

HOUSE RESEARCH ORGANIZATION

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Legislators Consider Proposals to Replace Textbooks with Laptop Computers

Legislators heard presentations about the potential feasibility and effectiveness of replacing textbooks with laptop computers in public schools at a May 14 joint meeting of the House Appropriations and Public Education Committees and the Senate Finance and Education Committees. The meeting, organized by State Board of Education Chairman Jack Christie, allowed computer hardware and software companies and a Texas school district already using computer technology in the classroom to brief legislators on the advantages afforded by laptops. At the conclusion of the presentations, several legislators said they looked forward to seeing if this type of technology could be put to good use in Texas classrooms, possibly through a pilot project.

While most presenters favored the idea of replacing textbooks with laptops, Gary Chapman, director of the 21st Century Project at the LBJ School of Public Affairs, warned of potential problems with a wholesale switch from books to portable technology in the classroom and cautioned against embracing the idea as a panacea for what ails today's public schools. Chapman said possible problems range from the basic fact that reading a computer screen is harder on the

eyes to the tremendous cost of technical support, which he believes has been greatly underestimated. If laptops were universally implemented in Texas public schools, "server crash days" would become akin to snow days; without the computers running, learning would come to a halt, Chapman said.

Furthermore, while technology can increase exposure to knowledge, it cannot give any depth to that knowledge, Chapman added. Learning would be "a mile wide but an inch deep." Instead of trying to increase the number of tools that students have to reach knowledge, Chapman maintained, Texas should pinpoint what students should be learning and concentrate on teaching those core competencies.

Rationale and results

Christie, who proposed replacing textbooks with laptops in September 1997, told the meeting that the state provides free textbooks to every public school student and planned to spend \$1.8 billion over the next six years to replace outdated texts in classrooms. In some history books now being used by Texas students, the Berlin Wall still stands; some health books lack any discussion of AIDS. Laptop technology would allow students immediate access to up-to-date information in a portable format that could be modified to meet individual needs, and at a cost that would be comparable to or below that required for new textbooks because one laptop could replace every book a student needed, Christie said.

Christie also pointed out that students exposed to computers early on have an edge when entering the job market. Unfortunately, students today are separated into technology "haves" and "have-nots," with the advantage to the "haves," stressed Barbara

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Erwin, superintendent of the Allen Independent School District. Giving all students access to technology promotes equity in education, she pointed out.

Other presenters agreed that while immediate access to information is key in today's fast-moving society, the physical limitations of textbooks restrict access to information. A student reporting on the current weather phenomenon of El Niño, for example, might not be able to find any information on the topic in a textbook. And the few books on the subject in the school library could serve only a limited number of students. Access to the Internet, on the other hand, would make available a wealth of information to an unlimited group of pupils. But currently such access is generally available only to those students whose parents have invested in a home computer and Internet link.

Erwin said technology works in the classroom because today's children have been raised on television and video games and are accustomed to a high level of interactivity. The Allen ISD has incorporated significant technology into its curriculum, such as virtual courses that can be taken over the Internet and 24-hour access to information by parents, students and teachers. Projects that Allen ISD students have completed include web pages, spreadsheets using mathematical concepts, and multimedia presentations.

Allen ISD students have taken on a significant leadership role in integrating technology into their classrooms, Erwin said. Early on, the district found that teachers were more leery than students of using the new technology because they were unfamiliar with its workings. Students now help the teachers learn how to use the technology and thus become more adept at it themselves, she explained.

Greater student collaboration has been another unexpected side effect of technology, Erwin continued. Although the district had expected that placing students in front of computers would limit the amount of interaction between students, the opposite effect occurred, she said. Students began helping each other more as well as working together on projects. This type of collaboration is especially valued in the workforce, Erwin noted.

Equipment and applications

Representatives from major software and hardware companies – including Microsoft, Dell, Apple, Compaq, NEC and IBM – demonstrated various laptop technologies that could be useful in school settings. Jim Dezell, president of NetSchools, for example, demonstrated a system based on a portable laptop capable of supporting the weight of a 250 pound person and resistant to drops from five feet and liquid spills on the keyboard. The machine includes an anti-theft device that signals the school if misplaced on school grounds and prevents the laptop from working if not returned to the school area within a certain time. The \$2,000 cost could be financed over five years. Dezell said the laptop could be used in a wireless networking environment where information was transmitted through infrared ports installed in classrooms. These ports could download all the information a student needed for that day as well as allow two-way interaction while the student was in the classroom.

Central networking would enable schools to automatically upgrade student computers with new software whenever needed and give the teacher control over what was going on in the classroom. Depending on the demands of the class, the teacher could control the laptops so that only class-related material could be brought up on the computer. According to Bob Digneo with Southwestern Bell, technology emerging today would allow students to use such on-line resources as the Internet over high-speed data connection lines that work with existing phone lines, significantly reducing the cost of upgrading a school's telecommunications infrastructure.

Educational software publishers from Scholastic to Simon & Schuster showed committee members software that enables students to read and interact with their homework assignments, allows teachers to grade on-line, and provides parents with up-to-date reports on their children's performance. Dave Watkins of Texas-based Sterling Strategic Solutions explained how his company's software helps protect computers by preventing children from intentionally or unintentionally changing settings that would trigger a need for technical support. This software also can search web sites for content and prevent students from accessing sites with offensive material.

— by *John J. Goodson*

Soil and Water Conservation Board Seeks 1,000 Percent Funding Increase

Representatives of the Texas Soil and Water Conservation Board briefed the House Agriculture & Livestock Committee May 20 on a proposal to increase state funding for the agency from current levels of about \$7 million per year to about \$78 million annually in order to help rural landowners comply with environmental mandates and implement water conservation programs. Witnesses said the increase – a hike of more than 1,000 percent – would pay for the state’s 216 local volunteer soil and water conservation districts to take over and continue the broad technical assistance formerly provided by the U.S. Department of Agriculture’s Natural Resources Conservation Service (NRCS).

The budget proposal envisions 774 new local district employees, with salaries and benefits totaling just over \$25 million per year, explained James Moore, the board’s assistant executive director for district programs. Operating expenses are projected at slightly over \$5 million per year. Just under \$3 million is proposed for administrative and technical support from the state board, in addition to the \$2 million the board currently receives for matching funds for technical assistance. The budget proposal also includes \$43 million annually in “cost-sharing” to provide monetary incentives for farmers and ranchers to voluntarily make property improvements that will promote resource conservation. In the first year of increased appropriations, Moore noted, a one-time line item of \$8.7 million would be earmarked to equip district offices.

Currently, the state funds rural soil and water conservation programs at a rate of about five cents per acre, according to Wayne Register, president of the Texas Association of Soil and Water Conservation Districts. Other states with significant agricultural economies contribute much more, he pointed out. North Carolina, for example, spends \$1.62 per acre on such programs. The proposed budget request would bring Texas spending up to \$1.14 per acre, a level necessary to ensure that local voluntary conservation programs do not disappear, Register said.

Since the 1930s, NRCS and its predecessor federal agencies have worked in partnership with the local soil and water conservation districts to help landowners manage their natural resources. NRCS and district projects control flooding, conserve water, improve water quality, curtail erosion from water and wind, manage grazing lands, and reduce airborne dust, said NRCS State Conservationist John Burt.

For example, NRCS has helped install 1,940 floodwater control structures in Texas, most on agricultural land. This investment has yielded some \$2.2 billion in benefits through offsite impacts that extend beyond flood control to sedimentation control and water quality and quantity improvements, Burt said. An NRCS brush management project now under way in the Edwards Plateau, for example, is finding that removing one acre of juniper makes available almost 40,000 gallons of water annually for either aquifer recharge or base stream flow. Overall, NRCS estimates that the technical and financial assistance it has provided in Texas has produced offsite benefits at a ratio of \$13 in benefits for every \$1 spent.

Federal budget cutbacks and new priority mandates, however, have drastically curtailed the ability of NRCS to continue providing one-on-one technical assistance to Texas farmers and ranchers, Burt continued. At one time, some 16,000 federal soil and water conservation agents served in Texas; now, NRCS staff in the state number 720, and are projected to decline to 550 by 2002. The shrinking number of staff increasingly must be detailed to handle mandated priority tasks, Burt explained, further hampering the agency’s ability to offer technical consultations on a timely basis.

At the same time, Texas farmers and ranchers are facing new environmental mandates from the Clean Water and Safe Drinking Water acts that will increase their workload significantly, Burt said. Plans must be developed for protecting source water supplies, a category that includes all floodwater impoundments in Texas, since these structures also

are used to store water supplies for domestic, industrial and irrigation uses. Additionally, as a major contributor to nonpoint source pollution, Texas agriculture must help develop and comply with total maximum daily loads (TMDLs) of pollutants for state streams. This process, which has just begun in Texas, calculates the amount of pollution that a river body may receive and still maintain its designated uses. And under a U.S. Environmental Protection Agency initiative, animal feeding operations must develop comprehensive pollution prevention plans within two years.

The goals of these efforts are laudable, witnesses agreed, because they help ensure supplies of clean water for vast numbers of downstream users. But, as Burt stressed, the challenge facing Texas farmers and ranchers is where to turn for the technical assistance necessary to carry out these programs.

Rep. Pete Patterson, committee chair, noted water quality and water quantity ultimately affect the urban dweller even more than the rural. In expressing support for the budget proposal, Patterson said he could not envision anything else coming before the 76th Legislature that would be of greater importance.

However, Patterson also warned district representatives that they would have a tough job selling the idea to a Legislature dominated by urban interests unless they could convincingly demonstrate its benefits to municipalities and industry.

“That is the issue,” agreed Rep. David Swinford, especially since the proposal is not a “one-shot deal” but rather an ongoing commitment for an additional \$71 million per year. In addition, he cautioned, public education efforts about the need for state funding in this area also must show why and how “a voluntary incentive program will work for agriculture when punitive regulatory programs won’t.”

Rep. Bob Turner noted that the increased funding is necessary to keep the locally elected boards viable. “Who would assume responsibility for nonpoint source pollution if they went away?” He asked whether the budget proposal could be prioritized so that legislators would have some options for funding.

Register replied that “these numbers are not inflated” but carefully developed with input from 214 of the 216 local districts. The budget proposal breaks down into two major categories: technical assistance and incentives. If the requested levels of technical assistance are reduced, Register said, “I’m not sure we’re gaining a lot.” Similarly, cutting out incentives would “hurt the lower income landowners most and really bad areas, where it doesn’t make economic sense to landowners to address problems.” Both parts of the budget are necessary, he stressed. “Where there’s technical assistance, there’s money involved because corrections are needed.”

— by *Linda Fernandez*

JJAEPs Face Program, Jurisdictional Issues

Witnesses representing Dallas and Harris County Juvenile Justice Alternative Education Programs (JJAEPs) told the House Committee on Juvenile Justice and Family Issues May 7 that the programs, required by the 74th Legislature under the Safe Schools Act and now in their second year of operation, are working.

However, Linda Brooke, director of Education Related Services for the Texas Juvenile Probation Commission, which approves the programs, said that several issues still need to be resolved, including more cost-effective and efficient means of transporting students to facilities, methods of improving student attendance, ways of dealing with limited control over a fluctuating population, and statutory clarification of JJAEP jurisdiction.

Education Code Chapter 37 requires the 22 Texas counties with populations of more than 125,000 to work with school districts to establish JJAEPs for certain students who are expelled from school for serious offenses listed in sec. 37.001. Students who meet the specified criteria and must be expelled are called "mandatory" students. Schools have discretion about expelling and referring additional students, called "discretionary." "Other" students may attend a JJAEP as ordered by a juvenile court, by choice, or under other circumstances.

Counties and school districts have some flexibility in arranging the terms of the JJAEP: the school district may provide personnel and services or may contract with an independent third party to assume full responsibility for JJAEP operations. The state, through the Texas Juvenile Probation Commission, pays for JJAEPs in the counties that are required to have them at a rate of \$53 per "mandatory" student for each attendance day. Funding for "discretionary" and "other" students is arranged between school districts and JJAEPs. In addition to the large counties that are required to have JJAEPs, another 10 counties operate programs with partial funding from the state.

Program concerns

Because attending a JJAEP far from their neighborhood can mean long commutes for students already prone to truancy, transportation continues to be an issue for JJAEPs, Brooke said. While the Education Code requires JJAEPs and school districts to address the issue of transporting students to the alternative schools, it does not establish a uniform policy for all schools to follow. In some counties, parents are responsible for transporting students; in others, counties contract with private vendors or school districts assist with transportation.

These factors combine to result in less-than-perfect attendance at JJAEPs, Brooke said. Counties required to have a JJAEP report attendance rates of 76 percent for students sent to the programs for discretionary reasons; 81 percent for students mandated to attend; and 86 percent for other students, including those whose term of expulsion has ended but who want to finish their schooling at the JJAEP. This compares with a 95 percent attendance rate for all public school students for the 1994-95 school year.

The lower attendance rate of students sent to JJAEPs for discretionary reasons could be attributed to the fact that, unlike mandatory students, many of these students may not be on probation nor under the authority of juvenile probation officers, according to Brooke.

Brooke suggested that JJAEPs could address attendance problems by sharing with one another information about techniques proven effective in countering truancy. For example, Harris County holds truancy court twice a month at the JJAEP and employs deputy sheriffs to personally visit the homes of JJAEP students who are missing school, according to Deputy Sheriff Andy Sustaita. When he visits them, Sustaita gives students the choice of attending school at the JJAEP or going to jail, he said, noting that many students improve their attendance after being helped on to the right track.

In Dallas County school districts assist with transportation to the JJAEP. The school also uses “call teams” that include teachers to telephone students absent from class, reported Gaylon Garrison, principal of the Dallas County JJAEP. Garrison said that next year his school will employ deputy sheriffs in a program similar to the one now operating in Harris County.

The large number of students sent to JJAEPs at the discretion of the school districts can cause wide fluctuations in the student population, creating a revolving door that can reduce the effectiveness of educational programs, Brooke said. One way of dealing with this problem could be to set a minimum length of stay for students in the memorandum of understanding under which JJAEPs accept discretionary students, Brooke suggested.

Brooke reported that from August 1997 to February 1998 about 1,820 discretionary students entered JJAEPs and about 730 left in the 22 largest counties. During the same period, about 680 mandatory students were sent to a JJAEP as required by the law; about 270 of these students left. Fewer than 200 “other” students entered JJAEPs during this time period. Brooke said the same trends generally follow

for the 10 counties that voluntarily operate JJAEPs with some state funding.

Jurisdictional questions

Brooke noted a number of issues confronting JJAEPs that could require legislative action. These include questions of whether aggravated robbery should be added to the list of mandatory expulsion offenses in the Education Code and whether teacher in-service days should be statutorily authorized as part of the 180 days of operation required of JJAEPs.

Other questions needing resolution involve target audiences. Should JJAEPs be required to serve adult students older than 17 who are outside the jurisdiction of the juvenile court; students expelled from charter or private schools; or students expelled for discretionary offenses? Furthermore, should JJAEPs be required to assume responsibility for special education services that extend beyond the core educational curriculum? These questions, Brooke noted, may face the 76th Legislature when it convenes in January.

— by *Kellie Dworaczyk*

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