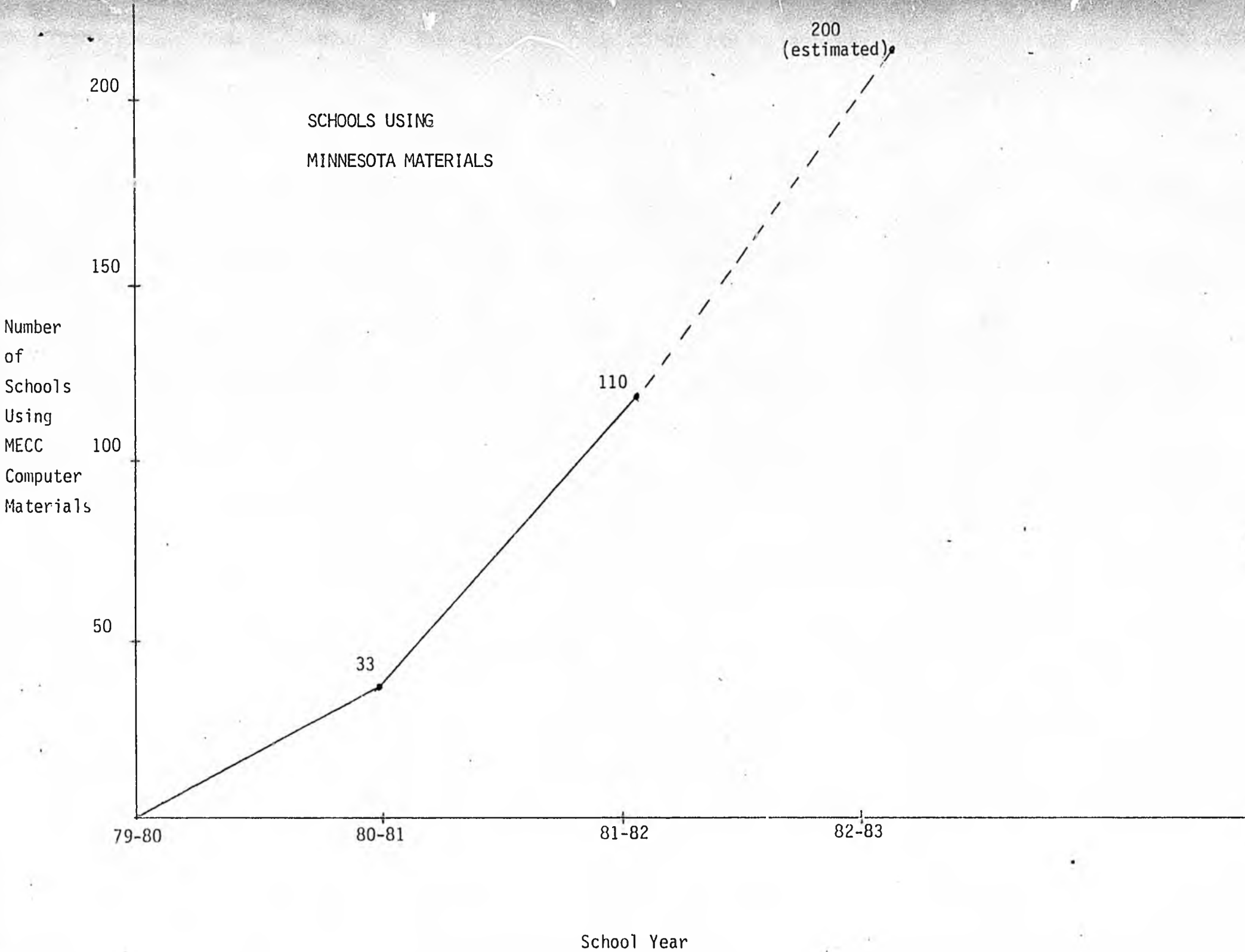
Number
of Teachers
Completing
Microcomputer
Workshops
Provided
by DOE



Number
of
Schools
Using
IST



School Year



AGENCY: DEPARTMENT OF EDUCATION
 CATEGORY: EDUCATION

PROGRAM: EXECUTIVE ADMINISTRATION
 SUB-PROGRAM: EDUC. TECH. & TELECOMM.

X X X X GOVERNOR ANALYSIS X X X X

FY82 ATHS REC \$3,146.4

OBJECT GROUP	VARIATION	DESCRIPTION: GOVERNOR VERSUS FY82 ATH
01 PERS. SERV.	32.7 9.1%	PERSONAL SERVICES ADJUSTMENT 5.4, SALARY INCREASE 27.3.
02 TRAVEL	4.3 10.1%	INFLATION 4.3
03 CONTRACTUAL	168.5 7.8%	LESS ONE-TIME ITEM (300.0), PLUS INFLATION 168.5, PLUS FEDERAL FUNDS REPLACEMENT FOR COMPUTER APPLICATIONS 200.0, COMPUTER LITERACY TRAINING FOR TEACHERS 100.0.
04 COMMODITIES	4.4 9.1%	INFLATION 4.4
07 GRANTS, CLMS	47.2 9.0%	INFLATION 47.2.
X TOTAL	257.1 8.2%	

GOVERNOR FIGURE \$3,403.5

NOTE 1: PROTECT ETA AND INSTRUCTIONAL TELEVISION COMBINED INTO EDUCATION TECH AND TELECOMM.

X X X X HOUSE ANALYSIS X X X X

GOVERNORS REC \$3,403.5

OBJECT GROUP	VARIATION	DESCRIPTION: HOUSE VERSUS GOVERNOR
01 PERS. SERV.	-59.6 -15.3%	REDUCE UNDERFUNDING TO 8%, 23.4, DELETE 2 POSITIONS, <83.0>.
02 TRAVEL	-11.8 -25.1%	25% TRAVEL REDUCTION, <11.8>.
03 CONTRACTUAL	-1042.2 -44.5%	REDUCE CIV. COURSE PRODUCTION BUDGET 50%, <557.6>, DELETE COMPUTER LITERACY TRAINING, <100.0>, DELETE FEDERAL FUND REPLACEMENT, <200.0>, REDUCE ETA CONTRACTUAL SUPPORT, <184.6>.
07 GRANTS, CLMS	-286.1 -50.0%	50% REDUCTION IN GRANTS PROGRAM, <286.1>.
XX TOTAL	-1399.7 -41.1%	

HOUSE FIGURE \$2,003.8

AGENCY: DEPARTMENT OF EDUCATION
 CATEGORY: EDUCATION

PROGRAM: EXECUTIVE ADMINISTRATION
 SUB-PROGRAM: EDUC. TECH. & TELECOMM

----- F I S C A L Y E A R 1 9 8 3 -----

EXPENDITURES & FUNDING	(01) FY81 ACT	(02) FY82 ATH	(03) FY82 RP	(04) FY82 SUP	(05) CONT	(06) REQUEST	(07) GOV AMD	(08) GOVERNOR	(09) HOUSE	(10) SENATE	(11) F.C.C.	(12) BILLS	(13) LEG.FCC.
01 PERS. SERV.	250.8	357.5			390.2	390.2		390.2	330.6				
02 TRAVEL	76.5	42.7			47.0	47.0		47.0	35.2				
03 CONTRACTUAL	1873.7	2172.7			2041.2	2441.2		2341.2	1299.0				
04 COMMODITIES	52.6	48.5			52.9	52.9		52.9	52.9				
05 EQUIPMENT	19.3												
06 LANDS/BLDGS													
07 GRANTS, CLMS	445.0	525.0			572.2	572.2		572.2	285.1				
08 MISC.													
09 TOTAL EXPEND	2717.9	3166.6			3103.5	3503.5		3403.5	2003.8				
10 1-A TRANSFER	499.1	71.3											
11 FED. RECEIPT	391.1	300.0											
12 G. F. MATCH	1210.2	539.1											
13 GENERAL FUND	1116.6	2164.1			2960.3	3360.3		3260.3	1860.6				
14 PGM RECEIPTS													
15 OTHER FUNDS		143.2			143.2	143.2		143.2	143.2				
16 FULL-TIME	10.0	10.0			10.0	10.0		10.0	8.0				
17 PART TIME													
18 TEMPORARY													
19 STAFF-MONTHS	114.0	114.0			120.0	120.0		120.0	96.0				

MEMORANDUM

State of Alaska

TO: Senate HESS

DATE: March 22, 1982

FILE NO:

TELEPHONE NO:

FROM: Ed Obie
Manager
ETA Program

SUBJECT: Computer Hardware
Cost Projections

Here is a recap of the figures used for computer costs in SB 721. These figures are based on an average of twenty (20) students per classroom.

- 4500 classrooms statewide
- 1 computer per classroom
- 500 computers currently in classrooms

This would require the purchase of some 4,000 units @ \$1,700.00 average per unit. Total cost for these units would be \$6,800,000.00. On a 50/50 local match the figure is reduced to \$3,400,000.00. If we spread this over three years, we have \$1,133,333.00 per year. Given some 30 Adult Basic Education regional sites exist, we round the figure off at \$1,275,000.00 per year.

EO/dh

MEMORANDUM

State of Alaska

TO: House HESS

DATE: March 22, 1982

FILE NO:

TELEPHONE NO:

FROM: Ed Obie
 Manager
 ETA Program

SUBJECT: Computers in
 Education

	<u>Site</u>	<u>Students</u>	<u>Computers</u>	<u>Student/Com. Ratio</u>
(A)	Anchorage	38,745	150	250/1
	Fairbanks	11,622	26	447/1
	Juneau	4,098	11	372/1
	Kenai	6,716	23	292/1
	Mat-Su	4,950	4	1237/1
	Ketchikan	4,828	9	536/1
	Lower Kuskokwim	1,015	30	33/1
	Dillingham	377	6	62/1
	Cordova	414	3	138/1
	Delta/Greely	835	2	417/1
	Sitka	1,769	2	884/1
	Valdez	880	7	125/1
	Galena	140	1	140/1
(B)	90,000	Student enrollment - Alaska Public Schools		
	547	Computers total - ratio 164/1		
(C)	Anchorage			
	Fairbanks			
	Juneau	70,959 stud nts	Computers/students	
	Kenai	223 computers	318/1	
	Palmer			
	Ketchikan			

FWD 19-Mar-82 15:31
FROM: COMMISSIONER
ATTN: STEVE HOLE
SUBJ: COMPUTER ASSISTED INSTR.

FOR: DOE/MLF
MSG #: 28035
DATE: 19-Mar-82
TIME: 13:38

WITHOUT A DOUBT, THE COMPUTER SERVICES THAT WE HAVE RECEIVED DURING THE PAST TWO YEARS HAS BEEN ONE OF THE MOST EFFECTIVE EDUCATIONAL INNOVATIONS THAT OUR SCHOOL HAVE BEEN INVOLVED WITH DURING MY TENURE. I URGE THE HESS COMMITTEE TO FIND THE SENATE BILLS UNDER CONSIDERATION FOR COMPUTER-ASSISTED INSTRUCTION.

CC: BILL BRANBLE
BO GREENE

NYAL WORSHAM
SKAGWAY SCHOOL
SUPERINTENDENT

CC: SKAGWAY

MAIL 19-Mar-82 15:31
FROM: MAT-SU
ATTN: STEVE HOLE, ED.ADMIN.
SUBJ: EMS MESSAGE #27654

FOR: DOE/MLF
MSG #: 28031
DATE: 19-Mar-82
TIME: 12:38

OUR DISTRICT HAS UTILIZED THE SERVICES OF THE EDUCATIONAL TECHNOLOGY ASSISTANCE AND HAVE FOUND IT TO BE EXTREMELY VALUABLE. THEY HAVE GREATLY HELPED OUR DISTRICT IN PLANNING AND IMPLEMENTING OUR COMPUTER ASSISTED INSTRUCTIONAL PROGRAM. WE ARE LOOKING FOR ETA TO ASSIST US IN INSERVICING THE STAFF AND TEACHERS ON THE USE OF COMPUTERS IN INSTRUCTION.

WE FEEL THIS IS A NEEDED SERVICE AND SHOULD NOT BE CUT FROM THE OPERATING BUDGET. ADDITIONALLY, WE STRONGLY SUPPORT SB 721 THAT APPROPRIATES MONEY FOR DISTRICTS ON A MATCHING BASIS TO PURCHASE COMPUTERS.

SINCERELY,

BRUCE P. DEMOND
ASSISTANT SUPERINTENDENT
CC: MAT-SU

ONE MOMENT PLEASE...

MAIL 22-Mar-82 07:56
FROM: NENANA
ATTN: STEVE HOLE
SUBJ: LEGISLATIVE INQUIRY

FOR: DOE/MLF
MSG #: 28059
DATE: 19-Mar-82
TIME: 15:29

COMPUTER ASSISTED INSTRUCTION HAS BEEN A SUCCESS IN OUR SCHOOL AS A SUPPLEMENTAL CLASS IN OUR BILINGUAL/BICULTURAL TUTOR PROGRAM AND REMEDIAL PROGRAMS. FROM THAT START WE HAVE OUR OWN COMPUTER PROGRAM CLASS AND ADVANCED COMPUTER PROGRAM CLASS. IT HAS BEEN ONE OF THE MORE SUCCESSFUL PROGRAMS THAT HAVE BEEN FUNDED. WE WOULD URGE THE LEGISLATURE TO CONTINUE TO FUND THIS PROGRAM.

WAYNE E. TAYLOR, SUPERINTENDENT
NENANA CITY PUBLIC SCHOOLS
CC: NENANA

OPTION:

LIST OF ALL MESSAGES FOR DOE/MLF

22-Mar-82 07:56

TYPE MSG #	DATE	TIME	LINES	FROM	ATTENTION
NEW RCPT 27906 SUPERINTENDENT	18-Mar-82	07:54	16	YUKON FLATS	
NEW RCPT 27906 SUPERINTENDENT	18-Mar-82	07:54	16	YUKON FLATS	
NEW RCPT 27906 SUPERINTENDENT	18-Mar-82	07:54	16	CHATHAM	
NEW RCPT 27906 SUPERINTENDENT	18-Mar-82	07:54	16	LOWER Y'KON	
NEW RCPT 27906 SUPERINTENDENT	18-Mar-82	07:54	16	BERING STRAIT	
MAIL 28059 HOLE	19-Mar-82	15:29	15	NENANA	STEVE

SUBJECT: LEGISLATIVE INQUIRY

OPTION:

(Y OR N):

MAIL 19-Mar-82 15:28
FROM: RAILBELT
ATTN: STEVE HOLE
SUBJ: SENATE REVIEW OF COMPUTERS IN ED

FOR: DOE/MLF
MSG #: 28050
DATE: 19-Mar-82
TIME: 14:46

IN RESPONSE TO YOUR RECENT EMS REGARDING SENATE HESS COMMITTEE
CONSIDERATION OF SB 719,720,721, AND 722. :

WE ARE WRITING TO EXPRESS OUR GRAVE CONCERN OVER REPORTS THAT THE
CUT-BACKS IN FUNDING FOR COMPUTER ASSISTED INSTRUCTION ARE BEING
CONSIDERED. WE WILL ENDEAVOR TO DESCRIBE OUR USE OF COMPUTERS IN
THE SCHOOL SYSTEM IN ORDER TO HIGHLIGHT THEIR INTEGRAL PART OF OUR
SCHOOL PROGRAM.

BEFORE DETAILING OUR DISTRICT'S USE OF COMPUTERS IN EDUCATION, TWO
IMPORTANT ITEMS SHOULD BE NOTED:

1. OUR DISTRICT HAS ONLY ADVANCED TO THE LEVEL OF INCORPORATING
COMPUTER ASSISTED INSTRUCTION THAT IT HAS, THROUGH THE LEADER-
SHIP PROVIDED BY THE DEPARTMENT OF EDUCATION PARTICULARLY THE
EDUCATIONAL TECHNOLOGY FOR ALASKA (ETA) DIVISION. THROUGH
INSERVICE TRAINING AND MATERIALS DEVELOPMENT, THEY HAVE ENABLED
DISTRICTS TO INCLUDE COMPUTER EDUCATION AND INSTRUCTION IN A
VARIETY OF WAYS IN THE SCHOOLS. THIS HAS BEEN A DIRECT BENEFIT
TO STUDENTS.
2. THE EFFECTIVE SCHOOLING REPORT HAS LISTED COMPUTER ASSISTED
INSTRUCTION AS A RESEARCH BASED PRACTICE WHICH CAN SIGNIFICANTLY
IMPROVE THE PERFORMANCE OF STUDENTS. UNDER THIS RESEARCH FINDING
IS AN IMPORTANT NOTE OF INTEREST THAT COMPUTER ASSISTED INSTRU-
TION IS "PARTICULARLY APPROPRIATE WHERE ENROLLMENT IN A GIVEN
CONTENT OR SKILL AREA IS INSUFFICIENT TO WARRANT THE PROVIDING
OF A TEACHER WHO IS A SPECIALIST IN THE AREA OF STUDY, WITH THE
TEACHER HAVING RESPONSIBILITY BEING A GENERALIST, AS IN THE CASE
IN MANY SMALL RURAL SCHOOLS". SINCE IMPLEMENTATION OF THIS
EFFECTIVE SCHOOLING PRACTICE HAS ALREADY BEGUN, IT WOULD SEEM
LEGISLATIVE SUPPORT SHOULD CONTINUE IN ORDER TO FURTHER THIS END.

THE INDIVIDUALIZED STUDY BY TELECOMMUNICATIONS (IST) COURSES DEVELOPED
BY THE DEPARTMENT OF EDUCATION ARE USED EXTENSIVELY IN THE DISTRICT.
THE COURSES USED ARE DEVELOPMENTAL READING, GENERAL MATH, ENGLISH, AND
WE ARE CURRENTLY PILOTING THE U.S. HISTORY AND GENERAL SCIENCE COURSES.
THESE COURSES ARE USED ON AN INDIVIDUAL BASIS OR IN SMALL GROUPS

ESPECIALLY WHEN THERE ARE NOT ENOUGH STUDENTS TO WARRANT A FULL CLASS, BUT YET STUDENTS NEED THE COURSES. WE HAVE USED THE 1ST ALASKA HISTORY COURSE FOR LARGE CLASSES (25 STUDENTS PER CLASS) SINCE THESE ARE THE ONLY ALASKA HISTORY MATERIALS WE FOUND THAT WERE AVAILABLE AND APPROPRIATE FOR USE WITH HIGH SCHOOL STUDENTS. WHEN THE 1ST HEALTH AND CONSUMER EDUCATION COURSES BECOME AVAILABLE, WE ALSO PLAN TO USE THEM WITH LARGE CLASS GROUPS. WE HAVE NOT ONLY USED THE 1ST COURSES WITH THE HIGH SCHOOL STUDENTS BUT HAVE FOUND THEM APPROPRIATE TO USE WITH ACCELERATED JUNIOR HIGH STUDENTS. THE COURSES ARE HIGHLY MOTIVATING AND STUDENTS ENJOY THE VARIETY PROVIDED BY THE COMPUTER ASSISTED INSTRUCTION. THE DEVELOPMENT OF THE 1ST COURSES HAVE BEEN EXTREMELY VALUABLE FOR THE RURAL SCHOOLS. IT HAS ENABLED US TO EXPAND OUR CURRICULUM WITHOUT HIRING ADDITIONAL STAFF.

THE MINNESOTA EDUCATIONAL COMPUTING CONSORTIUM (MECC) MATERIALS, OBTAINED AT DISCOUNT PRICES THROUGH AN AGREEMENT BETWEEN MECC AND THE DEPARTMENT OF EDUCATION, PROVIDE PROGRAMS THAT ARE USED AT ALL GRADES. THERE ARE MANY MECC PROGRAMS AVAILABLE FOR THE ELEMENTARY LEVEL THAT SERVE AS SUPPLEMENTS TO REGULAR INSTRUCTION.

BOTH THE MECC AND 1ST MATERIALS HAVE BEEN USED IN THE DISTRICT CORRESPONDENCE PROGRAM. IT HAS BEEN A DYNAMIC CHANGE FOR HOME STUDY AND BOTH PARENTS AND STUDENTS ARE PLEASED WITH THE RESULTS.

COMPUTERS ARE USED IN BUSINESS EDUCATION CLASSES FOR WORD PROCESSING, ACCOUNTING AND TAXES. STUDENTS ALSO USE COMPUTER PROGRAMS TO STUDY FOR COLLEGE ENTRANCE TESTS.

WE ALSO USE COMPUTERS TO TEACH BASIC COMPUTER PROGRAMMING TO HIGH SCHOOL AND JUNIOR HIGH STUDENTS. STUDENTS HAVE FORMED COMPUTER CLUBS AND THEY COME IN AFTER SCHOOL TO WORK ON PROGRAMMING ON THEIR OWN. THE COMPUTERS ARE AVAILABLE TO STUDENTS DURING LUNCH AND RECESS AS WELL.

COMPUTERS HAVE BEEN PURCHASED JOINTLY BY THE SCHOOL AND COMMUNITY LIBRARY BOARDS TO BE PLACED IN THE SCHOOL LIBRARIES. THESE COMPUTERS ARE USED BY STUDENTS DURING THE SCHOOL DAY AND AVAILABLE TO COMMUNITY MEMBERS IN THE EVENINGS AND ON SATURDAYS. WE HAVE CONDUCTED WEEKEND COMPUTER TRAINING SESSIONS FOR PARENTS THAT HAVE BEEN FULL.

WE DO NOT KNOW OF ANY CASE WHERE COMPUTER USE HAS NOT ENHANCED INSTRUCTION AND INCREASED STUDENT MOTIVATION. WE CONTINUE TO NEED SUPPORT AND LEADERSHIP AS HAS BEEN GIVEN IN THE PAST BY THE LEGISLATURE AND THE DEPARTMENT OF EDUCATION.

IF YOU HAVE ANY QUESTIONS, DO NOT HESITATE TO CONTACT US OR VISIT ANY OF OUR SCHOOLS TO SEE OUR COMPUTER PROGRAMS.

SINCERELY,

KATHLEEN FORMELLA
CURRICULUM COORDINATOR
CC: RAILBELT

MAIL 19-Mar-82 15:34
FROM: IDITAROD
ATTN: STEVE HOLE
SUBJ: G/T COUNT

FOR: DOE/MLF
MSG #: 27999
DATE: 18-Mar-82
TIME: 16:16

WE HAVE 14 G/T STUDENTS IN THE IDITAROD AREA SCHOOL DISTRICT.

MALCOM FLEMING
CC: IDITAROD

MAIL 19-Mar-82 15:34
FROM: CHATHAM
ATTN:
SUBJ: 1982 DIRECTORY

FOR: DOE/MLF
MSG #: 27989
DATE: 18-Mar-82
TIME: 16:00

PLEASE FORWARD TWO COPIES OF THE 1982 ALASKA EDUCATION DIRECTORY, IF POSSIBLE,
TO CHATHAM SCHOOL DISTRICT, P O BOX 109, ANGOON ALASKA 99820. THANK YOU!

EUNICE JAMES
SECRETARY
CC: CHATHAM

MAIL 19-Mar-82 15:35
FROM: HOONAH
ATTN: STEVE HOLE
SUBJ: LEGISLATIVE INQUIRY -

FOR: DOE/MLF
MSG #: 27978
DATE: 18-Mar-82
TIME: 15:55

COMPUTER ASSISTED INSTRUCTION IS AN EDUCATIONAL FRONTIER THAT DESERVES
FULL EXPLORATION. SINCE THE ADVENT OF THE MICRO-CHIP, COMPUTER
TECHNOLOGY HAS INCREASED A THOUSAND FOLD. COMPUTERS ARE BECOMING
AND WILL BECOME BY THE END OF THE '80S AS COMMON A HOUSEHOLD ITEM
AS THE MICROWAVE OVEN. ITS CAPACITY FOR STORING KNOWLEDGE AND GIVING
INFORMATION IS BOUNDLESS. ITS USEFULNESS AS A TEACHING TOOL IS LIMITED
TO THE INSTRUCTORS KNOWLEDGE OF THE MACHINE. TEACHING AND FAMILIARITY
WITH COMPUTERS IN THIS DECADE IS AS NECESSARY TO EDUCATION IN GENERAL
AS THE SOVIET UNION'S SPUTNIK WAS TO AMERICAN SCIENCE PROGRAMS IN THE
50'S.

TOM BUDD, HIGH SCHOOL PRINCIPAL
HOONAH PUBLIC SCHOOLS.

MAIL 22-Mar-82 12:24
FROM: KETCHIKAN
ATTN: STEVE HOLE
SUBJ: LEGISLATIVE INQUIRY

FOR: DOE/MLF
MSG #: 28100
DATE: 22-Mar-82
TIME: 10:11

I HAVE REVIEWED SENATE BILLS 719, 720, 721, AND 722 INTRODUCED BY SENATOR STIMSON. THESE BILLS RELATE TO THE NEED FOR ALASKAN EDUCATION TO BECOME MORE INVOLVED WITH COMPUTERS IN THE SCHOOL CURRICULUM.

THE CURRICULUM IN ALASKAN SCHOOLS NEEDS TO BEGIN TAKING INTO ACCOUNT THE CAPABILITIES OF COMPUTERS AND THE ROLE THEY WILL PLAY IN THE LIVES OF ADULTS IN OUR SOCIETY OF TOMORROW. MOST STUDENTS GRADUATING FROM OUR SCHOOLS ARE COMPUTER ILLITERATES. IN A VERY FEW SHORT YEARS IT IS PREDICTED THAT THESE SAME STUDENTS WILL BE HANDICAPPED MUCH AS THE NON-READER OF PAST GENERATIONS. THE CURRICULUM IN OUR SCHOOLS NEEDS TO CHANGE TO REFLECT THE ROLE THE COMPUTER CAN PLAY IN PROBLEM SOLVING. COMPUTERS IN THE CURRICULUM CAN HELP PLACE AN INCREASED EMPHASIS UPON HIGHER LEVEL SKILLS OF UNDERSTANDING. THEY CAN HELP STUDENTS FIGURE OUT HOW TO SOLVE PROBLEMS AND UNDERSTAND THE MEANING OF RESULTS PRODUCED WHEN PLANS ARE CARRIED OUT.

THERE IS EVERY INDICATION THAT COMPUTERS ARE RAPIDLY BECOMING EVERYDAY TOOLS OF MOST ADULTS WORKING IN BUSINESS, GOVERNMENT AND INDUSTRY. COMPUTERS WILL PLAY MORE OF A PERSONAL ROLE AS MORE AND MORE HOME COMPUTERS ARE AVAILABLE. COMPUTER LITERACY MUST BE A GOAL OF OUR SCHOOLS IF STUDENTS ARE TO FUNCTION CAPABLY IN THE SOCIETY OF TOMORROW.

THERE IS A CERTAIN URGENCY ABOUT IMPLEMENTING COMPUTER PROGRAMS INTO OUR PUBLIC SCHOOLS. THE URGENCY REQUIRES THAT THE STATE TAKE THE INITIATIVE AND PURSUE AN ACTIVE ROLE IN HELPING SCHOOLS TO GET GEARED UP TO MEET THE CHALLENGE.

I BELIEVE THAT S.B. 719, 720, 721, AND 722 IS A GOOD START AND I HOPE THAT EVERY ATTENTION IS GIVEN TO THE FINAL PASSAGE OF THESE BILLS SO THAT SCHOOL DISTRICTS CAN RECEIVE THE HELP WHICH IS NEEDED AS THEY PURCHASE THE HARDWARE, SOFTWARE AND IMPLEMENT COMPUTER PROGRAMS INTO THEIR CURRICULUM. YOUR SUPPORT OF THESE BILLS WILL HELP INSURE THE FUTURE FOR THE STUDENTS IN OUR SCHOOLS.

DARROLL HARGRAVES, SUPERINTENDENT OF SCHOOLS
KETCHIKAN GATEWAY BOROUGH SCHOOL DISTRICT
CC: KETCHIKAN

PLANNING FOR COMPUTERS IN THE CLASSROOM

Written by Ed Obie

To ensure that initial experiences with the computer are positive, consider the following points based on ETA experience over the past four years.

1. Plan instructional applications rather than technological applications. Begin by identifying a need, realizing that computer technology may or may not be the solution. Given the ever increasing capabilities of a technology and the lure of another "new approach," we often purchase a solution, then begin looking for a suitable problem to solve. For small classes, a teacher doesn't need a computerized student management system. A mimeographed test or quiz may be more appropriate than a computer-based application. If the initial computer technology experience is not relevant or positive to the user, expensive gear may be relegated to limited use or the nearest closet.

2. Equipment cost is only one part of a proposed application. Too often money appropriated for a computer application is spent solely for equipment, drastically reducing chances for a successful computer application. Sad commentaries have been written about computers being left in their original packing cartons for a full school year due to lack of training in equipment operation or classroom application. Generally speaking, expect to spend about as much on planning time, courseware purchasing, inservice training, equipment maintenance and follow-up support as on equipment.

3. Factors to consider when selecting equipment. A prime consideration in the purchase of equipment should be the availability of programs that meet identified needs. Although a particular computer may have many more features than another and the cost may be less, instructional courseware for that computer may not be readily available. Local support and maintenance should also be major considerations. Discount house purchases can result in being the most expensive alternative.

4. Be wary of exaggerated computer courseware claims. The development of computer courseware for education is still in its infancy. It is best to preview a demonstration program (if available). As a minimum prerequisite to purchase, review evaluations of the program's technical and instructional qualities as well as its content. Due to the current state of the art of courseware production, be prepared to find errors in content and format.

5. Buy now - Wait later. Except in rare circumstances, don't hesitate to buy state of the art equipment now because you think something newer and better is coming tomorrow. The same decision will face you if you wait. Although technology will continue to advance, your unit will be a wise investment, providing you with 3-5 years of good service. It can take 1-3 years for design, development and distribution of quality computer classroom programs for new "advanced" microcomputers.

6. Change is a central concept in implementing computer applications successfully. "Implementing change" might be more appropriate terminology than "implementing a computer application." Human nature often implies a resistance to change unless the amount of gain is equal to or greater than the amount of effort required. You can greatly increase your chances for a successful computer application if you involve users in planning, proceed in manageable progressive steps, and provide adequate inservice training and follow-up activities.

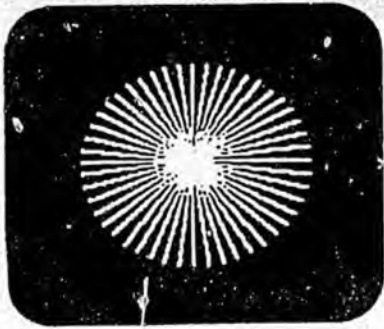
7. Plan a broad-based approach to computer implementation. Historically, computers have been introduced into the school setting by an enthusiastic teacher with interest and expertise in computer science and/or programming. Programs introduced through this approach will often flourish for the duration of the teacher's assignment but then be jeopardized when the teacher leaves or changes roles. For long term success, it is crucial to integrate a computer application into the curriculum in a formal sense to prevent "person dependency." Planning in a formal sense should include allocation of resources, assignment of staff, scheduling, and inservice training of large segments of the total staff.

8. Purchase existing computer products as opposed to developing programs in-house. Many successful low-cost computer programs have been developed "in-house" by existing staff. However, it takes 1-2 years of dedicated training to master a programming language, plus 2-3 years of programming experience to produce a quality program comparable to those produced by major commercial firms. These companies have a full range of staff including instructional designers, content experts, system analysts and programmers whose skills are difficult to duplicate locally. Estimates of programmer time range from 20 to 200 hours to develop one hour of classroom instruction. For selected applications, authoring programs currently available may offer alternatives to existing products.

9. Computers do not replace teachers. Computers can serve as topics of study (computer science, computer literacy, programming) or as classroom tools to aid instruction (drill and practice, tutorial, simulation, testing, problem solving, student management). Combined with a teacher, the computer becomes a powerful instructional tool in the classroom.

10. Introduction of computers requires additional financial resources. As with implementation of any new approach or program, equipment costs, inservice training, supporting materials, and maintenance are additional expense items. These costs are offset, however, by reduced requirements for teacher time to conduct drill and practice activities, increased numbers of students served by existing staff, improved quality of instructional programs, and expanded opportunities for students to acquire new employable skills.

Computers are an essential part of today's schooling, both as objects of study and as instructional tools. Successful implementation of this technology, however, is dependent upon such factors as planning, careful selection of hardware and courseware, adequate inservice training, integration into existing curriculum, staff allocation, and follow-up support.



Individualized Study by Technology

- Complete, self-contained multimedia secondary-level courses
- Courses developed in Alaska for Alaskan needs
- Self-paced, individualized courses that foster student independence and require minimal teacher preparation time

Why use computers to teach?

Students interact personally and intensively with subject matter. They learn actively.

Students receive immediate responses. Correct answers are immediately reinforced, errors are immediately corrected.

The computer is tireless. Students may repeat activities as often as necessary; they may progress when they are ready to.

Students can't just memorize correct answers. Questions are presented in a different random order each time an activity is carried on.

Mistakes corrected by the computer are not embarrassing or threatening, as they might be in oral class work.

Students progress automatically through a course sequence, yet the teacher can modify the sequence as needed.

Students learn to use computers quickly and eagerly, yet they don't lose interest because of the infinite variety that can be offered.



IST course packages available

Alaska History and Geography
English
Developmental Reading
General Mathematics
General Science (available fall 1982)
U.S. History (available fall 1982)

Like many secondary textbooks, IST courses are written at approximately 7th grade reading level. Some optional readings are at higher levels.

IST courses are appropriate for high school students, average junior high students, advanced upper elementary students, and some special education students.

IST programs monitor student progress

Student progress in an IST course is recorded on a disk which is the computer's permanent memory storage. At any time the teacher may call up these records on the screen and may intervene if desired, skipping a student forward or back in the sequence. Individual test scores are recorded showing percent correct. In many cases, any lesson objectives not mastered are listed for the student and the teacher to see, and additional study activities are provided in the course package.

Procedures for enrolling or deleting students, accessing records or changing student assignments on the computer are simple and fast.

Basic equipment required for IST courses

- 1 Apple II-Plus microcomputer
- 2 Three disk drives
- 3 Clock card
- 4 Video monitor
- 5 Power protection unit (optional)
- 6 Audiocassette player and headphones

Each APPLE microcomputer can serve five IST students per hour. Schools wishing to serve greater numbers of students can arrange flexible scheduling or use additional micro-computer terminals.

IST course packages include

Student manual including detailed lesson sequences and readings.

Student packet of student-maintained progress charts.

Printed worksheets, listening guides, lab guides and tests

Computer exercises and tests on diskettes

Audiocassette activities

Teacher guide including student materials, answer keys, teacher notes, and scripts of all computer and audio-cassette activities

Teacher packet with individual and class progress charts
IST operation manual.

Texts and reference books (commercially printed)

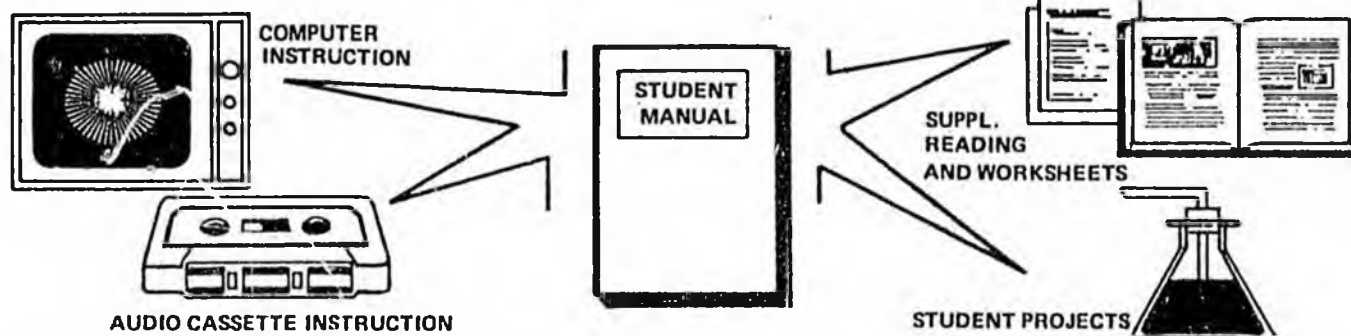
Sample Instructional sequence

An IST lesson is composed of a carefully planned sequence of activities that introduce and build concepts, then provide practice and review. Each sequence is clearly listed on a color-coded page in the student manual, and on the student's progress chart, on which each activity is dated as completed.

Typically, a student might first listen to a 15-minute audio cassette, while completing an accompanying work

page according to directions given on the cassette. Next the student might practice new vocabulary or concepts on the computer, after which a reading might be assigned. Following the reading the student might complete a printed worksheet devised to help him organize and apply what he has learned. Another activity on the computer then may give practice or review of the key points in the lessons.

Lessons might also include a laboratory exercise in math or science, or a student project. A review precedes each test, which may be on the computer, or written, or both.



IST courses — developed for Alaska

IST courses were developed through the Northwest Regional Educational Laboratory as part of the Educational Technology for Alaska project at the Alaska Department of Education. Most courses were written or reviewed by experienced Alaska teachers, and all courses were pilot tested in rural Alaskan schools. The IST project was funded by a grant from the National Institute for Education, matched by a grant from the Alaska legislature.

Teacher training is important

It is important that teachers receive instruction in using the APPLE II computer and in IST teaching techniques

before starting. A number of preservice and inservice training opportunities are available through the ETA Project and the University of Alaska. Contact address below for details.

Costs and further information

IST courses are available for public education in Alaska at reasonable cost. For full information contact:

Project ETA
Alaska Department of Education
Pouch F
Juneau, Alaska 99811
(907) 465-2887