



Research Report

EXECUTIVE SUMMARY

This study is presented in partial fulfillment of the requirements of Act 57 of the Second Extraordinary Session of 2003, amended by Act 1204 of 2007. Those acts require the legislature to conduct an adequacy study each biennium to assess needs related to providing an adequate education for all Arkansas K-12 students. This part of that larger study considers educational technology expenditures exclusively.

Adequacy: In FY2008-09, districts spent \$39.7 million statewide on technology from foundation funding, compared to \$26.8 million in 2007. This equates to approximately \$86.59 per student in 2008-09, compared with \$201 funded in the matrix. Low performing districts, districts with fewer than 500 students, and districts with a high percentage of students in poverty spend significantly less of their foundation funding for technology than other districts. Technology expenditures from all sources of funding were \$75.7 million or \$165.10 per pupil, nearly double the amount of foundation funding expenditures. Non-foundation funding for technology includes other state-funded technology programs, such as distance learning, and portions of National School Lunch Act (NSLA) categorical funding. A few districts have mills dedicated for capital outlay that are used for technology. Federal sources and support include Title I, Title IID, and the E-Rate Program. In FY2009-10 districts are using the American Recovery and Reinvestment Act funding extensively for educational technology.

2009 Technology Funding and Expenditures	
Per Student Funding Provided Through the Matrix	\$201.00
Per Student Expenditures From Foundation Funding	\$86.59
Per Student Expenditures From All Funding Sources	\$165.10
Total Expenditures From Foundation Funding	\$39.7 million
Total Expenditures From All Funding Sources	\$75.7 million

State Requirements: Arkansas Department of Education (ADE) technology-related requirements influence the need for technology funding in the schools. There are limited technology requirements in the Standards for Accreditation and in the curriculum frameworks. The state's Facilities Manual requires certain technology infrastructure as part of school construction. ADE has developed a state technology plan that structures how districts provide technology in schools. ADE Rules require Individual school districts to develop technology plans. These plans provide E-Rate documentation, also.

Selected District and School Technology Uses: As part of the adequacy study the Bureau of Legislative Research (BLR) visited 74 schools. New technology that was observed in this biennium's site visits included digital microscopes, simulations, surround sound, wireless equipment, and text readers. Many schools reported having enough interactive whiteboards, document cameras, etc. Most of these schools noted that stimulus funding in the current fiscal year was the funding source for the increased equipment. Ten of the 74 schools reported that they didn't have any technology needs. One technology-based program observed throughout the state was the Environmental and Spatial Technology Initiative (EAST) program. The EAST program is offered in 179 K-12 public schools in the state. An increasing use of Web 2.0 applications was noted.

Site visits pointed out variation in schools' use of information systems for individualizing student instruction. Some schools shared formative assessment data in teaching teams or Professional Learning Communities (PLCs) while others created school-wide data reports or profiles for every student including an array of student testing records. The need for teacher professional development in technology was expressed by several schools visited. Principals and teachers indicated a need for embedded training for an extended period of time to ensure that new skills were properly re-enforced as teachers put them into practice back in the classroom.

The BLR has also surveyed all 244 school districts. Data from the district survey concerning distance learning shows that 1,079 sections of distance learning were provided to 9,688 students. According to the survey, 49 districts do not use distance learning. Those not offering distance learning include some of the largest districts in the state as well as some of the smallest.

Technology is increasingly serving as the primary vehicle for supporting parent involvement, which many researchers indicate is a critical strategy for reducing the achievement gap. During site visits, schools reported several online tools for communicating with parents. All districts have websites where notices to parents can be posted along with district information required by law to be posted. Schools reported communicating with parents by email when information is specific to certain students. Software packages such as Edline, Parent Link, and Grade Quick are being used to varying degrees to post grades and homework assignments.

During site visit interviews, many schools indicated a need for building- or school-level technology support. The greatly increased use of technology in the classroom made real-time support essential.

A significant component of educational technology infrastructure that will need to be re-structured as technology permeates the educational environment is bandwidth for the schools. The State Educational Technology Directors Association (SETDA) established recommendations in 2008 for external bandwidth of 10 Mbps per 1,000 students [Arkansas is typically 3 Mbps per district at this time]. All schools have at least one T-1 (1.54 Mbps) line provided through the Arkansas Public School Computer Network (APSCN). For most districts ADE also provides a line for Compressed Interactive Video (CIV) for distance learning.

National Developments: Several areas of national education policy have the potential for impacting the direction of Arkansas educational practice and the resulting state funding. New strategies for all areas of education, including technology, will be necessitated by federal funding programs that reward innovation in states and school districts.

The "Blueprint for Reform: The Reauthorization of the Elementary and Secondary Education Act" by the U.S. Department of Education (U.S. DOE) proposes an increased emphasis on technology as an educational resource. The Blueprint also calls for stronger instruction in literacy and in science, technology, engineering, and mathematics (STEM), aligned with improved standards that build toward college- and career-readiness.

The U.S. DOE's draft "National Educational Technology Plan 2010," released March 10, 2010, urges an increased and more imaginative use of educational technology. The plan calls for leveraging "the power of technology to provide personalized learning instead of a one-size-fits-all curriculum."

The Federal Communications Commission's "National Broadband Plan" contains recommendations to help improve online learning opportunities, both inside and outside the classroom; recommends ways to gather and provide information that fosters innovation; and recommends changes to the E-rate program.