eDucation In Arkansas
Technology Assessment
(eD@T@)

State Level Report

SUMMARY

Summary Counts	2007 / 2008 Totals
Total Number of Districts (includes Charter Schools)[1]	256
Total Number of Schools (LEAs) Reporting[1]	1,102
Total Number of Students[1]	466,391
Total Number of Employees[1]	44,743
Number of Teachers[1]	36,981
Number of Administrators[1] (Includes Superintendents, Assistant Superintendents,Principals, and Assistant Principals)	2,338

LEA – LEA refers to Local Educational Agency. In the state of Arkansas, there are district level LEA's as well as LEA's that represent a campus within a district. For example: Alpena district LEA is 0501000. There are two campus level LEAs for Alpena: Alpena Elementary School: LEA 0501001 and Alpena High School: LEA 0501002

NETWORK INFORMATION

Network	2007 / 2008 District Average*	2007 / 2008 State Total	2005 National Average*
Number of rooms[3]	199	49,402	NA
Number of rooms with active network connections[3]	193	47,877	
Percentage of rooms with active network connections[3]	97 %	N/A	94 %
Most common type of cable used to serve network connections[3]	Category 5E or better Unshielded Twisted Pair cable	N/A	NA
Districts providing wireless access to Internet[3]	81 %	206	45 %

* District averages are based on the number of reporting districts for each data source. The national averages reported could be skewed. The national data gathered was based on a sampling of districts and was not collected using the same methods used for this project.

District WAN Bandwidth Capacity	2007 / 2008 District Average	2007 / 2008 State Total
Bandwidth available[2]	6.2 Mbps	1,600.5 Mbps
Number of buildings supported per internet connection.[3] (The total number of district buildings in the state is 6,570)[1]	16	4,053
Number of internet accessible connections†	411	106,375
Average number of students supported per internet accessible connection[1]	1,822	466,391
Average number of school employees supported per internet accessible connection[1]	175	44,743

Green Text = Meets or Exceeds National Average   Red Text = Does Not Meet National Average

Data Source: [1]=ADE Database [2]=DIS Database [3]=Online Survey †=Electronic Login Script ‡=Electronic Scan Application

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April 21, 2008

APPLICATIONS INFORMATION

State and Administration Applications	% of Schools Utilizing These Tools*	Definition
APSCN Pentamation[3]	97 %	Financial and Student management applications
Triand[3]	95 %	Electronic transcript transfer application
Cognos[3]	91 %	School financial and student reports application
Special Education (SEAS)[3]	94 %	Web based application for Special Education due process
Locally Provided E-mail System[3]	99 %	E-mail server such as GroupWise or Exchange
Electronic Grade Books[3]	91 %	Application for automated grade and/or attendance reporting
Electronic Library Applications[3]	94 %	Provides electronic tracking of book inventory, most provide for automated checkout of books
Electronic Cafeteria Applications[3]	76 %	Provides electronic tracking of student Free/Reduced/Regular status and student lunch counts
Electronic Bus Route Applications[3]	11 %	Provides electronic tracking of bus routes, student bus assignments and mileage
Voice Over Internet Protocol (VOIP)[3]	11 %	A technology that allows you to make voice calls using a broadband Internet connection instead of a regular (or analog) phone line
Online Learning for Staff[3]	78 %	Web based professional development

* Percentages are based on the number of reporting districts for each data source. 99% of districts report. 3 did not.

HARDWARE / SOFTWARE INFORMATION

Hardware / Software	2007 / 2008 State Total
Total Computers Reported by Survey[3]	157,246
Total Computers Reported Electronically with Login Script†*	106,375
Total Computers Reported Electronically with Scan Application‡*	100,538
Total Windows Servers Reported Electronically with Login Script†	509
Total Novell Servers (Interfaces) Reported Electronically with Scan Application‡	826
Total Compressed Interactive Video (CIV) Labs[3]	325
Total Pre-Windows 2000 Workstations Reported Electronically with Login Script†*	1,780
Total Windows 2000 / XP / Vista Workstations Reported Electronically with Login Script†*	104,595
Total Network Print Services Reported Electronically with Scan Application‡	5,897
Total Interactive Whiteboards[3]	6,600
Total Non-Network and/or Non-Windows Devices[3]	7,507
Total Student Hand-held Devices[3]	2,450
Total Staff Hand-held Devices[3]	1,148
Total Students[1]	466,391

*Total Computers - Some districts use NComputing multi-user computing kits to allow up to seven students to simultaneously access one standard PC. Each student has their own keyboard, screen, settings, applications, and data files—as if they were working at an independent machine. This means that a 35-seat PC lab can be created using only 5 shared PCs and 30 NComputing virtual PCs. For districts using NComputing, the Total Computers count reflects the number of shared PCs, not the number of virutal PCs.

Data Source: [1]=ADE Database [2]=DIS Database [3]=Online Survey †=Electronic Login Script ‡=Electronic Scan Application

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Hardware / Software	Ratio		
	Reported by Districts		
Student[1] / Computer[3]	Elementary = 3.9:1	Middle / Jr High = 2.8:1	High School = 2.7:1
Student / Computer 2005 National Average	Elementary = 4.5:1	Middle / Jr High = 4.0:1	High School = 3.4:1
Student[1] / CIV Lab[3]	1,540:1		
Student[1] / Interactive Whiteboards[3]	Elementary = 98:1	Middle / Jr High = 58:1	High School = 67:1
Student[1] / LCD or DLP Projectors[3]	Elementary = 47:1	Middle / Jr High = 29:1	High School = 29:1
Student[1] / Number of Non-Network and/or Non-Windows Devices[3]	Elementary = 76:1	Middle / Jr High = 61:1	High School = 60:1
Student[1] / Number of Hand-held Devices[3]	Elementary = 206:1	Middle / Jr High = 198:1	High School = 206:1
Staff[1] / Number of Hand-held Devices[3]	Elementary = 29:1	Middle / Jr High = 50:1	High School = 36:1
	Reported Electronically with Login Script		2005 National Average
Computer / Server†	80:1		65:1
Pre-Windows 2000 Workstations / Windows 2000/XP/Vista†	0.02:1		0.6:1
	Reported Electronically with Scan Application		2005 National Average*
Computers / Network Print Services‡	17:1		4:1 - 14:1

* National Average Ratio is for Computers to Network Printers. State Ratio is for Computers to Network Print Services. The national averages reported could be skewed. The national data gathered was based on a sampling of districts and was not collected using the same methods used for this project.

Windows Operating System	Count	Percentage
Windows 98 Computers†	1,780	1.7 %
Windows 2000 Computers†	5,271	5.0 %
Windows XP Computers†	98,564	92.7 %
Windows Vista Computers†	760	0.7 %
Total Computers†	106,375	

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TECHNICAL SUPPORT DETAILS

Primary Technical Support	Schools
A full-time computer technician within this district shared with other LEAs [3]	841
A part-time computer technician within this district shared with other LEAs [3]	70
A full-time computer technician within this district assigned only to this LEA [3]	67
A teacher or other instructional staff member as part of his or her instructional job responsibilities[3]	46
A vendor is contracted with to provide technical support for this LEA [3]	30
A part-time computer technician within this district assigned only to this LEA [3]	25
A computer technician from the local educational service cooperative on a non-contract basis[3]	11
A non-instructional staff member, such as a paraprofessional or secretary, as part of his or her job duties.[3]	3
One or more instructional or non-instructional staff member(s) on a voluntary or ad hoc basis[3]	1

LEA – LEA refers to Local Educational Agency. When a district employee answered this survey question, it was within the context of individual LEA's within a district. Therefore, the term "shared with other LEAs" should reflect an technical support employee within the district, working at various sites. However, interpretation by some districts that share an employee between two districts may have chosen this response as well.

Primary Instructional Technical Support	Schools
A certified staff member within this district shared with other LEAs [3]	498
A classified staff member within this district shared with other LEAs[3]	207
Education service cooperative personnel[3]	130
A certified staff member within this district assigned only to this LEA [3]	121
A classified staff member within this district assigned only to this LEA [3]	47
Contract with outside source[3]	37

Technical Support Ratios	2007 / 2008 Ratio	2005 National Average
Technicians / Supported Devices Reported[3]	1:151	NA
Technicians[3] / Students[1]	1:386	1:550
Instructional Technical Support[3] / Staff[1]	1:40	1:418 - 1:11,000

Summary of a Primary Technical Support Person:

A Primary Technical Support person provides technical assistance to the school district.
Technical assistance includes, but is not limited to, the following items:
• Providing guidance to the superintendent and school board on technical decisions
• Providing guidance on local information technology policies
• Managing information technology projects for the district and for individual school campuses
• Managing the planning, implementation and maintenance of the local area network (LAN) infrastructure.
• Managing the planning, implementation and maintenance of the network operating system(s).
• Managing the installation and maintenance of any technology related equipment
• Responsible for the data stored on specific workstations and all servers in the district
• Responsible for the security of the LAN
• Responsible for all application installations, maintenance and management

Summary of a Primary Instructional Technical Support Person:

A Primary Instructional Technical Support Person provides assistance and training to educators on the use of technology in the instructional process. This assistance includes, but is not limited to, the following items:
• Providing guidance to the superintendent and school board on instructional technology decisions.
• Providing training strategies for helping teachers change instructional practices to integrate technology in a student-centered learning environment.
• Assisting in the inclusion of technology activities in the curriculum planning.
• Organizing and preparing training for the district teachers and other instructional staff.
• Developing training material when needed.
• Assessing the use of technology in the instructional process.
*Some instructional technical support for teachers can also be obtained from the Smart Portal, offered by Arkansas Science and Technology Authority (ASTA) and the district's local area service centers.
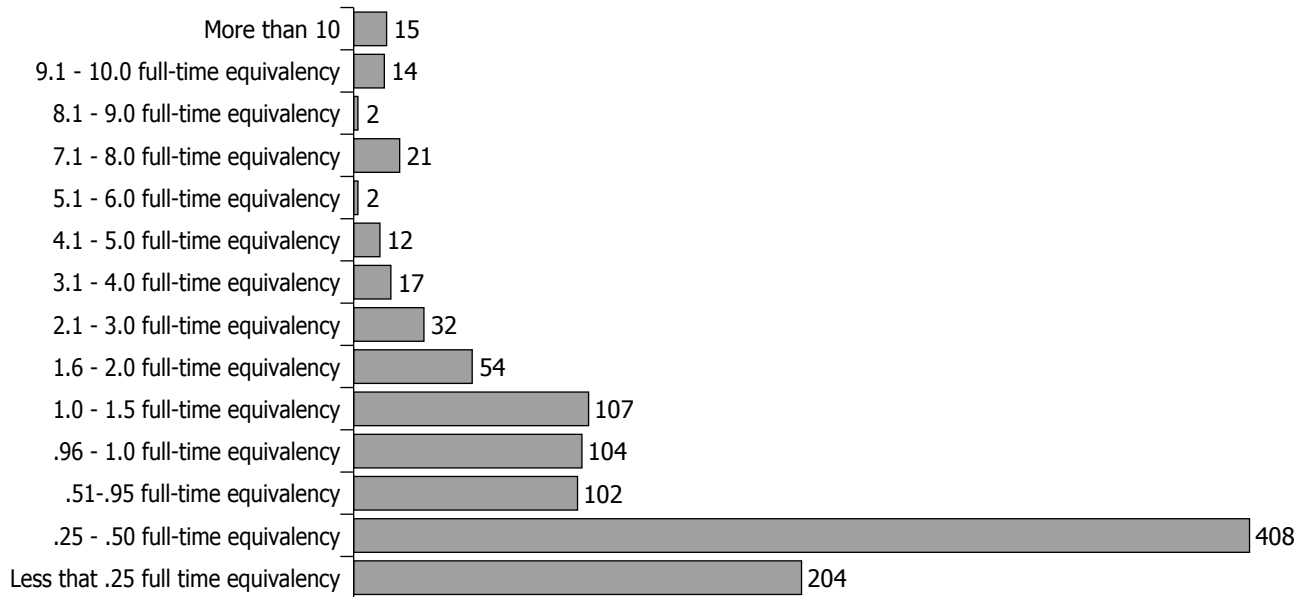
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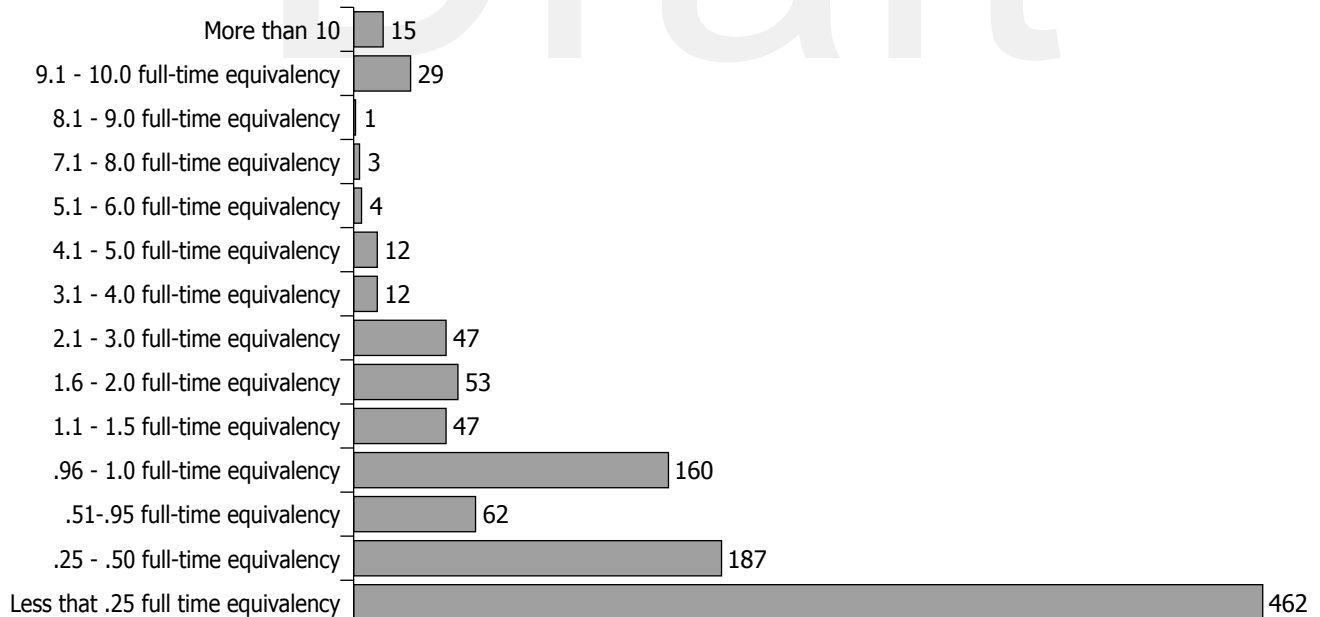April 21, 2008   2.4

TECHNICAL SUPPORT DETAILS (cont.)

School Count by Full Time Equivalent of All Computer Technicians Reported[3]

FTE Category	Count
More than 10	15
9.1 - 10.0 full-time equivalency	14
8.1 - 9.0 full-time equivalency	2
7.1 - 8.0 full-time equivalency	21
5.1 - 6.0 full-time equivalency	2
4.1 - 5.0 full-time equivalency	12
3.1 - 4.0 full-time equivalency	17
2.1 - 3.0 full-time equivalency	32
1.6 - 2.0 full-time equivalency	54
1.0 - 1.5 full-time equivalency	107
.96 - 1.0 full-time equivalency	104
.51-.95 full-time equivalency	102
.25 - .50 full-time equivalency	408
Less that .25 full time equivalency	204

School Count by Full Time Equivalent of All Technology Instructional Support Personnel Reported[3]

FTE Category	Count
More than 10	15
9.1 - 10.0 full-time equivalency	29
8.1 - 9.0 full-time equivalency	1
7.1 - 8.0 full-time equivalency	3
5.1 - 6.0 full-time equivalency	4
4.1 - 5.0 full-time equivalency	12
3.1 - 4.0 full-time equivalency	12
2.1 - 3.0 full-time equivalency	47
1.6 - 2.0 full-time equivalency	53
1.1 - 1.5 full-time equivalency	47
.96 - 1.0 full-time equivalency	160
.51-.95 full-time equivalency	62
.25 - .50 full-time equivalency	187
Less that .25 full time equivalency	462

SECURITY INFORMATION

Security	Description	State Values
Firewall	A device placed at a choke point in a network to function as a separator, a restrictor and an analyzer, usually put in place to prevent unwanted intrusions from the Internet.	54 % of reporting districts within the state utilize firewall protection.[2][3] 45 % are state provided firewalls.[2]
Network Address Translation	Network Address Translation (NAT) rewrites the source or destination address of a location of a packet of information as it passes through a router or firewall to hide IP addresses. Without the deployment of NAT, internal IP addresses may be directly accessible from the Internet. Note that NAT can complicate access to some legitimate applications.	82 % of reporting districts within the state utilize Network Address Translation.[3]
Virus Protection	Antivirus products attempt to identify, thwart, and remove viruses and other malicious software. Without virus protection computers are subject to attacks transmitted by email, web sites, instant messaging, removable media, and others.	90 % of reporting districts within the state utilize Virus Protection.[3]
Spyware Protection	Anti-spyware products attempt to identify and remove malicious and unauthorized benign code designed to report information about a computer, or a computer user's behavior, such as keystrokes and web sites visited. Without anti-spyware protection, information may be unintentionally released to unknown parties.	67 % of reporting districts within the state utilize Spyware protection.[3]
Spam Protection	Anti-spam products work with e-mail systems to attempt to identify and discard e-mail designed to deliver unsolicited advertising or other bulk messages. Without anti-spam protection schools lose bandwidth and time to process the unwanted messages, and may be subject to viruses carried by spam.	65 % of reporting districts within the state utilize Spam protection.[3]
Patch Management	Patch management systems automate the acquisition and installation of code routinely delivered by software providers to correct problems with their products. Without patch management systems schools may fail to apply patches that are critical to the security of desktop and server computers.	39 % of reporting districts within the state utilize Automated Patch Management.[3]
Disaster Recovery	A disaster recovery plan includes procedures for recovering data, hardware, and software required to resume critical functions after a natural or man-made disruption of operations. Without a disaster recovery plan, a facility could be severely delayed in the recovery of operations and may permanently lose important data.	28 % of reporting districts within the state have a Disaster Recovery plan.[3]
Physical Security of Computer Equipment	Physical security, at a minimum, describes measures that prevent unauthorized persons from accessing servers and wiring closets. Unprotected systems are exposed to unintentional or intentional damage that could affect multiple users at a facility.	70 % of reporting districts within the state have computer equipment physically secured.[3]
Internet Content Filtering	Web filtering systems restrict certain content from being delivered to users by category, such as pornography and hate groups. Failure to apply filtering will make the school ineligible for E-rate funding and may expose students to objectionable material.	100 % of reporting districts within the state locally control Internet Content Filtering.[2]
Wireless Security	Wireless security includes resetting all configuration parameters of Wi-Fi access points or bridges that can be changed from the default manufacturer settings to complex entries and preferably utilizing the strongest encryption and authentication practical. When strong wireless security is not implemented, anyone in the vicinity may be able to access sensitive data and critical systems without physically entering the premises.	67 % of reporting districts within the state utilize wireless security.[3]
Detected Computer Viruses	Help-desk Expert Automated toll (HEAT) tickets (or trouble tickets) indicate the number of formal reports of technology issues at the school district that have been recorded in the DIS tracking system over the previous school year.	1.2 viruses detected per 100 computers between 07/01/2007 and 04/02/2008.[2]
Security Vulnerabilities	Security vulnerabilities, such as unpatched systems, are identified by automated scanning techniques.	52 security vulnerabilities detected per 100 computers.‡

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April 21, 2008   2.6

SECURITY INFORMATION (cont.)

Security	State Values
Provides yearly Internet safety classes for students[3]	41 % of reporting districts within the state provide yearly Internet safety classes for students
Requires Parent and Student signatures on Acceptable Use Policy[3]	Yes - signed by students only - 13 %
	Yes - signed by parents only - 6 %
	Yes - signed by both parents and students - 80 %
	No - a signed acceptable use policy is not required - 0 %

CLASSROOM USE

Video Conferencing	2007 / 2008 Percentage	
Percentage of Districts that report having a video conferencing system.[3]	81 %	No National Statistics Available
Total number of video conferencing systems reported in state.[3]	325	
Average percentage of a school day that the video equipment is in use.[3]	38 %	
Percentage of video conferencing systems used for Elementary Instruction.[3]	8 %	
Percentage of video conferencing systems used for Middle School / Jr. High Instruction.[3]	13 %	
Percentage of video conferencing systems used for High School Instruction.[3]	79 %	
Percentage of video conferencing systems used for professional development.[3]	33 %	
Percentage of video conferencing systems used for community access.[3]	6 %	

2007-2008 State Video Network Usage for K-12*	
K-12 School Room Systems[2]	304
Actual hours in conference (mid August 2007 - March 2008)[2]	81,313
Projected annual hours in conference (mid August 2007 - May 2008)[2]	101,641
Hours in conference (average per month)[2]	6,255

*Does not include ASMSA or District to District classes

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April 21, 2008   2.7

CLASSROOM USE (cont.)

Classroom Technical Devices	Division	2007 / 2008 Total Devices[3]	2007 / 2008 Percentage of Total Devices	Total Number of Students / Staff[1]	Student (or Staff) / Device Ratio
Interactive white boards (such as Smart Boards)[3]	State	6,600		Students	Students
	Elementary	2,409	37 %	236,928	98:1
	Middle / Jr High	1,907	29 %	111,291	58:1
	High School	2,284	35 %	152,318	67:1
LCD or DLP projectors installed[3]	State	14,092		Students	Students
	Elementary	5,068	36 %	236,928	47:1
	Middle / Jr High	3,842	27 %	111,291	29:1
	High School	5,182	37 %	152,318	29:1
Non-Internet accessible or non-Windows devices (PCs, Macintosh computers, printers, peripherals)[3]	State	7,507		Students	Students
	Elementary	3,121	42 %	236,928	76:1
	Middle / Jr High	1,838	24 %	111,291	61:1
	High School	2,548	34 %	152,318	60:1
Hand-held devices for staff (A small hand-held computer like a PDA or an IPod)[3]	State	1,148		Staff	Staff
	Elementary	502	44 %	14,668	29:1
	Middle / Jr High	247	22 %	12,379	50:1
	High School	399	35 %	14,496	36:1
Hand-held devices for students (A small hand-held computer like a PDA or an IPod)[3]	State	2,450		Students	Students
	Elementary	1,148	47 %	236,928	206:1
	Middle / Jr High	561	23 %	111,291	198:1
	High School	741	30 %	152,318	206:1

Student Online Learning (e-Learning)	2007 / 2008 Number of Local School Campuses Using (Out of 1,102)	Definition
EAST Lab[3]	146	(Environmental And Spatial Technologies) - A classroom equipped with state-of-the-art technology where students use the technologies to solve community problems. Students take control of their own learning to deliver real results guided by a trained EAST facilitator.
ADE / AETN United Learning / Streaming Video Project[3]	818	A partnership to provide Arkansas educators access to a comprehensive library of digital videos, high-quality images, and built-in tools to help integrate technology into their lessons.
Web-based classes[3]	139	Courses where all the instruction occurs on the Internet via a personal computer. This includes the study material, software tools for accessing the study material, tracking progress and testing competency in the subject matter.
ExploreNet[3]	13	An environment enabling students to create and deliver "virtual worlds" or simulations via a local network and/or the internet that teach specific (teacher-chosen) concepts to other students.
AETN IDEAS[3]	368	(Internet Delivered Education for Arkansas Schools) – Partnership of the Arkansas On-line Professional Development Initiative, AETN and the Arkansas Department of Education. Provides access to streaming video, online courses and awards for "best practice" programs in schools and school districts in Arkansas
ADEDLC - Arkansas Department of Education's Distance Learning System[3]	148	(Arkansas Department of Education Distance Learning Center) - An organization committed to overcoming the logistics of delivering enhanced curriculum to students at any location in the state and addressing four areas of need in Arkansas school districts.
DCDL - Dawson Center for Distance Learning[3]	36	(Dawson Center for Distance Learning) - Provides a career focused curriculum where students develope career awareness and explore opportunities found within their chosen career field.
Compressed Interactive Video (CIV)[3]	This data is still being collected.	Dedicated video equipment and telecommunication lines to conduct two way interactive video and audio.
Cisco Academy[3]	12	A partnership between Cisco Systems and educational institutions to teach Cisco Certified Network Associate Curriculum to High School and College students.
Oracle Academy[3]	6	A partnership between Oracle and secondary schools
ASMSA Office of Distance Learning[3]	67	Division of ASMSA that provides supplemental instruction to students in the areas of mathematics, sciences, and humanities
Virtual High School (AVHS)[3]	93	A pilot project funded by ADE to provide an online alternative learning environment for the students who need assistance in completing coursework that is difficult to receive due to factors such as schedule conflicts, homebound due to extenuating circumstances, and other factors that might impede a student's progress through grades 9 - 12
Traveler Online Database Project Participants by School Districts[2]	250 Districts Using (Out of 256)	A statewide project to provide reliable online research databases to all Arkansas libraries -- academic, public, school and special.

Note: All e-Learning values are reported by LEA unless otherwise designated. There are 1,102 reporting LEA's and 256 reporting school districts within the state.