

HB

106

# HOUSE COMMITTEE REPORT

(9)

Date Referred: January 29, 1993

FURTHER REFERRALS:

Finance

Date of Committee Action: 4-14-93

The HEALTH, EDUCATION AND SOCIAL SERVICES Committee considered:

HB 106

HOUSE BILL NO. 106

EDUCATION TECHNOLOGY PROGRAM

"An Act establishing the Alaska education technology program; and providing for an effective date."

RECOMMENDATIONS:

be replaced with \_\_\_\_\_

CS HB 106 (HESS)

the same title

a new title

have attached amendments(s)

do pass

do not pass

no recommendations

individual recommendations

additional referral to the \_\_\_\_\_ Committee

ADOPTS: \_\_\_\_\_ letter of Intent

ATTACHES NEW FISCAL NOTE(S):

(Dept)

APPROVES PREVIOUS:

(Dept/Date)

3  fiscal impact Education, Revenue

fiscal note(s) \_\_\_\_\_

zero fiscal note \_\_\_\_\_

zero fiscal note(s) \_\_\_\_\_

SIGNING DO PASS	DP	OTHER RECOMMENDATIONS	DNP	NR	AM
Betty Davis	X	Re Fast		✓	
Tom Bice	X	Al Voss		X	
		Tom Bice		X	
		Carl Buehler		X	
		Harley Olberg	✓		

*Carl Buehler*

CHAIRMAN'S SIGNATURE



Alaska State Legislature  
 House of Representatives  
 COMMITTEE ON HEALTH, EDUCATION  
 AND SOCIAL SERVICES

DATE: MARCH 10, 1993

PLACE: Capitol Room 106

SUBJECT OF MEETING:  
 \*HB 106: EDUCATION TECHNOLOGY PROGRAM  
 \*HB 107: APPROP: EDUCATION TECHNOLOGY PROGRAM  
 STUDENT PRESENTATION ON COMPUTERS IN SCHOOLS

NAME	REPRESENTING	BUSINESS/PERSONAL MAILING ADDRESS	ZIP	(H) PHONE	(W) PHONE	DO YOU WANT TO TESTIFY?	WHAT SUBJECT/ WHICH BILL?
Karen Jordan	Juneau Public School	AK Society for Learning Ed. 11575 Mc. Dr. Hall Rd	99801	789-1703	463-1967	(Y) N	HB 106/107
Jason Ohler	Chgo of Alaska	1100 Glacier Hwy Juneau AK	99801	463-5655	784-4414	(Y) N	HB 106/107
Jack Detzel	Delta/Greely School District	Pouch 1 Delta Junction AK	99737	895-4939	895-4696	(Y) N	HB 106/107
Pam Rule	Delta/Greely School Dist	Box 597 Delta, AK	99737	895-4706	895-4657	(Y) N	HB 106/107
						Y N	
Sharon Macklin	Anch. School District	315 5th St S T-1278	99501		581-9573	(Y) N	HB 106/107
Karen Crane	DOE Kunenee				465-2910	(Y) N	HB 106/107
						Y N	
						Y N	
						Y N	
						Y N	
						Y N	
						Y N	
						Y N	
						Y N	
						Y N	

LTN:100-90:  
03/11/93

LEGISLATIVE TELECONFERENCE NETWORK

PAGE 01  
09:25:00

TCN: 30324 DATE & TIME: 03/10/93 15:00 TO 17:00 STATUS:7 STATS: IN

\*\*\*\* ORDER SUMMARY \*\*\*\*

SPONSOR: HRES HOUSE HEALTH, EDUCATION AND SOCIAL SERVI CHAIRS: TOONEY  
PURPOSE: PUB PUBLIC HEARING BUNDE  
CONTACT: LYNN SMITH TEL#: (907)465-6825  
CHAIRING SITE: JUNEAU CAPITOL CAP106

SPONSOR REMARKS(PUB): TESTIMONY:Y ALLOWED 5 MINUTE LIMIT  
TCN REQUESTED ON 03/10/93 AND HAS 5 UPDATES

\*\*\*\* AGENDA \*\*\*\*

- 1 HB 106 EDUCATION TECHNOLOGY PROGRAM
- 2 HB 107 APPROP: EDUCATION TECHNOLOGY PROGRAMS

\*\*\*\* PARTICIPATING LIDS \*\*\*\*

ANC ANCHORAGE	3111 C STREET	LOCATION STAFF
BAR BARROW	COURTHOUSE #305	LOCATION STAFF
BET BETHEL	301 WILLOW ST.	LOCATION STAFF
* JNU JUNEAU	CAPITOL CAP106	LOCATION STAFF
SOL KEN/SOL	34824 KALIFONSKY	LOCATION STAFF
TOK TOK LIO	MP 1314 AK. HWY	LOCATION STAFF

PARTICIPANTS IN: BETHEL BET  
 1 BOB MEDINGER LKSD TSFY. HB 106  
 BOX 1063 BETHEL AK 99559 (907)543-4876

PARTICIPANTS IN: JUNEAU JNU  
 1 TEST 1 TSFY. HB 106  
 AK (907)000-0000

PARTICIPANTS IN: KEN/SOL SOL  
 1 MR. DICK SWARNER (2) KPSD TSFY. HB 106  
 148 N. BINKLEY SOLDOTNA AK 99669 (907)262-5846

PARTICIPANTS IN: TOK LIO TOK  
 1 MR. CHARLES MILLER TCC OBSV. HB 106  
 P.O. BOX 126 TOK AK 99780 (907)883-5181  
 2 MR. PAT HUNT AGSD TSFY. HB 106  
 P.O. BOX 883 TOK AK 99780 (907)883-5161  
 3 MR. BILL MILLER UCB OBSV. HB 106  
 P.O. BOX 2262 DOT LAKE AK 99737 (907)882-2693



University of Alaska Southeast

Juneau • Ketchikan • Sitka

School of Education, Liberal Arts and Science

Juneau Campus

March 10, 1993

To: Representative Kay Brown

From: Jason Ohler  
Director, Educational Technology Program  
University of Alaska Southeast

Re: HB 106, Education Technology and HB 107, Bonds for  
Educational Technology

Dear Representative Brown:

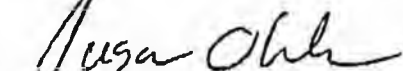
For seven years I have been directing a program whose primary mission is to empower teachers and students with technology in effective, creative, educationally sound, and culturally appropriate ways. In seven years I have watched as a fascination with Apple IIe computers and VHS players on the part of a few educators has grown into a desire by many to use advanced computers, telecommunications, multi-media, and other technologies to make education more meaningful, relevant, and responsive to the age in which they live.

Seven years ago Alaska had an edge in educational technology. It is my observation that Alaska has lost that edge and that teachers are frustrated with the lack of technology that they need in order to teach the skills that they know their students need to enter today's work force. It is also my observation that most educators believe that technological proficiency needs to be a basic component of a well-rounded education and that the tools needed to make this happen are, by and large, simply not there.

Your proposal offers a real chance to regain lost time and lost ground. It offers a real opportunity not only to replenish classrooms with much

needed learning technology, but also to draw educators into the process of planning for technology and examining the best ways to use it to serve their students, school districts, and ultimately the public. I commend you on your foresight in this area and urge legislators to support your proposal.

Please let me know if I can be of further assistance.



Jason Ohler

Director, Educational Technology Program

University of Alaska Southeast

Phone: 463-5685, Fax: 586-1691, UACN: JFJBO

Rep. Kay Brown

Talking notes/education technology

House HESS Committee

3-10-93

• **Introduction**

Thank you for hearing HB 106 and HB 107, which would establish an education technology program for the state.

• **Overview**

An infusion of technology in Alaska schools will provide benefits to students, teachers, and society.

Nationally, we are moving toward a consensus that -- as the Congressional Office of Technology Assessment put it -- "appropriate assignment of new technologies within effectively organized schools could make a big difference in academic performance."

It is being widely recognized that the power of the computer is needed in every classroom in order to **free teachers to spend more quality time teaching** students, to **improve student performance** by allowing intensive, individual electronic instruction for each student, and to **prepare students to work in the electronic global work place.**

Mastery at using computers is now required in virtually every service, profession, science, and art. Students must get a fundamental grounding in how to find out what they need to know and how to perform their work in the context of an electronic world.

Recommendations for **Alaska 2000** included a comprehensive technology program; however, these elements are not included in the Governor's bills. (reference Association of Alaska School Boards, letter of Feb. 23, which recommends a program like the one that would be established by these bills.)

Major concerns: **cost and equity.**

We know that equipping high-tech schools will be expensive, and high costs to date have greatly limited the number of students who can participate and benefit. In the Lower 48 much of the new technology is concentrated in affluent suburban schools systems, where educational opportunities are already greater than in many urban and rural districts.

A majority of Alaska students get no opportunity to work with computers at school, and only a small fraction, about one-tenth of them, work with a computer every day.

This is frustrating in that for several years I and a number of other legislators have been **working to increase state support** for technology in schools in our districts.

Substantial direct grants for Anchorage schools have now been vetoed by two governors. Former Gov. Cowper suggested that it was **unconstitutional** to fund computers for only some schools. That is what led me to develop a statewide approach to the problem.

**HB 106/HB 107** would establish a comprehensive education technology program on an equitable basis for all schools in the state.

- **Benefits**

Benefits of education technology are discussed at length in *How to Shape Up Our Nation's Schools: Three Crucial Steps for Renewing American Education*, by Terrel H. Bell and Donna L. Elmquist, and in *Power On: New Tools for Teaching and Learning*, by the congressional Office of Technology Assessment.

I'd like to say a few words about Dr. Bell, who came to Juneau in 1991 to testify in favor of HB 203/204, which I sponsored in the 17th legislature. He was U.S. Secretary of Education from 1981-85 under President Reagan, and has been a leading advocate of education reform. His book is the best articulation I have seen of the benefits of education technology.

Bell and Elmquist write that "electronic instruction is the future of education." They say that technology should be the catalyst for restructuring education. "Schools must be modernized and pushed into the level of effectiveness that other aspects of business and industry have attained."

Interactive technologies have been used in American schools on a limited basis for more than 30 years, and a body of research has been accumulated about the results. The OTA said in its 1988 report that studies conducted to look at the effectiveness of Computer-Aided Instruction (CAI) show that elementary level students who received brief daily CAI lessons as a supplement to instruction showed gains equivalent to 1 to 8 months of instruction over their peers who received traditional instruction only. Other

findings show that CAI is more effective at raising achievement among low-achieving students than for average or high-achieving students.

Students complete material faster with CAI than with traditional instruction, sometimes as much as 40 percent faster. Increases in student attendance, motivation, and attention span have also been reported in most studies.

Major benefits include:

\* **improve student achievement.** Effective learning requires that a student actively participates, engages in serious independent work, and receives regular and frequent feedback, instead of passively receiving instruction. Modern technology can help free students from the cycle of passivity. This assumes high-quality software that incorporates effective teaching practices and organization of the curriculum.

**Student benefits and how technology is used in schools:**

- \* **drill and practice** to master basic skills (traditional application, used successfully for many years -- reading and math)
- \* **individualized instruction.** Students move at own pace. intelligent tutoring systems. keep exact records of student progress.
- \* **simulation** in science, mathematics and social studies
- \* **enhancing problem-solving** abilities
- \* **understanding abstract math and science concepts** (microcomputer-based laboratories, graphing)
- \* **manipulation of data** (ability to create, search and use databases for individual and class projects)
- \* **writing skills**

- \* **computer skills for general purposes, and for business and vocational training** -- prepare students to function in an increasingly technological world
- \* **increase student awareness of the outside world** (E-mail, databases).
- \* **cooperative learning.** telecommunications technology makes new ways of communicating and sharing possible. potential to work in small teams in the classroom.
- \* **distance learning** has many possibilities to improve the quality of education in Alaska due to telecommunications advances.
- \* **access and communication for traditionally unserved populations** of students (such as special education), especially in **rural areas**, and for people with **disabilities** (such as speech synthesizers and other devices).

Technology is not meant to replace the teacher but to place more responsibility on the student for independent learning under the teacher's guidance and observation.

The professionally trained teacher is indispensable in attaining the outcomes described, and only a skilled teacher can integrate and orchestrate all the learning activities into a well-executed program of teaching and learning. (Bell/Elmqvist)

\* **improve teacher efficiency.** In addition to test scoring, recording progress, communicating with parents, and preparing lessons, teachers have many mandated administrative and clerical responsibilities. Computer systems can enhance teachers' abilities to do their jobs more effectively. Computers and appropriate software can **simplify routine paperwork, complete report forms, monitor each student's progress, track learning deficiencies and strengths, as well as tutor students.** These capabilities enhance the quantity and quality of interaction between teachers and students.

Technology also can enable them to share information with other educators, interact with the outside world and bring that world into the classroom.

Can't over emphasize the importance of **teacher training**. Unless teachers understand the tools and how to use them, the potential of technology will not be realized.

• **Why technology hasn't taken hold in our schools**

Bell and Elmquist:

- \*expensive and difficult to acquire
- \*technology used only in small-scale ways or as an afterthought, rather than as part of a plan to enhance productivity and transform school practices.
- \***training of teachers frequently neglected**
- \*necessary changes in management have not been made
- \*many advocates of technology have failed to realize that teaching is a human, complex activity requiring a great deal of interaction with students.

**Summary of bills**

During several years of work with teachers, educators, parents, DOE personnel, school districts, technology specialists and others, I've developed the proposals in HB 106/HB 107. (Draft CS for HB 106, Ford 2-16, makes minor changes, mostly related to libraries; new language is marked.)

Briefly, these bills would:

- establish the **Alaska Education Technology Program** in the Department of Education. The program must include

- (1) **technical assistance** to districts, schools and libraries for the purpose of planning for, purchasing, using and evaluating the results of education technology;
- (2) **training** for teachers and other employees in the use of education technology;
- (3) a plan for **coordinating and expanding existing networks** for educational uses.

- establish the **Alaska Education Technology Fund**; the commissioner of Revenue is the treasurer of the fund.

The **purpose of the fund** is to (1) enhance the quality and equity of education at public elementary and secondary schools by **providing a portion of the money needed to purchase and maintain education technology** in classrooms; (2) provide **training** in the use of education technology to help students achieve student performance standards; and (3) provide **access to networks** for public schools.

- require a **local match for funding**; the sliding scale formula proposed in the Governor's HB 82 (local match for construction and major maintenance grants) is proposed for the education technology fund.

The requirements for an application are outlined in detail (beginning at page 4, line 20).

Before a grant is awarded a **school must prepare a comprehensive plan** explaining how it will use the technology to improve student performance, how it will train teachers and other instructional personnel in curriculum application and implementation, and how it will evaluate program.

- establish an **Education Technology Committee**, consisting of the director of the division of libraries, archive and museums and seven members appointed by the Governor.

The seven include four educators with demonstrated education technology experience from districts of varying sizes; one university and one DOE employee with demonstrated experience; and one employee of the Department of Administration with telecommunications expertise.

- require the committee to develop appropriate guidelines to ensure an **equitable distribution of funds** over a five-year period. (page 8, line 18)
  
- amend the "**school report card**" requirement to include a report on "uses of education technology by classroom teachers that have improved student performance and the results of periodic evaluations of education technology" acquired under the Alaska Education Technology Fund program. (page 2, line 30)
  
- require the DOE to conduct, before accepting applications for funds
  - (1) a **survey of education technology resources** in public schools and libraries in the state; and
  - (2) **statewide planning and grant writing seminars** available to all public schools, districts and libraries. (page 9, line 20)

## **Funding**

I recommend that the State spend about **\$10 million a year for five years (\$50 million total)** to implement a statewide technology program:

**\*\$40 million from G.O. bonds, and**

**\*\$10 million from the General Fund** to cover non-bondable costs such as teacher training (\$2 million GF per year).

While a G.O. bond approach is incorporated in HB 107, the program could be funded with cash.

**Fiscal notes**

**HB 106**

- DOE, libraries -- 74.0 in first year for support for State Library.
- DOE, program support -- 132.8 in first year for program support.

**HB 107**

- Revenue, Treasury Management -- 256.5 to support GO bond issuance.

The additional General Fund costs that I mentioned could be funded through a fiscal note to the bill establishing the program.

**Why bond?**

\*difficult to get all General Funds in one year. continuing appropriations are legally questionable and clearly not binding.

\* knowing the amount up front helps ensure an equitable distribution

\* let the people decide. I think it is appropriate to ask the public whether they wish to borrow money to make this opportunity possible. Based on the reaction I've received from students, parents, teachers, school board members and administrators around the state, I'm optimistic about the chances for passage. Anchorage voters approved bonds for school library technology in 1991. reference polls, DOE statewide survey supporting education technology.

\* the state's debt service obligations are declining rapidly; this amount of debt can be issued responsibly. Note at page 1, lines 11-13 of HB 107, the bonds may not be issued in amounts that will cause the debt service on the bonds to exceed five percent of projected unrestricted GF in the years when the bonds are repaid.

We have an **opportunity to be leaders** in the effort to bring technology into the classroom. **Because of our small population**, it is within our ability to provide this opportunity equitably for all our children. I welcome your support, and I'd be happy to provide any additional information.



REPRESENTED BY: JOSTENS LEARNING / ALASKA, INC.  
8311 DEBARR ROAD, SUITE L2C, ANCHORAGE, AK 99504-1775  
907 333-1353 24 HOUR MESSAGE 800 221-7927, EXT. 4459  
FAX: 907 333-0707

March 9, 1993

The Hon. Cynthia Toohey, Co-Chair, and  
The Hon. Con Bunde, Co-Chair  
House Health, Education and Social Services Committee  
via fax 465-2278

Dear Ms. Toohey and Mr. Bunde:

I am writing in support of HB 106, Education Technology and HB 107, Bonding which I understand you will hear tomorrow.

As is stated in the bill's Findings and Purpose: "education technology has the potential to improve the academic performance of students..."

It most certainly does, and if through the assistance provided by this legislation school districts select good instructional software and available staff development, it has been demonstrated time and again that our kids will show meaningful learning improvement. On request I will be glad to provide you with dozens of pertinent reports from school districts across the country and now similar reports from a few of Alaska's school districts are available.

This bill's reference to improved academic performance as an objective should encourage student use of computers and other technology in ways in which you and I do not work with these machines.

Basically, you and I use computers as tools; we have, for the most part, already acquired our basic communication skills and have less need of the very sophisticated core subject integrated instructional software on the market today.

Students need access to both. If it were merely a case of exposing students to basic computer use as is common in the workplace, such could be fully accomplished in the final semester of high school and this bill would be unnecessary.

I very much hope that you will work towards a favorable vote in House HESS. Thank you.

Sincerely,  
Jostens Learning/Alaska, Inc.

Rob Lapham  
President

FEB 16 1993

8-LS0223NE

Ford

2/16/93

NEW TEXT Underlined

DELETIONS IN BRACKETS [ ]

CS FOR HOUSE BILL NO. 106( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

EIGHTEENTH LEGISLATURE - FIRST SESSION

BY

Offered:

Referred:

Sponsor(s): REPRESENTATIVES BROWN, Ulmer, Davidson, Bunde, B.Davis, Carney, Nordlund, Brice, Nicholia, Davies, Willis

A BILL

FOR AN ACT ENTITLED

1 "An Act establishing the Alaska education technology program; and providing for  
2 an effective date."

3 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

4 \* Section 1. FINDINGS AND PURPOSE. (a) The legislature finds that

5 (1) 75 percent of the labor force in the state is unprepared to deal with rapidly  
6 changing technology;

7 (2) the education system and publicly funded libraries can help in creating a  
8 trained and productive labor force;

9 (3) education technology has the potential to improve the academic  
10 performance of students, to prepare students for work in a technological society, and to assist  
11 with education reform;

12 (4) schools and publicly funded libraries lack adequate hardware, software, and  
13 training for students, patrons, and educators in education technology;

14 (5) in order to implement effective education technology programs, teacher

1 training and active participation is essential;

2 (6) an equitable distribution of education technology is necessary to ensure that  
3 all public school students in the state receive comparable educational opportunities;

4 (7) equal access to information in libraries is important to all citizens of the  
5 state.

6 (b) It is the purpose of this Act to establish the Alaska education technology program,  
7 to provide teachers, library staff, and other instructional personnel with training in how to  
8 apply education technology in meeting instructional objectives, and to provide the necessary  
9 equipment and materials to effectively utilize education technology within the adopted  
10 curricula throughout the rural and urban schools and in publicly funded libraries of this state.

11 \* Sec. 2. AS 14.03.120(e) is amended to read:

12 (e) A district shall, by October 31 of each year, provide to the state board, and  
13 make available to the public, a report on the performance of each public school and  
14 public school students in the district. The report must be entitled "School District  
15 Report Card To The Public" and must be prepared on a form prescribed by the  
16 department. The report must include

17 (1) the percent of district students in the top and bottom quarter of  
18 standardized national achievement examinations; results under this paragraph shall be  
19 disclosed in a manner that does not reveal the individual identities of students;

20 (2) the percent of students who are not promoted to the next grade;

21 (3) student, parent, and community member comments on the school's  
22 performance;

23 (4) the annual percent change in enrollment and the percent of  
24 enrollment change due to student transfers into and out of the district;

25 (5) attendance, retention, and graduation rates;

26 (6) the ways in which meaningful parent involvement in school  
27 performance was achieved;

28 (7) a summary and evaluation of the environmental education  
29 curriculum described in AS 14.30.380;

30 (8) uses of education technology by classroom teachers that have  
31 improved student performance and the results of periodic evaluations of education

1 technology acquired under AS 14.30.810:

2 (9) other indicators of school performance required by the state board:  
3 and

4 (10) [(9)] other indicators of school performance selected by the  
5 district.

6 \* Sec. 3. AS 14.30 is amended by adding new sections to read:

7 ARTICLE 12. ALASKA EDUCATION TECHNOLOGY.

8 Sec. 14.30.800. ALASKA EDUCATION TECHNOLOGY PROGRAM. (a)

9 The Alaska education technology program is established in the department. The  
10 program must include

11 (1) technical assistance to a district, a public school, or a publicly  
12 funded library for the purpose of planning for, purchasing, using, and evaluating results  
13 of education technology;

14 (2) training for employees of a district, public school, or publicly  
15 funded library in the use of education technology in the classroom or library; and

16 (3) a plan for coordinating and expanding existing networks and  
17 investigating the development of new networks for educational uses, including the  
18 University of Alaska computer network, Star Schools, Livenet, public television, rural  
19 Alaska television, and library networks sharing systems; the plan required under this  
20 paragraph shall be developed in consultation with the Department of Administration  
21 and must be consistent with AS 44.21.315(c).

22 (b) In administering the program required under this section, the department  
23 may pool grant money or other money available from each district or publicly funded  
24 library in order to make a bulk purchase of education technology or to provide  
25 necessary training.

26 Sec. 14.30.810. ALASKA EDUCATION TECHNOLOGY FUND  
27 ESTABLISHED. (a) The Alaska education technology fund is established in the  
28 department. The purpose of the fund is to (1) enhance the quality and equity of  
29 education at public elementary and secondary schools by providing a percentage of the  
30 project or grant money needed to purchase, install, and maintain education technology  
31 in classrooms; (2) provide training in the use of education technology to help students

1 achieve student performance standards; (3) provide access to networks for public  
2 schools and publicly funded libraries through the University of Alaska computer  
3 network, the Department of Administration computer network, or other means  
4 consistent with the program developed under AS 14.30.800 and AS 44.21.315(c); and  
5 (4) provide a percentage of the cost of education technology, including computer and  
6 resource sharing systems, to publicly funded libraries. Money in the fund may be used  
7 to provide grants or may be expended by the department for projects that further the  
8 purposes described in this subsection. The fund consists of legislative appropriations  
9 to the fund and public or private donations made for the purpose of the fund.

10 (b) A project or grant application may be submitted to the department by a  
11 school district on behalf of a public school, or by a publicly funded library. The  
12 department shall fund projects approved by the committee or award grants from the  
13 fund to a school district for a public school, or to a publicly funded library selected  
14 by the committee. Money in the fund that consists of proceeds from the sale of  
15 general obligation bonds may not be awarded to a school district, a public school, or  
16 a publicly funded library as a grant.

17 (c) As a condition of funding a project or awarding a grant, the department  
18 shall require the school district or publicly funded library to pay that percentage of the  
19 cost of the project or grant required under AS 14.30.820.

20 (d) A project or grant application submitted by a school district under (b) of  
21 this section must include

22 (1) educational goals and objectives;

23 (2) the sum of money to be provided by the department and by the  
24 school district;

25 (3) a comprehensive plan for using the education technology selected  
26 to achieve the educational goals and objectives;

27 (4) a description of the relationship between the application and the  
28 district's goals for student performance outlined in the report submitted under  
29 AS 14.03.120;

30 (5) required initial and ongoing training for teachers to effectively use  
31 the education technology in the classroom;

- 1 (6) a description of the education technology proposed to be purchased;
- 2 (7) a proposed budget;
- 3 (8) a description of local efforts or resources that will be contributed;
- 4 (9) provisions for site preparation, equipment security, and required
- 5 technical and maintenance support;
- 6 (10) criteria and methods that will be used to periodically evaluate and
- 7 document progress in achieving the educational goals and objectives;
- 8 (11) a description of local partnerships that are or will be involved in
- 9 the planning, implementation, or evaluation of the project; and
- 10 (12) documentation of the process used by the public school to develop
- 11 the plan.

12 (e) A project or grant application submitted by a publicly funded library under

13 (b) of this section must include

- 14 (1) library goals and objectives, including how the education technology
- 15 will improve services of the library or access to resource sharing;
- 16 (2) the sum of money to be provided by the department and by the
- 17 publicly funded library;
- 18 (3) a comprehensive plan for using the education technology selected
- 19 to achieve library goals and objectives;
- 20 (4) required initial and ongoing training for library personnel to
- 21 effectively use the education technology;
- 22 (5) a description of the education technology proposed to be purchased;
- 23 (6) a proposed budget;
- 24 (7) a description of local efforts or resources that will be contributed;
- 25 (8) provisions for site preparation, equipment security, and required
- 26 technical and maintenance support; and
- 27 (9) whether the library participates in a resource sharing system;
- 28 (10) documentation of the process used by the library to develop the
- 29 plan.

30 (f) The board shall adopt regulations that allow a school district, a public

31 school, or a publicly funded library to obtain education technology under a permit or

1 lease with the department, for a project approved under AS 14.30.840(b).

2 (g) The department shall administer grants awarded under this section and shall  
3 include a report on the projects receiving funds as part of the department's annual  
4 report. [SCHOOL DISTRICT]

5 Sec. 14.30.820.) REQUIRED PARTICIPATION IN GRANT PROGRAM. (a)  
6 In order to receive a grant or have a project funded under this chapter, a school district  
7 or publicly funded library must provide a percentage share of the project cost, as  
8 determined under (b) or (c) of this section.

9 (b) The required participating share for a city or borough school district or a  
10 publicly funded library in a city or borough school district is based on the district's full  
11 value per ADM, which is calculated by dividing the full and true value of the taxable  
12 real and personal property in the district, calculated as described in AS 14.17.025(a)(1),  
13 by the district average daily membership, for the same fiscal year for which the  
14 valuation was made. The district's full value per ADM determines the district's or  
15 publicly funded library's required participating share, as follows:

Full Value Per ADM	Participating Share
\$1 - \$100,000	5 percent
100,001 - 200,000	30 percent
200,001 - 600,000	45 percent
over 600,000	55 percent.

21 (c) The required participating share for a regional educational attendance area  
22 or publicly funded library in a regional educational attendance area is 3.8 percent. The  
23 required share may be satisfied by federal or local money, locally contributed labor,  
24 material, or equipment, or money from other sources. If a regional educational  
25 attendance area or publicly funded library can demonstrate in writing that it is unable  
26 to provide the required participating share, or that the requirement to provide a  
27 participating share will jeopardize receipt of federal assistance, the commissioner may  
28 waive all or a portion of the required participating share.

29 [FUNDING]  
30 (d) State funds provided under AS 14.11 may not be used as a source of the  
31 required participating share under (b) or (c) of this section.

31 Sec. 14.30.830. POWERS AND DUTIES OF THE COMMISSIONER OF

1 REVENUE. The commissioner of revenue is the treasurer of the fund and has the  
2 following powers and duties under this section:

3 (1) to act as official custodian of the cash and investments belonging  
4 to the fund by securing adequate and safe custodial facilities;

5 (2) to collect the principal and income from investments owned or  
6 acquired by the state treasury and deposit the amounts in separate principal and income  
7 accounts for the fund;

8 (3) to invest and reinvest the assets of the fund as provided in this  
9 section and as provided for the investment of funds under AS 14.25.071;

10 (4) to exercise the powers of an owner with respect to the assets of the  
11 fund;

12 (5) to do all acts, whether or not expressly authorized, that the  
13 commissioner of revenue considers necessary or proper in administering the assets of  
14 the fund;

15 (6) to maintain accounting records of the fund in accordance with  
16 investment accounting principles and with distinction between the principal and income  
17 accounts of the fund;

18 (7) to engage an independent firm of certified public accountants to  
19 annually audit the financial condition of the fund's investments and investment  
20 transactions;

21 (8) to enter into and enforce contracts or agreements considered  
22 necessary for the investment purposes of the fund;

23 (9) to report to the department the condition and investment  
24 performance of the fund.

25 Sec. 14.30.840. EDUCATION TECHNOLOGY COMMITTEE. (a) The  
26 Education Technology Committee is composed of the director of the division of  
27 libraries, archives, and museums and seven members appointed by the governor. The  
28 governor shall appoint

29 (1) four members who are educators with demonstrated education  
30 technology experience;

31 (A) one from a district with 15,000 or more students;

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31

- (B) one from a district with at least 6,000 but less than 15,000 students;
  - (C) one from a district with at least 1,000 but less than 6,000 students; and
  - (D) one from a district with less than 1,000 students;
- (2) one member with demonstrated education technology experience who is employed by the University of Alaska;
- (3) one member with demonstrated education technology experience who is employed by the department; and
- (4) one member with expertise in telecommunications employed by the Department of Administration.

(b) The committee shall review project and grant applications and approve project funding or award grants to a school district or a publicly funded library from the fund. In reviewing project or grant applications the committee shall consider the completeness and consistency of the application in meeting the requirements of AS 14.30.810(d) and (e). In funding projects or awarding grants to a district or library, the committee shall incorporate the applicant's plan for utilizing education technology. In funding projects or awarding grants, the committee shall develop appropriate guidelines to ensure an equitable distribution of project and grant funds over a five-year period. The committee shall recommend to the department the best method for providing statewide teacher training and training to other instructional personnel on the application and implementation of education technology as a part of the classroom curriculum or library use.

(c) Members of the committee serve without compensation but are entitled to receive per diem and travel expenses authorized for boards and commissions under AS 39.20.180.

Sec. 14.30.900. DEFINITIONS. In AS 14.30.800 - 14.30.900,

- (1) "average daily membership" has the meaning given in AS 14.17.250;
- (2) "committee" means the Education Technology Committee;
- (3) "district" has the meaning given in AS 14.17.250;

1 (4) "education technology" means instructional equipment and materials  
2 that are used to enhance the quality and effectiveness of teaching and learning, and to  
3 enhance access to information in libraries, including hardware, software, and  
4 telecommunications;

5 (5) "fund" means the Alaska education technology fund;

6 (6) "publicly funded library" means a library eligible for a grant under  
7 AS 14.56.310.

8 \* Sec. 4. Notwithstanding AS 14.30.820(b) and (c), enacted in sec. 3 of this Act, the  
9 required participating share

10 (1) for a city or borough school district or a publicly funded library in a city  
11 or borough school district with a full value per average daily membership of more than  
12 \$100,000 is 15 percent less than required under AS 14.30.820(b) in the school year beginning  
13 in 1993, 10 percent less than required under AS 14.30.820(b) in the school year beginning in  
14 1994, and five percent less than required under AS 14.30.820(b) in the school year beginning  
15 in 1995; and

16 (2) does not apply in a regional educational attendance area or to a publicly  
17 funded library in a regional educational attendance area for the school year beginning in 1993;  
18 for the school year beginning in 1994, the required participation is one percent and for the  
19 school year beginning in 1995, the required participation is 2.4 percent.

20 \* Sec. 5. Before accepting project or grant applications under AS 14.30.810(b), enacted in  
21 sec. 3 of this Act, the Department of Education shall conduct

22 (1) a survey of education technology resources in public schools and publicly  
23 funded libraries in the state; and

24 (2) statewide education technology planning and grant writing seminars,  
25 available to all public schools, school districts, and publicly funded libraries.

26 \* Sec. 6. AS 14.03.120(e)(8); AS 14.30.810, 14.30.820, 14.30.830, 14.30.840, and  
27 14.30.900 are repealed June 30, 2000.

28 \* Sec. 7. This Act takes effect July 1, 1993.

2/19/93

## HB 106

### Education Technology Program

#### Sponsor Statement

##### Background

Alaska must prepare its children to compete in the global marketplace. The computer revolution that has transformed the way industry and government conduct business is creating new demands on America's educational system. Mastery of computers is now required for virtually all occupations, regardless of whether they are technical, professional, entry-level or executive-level.

Expanding the use of technology in classrooms is an important aspect of education reform. Because teachers and students will not learn the desired skills without ongoing, intensive access to technology, state support is needed to help districts acquire needed hardware, instructional software and other technologies for library and classroom use.

Educational leaders agree that computers in the classroom can aid in the instruction of numerous subjects. Classroom access to telecommunication networks enables cost-effective use of "distance delivery" techniques, expanded access to libraries, and cooperative projects among schools.

##### Summary

Briefly, these bills would:

- establish the Alaska Education Technology Program in the Department of Education. The program must include
  - (1) technical assistance to districts, schools and libraries for the purpose of planning for, purchasing, using and evaluating the results of education technology;
  - (2) training for teachers and other employees in the use of education technology;
  - (3) a plan for coordinating and expanding existing networks for educational uses.

*Sponsor Statement*

- establish the Alaska Education Technology Fund; the commissioner of Revenue is the treasurer of the fund.

The purpose of the fund is to (1) enhance the quality and equity of education at public elementary and secondary schools by providing a portion of the money needed to purchase and maintain education technology in classrooms; (2) provide training in the use of education technology to help students achieve student performance standards; and (3) provide access to networks for public schools.

- require a local match for funding; the sliding scale formula proposed in the Governor's HB 82 (local match for construction and major maintenance grants) is proposed for the education technology fund.

The requirements for an application are outlined in detail (beginning at page 4, line 18). Before a grant is awarded a school must prepare a comprehensive plan explaining how it will use the technology to improve student performance, how it will train teachers and other instructional personnel in curriculum application and implementation, and how it will evaluate program.

- establish an Education Technology Committee, consisting of the director of the division of libraries, archive and museums and seven members appointed by the Governor. The seven include four educators with demonstrated education technology experience from districts of varying sizes; one university and one DOE employee with demonstrated experience; and one employee of the Department of Administration with telecommunications expertise.

- require the committee to develop appropriate guidelines to ensure an equitable distribution of funds over a five-year period. (page 8, line 14)

- amend the "school report card" requirement to include a report on "uses of education technology by classroom teachers that have improved student performance and the results of periodic evaluations of education technology" acquired under the Alaska Education Technology Fund program. (page 2, line 28)

- require the DOE to conduct, before accepting applications for funds (1) a survey of education technology resources in public schools and libraries in the state; and

- (2) statewide planning and grant writing seminars available to all public schools, districts and libraries. (page 9, line 13)

### **Funding**

The proposed total cost to the State is \$10 million a year for five years (\$50 million total):

\*\$40 million from G.O. bonds, and

\*\$10 million from the General Fund to cover non-bondable costs such as teacher training (\$2 million GF per year).

The General Fund costs will be shown as a fiscal note to the bill establishing the program.

The companion bill proposes a G. O. bond issue of \$40 million, to be considered by the voters in 1994.

Feb. 19, 1993

## SECTIONAL ANALYSIS

### HB 106

#### An Act Establishing the Education Technology Program

##### Section 1

Findings and Purpose.

##### Section 2

The "School District Report Card To The Public" requirement in AS 14.03.120(e) is amended to include a report on "uses of education technology by classroom teachers that have improved student performance and the results of periodic evaluations of education technology acquired" under the program established in this bill.

##### Section 3

The Alaska Education Technology Program is created in the Department of Education. The department will offer technical assistance to schools and publicly funded libraries in planning, purchasing, using and evaluating results of education technology. The department will provide training to school and library employees in the use of education technology. The department will develop a plan for coordinating and expanding the use of existing networks and investigating the development of new networks for educational uses.

The Alaska Education Technology Fund is established in the Department of Education. Proceeds of the fund will be used to provide a portion of the money needed to purchase, install, and maintain education technology for use in Alaska public and secondary school classrooms, provide training for teachers and other instructional personnel in the use of the technology, provide network access for public schools and publicly funded libraries through the University of Alaska computer network or other means, and provide a portion of the money needed to purchase computer and resource sharing systems for public libraries.

The fund consists of legislative appropriations to the fund and public or private donations made for the purpose of the fund. The Commissioner of Revenue is designated as treasurer of the fund.

The items that must be included in an application to fund a project or grant are specified for schools and libraries. Before a grant or project is awarded a school must prepare a comprehensive plan explaining how it will use the technology to improve student performance, how it will train teachers and other instructional personnel in curriculum application and implementation, and how it will evaluate program. Publicly funded libraries must provide a plan explaining how the project will improve the services of the library or access to resource sharing and how it will provide ongoing training for library personnel in the effective use of education technology.

Money in the fund that consists of proceeds from the sale of G.O. bonds may not be awarded as a grant. The state board shall adopt regulations that allow a school district, a public school, or a publicly funded library to obtain education technology under a permit or lease with the department; this provision will enable the department to purchase equipment with G.O. bond monies and then allow the equipment to be used by a school, district or library under a lease or permit. Grants can be awarded for training (G.O. bond funds cannot be used for training).

The Department of Education shall include in its annual report a report on the projects receiving education technology funding.

A school district or publicly funded library must provide a share of the project cost in accordance with a formula specified in AS 14.30.820 (b) and (c). Section 4 of the bill provides a transitional phasing in of this formula. This is the same formula proposed in the Governor's HB 82 (local match for school construction and major maintenance grants).

The duties of the Commissioner of Revenue with respect to the fund are outlined.

An Education Technology Grant Committee is created consisting of seven members appointed by the governor and the director of the Division of Libraries, Archives and Museums. The seven include four educators with demonstrated education technology experience from districts of varying sizes; one university and one DOE employee with demonstrated experience; and

one employee of the Department of Administration with telecommunications expertise.

The Committee shall review and approve project and grant requests using specified criteria.

The committee shall develop appropriate guidelines to ensure an equitable distribution of project and grant funds over a five-year period.

Members of the Committee serve without compensation but are entitled to receive per diem and travel expenses.

Terms are defined.

#### Section 4

This section provides a transitional phasing in of the local match requirement established in AS 14.30.820 (b) and (c).

#### Section 5

Before accepting project or grant applications, the Department of Education shall conduct a survey of existing education technology resources. The department also shall conduct statewide education technology planning and grant writing seminars available to all public schools, school districts and publicly funded libraries.

#### Section 6

Sunset clause. The Alaska Education Technology Program established by this legislation is repealed June 30, 2000.

#### Section 7

Effective date of July 1, 1993.

## Today's Schools Need High-Tech Teaching Tools

Terrel H. Bell

**O**ur failure to address the antiquated state of education is largely responsible for the economic predicament we find ourselves in today. While 10 percent of the American workforce may be the best-prepared in the world, 90 percent is widely considered to be among the least-qualified of any industrial nation. With the Cold War behind us, the wars of the future will be trade wars characterized by technology, competitiveness, creativity, quick response and rapid change. Victory can be achieved only by a learning society.

How can we prepare our children for the technological world of today, with the educational theories and tools of yesteryear? Just as the abacus was replaced by pencil and paper, the slide rule, and the hand-held calculator, education too must keep pace with the technological revolution that surrounds us. Today's knowledge explosion requires schools to fundamentally change the way teachers teach, and the way students learn. Any supermarket checker is supported by more sophisticated technology than our teachers, whose methods of teaching have remained virtually unchanged since Gutenberg.

If the Pony Express had not lost sight of its focus — that it was in the information delivery business, and not in the horse business — it would still be in competition today. Let's not sit idly by and watch the United States suffer the same fate as the Pony Express.

A lesson for political leaders in the benefits of educational technology can be found just outside the nation's capital in Prince George's County, Md. This predominantly working class suburb was once viewed as the norm of Washington, D.C., flanked by the rosy affluence of neighboring Montgomery and Fairfax Counties. Today, it enjoys new respect through its commitment to educational

Terrel H. Bell is an author, lecturer and educational consultant. As U.S. Secretary of Education in the Reagan administration he established the National Commission on Excellence in Education.

technology in the public school system.

Since beginning to invest in education, Prince George's has experienced an increase in the test scores of its children over the past six years—to the point where it is gaining rapidly on Montgomery and Fairfax Counties. As a result of Prince George's County's commitment to technological and scientific education, a child can start off in a magnet school with special programs in 13 areas (including talented and gifted, science, math and technology, French, Montessori and creative and performing arts), go to the county's Challenger Center, win a place at a special science-oriented high school, and move on to any



of the state's colleges and universities. And as the quality of its school system rises, so does Prince George's County's allure to businesses.

I would like to emphasize that there is no substitute for a good teacher. Teachers, in the past, were successful because they did not have to deal with the knowledge explosion that we have today. We must acquire a means of teaching that can keep up with this knowledge explosion, meet the individual needs of students, provide equal opportunity for learning, individualize instruction to the maximum extent possible—and we must do so without hesitation!

Technological innovations can help teachers "teach smarter" and increase student performance. No longer must some students be assigned unproductive "seat-work" to keep them busy while the teacher is trying to meet other students' needs. Educational software ultimately decreases the student/teacher ratio, as it increases higher-order thinking and problem-solving abilities. And it is much more affordable to update than to continuously replace textbooks.

We have found that in mathematics, reading, science, language arts and even in English for Speakers of Other Lan-

guages (ESOL), dramatic gains in motivation, performance, cooperation and independent study were realized across the board by students using instructional technology. By allowing each student to control his or her own pace of instruction, both low-achieving and high ability students come to know success.

In Dalton, Ga., "the Carpet Capital of the World," the community was threatened when the workforce, 56 percent of whom had less than a high-school education, was faced with having to master the manufacturing technology critical to survive in today's marketplace. Since embarking on a far-reaching and highly innovative educational-improvement

partnership that embraced computer technology, the high-school dropout rate in the area has fallen from 43 percent for 1983-86 to 35 percent for 1987-90.

In Washington, D.C., the Women's Leadership Group and the Metropolitan Boys & Girls Club made a generous donation to a children's club located in the heart of the drug world. They gave the club a variety of technology tools—camcorders, computers, desk top publishing equipment. Using computers, the children conceptualized and produced a teen TV video and supplemental materials. The program, called "Stop Having Babies," dealt with the growing problem of teenage pregnancies. The children developed a rap song and participated in role playing. They also used the computer to create the graphics for the TV program. Forty packages containing the video and print material were made and presented before some 50,000 of the boys and girls from athletic programs throughout the district.

These are but a few examples of communities that are making strong commitments to education reform by bringing instructional technology to the classroom. They realize that they are in the people business—not the pencil business, not the paper business, not the bookbinding business. The simple fact is that we cannot talk about education reform, and long-term economic recovery, without talking about the application of technology in the classroom.

Backup Articles

# Ten Smart Lessons For the '90s

BY THERESE MAGEAU

DURING THE 1980s,  
WE RUSHED COM-  
PUTERS INTO CLASS-  
ROOMS WITHOUT A  
CLEAR VISION OF  
HOW BEST TO USE  
THEM. NOW WE  
HAVE THE CHANCE  
TO DO IT RIGHT.

Ten years ago only a cadre of teachers, software developers, and hardware manufacturers understood the potential of the microcomputer to change how we teach and learn. Since then, educational technology has evolved from the obsession of a few techno-enthusiasts into a priority for all education. Some observers complain we haven't moved fast enough. Others lament that we've moved too fast to implement the new technology effectively. Many teachers are afraid of the technology; administrators often lack a clear vision of the role technology should play in their schools. But as John Kernan, CEO of Jostens Learning Corp., the educational software giant, points out, "Technology has actually moved into the schools faster than any other major change in the instructional process." Now it's not just the fervent hope of the technological vanguard that American education will enter the Information Age—it's inevitable. The successes and failures of the 1980s have yielded a rich lode of experience. *AGENDA* contacted 10 who have been on the front lines of the educational-technology movement to find out what they've learned about implementing technology in our schools. Here's what the past decade has taught them.

## 1 Resistance to change is one of the largest obstacles to implementing technology.

*PHILIP GRIGNON, Superintendent,  
South Bay Union Schools, Imperial Beach, Calif. :*

"It's ironic that a profession that is supposed to lead America into the twenty-first century is so resistant to twenty-first-century technology. But we tend to model those things that were modeled for us, and teachers were taught to deliver the curriculum by standing up in front of a classroom and lecturing. There's no room in that model for integrating technology into the classroom. You have to give teachers a lot of hands-on experiences for them to change their teaching, and during those experiences you have to give them a lot of TLC, because if you spook them once you'll never get them back."

*Therese Mageau is an associate editor of Electronic Learning magazine.*

## KEY FINDINGS

After a decade of intensive technology purchases, virtually every school in America has at least one computer (and most have a videocassette recorder, too).

### HARDWARE IN SCHOOLS

Public schools with at least one computer:<sup>1</sup>

1981: 18%  
1984: 86%  
1987: 95%  
1991: 98%

Average number of computers per 30 students:<sup>1</sup>

1984: 0.6  
1987: 1.15  
1990: 1.53

Predicted numbers of installed computers in schools (public and private):<sup>2</sup>

By June 1991:  
3.5 million  
(33 per school)  
By June 1994:  
4.8 million  
(44 per school)

Schools with installed modems:<sup>2</sup>  
1988-1989: 25%  
1991-1992 (predicted): 50%

Schools owning video equipment in 1990:<sup>2</sup>

VCRs: 91%  
Interactive video equipment: 10%  
Videodisc players: 18%  
(doubled since 1989)  
Satellite dishes: 15%  
(doubled since 1989)

Sources: 1. *Power On!*, Office of Technology Assessment, U.S. Congress, 1987. 2. LINK Resources.

2

### Technology can inspire and motivate tired teachers.

*DONOVAN MERCK, Director of the Office of Educational Technology, California Department of Education:*

“Many of our teachers become revitalized when they can use more exciting tools. At first there’s an aversion to using technology, but we’re hearing over and over about teachers who were thinking about getting out of the business who got excited again after they started using technology. When they saw their students learning, when they had creative tools in their own hands, and when their administration supported them, they wanted to remain in the profession.”

3

### Technology can be a catalyst for much broader reforms in the American education system.

*JOHN KERNAN, CEO and Chairman of the Board, Jostens Learning Corp., Minneapolis, Minn.:*

“We’re finding that progressive school districts use technology programs to jump-start much bigger reform activities, like teacher empowerment, new governance ideas, new approaches to curriculum and instruction. While technology might represent only 20 percent of a much bigger project, it’s the 20 percent that will get people excited. For instance, if a school district is interested in site-based management, the average person probably can’t understand that. So progressive school districts will put a lot of technology at the site level, let the site make the decisions about technology, and then use the technology as an example of turning power over to schools.”

4

### Technology should be bought only to address a specific need.

*LINDA ROBERTS, Project Director, U.S. Congress, Office of Technology Assessment, Washington, D.C.:*

“Based on major assessments we’ve done for Congress, we’ve learned that you have to think about the educational problems you’re trying to solve before you think about what technology is appropriate. Many schools made significant investments in technology and then were suddenly faced with a problem: what do we do with it? There is clear evidence that needs have to drive technology investments.”

5

### Technology alone is not the solution.

*BOB TINKER, Chief Scientist, Technical Education Research Centers, Cambridge, Mass.:*

“So many people thought that if you threw technology at education, problems would go away. Nothing could be further from the truth. It takes good educational practices and a lot of hard work to figure out how best to use technology to really improve student learning. In fact, it’s far easier to develop new technology than it is to know how to use it effectively in education.”

6

### Educational software should maximize the unique capabilities of the computer, not just recreate a textbook on disc.

*P. KENNETH KOMOSKI, Executive Director, EPIE Institute, Hampton Bays, N.Y.:*

“We are slowly learning how to design software that exploits the potential of the computer rather than mimics a textbook. And we are learning how to use that well-designed software. But I don’t think it’s happening in as many places as it needs to be happening in order to

have an immediate impact on education. Computing, like every other technology that's come into education in the last 40 years, has caused a lot of excitement but no real fundamental change. Until we learn how to bring about systemic changes that will really enable us to fully utilize a technology as powerful as computing, we will never fully exploit its potential."

**Buying technology without the input of teachers will guarantee that it will not be used.**

*RICHARD THOMPSON,  
Mississippi State Superintendent of Education:*

"In the late '70s and early '80s we rushed to get computers in the hands of students. I believe that was the wrong decision. Where we've seen technology make a genuine difference is when we've given computers to the teachers first. Tapping the potential of technology means starting with and listening to your teachers."

18

**Teachers must receive sustained training to implement the new technology successfully.**

*BOB HUGHES, Corporate Director, Education Relations,  
Boeing Company, Seattle, Wash.:*

"In-service teacher training is critical. In business, approximately 2 percent of the operating budget goes toward employee training. Likewise in schools, 2 percent of a district's budget should be spent on teacher training. The districts that have made the most progress in implementing technology are those that have dedicated a part of their budget and time to in-service training. One of the most significant methods of in-service training is to put computers in teachers' hands to take home—that provides an enormous amount of training you don't have to pay for."

19

**Technology can help equalize opportunity for all students.**

*SHARON BELL, Chief Information Officer,  
New Orleans Public Schools:*

"Education should mirror the needs of society and prepare students for their future in that society. In an industrial society, people with capital have power. In an information age, people with information have power. Educational technology gives the 'have nots' the opportunity to access and manipulate information, and to make decisions based on that information. When that occurs, the 'have nots' become the 'haves.' No other technology has given our disenfranchised students that opportunity."

10

**The school context cannot be ignored when new technology is designed.**

*ELLIOT SOLOWAY, Professor, Electrical Engineering and  
Computer Science, University of Michigan:*

"You can't design software and hardware in some lab and then put it in schools and expect it to work—because it won't. That method works with consumer technology but not in schools. The overriding lesson we've learned is: Whatever the technology, we must recognize the constraints that schools must deal with. And that means involving teachers, students, administrators, and parents. This is absolutely paramount. High technology alone is not the solution, because it ignores the roles of teachers, parents, and administrators."

■■■■

## COMPUTER-USING TEACHERS

You may find a computer in every school in America, but technophile teachers are far harder to come by. Fewer than one in four elementary school teachers, and one in seven secondary school teachers, has yet to begin using computers in his or her teaching.

### ELEMENTARY SCHOOLS

Computer-using teachers, as percentage of all teachers

**22%**

Of these computer-using teachers, the breakdown is:

Classroom teachers  
(grades 1-6)

**72%**

Special-education teachers

**9%**

Other teachers

**30%**

### SECONDARY SCHOOLS

Computer-using teachers, as percentage of all teachers

**14%**

Of these computer-using teachers, the breakdown is:

Core-content area teachers

**63%**

Computer-science/vocational-education teachers

**33%**

Special-education teachers

**6%**

Other teachers

**24%**

Percentages add up to more than 100 due to teachers' multiple roles and computer types.

Source: Market Data Retrieval

*Schools in search of top-notch programs and equal education are forging new paths in technology.*

# Learning across the miles

by Angela M. Mimms

**C**huck Duncan stood before his physics students and announced a quiz.

"Ah, Chuck," the students groaned. A typical high school reaction perhaps. But the setting was not so typical. Duncan was conducting his class from a TV studio in Lexington, Ky., more than 100 miles away from the the groaning students at Raceland (Kentucky) High School.

Along with hundreds of students in other schools, Raceland classmates watched Duncan on a television in front of their classroom and logged their quiz answers on computerized keypads, which transmitted them instantly to their teacher. To get students even more involved, Duncan talked by telephone with students during the day's lesson.

The concept of learning over distance has been around since the 1800s, beginning with correspondence courses. But today's technology has given the concept a new identity — one that incorporates computers, satellites, fiber optics, compressed video and the like to link students and teachers across states, the country, even the world.

Increasingly, distance learning programs like Kentucky Educational Television's Star Channels are opening doors to new worlds and a quality education for a growing number of primary and secondary school students. Many states laud the programs for enabling them to

offer advanced courses to rural schools limited by budgets, teacher certification or location. The programs also help urban and suburban districts make the best use of a limited number of teachers in specialized courses such as Japanese.

"We see telecommunications and information technologies being considered as probably one of the best ways to solve education problems today," said Ronald F. Bosco, president of Federal Engineering Inc., a consulting firm that works in distance learning technology.

Every state is involved in some kind of distance learning project. Here are just a few examples of the opportunities they afford:

- North Dakota students in small, rural schools for the first time are taking courses in Spanish, German, anatomy and advanced English thanks to a telecommunications program that allows teachers and students to see and hear each other.

- South Carolina students, through the state's educational television network, questioned crew members on an archaeological research vessel as they recovered artifacts from the wreck of a Civil War vessel.

- A fiber optic distance learning network in Mississippi provides high school students in four rural schools the chance to study subjects such as German, creative writing, statistics

and probability, and computer applications.

- The Nebraska Department of Education has teamed up with Nebraska Educational Telecommunications to broadcast Japanese language courses by satellite to more than 1,800 high school students in 23 states.

- In Arizona, Glendale Union High School District's distance learning network offers advanced placement courses, which allow high school students to earn college credit.

- Minnesota high school students can get a jump start on their college education by taking courses for college credit on the state's two-way interactive television network.

And back at Raceland High School in Kentucky, students are taking German, Latin, physics, discrete math and statistics courses by satellite that the school otherwise wouldn't be able to offer.

To principal John P. Stephens, the distance learning program has "made a tremendous difference."

To find out how, just ask the students. Raceland sophomore Shannon Seals is taking physics to get a step up on the engineering degree he plans to pursue in college. Junior McRae Stephenson, in her second year of German, recently qualified as a finalist in a competition to study in Germany for a year.

If not for the German class, she never would have been interested in the competition, she said. "Through the satellite system, we get so many opportunities we would never have here in Eastern Kentucky."

### A matter of motivation

The desire for quality and equality motivate distance learning programs.

In sparsely populated North Dakota, where some schools graduate only one student a year, educational inequities were found to exist, said Kathryn Pederson, executive secretary of the North Dakota Educational Telecommunications Council



Photo courtesy of the Glendale Union High School District  
*Students in the Glendale Union High School District in Arizona take a computer programming class via the district's interactive video network.*

and assistant director of instructional technology. To offer more courses to rural schools, the state installed two-way interactive video and audio systems. Groups of four to 10 schools are hooked up with each other so that they can share teachers and become part of a "classroom without walls."

"They're widening their world," Pederson said.

Besides sharing teachers, students are forging new relationships, even traveling to other schools to cheer for their basketball teams. One student who lingered after hours in the video classroom wasn't brushing up on his Spanish. He was asking a girl out from a town 20 miles away.

"The strengths of four little communities go into one big community," Pederson said.

The technology also works in less rural settings.

The 12,000-student Glendale Union High School District makes its headquarters just outside Phoenix. An enrollment drop forced the district to cancel classes, especially advanced placement classes with low enrollment. The district solved the problem by installing a two-way interactive video network that links its nine schools and administrative offices. Students in four locations can enroll in a class taught by one teacher from any of the other schools.

So far, student response to the program has been good, said Bruce

Florence, communications specialist with the district.

Florence and others maintain distance learning works. In fact, a growing body of scholarly literature leaves no question that the technology is effective, said Harry Miller, president of the United States Distance Learning Association.

Peter Chant, director of educational services for the Nebraska ETV Network, said students in the network's Japanese language courses have scored higher on tests than students in Japanese courses taught in a traditional classroom. Why? TV classes generally are small and attract highly motivated students. Also, the technology's novelty may get students to concentrate more, he said.

Another benefit of distance learning is that it makes the best use of an exceptional teacher. "With distance learning technology, you can multiply that teacher," Bosco said.

To a generation raised on television, video games and computers, distance learning has high-tech appeal.

"I like it a lot better because you get to do so much more stuff than a regular classroom," said McRae, from Raceland High School. Her class takes video tours of Germany and talks with other German classes around the state. One-on-one tutor sessions by phone give students a chance to practice speaking the language, she said. And the students support each other.

"It's like a team thing instead of learning on your own," McRae said. "If someone gets really lost, the rest of the class kind of pulls them along. . . . And that wouldn't happen in a regular classroom."

Teacher Beverly Waddell enjoys the classes too. As Raceland's satellite facilitator, she runs the classes and ensures students are working.

"I'm learning right along with the kids," she said.

Teachers and staff benefit in other ways. Terry Pound, associate director of short-distance learning for South Carolina Educational Televi-

sion, said the state cut costs and travel time when it trained 140 bus drivers scattered among five high schools over the state's television system. A telephone in each training room allowed drivers to call in with questions and comments. The state also has a pilot program that reduces teacher travel by employing distance learning equipment for staff development sessions.

## Dollars and drawbacks

Money ranks as both a drawback and a benefit among distance learning programs. Depending on the type of equipment and extent of a project, the programs can cost anywhere from thousands to millions of dollars.

---

*"It's like a team thing  
instead of learning  
on your own."*

McRae Stephenson  
Raceland High School Junior  
Kentucky

---

For instance, a school could install a computer-based distance learning program that includes audio but no television for less than \$15,000, said Richard T. Hezel, president of Hezel Associates in Syracuse, N.Y. Then there's Iowa, which is installing a \$93 million statewide fiber optics network. Distance learning will be only one of its functions.

But factoring distance learning's cost over several years makes the initial price tag less imposing. And in the long-run, distance learning can help schools that can't afford specialized teachers.

Funding sources for distance learning vary. Some states, such as North Dakota, have appropriated millions over several years to establish programs. The private sector contributes money and resources to many programs, while some schools

participate in a matching funds system with their state.

Among other potential drawbacks is scheduling. Conflicts arise when a school subscribes to a course that doesn't correspond with the school's class schedule. For instance, courses offered through national distance learning networks go to schools in several states that run on different schedules.

Also, technology isn't fail-safe. Extreme weather can knock out satellite signals, and faulty equipment can prompt sound problems.

In addition, the more popular a program becomes, the less interactive it becomes. Raceland's McRae said a satellite course is frustrating when she has to wait for answers by phone rather than talking to a teacher in the room. Some programs, such as Glendale Union's in Arizona, solve that problem by opting for a program that serves only a limited number of schools and uses a microphone system that allows students to talk directly to teachers.

Not having a teacher in the classroom is difficult for some students, Pederson said. And it can be hard for a teacher to readily identify when a student has a problem.

Some teachers may believe distance learning threatens their jobs, but that isn't true, said Nancy Klinck, editor of *TechTrends*, a magazine published by the Association for Educational Communications & Technology. "You can never replace a classroom teacher."

## Essential elements

Despite the drawbacks, distance educators believe the benefits of a well-planned program are worth the effort. They offer suggestions for schools considering such technology.

"Make sure that you have something worth sending," Florence said. A good instructional program and the need for the technology is essential.

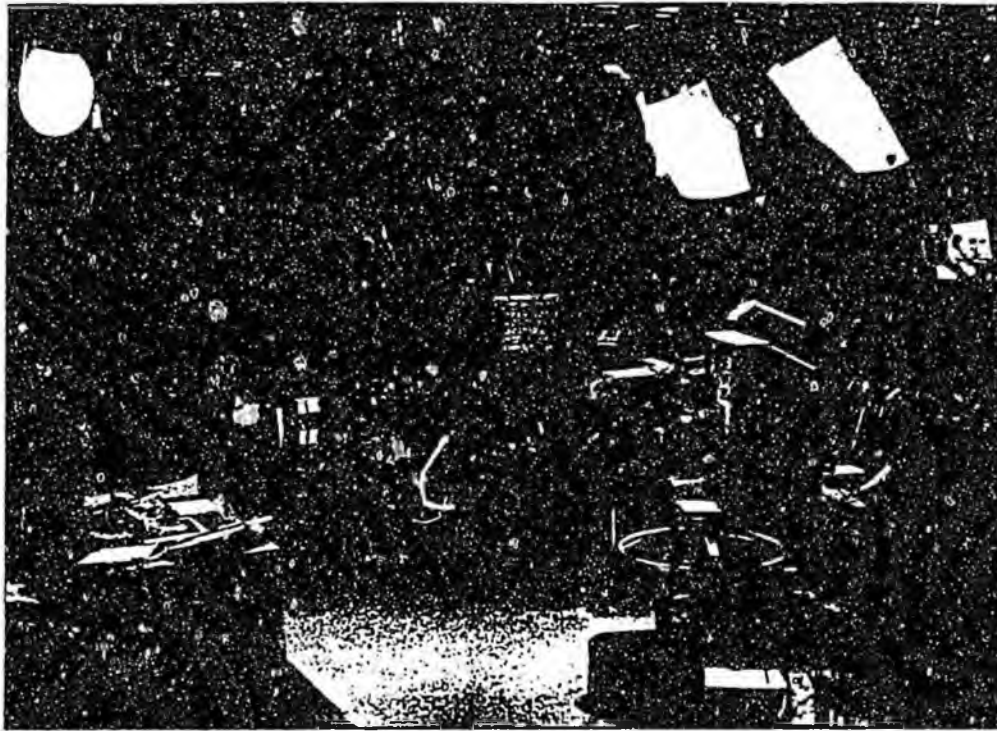


Photo courtesy of Nebraska ETV

*Teacher and crew take to the studio to produce a live Japanese class in Nebraska.*

For distance learning to be successful, the courses demand exceptional teachers who are comfortable in front of a camera, Klinck said. Students must be motivated. And instructions and language should be clear and concise. Also, visuals presented on video need to be large enough that students can read and understand them.

Robert Young, director of the Division of Distance Learning for Mississippi Educational Television, advocates a lot of planning and training in preparation for this new way of learning and teaching. Also, he said, it is important to evaluate and revise programs.

#### **A fast-moving future**

Distance learning technology took off in the 1980s driven primarily by money and inspiration from the federal Star Schools program, which helped launch programs such as Kentucky's, said Miller, of the United States Distance Learning

Association. Projects used to be easy to keep track of, he said, but with an increasing number of schools employing today's fast-changing technology, that task is getting harder.

For the future, Miller expects a move from large broadcast satellite networks to smaller programs that promote more interactivity. There's also growth in computer-based distance learning by which a teacher can communicate by computer and telephone with small classes at distant sites. Teachers can transmit images to students' computers, and teachers and students can send comments back and forth.

Miller said he thinks computer-based distance learning is developing more slowly because it's not as similar to a traditional classroom setting as televised courses. But the technology is less costly and is gaining greater acceptance as more teachers work with it.

Klinck said she expects increased cooperation among schools and industry on distance learning pro-

grams. And she said more universities will work with local schools to prepare students for college. High school students in some areas, for instance, already can access state university libraries via distance learning technology.

The day may be coming when more traditional classroom courses incorporate distance learning into their curricula, Bosco said. For instance, a French class might hold a video teleconference with someone in France to enhance a lesson.

Educators see great potential for the technology. Glendale Union hopes to include students from Indian reservations and juvenile corrections departments in its distance learning courses. Businesses also could use the technology for staff training during evenings and Saturdays as could fire departments that don't want their crews far away in case of an emergency.

"It's unlimited," Florence said. "It's just a matter of our imagination and energy." □

## OPINION

## TAKING A STAND

# Computerized education connects students with their future

The computer revolution is spreading to America's public schools. And Alaska must keep its students competitive in our new electronic world.

America's leading educators tells us that classrooms in the near future will look and feel very different. Students will be seated in front of computer terminals and keyboards, learning math, reading, science and other subjects at their own pace. The teacher will be free to roam the room and help students who need it most. Students who quickly grasp the subject will be free to zoom ahead.

Students will be actively engaged in the learning process by interacting with the computer — answering questions, seeking more information, communicating with students in other countries, learning new languages and examining elaborate illustrations of everything from maps to geological formations.

The evidence is unquestionable that the Nintendo and MTV generations respond enthusiastically to computers in the classroom. But beyond the fact that they like it, they need it. Computers are everywhere in the working world. We will be failing our children if we don't get



**Kay Brown**

them ready for what lies ahead.

Today, a majority of Alaska students get no opportunity to work with computers at school, and only a small fraction, about one-tenth of them, work with a computer every day.

Like any new advancement in education, the new technology — software programs and hardware — is costly. Our educators must have adequate training on how to integrate the new technology into the classroom. I estimate that it will cost about \$100 million to pay for technology

The evidence is unquestionable that the Nintendo and MTV generations respond enthusiastically to computers in the classroom. But beyond the fact that they like it, they need it. Computers are everywhere in the working world. We will be failing our children if we don't get them ready for what lies ahead.

and teacher training for every public classroom in Alaska.

Unfortunately, in this era of declining oil revenues, local property tax owners in Alaska are hard-pressed to pay for this and other necessities. State government must help our local schools.

The importance of this matter led me to sponsor House Bills 203 and 204. House Bill 203 creates a state Educational Technology Fund, which will serve as a source of money and create a process for fair and rational distribution of the technology. House bill 204, in its current form, calls for asking voters to approve \$83 million in general obligation bonds to

pay for software and hardware for our public schools. An additional \$20 million appropriation from the general fund would be needed over several years for adequate teacher training.

Critics tell me this proposal is too expensive. I don't buy it. Many visionaries in Alaska don't even blink an eye at the prospect of paying \$100 million for a new road or railroad extension that would benefit a mere fraction of our population. They think nothing of paying that much or more for new ports, electric interties and hydroelectric projects.

Let's reorder our priorities. I argue that \$100 million to benefit every student

in Alaska is not "too expensive." Helping our kids get the best possible education is more important, or at least just as important, as any of those other projects.

If you feel the same way, I urge you to contact your local legislator and voice your support for these House bills. This legislation has received strong public support so far. But, because the proposal is expensive, it needs as much support as possible. We need to make the Legislature confident that the public is likely to approve such a bond issue.

If we fail to keep up with advancements in education technology, Alaska students will be the losers. Whether we like it or not, computers in the classroom are the wave of the future.

The situation reminds me of the car mechanic who tells me, "Pay me now or pay me later." We can help our local school districts pay for these improvements or we can do nothing and watch our students fall behind. We can pay now. Or our kids will pay later.

*Kay Brown represents downtown Anchorage in the Alaska House of Representatives.*

SUNDAY

March 7, 1993

In less than a decade, personal computers have gone from technological curiosities to everyday necessities.

Yet, as with any change that comes so fast and furious, the PC leaves many people adrift and befuddled.

Nowhere is this more true, perhaps, than in schools and with children. Most schools have computers, but they use them to varying degrees.

Many children have them at home; most do not.

The word is that computers can revolutionize learning, but it's not clear when and how this is done.

Many parents aren't sure what is happening with computers in school classrooms, and how these machines affect their children.



A TOOL FOR LEARNING

With this in mind, *The Times* today begins an occasional series on computers and their role in educating children.

The series, for the most part, will be a practical guide to issues ranging from how to purchase hardware and software to what different schools are doing to blend technology with learning.

It also will examine the larger questions:

How are computers changing the way children learn? What is the role of the teacher?

We begin the series today by looking at what the advent of the personal computer has meant for schools and how this tool for learning works.

## *After years of being ignored, misused or unaffordable, computers are becoming common tools for learning*

by Paul Andrews  
Times business reporter

In the beginning, the computer was extolled as Plato's wand — a magical learning tool to impart the wisdom of the Greeks, cure humankind's ills and make us all smarter.

Charles Babbage's original "Analytical Engine," conceived more than 150 years ago, had at its heart his youthful pledge "to leave the world wiser than I found it."

The early large, room-sized IBM mainframe computers in the 1960s and 1970s found some of their biggest clients to be timesharing systems at schools and universities. Apple's educational discounts helped jump-start the personal-computer revolution with the Apple II.

But the personal-computer revolution that created the post-industrial Age of Information in the 1980s has failed to live up to its press releases -- in the classroom, at least.

Not all schools could afford computers. Those that could watched them languish in end-of-the-hallway labs used largely for playing video games.

Teachers looked askance at machines they did not understand and suspected could replace them. Students who latched onto computers proved possessive and unsharing, as well as predominantly white, middle-class and male.

Concerns grew that the computer was dividing the educational — and, consequently, social — landscape

*Policymakers are warning America's reputation for innovation and economic leadership is on the line*

into haves and have-nots. Suburban schools bought more computers than those in urban or rural locations. Students whose professional parents had computers in the home, usually were more familiar with them than their classmates were.

Educators, social scientists and, most of all, parents were dubious of the computer's value as an educational tool. The computer was turning out to be less a Plato's wand than a Luddite's revenge.

That was the '80s.

This is the '90s.

A high-tech booster occupies the White House. Educational software is booming, with 1992 sales up more than 50 percent from the previous year. More computers are turning up in classrooms — every classroom, not just "the lab." An electronic information service just for youngsters — called KidStar — is in the works.

Parents are asking, are my kids learning enough about using a computer? Do I need one at home? Which kind, and what software? How can I help my school with computers?

Policymakers are warning that America's reputation for innovation and economic leadership is on the line.

"Nations that stop trying to 'reform' their education and training institutions and choose instead to totally replace them with a brand-new, high-tech learning system will be the world's economic powerhouses through the 21st century," writes consultant Lewis Perelman in his hotly debated new book, "School's Out," written at Seattle's Discovery Institute, an independent think-tank.

At a conference last month in Washington, D.C., sponsored by the Discovery Institute, attendees watched a science instructor broadcast a lesson from Kentucky by satellite to more than 500 schools in small, rural and economically

Please see **COMPUTERS** on A 14

# The computer comes of age in the schools

## COMPUTERS

continued from Page 1

disadvantaged communities in 28 states. Classrooms could communicate with the teacher by phone; in the not-too-distant future, they will be able to see each other as well as converse.

Spurred by a technology levy passed in November 1991, Seattle Public Schools are in the midst of a sweeping computerization project.

The short-term goal: A computer for every teacher, linked by a wired network with a computer lab so that teachers and students can exchange files and electronic mail.

The long-range goal: a computer for every kid, networked not only within the school but around the globe through telephone and satellite connections.

Already some trailblazing schools are tying into the Internet, an international network of idea sharing, electronic pen pals and vast databases carrying whole libraries of information accessible through a few typed commands.

In other words, an electronic classroom of the world.

Already, bright spots abound:

At High Point Elementary in West Seattle, with 65 percent minority students, teacher Jill Schultz's fifth-graders help each other program animated "cartoons" using Hypercard, a Macintosh program. Greg Litton demonstrates a tiger slinking across a prairie. On Elizabeth Warren's screen, the sun arcs across a blue sky.

"The white kids are in no way ahead of the blacks, and the special-education kids are always showing other kids how to do things," said Schultz, whose charges have used their computers to write thank-you notes to speakers, design posters and publish a school newspaper.

The computer, Schultz said, is a "great equalizer" not only among peers but between teachers and students.

At North Seattle's private Lakeside Middle School, where four out of every five students have access



*Hawthorne Elementary teacher Jay Franco is the driving force behind opening Seattle schools' computer labs to the public.*

to a computer at home, sixth-graders Rafi Finegold and James Steven do a collaborative drawing using a program that allows Macintosh Classic computers to share screens.

Book reports are put into a schoolwide database, and both Lakeside High and Middle schools will soon have electronic libraries.

"We focus on computers as a tool for everything else we do, not just an aside," said Leo Santiago, history teacher and computer director at the middle school.

At Nathan Hale High School, in northeast Seattle, a massive rewiring project is about to begin that will install fiber optic cable — thin glass strands bearing pulses of light containing information equivalent to thousands of phone con-

nections — throughout the school. The project will put the school at the forefront of the anticipated digital revolution offering hundreds more cable-TV channels, many of them carrying sophisticated data services such as viewer-selected video on demand.

The school wants to tie into global networks, virtually eliminating "the inequity to accessing information in the classroom that's been such a problem for at least the past 200 years," said Currie Morrison, technology coordinator.

In Issaquah, consultant and parent Mike Bookey helped transform a technological backwater into a laboratory of the future beginning in 1989. With money from a \$3 million levy, high-school students installed their own computer network, linked together the district's 1,200 computers and tied the whole thing into Internet, where they communicated with electronic pen pals in Europe and Japan.

District parents were so impressed they voted another \$6 million technology levy.

"I was just one parent trying to get something going," said Bookey, now in demand for speeches and consulting throughout the country. "It's amazing what the kids themselves can accomplish if we just get the hell out of the way."

In Seattle, underprivileged kids are bused after school to the Union Gospel Mission Youth Center in Holly Park, where extracurricular computer time awaits them.

And four pioneering elementary schools in southeast Seattle involved in a broad-based "Powerful Schools" project — Hawthorne, Whitworth, Orca and Muir — as well as Colman Elementary, plan in April to open their computer lab doors one night a week to "all K-12 learners, including adults without a high school diploma," said Jay Franco, Hawthorne's computer teacher and a driving force behind the project.

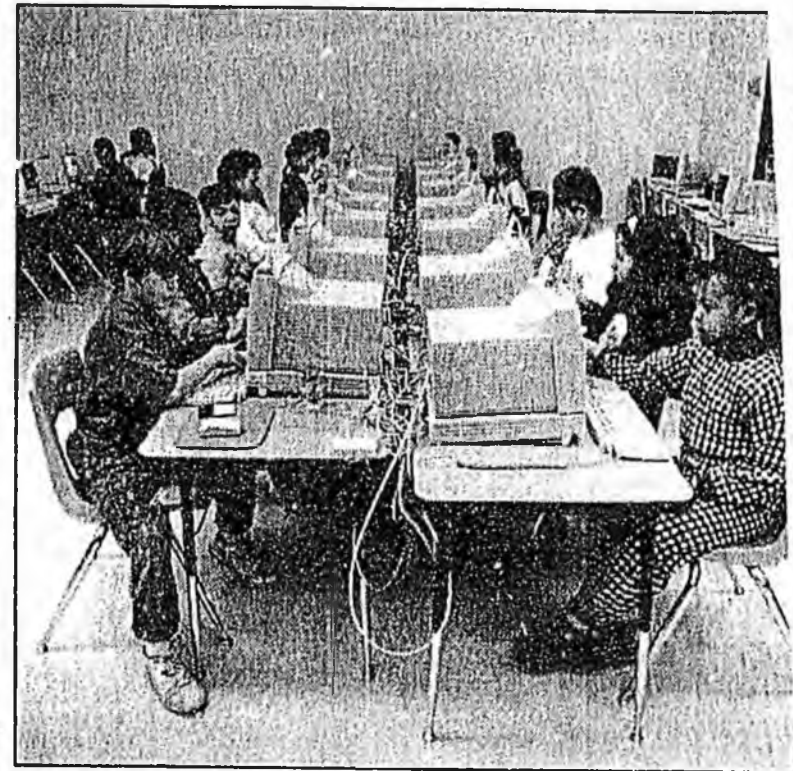
Such successes are still the exception. The scourges of the '80s — new computers gathering dust, or lack of any computers at all — still blacken far too many schools.

But the age of the learning tool has arrived. The computer is becoming not just an instrument of knowledge, but of communicating and sharing.

The purpose of education is not, to fill a bucket but to light a fire, wrote W.B. Yeats. In the classroom of the '90s, the computer is the match.



*The computer is a 'great equalizer' not only among peers but between teachers and students, said High Point Elementary teacher Jill Schultz.*



**Thanh-Thuy Nguyen, 8, left, gets a computer disk from teacher Jill Schultz at High Point Elementary in West Seattle. Above, students at the school work in computer class.**

Jim Lott / Seattle Times

ANCHORAGE SENIOR HIGH SCHOOL AMONG REGISTERED VOTERS  
 BY  
 GENERAL DEMOGRAPHICS, BEHAVIORS AND PERCEPTIONS

COLUMN PERCENTS  
 NOVEMBER 19TH THROUGH DECEMBER 10TH, 1992  
 SAMPLE SIZE = 1,074; MARGIN OF ERROR = + OR - 2.99%

	ANCHORAGE SENIOR HIGH SCHOOL ATTENDANCE BOUNDARIES:						TOTAL
	East	West	Se- vice	Bart- lett	Di- mond	Chug- iak	COL %
COMBINED PROPOSITION - 50% OFF:							
For.....	166.9%	174.0%	176.7%	174.0%	165.7%	168.6%	171.0%
Against.....	130.1%	121.1%	120.7%	123.7%	130.2%	128.6%	125.6%
Don't Know.....	3.1%	4.9%	2.6%	2.3%	4.1%	2.8%	3.5%
COMBINED PROPOSITION - 70% OFF:							
For.....	171.3%	177.4%	180.1%	180.4%	171.1%	177.2%	175.9%
Against.....	126.2%	118.2%	117.5%	118.1%	125.5%	120.9%	121.2%
Don't Know.....	2.5%	4.4%	2.4%	1.5%	3.3%	1.9%	2.9%
HIGHEST BOND VALUE:							
\$170 Million or less.....	124.8%	121.7%	117.4%	124.9%	128.1%	128.5%	124.0%
\$171-2 Million.....	129.1%	130.5%	124.0%	130.7%	115.5%	127.7%	126.4%
\$173 Million or more.....	114.7%	110.6%	116.1%	119.3%	113.2%	116.7%	113.6%
Don't Know.....	131.5%	137.1%	142.5%	125.1%	143.2%	137.1%	136.0%
SEPERATE OR COMBINED BONDS?							
Separate.....	158.2%	167.5%	168.2%	162.7%	165.7%	179.0%	165.8%
Combined.....	134.0%	128.8%	126.5%	131.8%	126.0%	117.2%	128.4%
Don't Know.....	7.8%	3.7%	5.3%	5.5%	8.3%	3.8%	5.8%
TECHNOLOGICAL BOND?							
Yes.....	161.2%	167.0%	171.3%	171.8%	163.4%	166.7%	166.5%
No.....	137.5%	127.8%	125.0%	124.4%	132.4%	131.4%	130.0%
Don't Know.....	1.3%	5.2%	3.7%	3.8%	4.2%	1.9%	3.5%
TOTAL ROW PERCENT.....	120.0%	122.8%	114.3%	115.5%	117.6%	119.8%	100%

10B. Proposition 2 proposes \$52.5 million of funding for the construction of three new elementary schools in the Sandlake, Turnagain and Mountainview areas and classroom additions to Chugiak, Willow Crest, Williwaw and Wonder Park elementary schools. This bond would result in an increase of \$47.69 per year in property taxes per \$100,000 of assessed property value.

Would you vote for or against Proposition #2, \$52.5 million for three new Elementary Schools and classroom additions to four others?

PROPOSITION #2	FREQUENCY	PERCENT
FOR.....	705...	65.7%
AGAINST.....	333.....	31.0%
DON'T KNOW.....	36.....	3.4%

10C. Proposition 3 proposes \$27.5 million of funding to renovate four schools College Gate Elementary, Ocean View Elementary, Romig Junior High and West High School. The renovations in these schools would bring them up to district standards. This bond would result in an increase of \$24.91 per year in property taxes per \$100,000 of assessed property value.

Would you vote for or against Proposition #3, \$27.5 million for major renovations at four area schools?

PROPOSITION #3	FREQUENCY	PERCENT
FOR.....	755.....	70.3%
AGAINST.....	288.....	26.9%
DON'T KNOW.....	31.....	2.9%

10D. Proposition 4 proposes \$22.5 million of funding for various maintenance projects including fire and safety systems, heating systems, driveway upgrades, of replacements, electrical systems and instructional technology upgrades. This would result in an increase of \$20.37 per year in property taxes per \$100,000 of assessed property value.

Would you vote for or against Proposition #4, \$22.5 million for system upgrades and maintenance?

PROPOSITION #4	FREQUENCY	PERCENT
FOR.....	748.....	69.7%
AGAINST.....	291.....	27.1%
DON'T KNOW.....	34.....	3.2%

You voted \_\_\_\_\_ (Yes/No) to Proposition #1, \_\_\_\_\_ (Yes/No) to Proposition #2, \_\_\_\_\_ (Yes/No) to Proposition #3 and \_\_\_\_\_ (Yes/No) to Proposition #4. Are there any of these votes that you would like to change at this point?

11A. The total value of all four bond propositions is \$171.5 million. If one single bond proposition covering the total amount was proposed, the cost to the taxpayer would be an increase of \$155.59 per year in property taxes per \$100,000 of assessed property value. If this one single bond proposition was put on the ballot in place of Propositions 1-4, would you vote for or against it?

COMBINED PROPOSITION	FREQUENCY	PERCENT
FOR.....	568.....	52.9%
AGAINST.....	490.....	45.6%
DON'T KNOW.....	16.....	1.5%

11C. (IF AGAINST OR DON'T KNOW TO 11A THEN ASK...) If the State of Alaska agreed to pay for half of the cost of this single bond proposition the local taxpayer's share would be reduced to \$77.80 per \$100,000 of assessed property value. Would this cause you to change your mind and vote for the proposition?

COMBINED - 50% OFF	FREQUENCY	PERCENT
FOR.....	762.....	71.0%
AGAINST.....	275.....	25.6%
DON'T KNOW.....	37.....	3.5%

11D. (IF AGAINST OR DON'T KNOW TO 11A THEN ASK...) If the State of Alaska agreed to pay 70% of the cost of this single bond proposition the local taxpayer's share would be reduced to \$46.68 per \$100,000 of assessed property value. Would this cause you to change your mind and vote for the proposition?

COMBINED - 70% OFF	FREQUENCY	PERCENT
FOR.....	815.....	75.9%
AGAINST.....	228.....	21.2%
DON'T KNOW.....	31.....	2.9%

12. What is the highest value of a single School District bond proposition, in millions of dollars, that you would vote in favor of if it was on the ballot?

MAXIMUM AMOUNT	FREQUENCY	PERCENT
\$170 Million or Less.....	258.....	24.0%
\$171-2 Million.....	284.....	26.4%
\$173 Million or More.....	146.....	13.6%
Don't Know.....	31.....	2.9%

THE FOLLOWING STATISTICS ARE CALCULATED BY REDISTRIBUTING THE DON'T KNOWS

(Bond Mean = \$135.61 Million)  
 (Bond Median = \$157.95 Million)

13. Remember there are four bond proposals under consideration, one for two junior high or middle schools, one for three new elementary schools and four classroom additions, one for major renovations to four schools and one for general maintenance and repairs. Do you think these four propositions should be proposed separately or do you think they should be combined into one single bond proposition?

	FREQUENCY	PERCENT
SEPARATE.....	707.....	65.8%
COMBINED.....	305.....	28.4%
DON'T KNOW.....	63.....	5.8%

14. Some people have suggested a bond proposition to buy computers and other technological equipment for use in the District's schools. Such bonds would be paid off over five years. For each million dollars approved, local taxpayers would pay \$2.33 per year for each \$100,000 of assessed property value. Would you support a bond proposal to fund computers and other instructional technology?

	FREQUENCY	PERCENT
YES.....	714.....	66.5%
NO.....	322.....	30.0%
DON'T KNOW.....	38.....	3.5%

15. How many millions of dollars worth of instructional technology bonds would you be willing to support? Remember a taxpayer's share would be \$2.33 per \$100,000 of assessed property value for each million in bonds.

MAXIMUM AMOUNT	FREQUENCY	PERCENT
Zero.....	322.....	30.0%
\$1-9 Million.....	171.....	15.9%
\$10 Million or More.....	226.....	21.0%
Don't Know.....	355.....	33.0%

THE FOLLOWING STATISTICS ARE CALCULATED BY REDISTRIBUTING THE DON'T KNOWS

(Bond Mean = \$14.22 Million)  
 (Bond Median = \$4.15 Million)

16. Some people have suggested that the district build or purchase a building that can be used as a professional development center, as a meeting location for committees and as a library where parents can review district materials, texts and the like. The price of such a facility is presently unknown, but, as a general rule, would you favor or oppose the district's construction or purchase of such a facility?

	FREQUENCY	PERCENT
FAVOR.....	180.....	16.7%
OPPOSE.....	857.....	79.8%
DON'T KNOW.....	37.....	3.5%

Even if these bond propositions are passed by the voters it will take up to two or three years before new facilities or additions are ready for use. Right now the elementary schools are at 113% capacity city wide. The secondary schools are currently at 92% of capacity. Twenty four schools are 15% or more over capacity. Of these, thirteen are 30% or more over capacity. So more immediate solutions are needed to relieve overcrowding, particularly at the elementary school level.

I am now going to read you a list of potential short-term solutions for the problem of overcrowding. Please tell me whether you approve or disapprove of each of them:

17A. INCREASE CLASSROOM SIZE: The capacity of a school is a function of the number of children in each class with a teacher. Do you approve or disapprove of making class sizes larger so that more students can fit into the schools?

	FREQUENCY	PERCENT
APPROVE.....	231.....	21.5%
DISAPPROVE.....	816.....	76.0%
DON'T KNOW.....	27.....	2.5%

17B. MODULAR CLASSROOMS: Do you approve or disapprove of using more portable classrooms at schools where there is room to put the portable units on the grounds?

	FREQUENCY	PERCENT
APPROVE.....	873.....	81.3%
DISAPPROVE.....	185.....	17.2%
DON'T KNOW.....	17.....	1.5%



# Learning is Permanent

Alaska Permanent Fund Educational Materials for Teachers of Grades 1 – 8

Developed by the Alaska Permanent Fund Corporation in cooperation with the Alaska Council on Economic Education, the "Learning is Permanent" curriculum consists of a series of nine lesson plans and accompanying instructional materials.

The first three lesson plans were developed for use with students in Grades 1 – 3, the middle three for Grades 4 – 6, and the last three for Grades 6 – 8.



Each of the three teaching kits include the following materials:

- Nylon Carry-All Bag
- Teachers Guide
- Two 18" x 25" Posters
- Flip Book (Grades 1-3 and Grades 4 - 6 only)
- Sample Vial of Crude Oil (Grades 1 - 3 only)
- Permanent Fund Annual Report
- An Alaskan's Guide to the Permanent Fund
- Certificates of Achievement
- Learning is Permanent Stickers

## INSTRUCTIONAL OBJECTIVES

"Learning is Permanent" has been designed, not only to teach about the Permanent Fund, but also to teach basic economic concepts. Each lesson contains at least one instructional objective from Alaska's model elementary social studies curriculum.

### Grades 1 – 3

#### "Jennifer's Dilemma"

Introduces the primary-level student to the basic concept of a "savings account" and helps the student understand the difference between "saving" and "spending," and between "wants" and "needs."

Introduces the student to the existence of the Permanent Fund.

#### "Alaska's Black Gold"

Helps the student identify Alaska's greatest current source of monetary wealth – oil. Teaches the student that oil has helped build the Permanent Fund, helped create many jobs in the state, and is the basic material used to make many of the household and other products which are commonly found in everyday life.

Helps the student recognize the employment diversity existing in Alaska.

#### "The Alaska Permanent Fund and Permanent Fund Dividends"

Helps the student understand that the Permanent Fund is a savings account which belongs to all the people of Alaska. Encourages the student to think about what might be appropriate and inappropriate uses of a savings account.

Teaches the student about the source of the money which is used to pay the annual Permanent Fund Dividends.

Teaches the student what the State of Alaska looks like, where the Trans-Alaska Pipeline is located, and how much of the state's oil wealth has been saved in the Permanent Fund.

## INSTRUCTIONAL OBJECTIVES

**"Learning is Permanent" has been designed, not only to teach about the Permanent Fund, but also to teach basic economic concepts. Each lesson contains at least one instructional objective from Alaska's model elementary social studies curriculum.**

### Grades 4 - 6

#### "Mac the Moose in Dividend Land"

Helps the student gain a basic awareness of the history, workings and importance of the Permanent Fund.

Helps the student learn fundamental economic concepts such as the time value of money, the effects of inflation, the differences between principal and income, and the different types of investments and investment income.

Teaches the student the difference between "nonrenewable" and "renewable" resources.



#### "How Students Use Their Dividend Checks"

Helps the student gain a more in-depth understanding of where the annual Permanent Fund Dividend Checks come from.

Helps the student learn about the basic economic concept of "opportunity costs."

Teaches the student that it is the people of the State of Alaska, through their elected representatives in Juneau, who determine, each year, how all Permanent Fund income is to be used.

#### "The Prudent Investment Rule"

Introduces the student to "the prudent investment rule." Teaches the student about the different types of assets in which the Permanent Fund is invested, and about the decision-making process which is used by the Trustees to allocate Fund assets among these different investment types. Helps the student learn how to make his/her own investment decisions.



### Grades 6 - 8

#### "The Lucky Archipelago" or "How to Grow Rich Through Investing"

Helps the student understand how the Permanent Fund came into being, and why the current uses of Fund income include both the payment of Permanent Fund Dividends and the reinvestment of income for inflation-proofing.

Teaches the student the importance of considering not just short-term but also long-term consequences when making investment decisions.

Gives the student the chance: (1) to compute investment returns on two hypothetical portfolios, and identify the advantages of one over the other; and (2) to graph returns from three different methods of money management and predict outcomes over a 15-year period.

#### "How to Invest \$100,000"

Teaches the student about the basic relationship which exists between "risk" and "reward," and between "present value" and "future value."

Helps the student understand how the Permanent Fund is invested, and how it is possible to invest money to maximize benefits not only for the present but also for the future.

#### "Permanent Fund Quiz"

Helps the student gain a greater understanding of how the Permanent Fund fits into the "big picture" which includes consideration of all of Alaska's fiscal and economic public policy issues.

To receive **Learning is Permanent** Educational Materials

**YES** ...I want

- Grades 1 - 3       Grades 4 - 6  
 Grades 6 - 8       Grades 1 - 8

To receive the item(s) requested, please fill in your address, detach this panel, and mail to:

Jim Kelly, Research and Liaison Officer  
 Alaska Permanent Fund Corporation - Anchorage  
 550 W. 7th Avenue, Suite 1325, Anchorage AK 99501

YOUR NAME

GRADE TAUGHT

SCHOOL DISTRICT

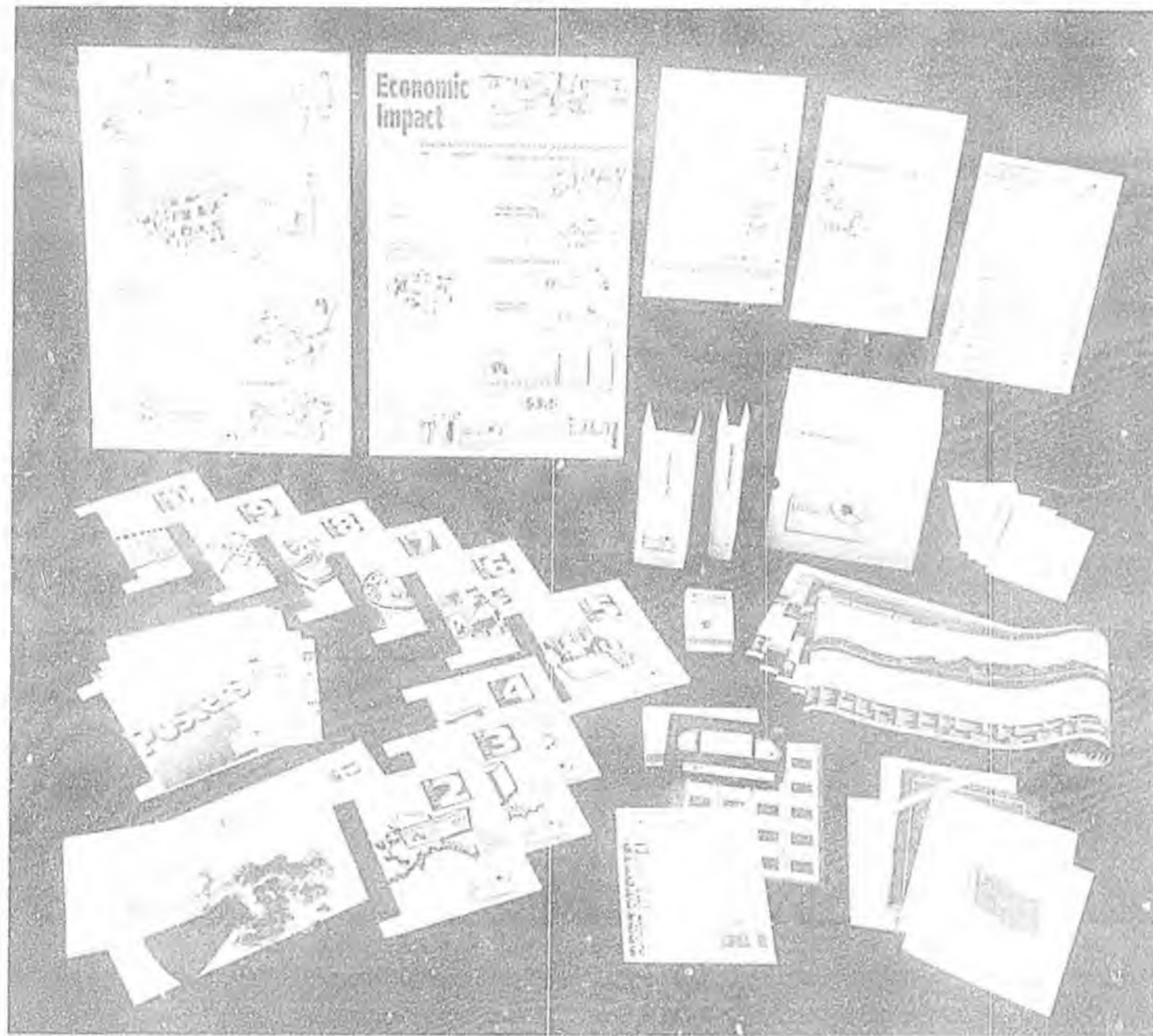
NAME OF SCHOOL

ADDRESS

CITY

STATE

ZIP



Each *Learning is Permanent* kit includes the materials shown (left) and the Timeline Poster (below).



# Learning is Permanent

## Alaska Permanent Fund Educational Materials

### The Alaska Permanent Fund & State Resource Development Timeline:

Wealth in the Great Land has always derived from the development of natural resources: fur, gold and other minerals, timber, fishing and oil.

In the early years, Alaska's natural resources generally made profits for people who lived in other places. With the establishment of the Permanent Fund, people who live in Alaska are guaranteed a fair share of the wealth generated by the development of Alaska's most valuable natural resource: oil.

Beginning in the middle of the 18th century, this timeline poster (10') trails through Alaska's more recent past, highlighting economic developments. The main inset magnifies the beginnings of oil exploration, the development of the oil industry and the evolution of the Alaska Permanent Fund. Against the backdrop of three mountain ranges, the trans-Alaska pipeline crosses passes and rivers and carries oil to tankers in Prince William Sound.

*Developed by the Alaska Permanent Fund Corporation in cooperation with the Alaska Council on Economic Education, the Learning is Permanent high school curriculum consists of a series of ten lesson plans and accompanying instructional materials.*

*These lessons were developed for use with students in:*



- Alaska Studies
- Economics
- Personal Finance
- Business Education
- History

## INSTRUCTIONAL OBJECTIVES

### Introduction to the Permanent Fund:

Provides students with basic information about the Permanent Fund including how and why it was created, recent history and performance data, current investment and management practices, and present as well as possible future uses of Fund income.

### Permanent Fund Dividend Eligibility Requirements

Gives students the information necessary to understand eligibility requirements for the Alaska Permanent Fund Dividend program. Explains and demonstrates how to fill out a Dividend application.

### Permanent Fund Dividends: Spend or Save?

This lesson is a simple survey designed to help students learn how their classmates, friends and relatives choose to use their own personal shares of Alaska's oil wealth each year.

### The Permanent Fund's Economic Impact: A Survey of Alaska Businesses

Students learn about the economic impact on local businesses and communities of the annual Permanent Fund Dividend distribution by conducting interviews with businesses selling: (1) durable goods; (2) non-durable goods; (3) services; and (4) financial instruments.

### Introduction to Investments

Teaches students basic financial vocabulary, explains the fundamental concepts of risk and return, and informs students about the Prudent Investor Rule as it applies both to the public investment of the Permanent Fund and the private investment of their own money.

### Investing Like the Permanent Fund

Informs students about how the Permanent Fund is invested. Teaches specific information about the Permanent Fund including asset allocation, types of investments, management philosophy and long-term investment strategy.

### Learning About Inflation Through Role-Playing

Familiarizes students with: (a) the concept of inflation as it applies to them in their personal lives; (b) the effects of inflation on the principal of the Permanent Fund; (c) how the Permanent Fund is protected against the effects of inflation; and (d) the opportunity costs associated with inflation-proofing.

### Public Wealth and Natural Resource Management: An Introduction to the Alaska State Constitution

Gives students an opportunity to gain a greater understanding of the Constitution of the State of Alaska; introduces the legal framework for common ownership of natural resources; and helps students understand

how the concepts of a Permanent Fund and sustainable yield can be applied to aid in the conservation of both renewable and non-renewable resources.

### The Alaska Budget Gap: Borrowed Time

Helps students identify the fundamental political and economic choices that will determine Alaska's future, and prepares students for the last lesson which is a legislative simulation.

### Legislative Simulation: The Role of the Permanent Fund in Alaska's Fiscal and Economic Future

This lesson helps students to make their own choices about how to solve Alaska's budget gap. It familiarizes students, through a participatory activity, with the legislative and executive roles and responsibilities concerning the Permanent Fund; gives students a working knowledge of how present and future state government actions may affect the Permanent Fund; introduces students to the fiscal and economic aspects of the budgetary process; and demonstrates how the legislative process actually works.

To receive **Learning is Permanent!**  
Educational Materials

**YES** ...I want

Whole Kit     Timeline Only

To receive the item requested, please fill in your name and address, and mail to:

Jim Kelly, Research and Liaison Officer  
Alaska Permanent Fund Corporation - Anchorage  
550 W. 7th Avenue, Suite 1325  
Anchorage, AK 99501

\_\_\_\_\_  
YOUR NAME

\_\_\_\_\_  
GRADE TAUGHT

\_\_\_\_\_  
SCHOOL DISTRICT

\_\_\_\_\_  
NAME OF SCHOOL

\_\_\_\_\_  
ADDRESS

\_\_\_\_\_  
CITY

\_\_\_\_\_  
STATE

\_\_\_\_\_  
ZIP

# FISCAL NOTE

STATE OF ALASKA  
1993 LEGISLATIVE SESSION

BILL NO. HB 106

Revision Date: \_\_\_\_\_ Dept. Affected: Revenue  
 Title: An Act establishing the Alaska education technology program BRU: Revenue Operations  
 Component: Treasury  
 Sponsor: Representative Brown  
 Requestor: Health, Education & Social Services, Finance COMPONENT SERIAL NO. 121

Expenditures/Revenues: (Thousands of Dollars)

OPERATING	FY94	FY95	FY96	FY97	FY98	FY99
PERSONAL SERVICES	5.0	5.0	5.0	5.0	5.0	5.0
TRAVEL						
CONTRACTUAL	20.0	20.0	20.0	20.0	20.0	20.0
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
<b>TOTAL OPERATING</b>	<b>25.0</b>	<b>25.0</b>	<b>25.0</b>	<b>25.0</b>	<b>25.0</b>	<b>25.0</b>

CAPITAL						
---------	--	--	--	--	--	--

REVENUE FUND SOURCE:						
----------------------	--	--	--	--	--	--

FUNDING: (Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1006 GF/MHTIA						
Other: AK Education Technology Fund	25.0	25.0	25.0	25.0	25.0	25.0
<b>TOTAL</b>	<b>25.0</b>	<b>25.0</b>	<b>25.0</b>	<b>25.0</b>	<b>25.0</b>	<b>25.0</b>

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						

Estimate of current year (FY93) impact: \$ \_\_\_\_\_

**ANALYSIS:** (Attach a separate page if necessary.) The \$25.0 expenditure in total operating costs is the basic fixed personal service and contractual costs for an investment portfolio managed by the Treasury Division. Contractual costs would consist of external investment management accounting and custodial services. Future cost increases are dependent on the asset growth of the portfolio from contributions and market gains. Variable expenses of .2% of the assets under management in excess of \$12.5 million can be expected.

Prepared by: Brian C. Andrews Phone: 465-4880  
 Division: Treasury Date: March 9, 1993  
 Approved by Commissioner: [Signature] Date: 3/9/93  
 Agency: REVENUE

PREPARER TO PROVIDE ALL DISTRIBUTION COPIES TO GOVERNOR'S LEGISLATIVE OFFICE  
 For further distribution information call the Governor's Legislative Office

FISCAL NOTE

BILL NO. HB 106

STATE OF ALASKA

1993 LEGISLATIVE SESSION

Revision Date: 3-1-93

Title: An Act establishing the Alaska Education Technology Program

Sponsor: Representative Kay Brown

Requestor: Representative Kay Brown

Department Affected: Education

BRU: Educational Program Support

Component: Basic Education

COMPONENT SERIAL NO. 171

Expenditures/Revenues:

(Thousands of Dollars)

OPERATING	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99
PERSONAL SERVICES	86.5	86.5	86.5	86.5	86.5	86.5
TRAVEL	6.3	10.0	10.0	10.0	10.0	10.0
CONTRACTUAL	21.5	14.3	14.3	14.3	14.3	14.3
SUPPLIES	.5	.5	.5	.5	.5	.5
EQUIPMENT	18.0	0	0	0	0	0
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
<b>TOTAL OPERATING</b>	<b>132.8</b>	<b>111.3</b>	<b>111.3</b>	<b>111.3</b>	<b>111.6</b>	<b>111.6</b>

CAPITAL						
---------	--	--	--	--	--	--

REVENUE FUND SOURCE:						
----------------------	--	--	--	--	--	--

FUNDING:

(Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF	132.8	111.3	111.3	111.3	111.6	111.6
1005 GF/Program Receipts						
1006 GF/MHTIA						
Other						
<b>TOTAL</b>	<b>132.8</b>	<b>111.3</b>	<b>111.3</b>	<b>111.3</b>	<b>111.6</b>	<b>111.6</b>

POSITIONS:

FULL-TIME	1.5	1.5	1.5	1.5	1.5	1.5
PART-TIME						
TEMPORARY						

Estimate of current year (FY93) impact: None

ANALYSIS:

This fiscal note does not assume the administrative costs necessary to administer the Education Technology Fund. Should the fund be created, additional costs would occur.

Prepared by: Cathy Carney

Phone: 465-8718

Division: Educational Program Support

Date: 3-1-93

Approved by Commissioner: *[Signature]*

Jerry Covey

Agency: Education

Date: 3-2-93

PREPARER TO PROVIDE ALL DISTRIBUTION COPIES TO GOVERNOR'S LEGISLATIVE OFFICE

For further distribution information call the Governor's Legislative Office

*Fiscal Note - Education - Basic Education*

## FY94

### Personal Services

#### 1 full-time Education Specialist II, Range 21: \$70.1

##### Primary Responsibilities:

- Promote the development of district/site plans for appropriate use of technology-assisted learning, and provide assistance in securing the necessary training and other resources to carry out these plans.
- Coordinate the use of educational technology within the Department's existing curriculum, vocational, and restructuring projects.
- Coordinate and expand existing public and private, district and state-level services which impact K-12 educational telecommunications, including STAR schools, the University of Alaska computer network, Livenet, and rural Alaska television

#### 1 half-time Clerk Typist III, Range 8 (5): \$16.4

##### Primary responsibilities:

- Clerical support for Education Specialist in working with school districts and planning for use of education technologies in the classroom.

### Travel

- Travel for committee members to meet and develop recommendations for the Department on statewide education technology implementation (8 members for one 3-day meeting, with \$500 average transportation cost, and \$285 for per diem): \$6.3

### Contractual

- Phone, postage, photocopying: \$5.3
- Professional service contracts: survey of educational technology resources: \$15.0
- Audioconferencing with school districts and follow-up meetings with committee: \$1.2

### Supplies

- Publications, memberships, training materials: \$.5

### Equipment

- Two computer terminals for word processing, electronic mail system, grant management (spreadsheet) functions:  $\$8.0 \times 2 = \$16.0$
- Desks and other office equipment:  $\$1.0 \times 2 = \$2.0$

## FY95-99

### Personal Services

- Same as FY94

### Travel

- Department of Education technical assistance, facilitating training: \$10.0

### Contractual

- Phone, postage, photocopying: \$5.3
- Professional service contracts: publications, training, planning workshops: \$7.0
- Audioconferencing with school districts: \$2.0

### Supplies

- Publications, memberships, training materials: \$.5

### Equipment

- None

# FISCAL NOTE

STATE OF ALASKA  
1993 LEGISLATIVE SESSION

BILL NO. H.B. 100

Revision Date: \_\_\_\_\_ Dept. Affected: Education MAR 9 1993  
 Title: An act establishing the Alaska BRU: Libraries, Archives & Museums  
Education Technology Program Component: Libraries  
 Sponsor: Representative Kay Brown  
 Requestor: Representative Kay Brown COMPONENT SERIAL NO. 208

**Expenditures/Revenues:**

(Thousands of Dollars)

OPERATING	FY94	FY95	FY96	FY97	FY98	FY99
PERSONAL SERVICES	34.7	34.7	34.7	34.7	34.7	34.7
TRAVEL	5.0	5.0	5.0	5.0	5.7	5.7
CONTRACTUAL	25.0	3.0	3.0	3.0	3.0	3.0
SUPPLIES	.3	.3	.3	.3	.3	.3
EQUIPMENT	9.0	1.0	1.0	0	0	0
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
<b>TOTAL OPERATING</b>	<b>74.0</b>	<b>44.0</b>	<b>44.0</b>	<b>44.0</b>	<b>44.0</b>	<b>44.0</b>

CAPITAL						
---------	--	--	--	--	--	--

REVENUE FUND SOURCE						
---------------------	--	--	--	--	--	--

**FUNDING:**

(Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF	44.0	44.0	44.0	44.0	44.0	44.0
1005 GF/Program Receipts						
1006 GF/MHTIA						
Other						
<b>TOTAL</b>	<b>44.0</b>	<b>44.0</b>	<b>44.0</b>	<b>44.0</b>	<b>44.0</b>	<b>44.0</b>

**POSITIONS:**

FULL-TIME	1.0	1.0	1.0	1.0	1.0	1.0
PART-TIME						
TEMPORARY						

Estimate of current year (FY93) impact \$ None

**ANALYSIS:** (Attach a separate page if necessary)

This fiscal note does not assume the administrative cost necessary to administer the Education Technology Fund. Should the fund be created, additional costs would occur.

Prepared by: Karen R. Crane *Karen R. Crane*  
 Division: Libraries  
 Approved by Commissioner: [Signature] *Terry Covey*  
 Agency: Education

Phone: 465-2910  
 Date: 2/1/93  
 Date: 3/1/93

PREPARER TO PROVIDE ALL DISTRIBUTION COPIES TO GOVERNOR'S LEGISLATIVE OFFICE

For further distribution information call the Governor's Legislative Office

Fiscal Note - Education - Libraries

FISCAL NOTE ANALYSIS

HB 106: Establishing the Alaska Education Technology Program

March 1, 1993

page 2

Personal Services

1 FT Clerk Typist III, Range 8: \$34.7

The State Library would reassign duties of two existing professional positions to meet the responsibilities outlined in the bill. This position would provide clerical support to those positions in order to manage increased work load.

TRAVEL

Travel associated with planning and training associated with grants. Travel would be predominately directed to small, rural public libraries lacking local technical support.

CONTRACTUAL

FY94

Survey of status and development of statewide library automation plan: \$22.0

FY94-99

Audioconferencing, phone, photocopying, professional services contracts: \$3.0

SUPPLIES

Supplies associated with positions: \$.3

EQUIPMENT

FY94

Computer terminals for word processing, electronic mail, grant management: \$24.0

FY95-97

Miscellaneous equipment needs: \$1.0