Research Report

Resource Allocation of Foundation Funding for Arkansas School Districts and Open-Enrollment Charter Schools

SCHOOL-LEVEL RESOURCES

June 9, 2020

Prepared for

THE HOUSE INTERIM COMMITTEE ON EDUCATION AND THE SENATE INTERIM COMMITTEE ON EDUCATION

2019-2020 Adequacy Study

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INTRODUCTION

Arkansas Code § 10-3-2102 requires the House and Senate Education Committees to "[r]eview and continue to evaluate the amount of per-student expenditure necessary to provide an equal educational opportunity and the amount of state funds to be provided to school districts, based upon the cost of an adequate education, and monitor the expenditures and distribution of state funds and recommend any necessary changes." The law calls for this requirement to be accomplished by completing a resource allocation review. This report serves as the third part of that required review.

Arkansas's K-12 education foundation funding formula, referred to as the matrix, is used to determine the per-pupil level of foundation funding disbursed to each school district. The matrix was not intended to reimburse schools for actual expenditures but rather to provide a methodology for determining an adequate level of funding to allow schools to meet accreditation standards and adequately educate Arkansas students.

In addition, three of the four categorical funds – English Language Learner, Enhanced Student Achievement (formerly known as NSL for National School Lunch) and Alternative Learning Environment – are supplied to schools to help schools meet educational expenses required to provide equity in education for students. School districts, of course, have access to other funds as well, including federal monies, local dollars and other restricted and unrestricted funds from the state.

A major objective of the biennial Adequacy Study is to determine how school districts have spent the foundation funding they have received. The BLR breaks this overview of spending into three reports with each focusing on a particular section of the matrix. Reports covering the School Staffing and District Resources have been presented earlier. This third report looks at the items listed as **School-level Resources** in the matrix.

The Resource Allocation reports consider district spending as one measure that can be used to determine whether state foundation funding is adequate. However, expenditures alone may not be sufficient to determine the adequacy of funding. Expenditures certainly can illustrate a school district's needs, but some expenditures may also represent a school district's wants, while others reflect what a school district can afford. **This report provides expenditures not as a red line for what should or should not be provided, but as one measure that can help inform legislators' judgments about what adequate funding should be**.

The most basic function of this report is to compare the levels of foundation funding provided to districts for specified resources with districts' actual spending patterns. The state provided funding for a set of resources. How did school districts actually spend those dollars?

To do that, this report compares the legislative intent of the funding (the matrix) with districts' actual spending. **Where the intent and the spending—the theory and the practice—do not align, either side of the equation may be in need of adjustment.** Sometimes when school districts spend in a way that does not meet the legislative intent, a policy—a restriction or limitation—may be needed to change districts' spending. Other times, the difference between legislative intent and actual spending may be an indication that the legislative intent is off; the matrix may need to be adjusted. (Please see Appendix C for an in-depth overview of the matrix components and its legislative history.)

For context, all three Resource Allocation reports also provide the total amount that districts have spent from all funding sources, including from local revenue, state categorical funds and federal funds as well as comparisons, when possible, to national spending patterns.

SCHOOL-LEVEL RESOURCES IN THE MATRIX

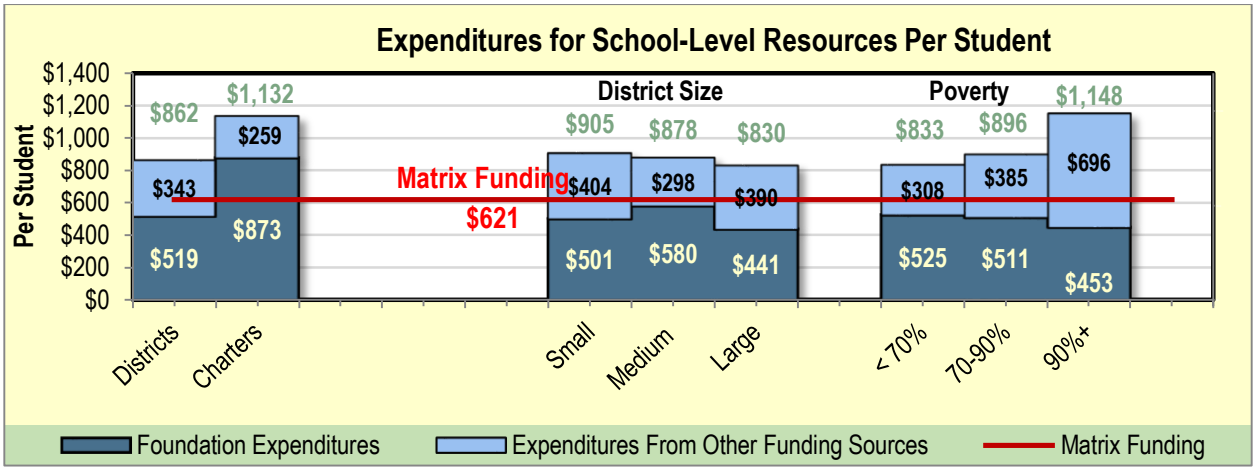
As in the two previous Resource Allocation reports, we are considering funding and spending for the 2018-19 school year. The portion of the matrix dealing with school resources contain these items and the associated per-pupil funding amounts listed in the table.

School-Level Resources	Per-Student Funding Amount
Technology	$250.00
Instructional Materials	$183.10
Extra Duty Funds	$66.20
Supervisory Aides	$50.00
Substitutes	$71.80

Together, the per-pupil funding amounts for the five school-level resource categories accounted for 9.2% percent of the foundation funding level of $6,781 per student in 2018-19. Meanwhile, **school districts and charter school systems, on average, spent 8.3% of their foundation fund monies they used for matrix items on school-level resource items that year.**

The chart below shows total expenditure on school-level resources for various categories of school districts and public charter school systems. The columns on the left compare charter school systems with traditional districts; the next two sets of columns compare *subsets of districts only*.

While only charter school systems used more of their foundation funds on school-level resources in 2018-19, all categories of schools spent more on school-level resources than the matrix supplied when expenditures from all fund sources are included.

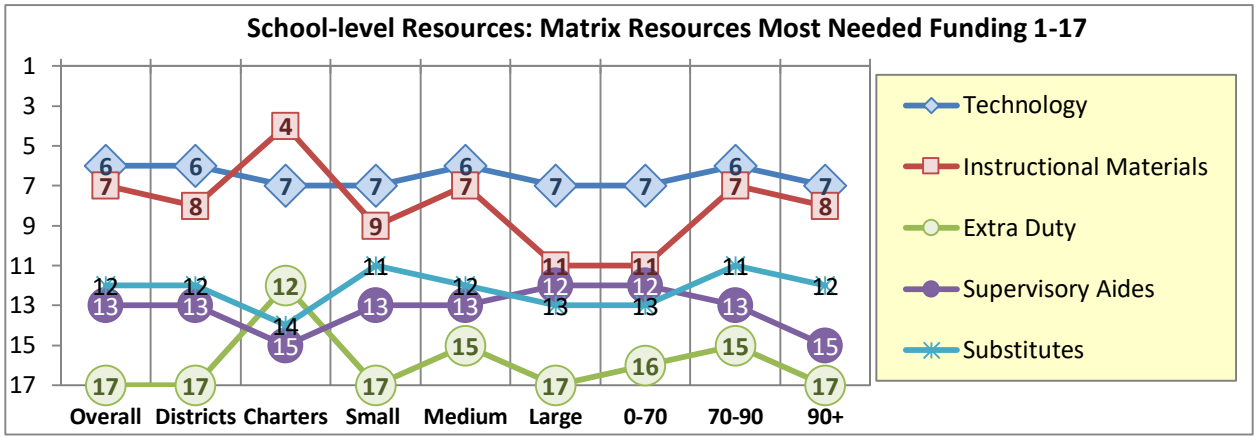


Notes: 1) Small school districts have up to 750 students; medium have 751-5,000 students and large schools have 5,001 and more. 2) Sums may be plus or minus $1 due to rounding.

It's interesting to see how superintendents' perception of needs for additional resources align with expenditures. During fall 2019, the BLR surveyed superintendents of the 235 school districts and 25 charter systems and received 259 responses. Superintendents were asked to respond to the following question:

RANK the following resources in the MATRIX in terms of areas where your district most needs additional funding (of any amount), with 1=MOST in need of

The following graph shows how each item in the school-level resources section of the matrix was ranked:



These rankings are very similar to the ranking results for the 2018 adequacy, with technology funding by and large recognized as the area most in need of additional funds among school-level resources and extra duty funds seen as the item needing the least additional funding.

The sections below provider further detail regarding the funding, expenditures and specific items included within the school-level resources section of the matrix: technology, instructional materials, extra duty funds, supervisory aides and substitutes. Furthermore, foundation funds spent on non-matrix items are considered as well.

TECHNOLOGY

Technology is a powerful tool that gives teachers, students and administrators additional ways to access information and structure education. Technology has allowed students increased opportunities to customize education through virtual or distance learning and allowed new ways of exploring and presenting educational information and concepts.

Nationally, the Office of Education Technology with the U.S. Department of Education recognizes the following challenges:

- A digital use divide between learners who are using technology in active, creative ways and those who predominantly use technology for passive content consumption
- A need for support and better tools so educators can get real-time information on how strategies are working through rigorous, quick-turnaround evaluations of technology.
- A need for better access to or more use of technology to improve learning on a daily basis, which underscores the need—guided by new research—to accelerate and scale up adoption of effective approaches and technologies
- More family involvement and engagement during early development and implementation of schools' digital transformations.[1]

Technology has been a line item in the matrix since the matrix was first used to guide funding decisions in 2003, though the amounts of funds devoted to it have varied over the years. (Please see Appendix C for a more complete history of technology in the matrix.)

Prior to the 2018 revision of the state accreditation standards, the requirement was for a minimum of "one (1) computer per media center with multimedia/networking capacity for administrative purposes only" (Standard 16.02.4). However, newly approved accreditation

[1] "Reimagining the Role of Technology in Education: 2017 National Education Technology Plan Update,"

standards eliminate this requirement and now speaks more generally of what schools are to provide.[2]

Beyond this standard, districts are not required to maintain a particular level of technology equipment or devices. However, the Arkansas Division of Public School Academic Facilities and Transportation maintains the Arkansas School Facilities Manual, which includes a section on Technology Systems. The Manual generally covers standards for the technology infrastructure of school buildings, including wiring, computer network systems and sound reinforcement systems.

DISTRICT AND CHARTER SCHOOL EXPENDITURES

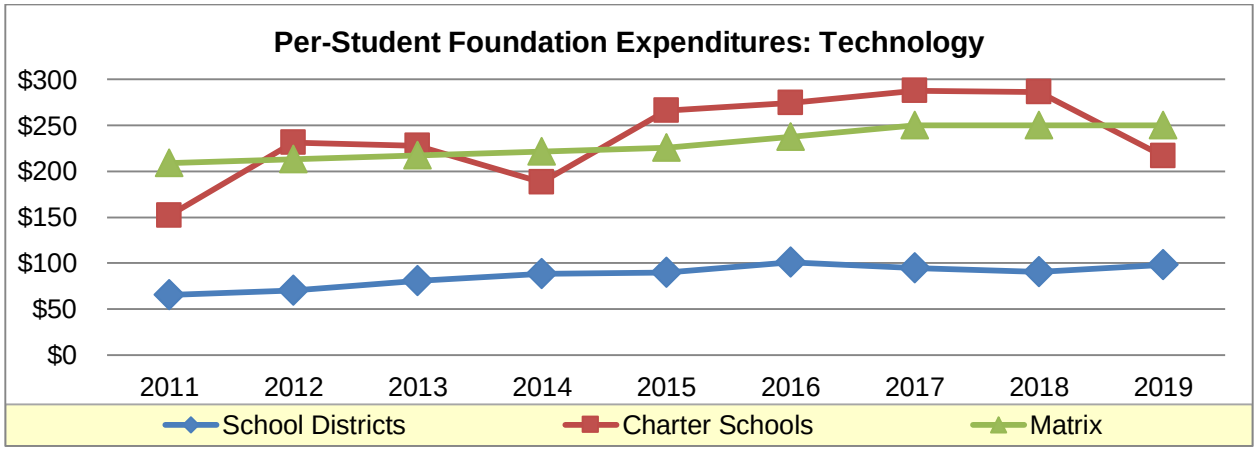
Act 743 of 2017 increased the per-student foundation funding rate to include the following amounts for technology, and the foundation funding set in Act 667 of 2019 includes rates at:

	2018	2019	2020	2021
Per-Student Rate	$250	$250	$250	$250
% Change	0%	0%	0%	0%

Technology: Foundation Funding and Expenditures		
	Funding	Expenditures
2016-17	$118,157,350	$47,359,787
2018-19	$119,399,150	$48,832,714

In comparison to the $250 per student allotted to schools for technology expenditures, school districts and charter systems together spent about **45 cents of every per-pupil matrix dollar they received for technology** for that purpose during the 2018-19 school year – about 5 cents more than was reported in the last adequacy study.

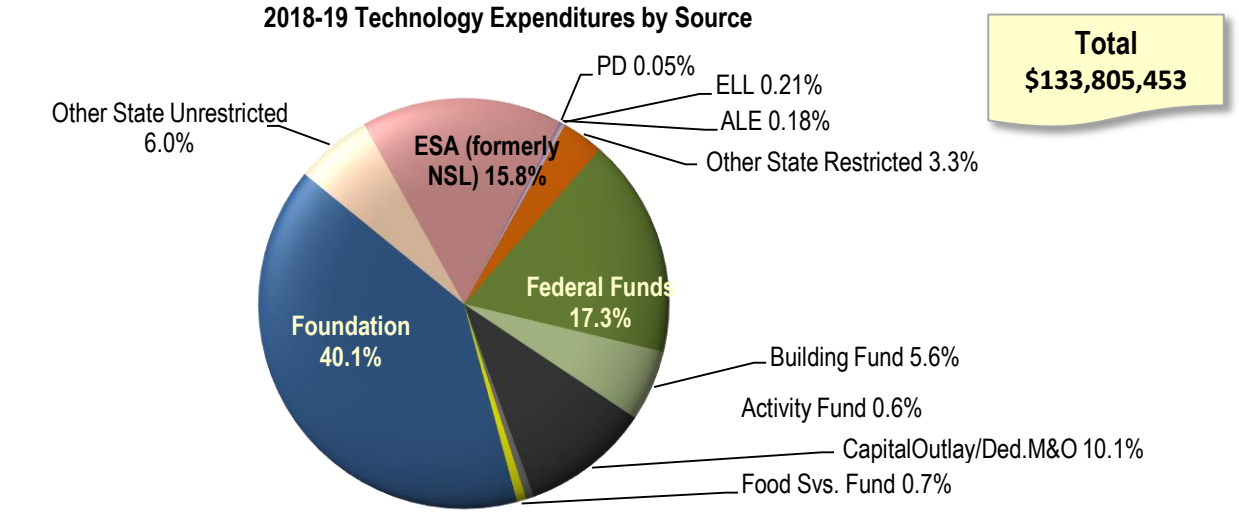
Historically, charter school systems, which include virtual charter schools, have outspent school districts on technology using foundation funds and, for several years, more than the amount the matrix provided for foundation funding. School districts consistently spend less per pupil from foundation funding than the matrix has provided over the years.



Of overall expenditures for technology, however, only 40.1% of overall technology spending occurred with money from foundation funds alone. When all spending on technology is considered, however, expenditures were much higher. The total of expenditures from all available funds -- $133,805,453 – means that **school districts and public charter school systems are**

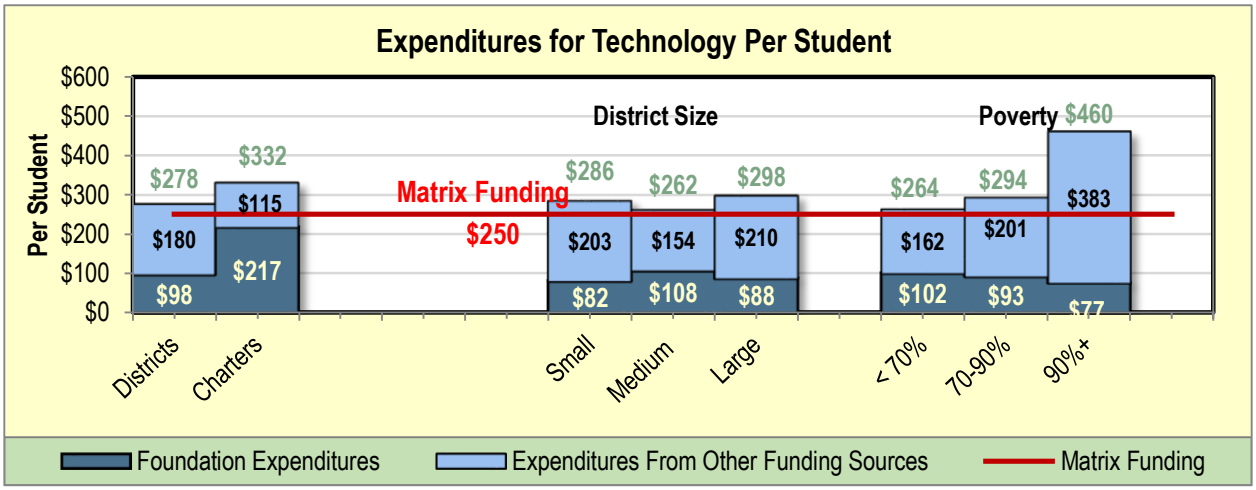
[2] From the current Standards for Accreditation: "2-D.1 Each public school district shall annually budget and expend sufficient resources to purchase and maintain an appropriate balance of print, non-print, and electronic media that is adequate in quality and quantity to meet the academic standards for all students. (D/C)"

actually spending about 12 cents per student over every technology dollar they receive in foundation funding. They are just using other funding sources to do it, the largest being federal funds (17% of overall technology spending), ESA funds (16%) and Maintenance and Operations (10%)



The technology expenditures by various categories of districts and charter systems are shown below. The columns on the left compare charters with traditional districts; the next two sets of columns compare *subsets of districts only*.

Neither districts nor charters spent the full matrix amount on technology out of foundation funds alone, although they surpassed the amount set in the matrix when all fund sources are considered.



Notes: 1) Small school districts have up to 750 students; medium have 751-5,000 students and large schools have 5,001 and more. 2) Sums may be plus or minus $1 due to rounding.

SUPERINTENDENTS' RANK OF NEED: 6TH

Superintendents' were asked the following question regarding the 17 items listed in the matrix:

RANK the following resources in the MATRIX (click here for an attached summary) in terms of areas where your district most needs additional funding (of any amount), with 1=MOST in need of

All leaders of school districts and charter schools listed technology as the **6th** highest need of additional resources. That was the same for all categories of districts listed in the chart above except for charter schools and large, small, medium-poverty and high-poverty districts, which ranked technology **7th** in terms of needing additional resources.

TECHNOLOGY GRANTS

In addition to the funding that districts and charter schools receive directly for technology-related expenses, the state provides **technology grants**. Though these funds do not provide technology funding directly to school districts, they offer resources that may alleviate the need for districts to purchase their own technology equipment or services. The technology grants are appropriated to the Division of Elementary and Secondary Education (DESE) through the Public School Fund. DESE then distributes the money to the designated organizations. In 2019-20 the technology grants provided more than $3.6 million for various programs.

The majority of the money (just over $3 million) was provided to the Environmental and Spatial Technology program, known as the EAST Initiative. The EAST Initiative helps schools establish and implement project-based, service learning programs by providing guidance and equipment to participating schools.[3] More than 134 Arkansas school districts have at least one school with an EAST program, including 14 new programs established in 2018-19, according to the EAST Initiative's annual report.[4] EAST provides professional development for EAST teachers, training for students on the specific technologies in their classroom and technical assistance throughout the year. The EAST program also hosts an annual conference where students showcase their activities for the year, although it had to be cancelled in 2020 due to the coronavirus pandemic.[5]

TECHNOLOGY IN THE CLASSROOM

To identify the issues that are the most significant obstacles to the use of technology in schools, the BLR surveyed superintendents, principals and teachers using the following question.

Survey Question: Rank the barriers your district/school faces to the use of technology in the classroom, where 1 is the MOST SIGNIFICANT BARRIER and 9 is the LEAST SIGNIFICANT BARRIER.

	Superin-tendent Rank (Avg. Rank)	Principal Rank (Avg. Rank)	Teacher Rank (Avg. Rank)
Inadequate technology in students' homes	**1** (2.2)	**1** (2.7)	**1** (2.8)
Inadequate number of technology support staff	**2** (4.0)	**2** (4.0)	**2** (4.7)
Inadequate teacher training	**3** (4.2)	**3** (4.3)	**2** (4.7)
Inadequate supply of other types of equipment	**4** (5.0)	**4** (4.9)	**4** (4.9)
Inadequate interest among teachers	**5** (5.5)	**7** (5.5)	**6** (5.3)
Inadequate bandwidth	**5** (5.5)	**5** (5.2)	**5** (5.1)

[3] Act 877 of 2019 Section 26 Special Language.
[4] 2018-19 EAST Initiative Annual Report, retrieved at https://www.eastinitiative.org/2019Report/
[5] March 12, 2020 EAST Initiative update retrieved at eastinitiative.org

Inadequate supply of computers	**7** (5.9)	**8** (6.3)	9 (6.1)
Inadequate knowledge or skills among tech. support staff	**7** (5.9)	**6 (**5.4)	**7** (5.6)
Inadequate interest among administrators	**9** (6.0)	**9** (6.6)	**8** (5.9)

Superintendents, principals and teachers surveyed agreed that inadequate technology in students' homes was the most significant barrier. A lack of technology and internet access is a particular problem for Arkansas families. In 2018, the state ranked 46th among the 50 states and Washington D.C. in the percentage of households with a computer, including smart phones. The state ranked 51st in the percentage of households with internet access.[6] (This lack of access to technology that students face in their home becomes a significant issue at the end of the 2019-20 school year when on-site learning at schools is cancelled due to the coronavirus. This issue is explored more in Appendix A.)

	Households with computer (including smart phone)	**Households with interr access**
National Average	90.8%	83.9%
Arkansas	86.1%	73.1%

Superintendents, principals and teachers all agree that the next three most significant barriers to the use of technology in the classrooms are too few technology support staff, inadequate training for teachers and an inadequate supply of other equipment. The supply of computers in the classroom ranked as one of the three least significant barriers for each group.

To gauge educators' satisfaction with the quantity and quality of the technology in their district, the BLR survey posed the following question to superintendents, principals and teachers.

Survey Question: Rate the QUANTITY and QUALITY of the following technology resources in your district/school:

- Computers and devices
- Software and electronic subscriptions
- Staff with expertise in integrating technology in the classroom
- Tech support

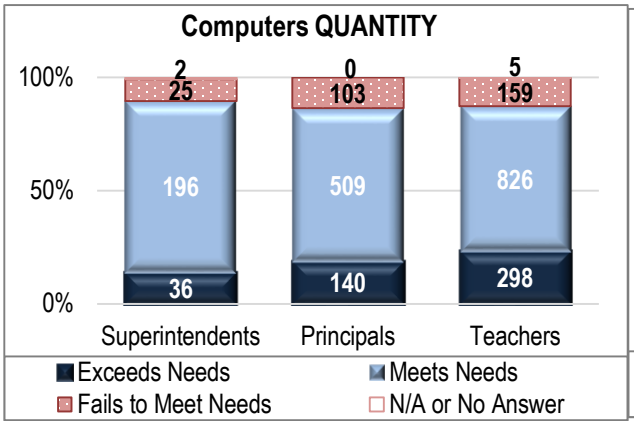
Multiple choice options for QUANTITY

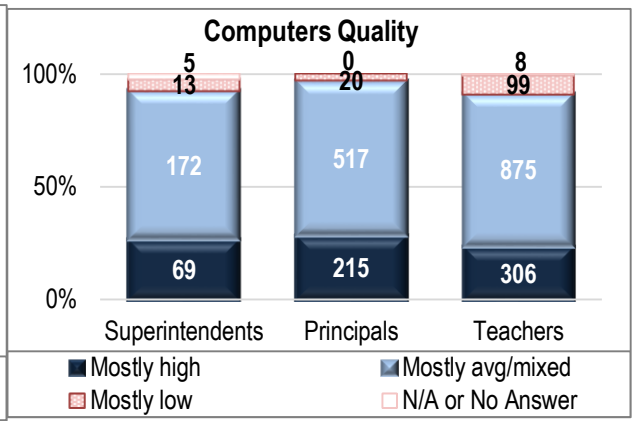
- Exceeds school's needs
- Meets school's needs
- Fails to meet school's needs
- Not available

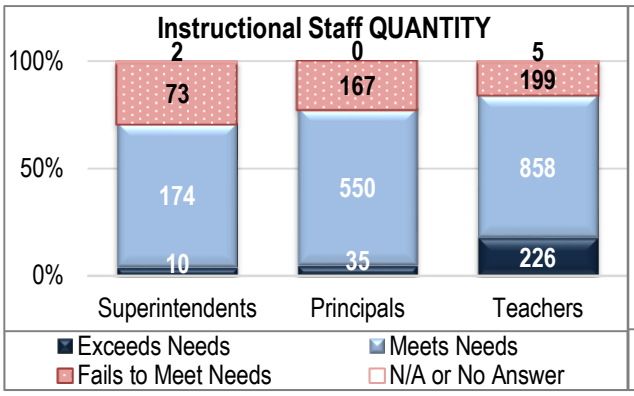
Multiple choice options for QUALITY

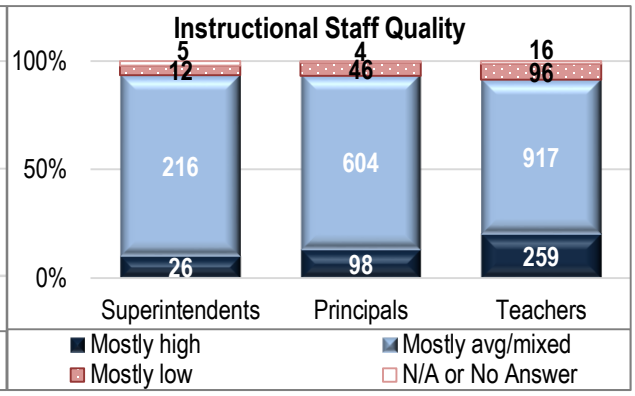
- Mostly high quality
- Mostly average quality
- A mix of high, low, and average quality
- Mostly low quality
- Not available

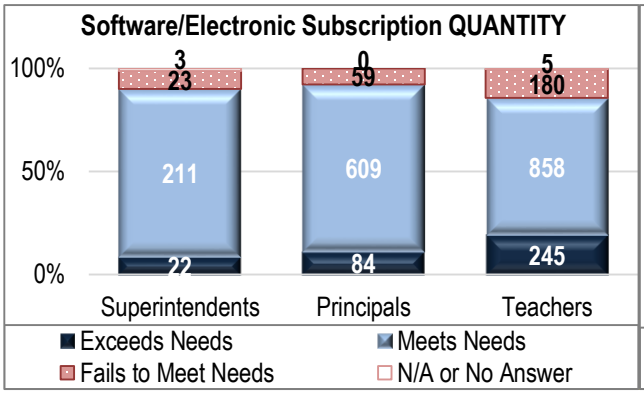
[6] 2018 Digest of Education Statistics, Table 702.60

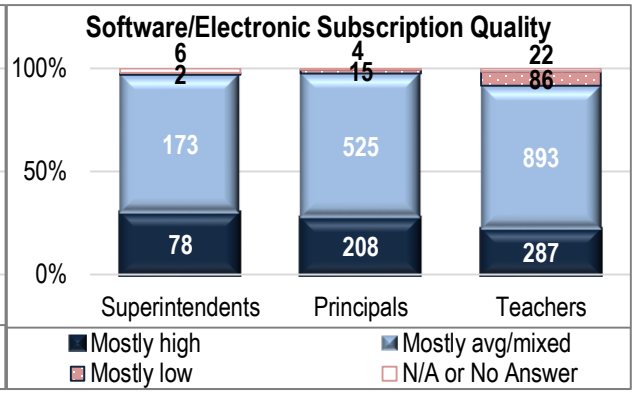


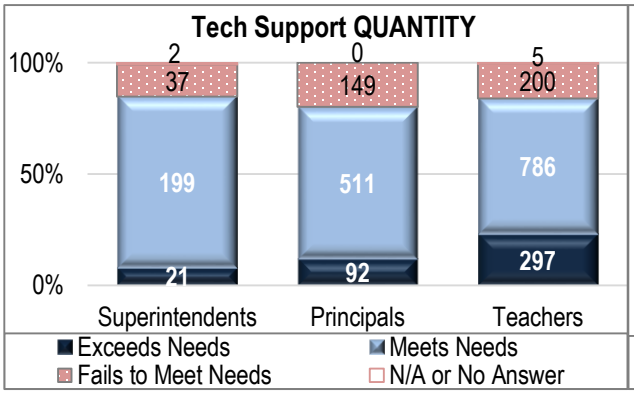


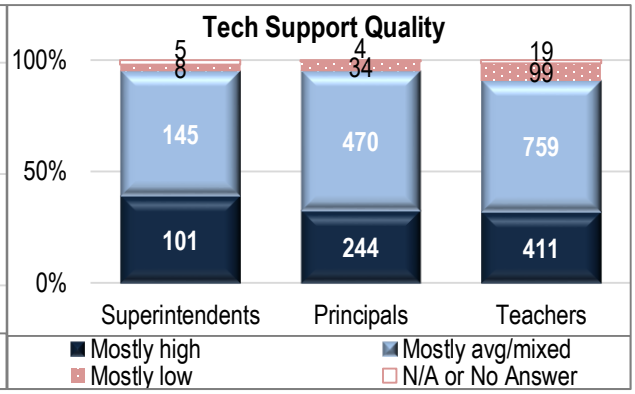












By and large, all three groups were in agreement regarding the quantity and quality of technology resources. The areas most likely seen to be lacking by superintendents, principals and teachers alike were the numbers of teachers with the expertise to integrate technology into

classroom learning and the numbers of technology support staff (though teachers were less likely to see instructional staff expertise as a deficit than principals or superintendents.)

When the BLR asked these same questions for the 2018 adequacy study, computer quantity was viewed as failing to meet needs by a slightly larger percentage in each group. Superintendents were more likely that year to view the technology expertise of instructional staff as failing to meet needs than was the case for this year's study.

To supplement the information gained in the surveys, the BLR also included this question for principals while making site visits to 74 schools in Arkansas during fall 2019:

How well does your schools technology infrastructure equipment and staff meet the administrative and educational needs of your school?

As opposed to the response for the 2018 adequacy survey, where about half of the principals interviewed noted negative issues, less than 10% of principals responded negatively during the 2019 site visits. Most noted great strides in recent years both in terms of devices, broadband and staffing. The vast majority of principals interviewed said their schools were able to provide each child with access to a device such as a Chromebook, or were close to being able to do so. Those principals who responded negatively to this question most often noted one aspect in which the school's technology was lacking while the others were adequate or better. For instance, one elementary principal noted that while the school was one-to-one, training of staff was an issue, saying, "It's not easy to have one training and then retain all you need to know. Training needs to be more ongoing."

Another technology-related question the BLR asked during the site visits was:

What are your schools most significant needs in terms of technology? Please consider all infrastructure equipment and technology staffing needs?

About 25% of the principals did not name any needs in response to this question, up from about 10% in the last adequacy study. Of those that did, the four most common needs were more devices (usually with the goal of reaching "one to one," or a device for each student); more technology support staff; more training for teachers; and more funding to upgrade equipment and software.

TECHNOLOGY COORDINATORS

As noted by the survey and interview responses, more technology staff support is a frequently cited need. To assist districts' with some of their technology staffing needs, the state provides annual funding for **Cooperative Education Technical Centers Operations.** In 2018-19, the state provided nearly $1.2 million for this program to employ technology coordinators in the state's 15 educational service cooperatives. Each cooperative received $75,000 to employ one technology coordinator to help member school districts determine technology needs, analyze their technology systems and design local networks.

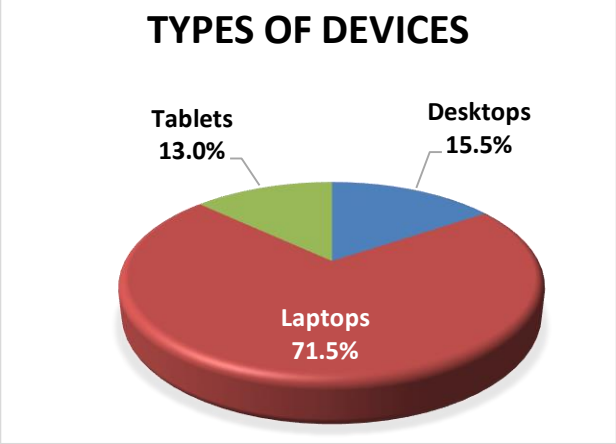
COMPUTERS AND DEVICES

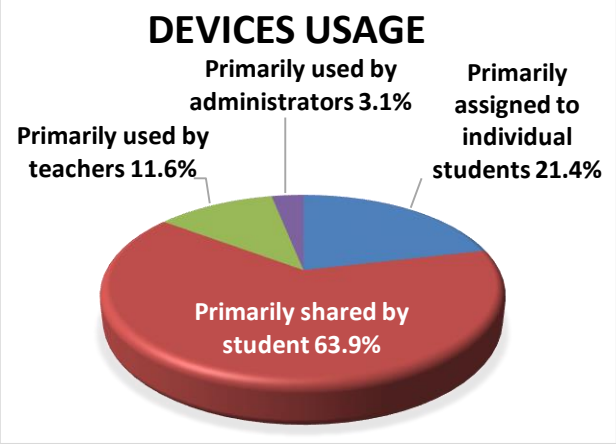
Computers and devices are also frequently mentioned as resource needs. To assess districts' supply of computers and devices, the BLR asked superintendents to answer the following survey question:

How many computers does your district have in active use? Enter the number of each type of computer listed below used by the following groups. Include only computers that can connect to the internet, but do NOT include phones, portable media devices or other small electronics. Each computer should be counted only once.

- **Desktop computers**

- **Laptop computers**
- **Tablets**
- **Primarily assigned to individual students**
- **Primarily shared by students (e.g., computer labs, media center)**
- **Primarily used by teachers**
- **Primarily used by school or district administrators or other staff**





Districts and charter school systems reported having about 709,000 total devices, with about 151,000 assigned to individual students. There were 114 school districts and charter school systems that had no devices of any kind (desktops, laptops, or tablets – phones were excluded) assigned to individual students. Computers in classrooms and computer labs are more accessible for students, with practically one computer available for each student. While laptops are the most predominant type of device used by districts, they are more often the type of device assigned to individual students (87%), used in the classroom and computer labs (71.3%) and assigned to teachers (52.4%). Administrators, on the other hand, were more likely to be assigned desktops (47.6%) as opposed to laptops (33.5%) or tablets (18.9%), according to the survey responses.

The BLR also asked superintendents the following question on the survey in fall 2019:

How many of your districts SCHOOLS currently allow some or all students to take home school computers (including tablets)? Phones, portable media players and other small electronics are NOT considered computers for the purpose of this question.

Older students were more likely to be able to take devices home with them, with 127 school districts and charter school systems allowing at least some of their high school students to do so. Meanwhile, 62 districts and charter school systems allowed some or all of their middle school students to take devices home and 24 allowed some or all elementary students to do so.

BROADBAND

Fast internet speeds and the ability to access the internet when needed are increasingly important parts of schools' effective use of technology. Early last decade, district administrators expressed concern about the availability and high cost of broadband that's sufficient to allow uninterrupted internet access for instructional and administrative functions. In 2014, the General Assembly contracted with consulting company CT&T, Inc. to identify districts' broadband needs and recommend solutions. The company found that 35% of districts and charter schools did not meet the recommended broadband level of 100Kb/s per student.

Some steps have been taken to improve those numbers. In 2014, DESE and the Department of Information Systems (DIS) began an initiative to improve the APSCN network through which all districts and charter schools receive connectivity. DIS issued an invitation for bid (IFB) for which providers could bid to provide service on the enhanced network. In some cases, providers were

awarded contracts to serve districts on the new APSCN network that districts had previously contracted with directly. The work to connect all districts and charter schools to an all fiber network began in July 2015, and work was completed July 2017.

The network improvements were funded through the existing $13 million that ADE pays DIS annually for broadband (a subset of DIS's total charges to ADE). After an initial increase in DIS's billings for K-12 broadband services increased by about $1 million the first year, in part due to the ongoing cost of connecting charter schools as they expand or new schools are created, subsequent years have seen a decline to $14.1 million in 2019. An additional decrease of about $1.5 million is anticipated for 2020 is expected due to reduced internet billing rates. "The hope is that we can increase the K12 network bandwidth from 200Kbps/user to hopefully 1Mbps/user (the original future bandwidth target in 2015) with no increase in billing to [DESE]," an official with the state's Division of Information Services explained.[7]

For many years, it was difficult to determine how much money districts themselves spent on broadband because there were no specific APSCN expenditure codes districts could use when recording those expenditures. In the absence of such codes, some districts recorded broadband expenditures using codes for utilities, while others used codes for technology. In 2013-14, DESE introduced new codes districts could use for broadband. Districts could voluntarily use the new codes in 2013-14, but the codes became required in 2014-15.

In recent years, many districts have recorded no broadband expenditures at all. The lack of expenditures in some districts and the continual decline in total expenditures between 2016 and 2019 may be due to the APSCN network upgrades. The network enhancements may have made districts' own broadband purchases—outside the state-provided broadband—unnecessary.

	Broadband Expenditures	Districts/Charters Reporting Any Broadband Expenditures
2013-14	$4,672,085	120
2014-15	$7,350,475	189
2015-16	$8,987,522	196
2016-17	$6,352,333	163
2017-18	$5,633,092	141
2018-19	$4,457,455	133

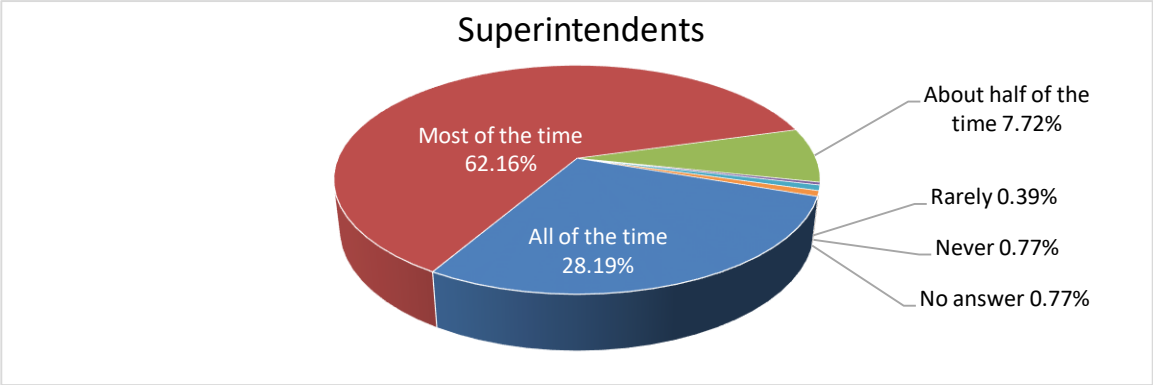
To identify any issues schools might be having with broadband, superintendents, principals and teachers were asked on the BLR surveys about their satisfaction with bandwidth levels.

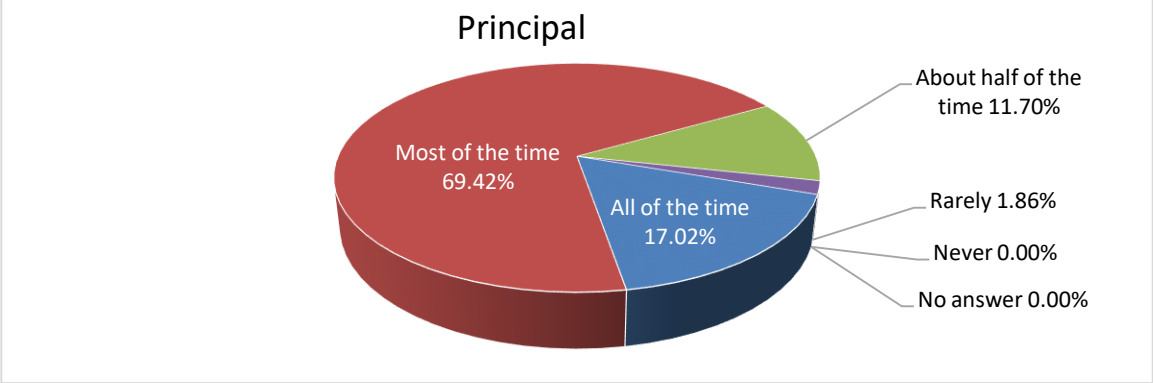
Survey Question: How sufficient is your district's broadband in allowing for smooth operations of all instructional and administrative functions?

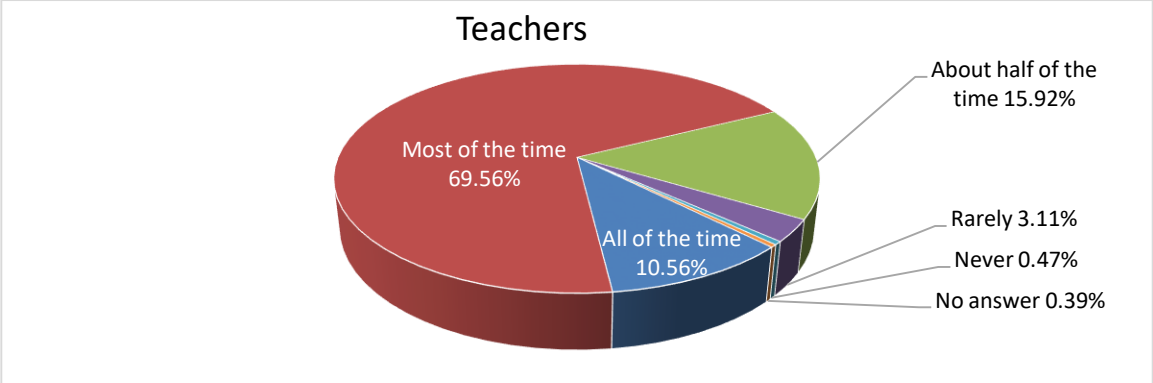
1. It's sufficient **all the time**.
2. It's sufficient **most of the time**.
3. It's sufficient **about half of the time**
4. It's **rarely** sufficient.
5. It's **never** sufficient.

Ninety percent of superintendents reported that the broadband for their schools was sufficient all or most of the time, while slightly smaller proportions of principals and teachers rated it as highly. The BLR asked the same question of principals during the 74 site visits. The vast majority of principals reported that their broadband was reliable, though several indicated that weather conditions or heavy usage (such as testing) could cause interruptions. A few indicated that the only time they had issues was when the state system went down.

[7] Email from Don McDaniel, Division Administrator, Arkansas Division of Information Systems date May 20, 2020.







Superintendents, principals and teachers differed very little in their responses based on the rural or urban nature of their districts. The average rating of survey respondents is provided by the following community categories. The categories come from the National Center for Education Statistics (https://nces.ed.gov/programs/handbook/data/pdf/appendix_d.pdf) and are defined with district examples below.

	Average Response		
	Superintendents	**Principals**	**Teachers**
City	1.7	2.0	2.2
Suburb	1.6	1.9	1.9
Town	1.8	2.0	2.1
Rural	1.9	2.0	2.1

1. It's sufficient **all the time**.
2. It's sufficient **most of the time**.
3. It's sufficient **about half of the time**
4. It's **rarely** sufficient.
5. It's **never** sufficient.

City: Territory inside an urbanized area and inside a principal city (example, Conway, Little Rock, Fayetteville)
Suburb: Territory outside a principal city and inside an urbanized area (examples, Bryant, Cabot, Greenland)
Town: Territory inside an urban cluster and outside an urbanized area (examples, Lonoke, Paragould, Booneville)
Rural: Census-defined rural territory outside an urbanized area (examples, Calico Rock, Glen Rose, Nemo Vista)

To assess, the extent to which improvements in the broadband network have improved through the enhancements to APSCN, the BLR asked principals the following open-ended question.

DISTANCE LEARNING

A major change affecting districts' technology needs is the significant increase in the delivery of instruction through distance/digital learning. Distance learning was originally implemented in the state by Act 1083 of 1999. As later stated explicitly in Act 1192 of 2003, distance learning was intended to help schools deal with the shortage of qualified teachers and to increase access to a variety of courses beyond those required by the state accreditation standards.

All credit-bearing courses offered through distance learning must meet the curriculum standards and requirements adopted by the State Board of Education or the DESE's Department of Career Education (ARCareerEd) and must also be taught by an appropriately licensed educator. The courses offered through distance learning vary widely and may include subjects from photography and journalism to criminal justice and agricultural business. Distance learning classrooms may contain a group of students enrolled in one course or students simultaneously working on various courses. Students are able to remotely interact with their instructor and each other. DESE rules approved in 2016 indicate that digital learning courses are considered "large group instruction courses," which means they are not required to comply with class size limits. Previous rules limited distance learning classes to 30 students per teacher.

DESE's rules for distance learning also require an "adult facilitator" in the brick and mortar classroom where students actually take the course. For some distance learning courses that use an onsite teacher with digital content (see blended learning on page 19), the onsite teacher typically serves as the adult facilitator. But for courses that are taught entirely online, the adult facilitator is different from the course's primary instructor. The adult facilitator is responsible for supervising instructional activity and administering assessments used to determine students' course grades. To determine the number of facilitators that districts use and the type of staff typically serving this role, the BLR asked superintendents the following survey question.

Superintendent Survey Question: How many FTEs work in your district as a facilitator for digital learning course(s)? Please count employees who facilitate DL for only part of the day as partial FTEs (e.g., 0.5 FTE). DO NOT include any teachers serving as the teacher of record for the DL course. Include only FTEs serving as a facilitator for students taking courses taught by others.

The table below shows the number of districts and charter schools that used each type of employee as a distance learning facilitator (with any number of FTEs). Districts and charter schools most frequently said they used non-licensed paraprofessionals and teachers to serve as the distance learning facilitator. Sixty districts either did not respond to this question or indicated they had no staff serving as digital learning facilitators.

	Avg. FTEs	Districts/Charter
Teachers*	**2.6**	**131**
Guidance counselors	2.1	23
Library media specialists	2.7	36
Tech support specialists	3.0	35
Nurses or other pupil support	2.0	47
Non-licensed paraprofessional	**2.2**	**180**
Volunteers	3.7	5
Others	4.1	5
No FTEs for DL Facilitator	**0**	**60**

*Seven districts' responses were excluded from this analysis. These districts appear to have provided implausibly large numbers of teachers serving as DL facilitators (nearly all or more than the total number of certified staff in the district).

During the 2013 legislative session, the General Assembly passed Act 1280, which requires all school districts to provide at least one digital learning course beginning in the 2014-15 school year.[8] The law also requires students, beginning with the ninth grade class of 2014-15, to take at least one digital learning course to graduate from high school.

The law allows the digital learning courses to be online-based, where instruction is primarily delivered over the internet, or these courses can be taught using "blended learning," meaning a combination of on-site instruction and some instruction delivered using technology. DESE specifies, however, that there is a difference between a blended learning course that complies with Act 1280 and a course that happens to use online resources in the classroom. For a blended learning course to count as a digital learning course, it must allow students to have some control over the pacing and place of learning. Blended-learning digital learning courses may also involve online content personalized for students or a learning management system, rather than simply using videos or academic content available online.

In 2018-19, nearly 6,600 distance learning courses were offered within 246 of the state's 260 school districts and charter school systems. Nearly 127,000 students throughout the state were enrolled in at least one distance learning course within their district or charter schools. These numbers illustrate the impact of Act 1280 as the school year before it was enacted – 2013-14 – only saw about 8,000 students enrolled in 189 districts.

School personnel denote within the APSCN system for each distance learning course whether it is content only, full service, or home grown:

- **Full service** delivery means the entity providing the online course (the online course vendor) employs the teacher of record and is responsible for providing all content and curriculum. This is by far the most popular, accounting for 75% of the digital course offerings.
- **Content only** indicates the district's own teacher serves as the teacher of record, but the course relies on curriculum delivered online by an outside vendor. About 13% of the digital learning courses offered were content only.
- **Home grown** means the online content is developed by the school or district, and instruction is delivered by a district-employed teacher.[9] Home grown courses, which account for about 12% of the state's digital learning course, do not utilize an outside vendor.

Only seven districts/charter systems taught a single distance learning course, while 28 taught at least 50. The average number of distance learning offerings for the 246 districts and charter schools that taught them was 26.8. The most popular distance learning courses – those with at least 1,000 students enrolled across the state in 2018-19 – were:

Course Name	Student Count
Health and Wellness (.5 Credit)	13,358
Survey of Business	5,690
English 10	5,645
Economics with Personal Finance (.5 credit)	4,206
English 9	4,060
English 12	3,783

[8] State statute refers to both "distance learning" and "digital learning". For a number of years, distance learning typically referred to instruction delivered in one location and made available to classrooms across the state via compressed interactive video. As distance learning began to rely less on compressed video, the terminology shifted to "digital learning". State statute defines digital learning as "a digital technology or internet-based educational delivery model that does not rely exclusively on compressed interactive video" (§ 6-16-1403). ADE rules further specify that "digital learning may be a type of distance learning" (Rules Governing Distance and Digital Learning).
[9] http://www.arkansased.gov/public/userfiles/Learning_Services/Digital_Learning/FAQ_for_Act_1280.pdf

Oral Communication (.5 credit)	3,749
Civics (.5 credit)	3,016
World History Since 1450	2,607
Financial Literacy (.5 credit)	2,414
English 11	2,295
Spanish I	1,935
Biology - Integrated	1,851
Geometry	1,837
United States History Since 1890	1,836
Algebra II	1,784
Physical Science - Integrated	1,762
Algebra I	1,613
Work Ready (.5 Credit)	1,451
Concurrent Credit English 12	1,354
Keystone (.5 credit)	1,303
Chemistry - Integrated	1,233
AP English Language and Composition	1,188
Computer Science with Programming/ Coding Emphasis Level 1 (0.5 Credit)	1,143
EAST Initiative I	1,112
Visual Art Appreciation (.5 credit)	1,104
Computer Science with Programming/ Coding Emphasis Level 2 (0.5 Credit)	1,016

Act 1280 of 2013 also required students, beginning with the ninth grade class of 2014-15, to take at least one digital learning course to graduate from high school. The senior class of 2017-18 was the first class to graduate with this requirement. A DESE official indicated that the agency does not monitor all individual student transcripts to ensure graduation requirements are met, although a state monitoring team does monitor student transcripts in districts that have been identified for risk-based monitoring.[10]

Districts' delivery of distance learning is supported by two state appropriations, Distance Learning and Distance Learning Operations, which together provide about $12 million annually to fund a statewide system of distance learning for Arkansas public schools.

Distance Learning and Distance Learning Operations funding	2018-19 Funding Amount
Department of Information Systems	$4,939,220
Arch Ford Education Cooperative	$2,852,362
Dawson Education Cooperative	$1,594,758
Arkansas River Education Service	$990,000
Southeast Arkansas Education Cooperative	$756,988
University of Arkansas, Arkansas School for Mathematics, Sciences and Arts	$500,000
Other	$44,226
Total	**$11,677,554**

Digital Learning Vendors

Act 1280 also established criteria for companies to become "approved digital learning providers" in Arkansas. Prior to this law's passage, distance learning courses were primarily offered by three education service cooperatives and the Arkansas School for Mathematics, Sciences and Arts. The co-ops work together as a consortium, known as **Virtual Arkansas**, to provide a coordinated network of distance learning courses statewide. Virtual Arkansas activities are

[10] Email from Deborah Coffman, Assistant Commissioner, ADE, DESE, dated May 4, 2020.

organized by a state coordinator housed at the Arch Ford Cooperative and are supported by a portion of the state Distance Learning funding (see previous table for information about total Distance Learning funding).

The providers with course enrollment of at least 1,000 students are noted with enrollment numbers in the following table:

Providers	Student Count
Not Applicable*	39,305
K12 Virtual Schools, LLC*	25,611
Virtual Arkansas	23,767
Apex Learning, Inc.	14,705
Florida Virtual School Global	5,134
Other	4,986
Edgenuity, Inc.	2,267
Edmentum, Inc.	2,200
Odysseyware Academy	1,928

NOTE: Some districts that used Virtual Arkansas (and perhaps other vendors) as part of a blended learning course (where online content was blended with on-site instruction) may have recorded the distance learning provider as "Not Applicable." Students taking more than one course are counted for each course taken. K12 Virtual Schools is the vendor providing course content for Arkansas Virtual Academy, an online charter school.

During the BLR site visits to schools, principals were asked to respond to the following question about their experiences with distance learning:

Think of all the courses delivered as a digital learning course. Can you describe your schools experience with such?

Of the 28 principals who responded that they were offering a digital course in their school, 20 had positive things to say, the most common being that it allowed access to courses students wouldn't have at the school otherwise. Fifteen mentioned challenges associated with the digital courses (some of these had also made positive remarks). The most common challenge mentioned was the need for teacher connection and guidance, and the second most common was the lack of internet and/or computers in the home for some students. A couple also mentioned administrative challenges with their vendors, such as recording students' grades or information about teachers of the courses.

Among those few principals who did not offer a digital course, most said the courses were offered at the high school level. A few of those, however, did mention using digital learning for interventions and grade or credit recovery.

NATIONAL RESEARCH

Because digital learning has become so necessary during the out-of-school learning period caused by the pandemic during the spring of 2020 (and could be repeated in the fall if the virus spikes again), it's especially helpful to look at research into the effectiveness of digital learning classes. Three recent research projects were examined by *Education Week*.[11] All three found that digital learning could be beneficial in allowing students access to topics they might not have in their own school buildings, but, overall, retention of learning from digital classes was less than it was for in-person classrooms. One of these studies, for instance, was one by the American Institutes for Research and the University of Chicago Consortium on School Research that

[11] "How Effective is Online Learning? What the Research Does and Doesn't Tell Us" by Susan Loeb in Education Week, April 1, 2020.

randomly assigned a set of students in need of credit recovery in Algebra I to either an online or an in-person credit recovery class. The students in the online setting had less successful credit-recovery rates and lower test scores in Algebra I. They also rated their class as more difficult than did the students taking the course face-to-face. A separate study found that the negative results from digital learning were greater for lower performing students, while the differences were smaller for higher performing students.

INSTRUCTIONAL MATERIALS

Instructional materials include textbooks, workbooks, worksheets and other consumables, math manipulatives, science supplies, and library materials. In their 2006 report, Picus and Associates noted, "The need for current up-to-date instructional materials is paramount. Newer materials contain more accurate information and incorporate the most contemporary pedagogical approaches."[12]

State statute requires districts to "provide instructional materials, including the availability of any equipment needed to access the instructional materials," for all K-12 students in the state at no cost to the student (§ 6-21-403(a)). No districts were cited in 2018-19 for failure to provide instructional materials to students. The law also allows districts to select their own instructional materials and equipment, but requires all materials purchased with state funds to be consistent with the curriculum and educational goals established by the State Board of Education.

The state accreditation standards, revised in 2018, mirror the statutory language: "Each public school district shall adopt instructional material consistent with the public school district's curriculum and the Arkansas Academic Standards and educational goals established by the State Board of Education in accordance with the laws of the State of Arkansas and the rules of the Department." (1-A.7). The standards also require superintendents to sign a statement of assurance attesting that the district is providing "all necessary instructional materials to each student without cost to the student" (1-A.8).

Additionally, state law calls for the Facilities Division to develop a Public School Academic Equipment manual that must "contain uniform standards for technology systems, instructional materials and related equipment determined to be necessary for a public school to provide an adequate education" (§ 6-21-810(a)). A standalone equipment manual has not been developed.[13]The Facilities Division has developed a Facilities Manual, which includes a section on equipment and furnishings, but it does not address standards for instructional materials.

Act 743 of 2017 increased the per-student foundation funding rate to include the following amounts for technology, and the foundation funding set in Act 667 of 2019 includes rates at:

	2018	2019	2020	2021
Per-Student Rate	$183.10	$183.10	184.2	187.9
% Change	0%	0%	.6%	2%

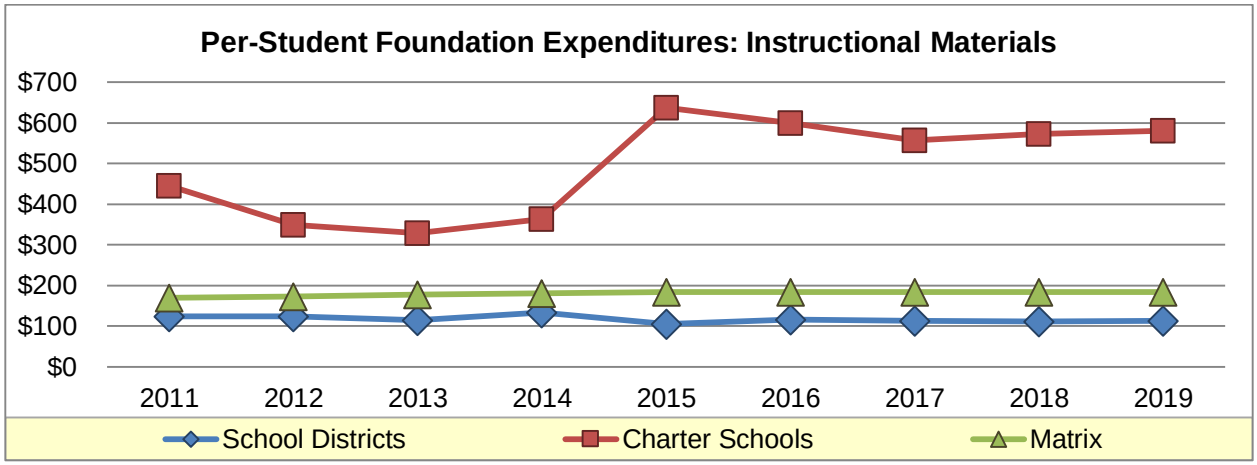
DISTRICT AND CHARTER SCHOOL EXPENDITURES

In 2018-19, districts and charter schools collectively spent more than $62 million in foundation funding on instructional materials of all types.

[12] Odden, A., Picus, L. O., & Goetz, M. (2006). Recalibrating *the Arkansas School Funding Structure.* Report prepared for Arkansas Joint Committee on Education, p. 40.
[13] Email from Murray Britton, Public School Academic Facilities, DESE, dated April 28, 2020.

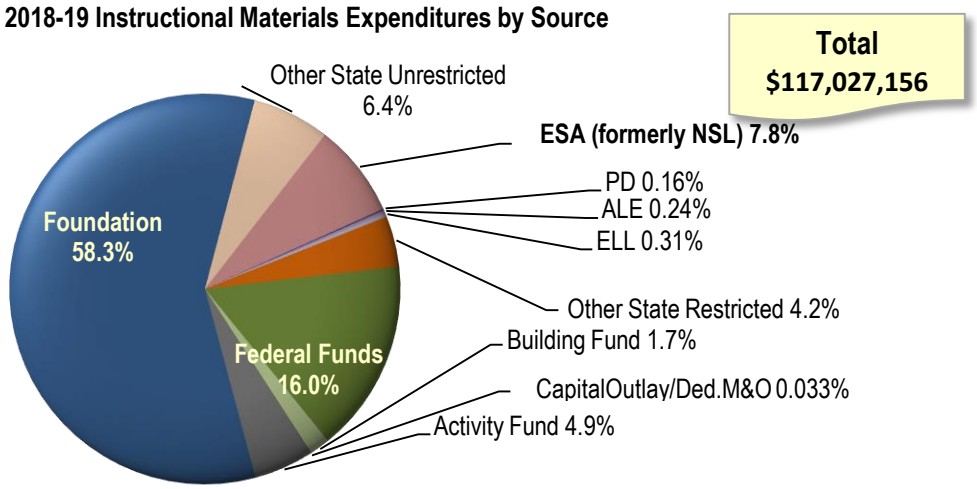
Instructional Materials: Foundation Funding and Expenditures		
	Funding	**Expenditures**
2016-17	$86,538,443	$59,265,914
2018-19	$87,447,937	$68,183,267

In comparison to the $183.10 per student allotted to schools for instructional materials expenditures, school districts and charter systems together spent about **78 cents of every per-pupil matrix dollar they received for instructional materials** for that purpose during the 2018-19 school year – about 8 cents more than the spending reported in the last adequacy study.

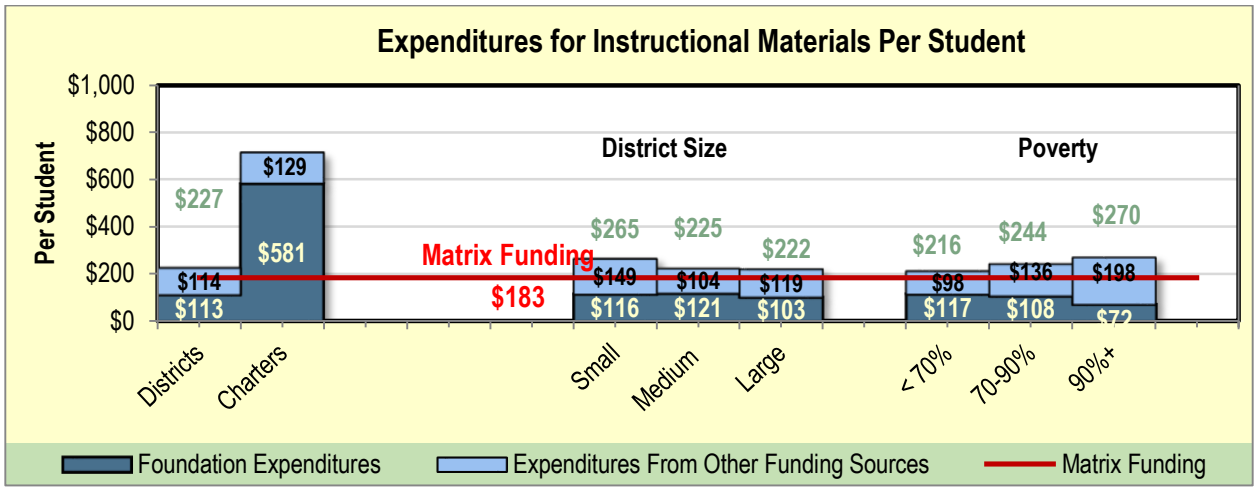


Charter school systems tend to spend more of their foundation funds on instructional materials, and more than what is provided for in the matrix. School districts have fairly consistently spent fewer foundation dollars per student than have been provided in the matrix each year.

Of overall expenditures, however, only about 58% of overall spending for instructional materials occurred with money from foundation funds rather than other fund sources. When all spending on technology is considered, expenditures were much higher than with foundation funds alone. That total -- $117,027,156 – means that **school districts and public charter school systems are actually spending about 34 cents per student more than every instructional materials dollar they receive in the matrix.** They are just using other funding sources to do it, the largest sources being federal funds (16% of overall instructional materials spending) and ESA funds (8%).



The following graph illustrates spending patterns on instructional materials by various categories of school districts and charter systems. The columns on the left compare charters with traditional districts; the next two sets of columns compare *subsets of districts only*. Charter systems spent well over the amount provided for instructional materials in the matrix, even when considering foundation funds only. This average was pushed higher by the nearly $7 million spent by Arkansas Virtual Academy (about $2,900 per student) and just under $3 million spent by Arkansas Connections Academy (about $2,400 per student), largely on text books and e-textbooks, according to APSCN. Districts, on the other hand, only spent over the matrix amount when all fund sources are considered.



Notes: 1) Small school districts have up to 750 students; medium have 751-5,000 students and large schools have 5,001 and more. 2) Sums may be plus or minus $1 due to rounding.

Subsequent sections provide further details on expenditures within this category.

SUPERINTENDENTS' RANK OF NEED: 7TH

While superintendents overall ranked instructional materials **7th** in terms of needing additional resources, the ranks varied somewhat depending on the category. Superintendents of traditional school districts, which spent just over the matrix amount when using all fund sources in 2018-19, ranked instructional materials at **8th**, almost right in the middle of all 17 items. Charter system leaders and high-poverty school districts ranked instructional materials the highest of all categories: **4th**. Large school districts indicated the least need in this area with a rank of **11th**. Medium-sized and low-poverty districts ranked instructional items **7th**, while small districts ranked it **9th** and medium-poverty school districts ranked it **8th**.

STATE RANKING: EXPENDITURES

NCES provides data on each state's expenditures for instructional supplies and for textbooks specifically (classroom textbooks and library books). The most recent data available for all states are from 2016-17. According to the NCES data, Arkansas schools spent $408.66 per student on instructional supplies generally and $49.36 per student on textbooks specifically. (The enrollment and expenditure data used to calculate textbook expenditures per student include pre-K students and expenditures which have been excluded from the BLR's foundation funding analysis elsewhere in this report.)

	Instructional Supplies: Arkansas's Rank	Textbooks*: Arkansas's Rank
All States and Washington D.C. (51)	7th highest	23rd highest
SREB States (16)	3rd highest	7th highest

Surrounding States (7, including AR*)	2nd highest	4th highest

*Rank for textbook expenditures does not include eight states, including Texas, for which data were not available.

The following sections of this report provide additional information about the components that comprise instructional materials expenditures.

TEXTBOOKS

In 2006, Picus and Associates' funding recommendation for textbooks was calculated based on the purchase of one textbook per student each year with a six-year textbook adoption cycle. They recommended providing $60 per elementary student, $70 per middle school student and $100 per high school student.

The following table shows districts' and charter schools' total expenditures for textbooks and eTextbooks for the last seven years, according to expenditures districts recorded in APSCN. These expenditures were made using all funding sources, not just foundation funding. While expenditures for eTextbooks have risen in recent years, the vast majority of those expenditures (about $2.8 million of the nearly $4 million eTextbook expenditures in 2017) were made by a single charter school.

	Textbooks	eTextbooks	Expenditures Per Student
2011	$25,902,433	$1,200,772	$59
2012	$27,869,698	$958,300	$62
2013	$18,787,380	$1,041,928	$43
2014	$31,881,465	$2,613,169	$74
2015	$16,375,244	$3,354,231	$42
2016	$24,436,974	$3,789,335	$60
2017	$20,879,166	$3,957,348	$53
2018	$19,889,727	$5,050,184	$52
2019	$21,021,174	$7,477,601	$60

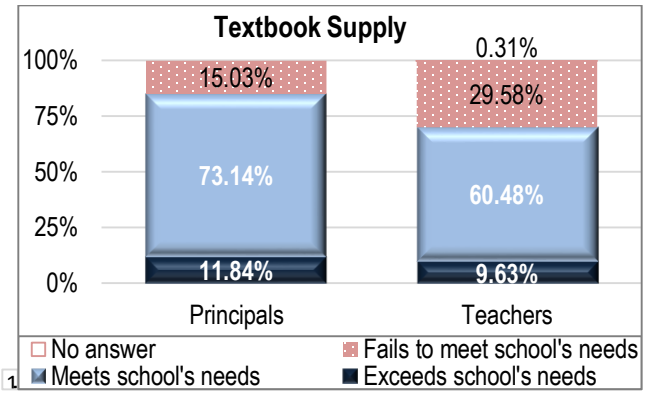
State law specifies that districts may select their own textbooks, but any instructional materials purchased with state funds must be consistent with the state "curriculum and educational goals established by the State Board of Education" (§ 6-21-403). In the past, a state textbook selection committee, appointed by the State Board of Education, established a list of recommended books and other instructional materials. The state then allowed districts to purchase materials from the approved list through a state contract. Act 511 of 2013 eliminated the statewide textbook selection committee. To contain the price of instructional materials, Act 511 included a provision prohibiting textbook publishers from charging a school district "a price for instructional materials that exceeds the lowest contracted price currently bid in another state on the same product" (§ 6-21-403(e)(2)). Act 511 also required textbook publishers and other companies selling instructional materials to annually submit to ADE a list of all state contracts the publishers had in the previous year and all instructional materials sold to each school district and their price. However, Act 929 of 2017 repealed this reporting requirement.

With the passage of Act 511, Arkansas joined a national trend and became one of at least 31 states and the District of Columbia in which the selection and purchase of textbooks and other instructional materials occurs at the local level. In the other states, textbooks are selected by the state education board or department, according to the Association of American Publishers. According to the most recent data available from NCES, Arkansas spent an average of $49.36 per student for textbooks in 2016-17 school year while adoption states such as Oregon spent $61.37 per pupil and South Carolina spent $76.87 per pupil. The average for all states that year for text books was $55.08 per pupil. (The NCES data for 2016-17 do not include textbook expenditures for Alaska, Connecticut, Idaho, Illinois, New Hampshire, North Dakota, Texas or Washington.)

Through the BLR's online surveys, principals and teachers were asked to provide their opinion about the supply of textbooks in their classroom.

Rate your school's supply of high-quality textbooks and reading materials for students in your school's classrooms. If your school is online, rate the supply of high-quality textbooks and reading materials your school makes available to students generally.

More principals reported that the textbooks at their school met or exceeded the school's needs, while more teachers felt that failed to meet schools' needs. Of the teachers selecting the option of fails to meet needs, no discernable pattern was found for their home schools as they represented a mixture of large and small, charter and traditional and urban and rural districts across the state.



LIBRARY MATERIALS

Before the 2018 revision, state accreditation standards required each school media book collection to have at least 3,000 volumes, or eight books per student, whichever was larger. However, the revised standards remove this specific requirement, while still requiring districts to "annually budge[t] and expend sufficient resources to purchase and maintain an appropriate balance of print, non-print, and electronic media that is adequate in quality and quantity to meet the academic standards for all students" (Standard 2-D.1).

In 2006, Picus and Associates recommended providing $20 per student for elementary and middle school library collections and subscriptions and $25 per student for high school libraries. The funding level, according to the consultants, was above the national average at the time.

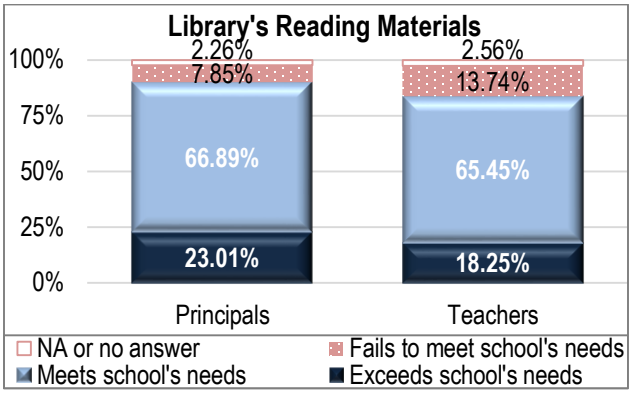
The following table shows district and charter school system expenditures for library materials from all funding sources. The overall spending on these library materials declined about 25% between 2011 and 2017.

	Library Books	eLibrary Books and ePublications	Periodicals	Audiovisual Materials	Total Per Student
2011	$5,634,083	$4,971	$638,304	$365,010	$14
2012	$5,367,700	$14,957	$664,238	$353,402	$14
2013	$4,771,569	$74,894	$595,008	$343,926	$12
2014	$4,505,726	$209,849	$546,499	$192,203	$12
2015	$4,535,268	$188,526	$499,300	$228,807	$12
2016	$4,428,897	$283,187	$470,346	$140,835	$11
2017	$4,252,926	$209,052	$378,132	$108,697	$10
2018	$4,183,353	$140,079	$353,828	$95,427	$10
2019	$3,961,785	$128,043	$335.368	$53,720	$9

The BLR asked Arkansas principals and teachers how satisfied they are with the amount of library materials available to their students with this question:

Rate your school's supply of high-quality reading materials for students in your school's media center?

About 90% of principals said the library's reading materials met or exceeded the needs of their school, while slightly less – 84% of teachers did. Of the 2.3% of principals responding "not applicable," most were at charter school systems with waivers from offering a media program. Only about a quarter of the teachers responding "not applicable," however, were teaching in school districts with waivers from offering library media services. As with the finding in the last adequacy study, both principals and teachers were more likely to be satisfied with their supply of quality library materials than with the supply of quality textbooks in the classroom.



FORMATIVE ASSESSMENTS

As previously mentioned, the Adequacy Subcommittee, in 2006, decided not to adopt its education consultants' recommendation to include funding for formative assessments in the instructional materials line of the matrix. This decision was based on the fact that such assessments are not required by statute or accreditation standards. Though the Education Committees did not add funding to the matrix for formative assessments, many districts consider it an important instructional tool for assessing student learning and guiding instruction.

The BLR survey asked superintendents how much money they are spending on these tools.

What was the total amount your district spent on formative assessments (e.g., The Learning Institute, NWEA) in 2018-19? (Do not include the cost of district staff to administer the assessments.) How much of that amount was spent using foundation funds?

Of the 235 school districts and 24 charter schools that responded to the survey, 164 school districts and charter school systems reported spending just over $2.5 million on formative tests, or about $17 per student in those districts. About 40% of that expense was covered by foundation funds, meaning they used other sources to pay for interim test costs.

Spending on formative tests decreased from about $4 million in 2016-17 (reported for the previous adequacy study).

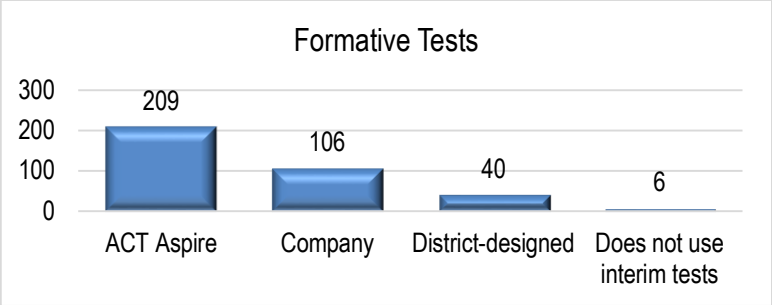
The lower expenditures for interim tests likely result from DESE's switching the state assessments to the ACT Aspire in 2015-16, as the cost has been decreasing since then. (In 2014-15, schools paid about $5.6 million for interim tests.) The ACT Aspire contract includes periodic assessments that districts and charter school systems can use at no cost to them. The BLR asked superintendents about formative tests in the fall 2019 survey:

What company's interim assessment does your district use for math and English language arts? (Please check all that apply.)

- **ACT Aspire periodic assessment**

- **Interim assessments from a company other than ACT Aspire**
- **District-designed interim assessment**
- **District does not use interim assessments**

Of the 259 who responded to the survey, 209 indicated they used the ACT Aspire, though about a third of those also use a formative assessment from another company and about 15% use district-designed formative assessments.



TEACHER PURCHASES OF INSTRUCTIONAL MATERIAL

Many teachers across the country report spending their own money to pay for materials and supplies for their students. The most recent data indicate that 94% of public school teachers who responded to a National Center for Education Statistics survey said they spent their own money on classroom supplies without being reimbursed for their purchases in 2014-15. The percentage differed little based on whether teachers were employed in elementary schools (95%) or secondary schools (93%) or based on the level of poverty in the school (94% for teachers in schools with the lowest percentage of students eligible for free or reduced price lunch) or the highest (95%). On average, public school teachers reported spending $479. In terms of the amount spent, teachers in high poverty schools spent more than low poverty schools ($554, compared with $434), and elementary school teachers spent more on average than secondary school teachers ($526, compared with $430).[14]

In 2017, the General Assembly passed Act 666 which allowed Arkansas public school teachers to claim a deduction on their annual state income tax filing for any classroom supplies they purchase. The legislation allowed teachers to claim up to $250 for an individual teacher or up to $500 for two married teachers filing jointly. The law was first effective for the 2017 tax year. For that year, 17,307 returns claimed the deduction, or about 45% of the state's public school teachers. Collectively those teachers claimed a total of $4,359,756, or about $252 per return, suggesting that these teachers spent as much or more than $250 of their own money on supplies for their classrooms.[15] The following tax year of 2018, the latest for which data are available, **20,623** teachers claimed the qualified classroom investment expense deduction. Collectively those teachers claimed a total of $**4,908,042** of expenses. That means almost two-thirds of teachers spent claimed an **average $238 per claim**.

To help alleviate this issue, state law requires school districts to provide each pre-K through 6th grade teacher $500 per class or $20 per student to spend on materials for class activities—whichever is higher (§ 6-21-303). The requirement was created in 2001, but in 2003, the General Assembly increased the amount districts were to provide. In 2006, the Education Committees recognized this requirement within the matrix formula, by including $20 per

[14] U.S. Department of Education, National Center for Education Statistics, Public School Teacher Spending on Classroom Supplies, May 2018, https://nces.ed.gov/pubs2018/2018097.pdf
[15] Gehring, P., Department of Finance and Administration, May 22, 2018 email. DFA provided the number of returns claiming the deduction and the total amount claimed.

elementary student to cover this cost. To determine the extent to which teachers are receiving those required funds, the BLR asked teachers the following question on the teacher survey:

Elementary (K-6) teachers only: Did your school/district provide you with money (or spending authority thru purchase orders) to purchase instructional materials for your classroom?

In all, 752 respondents answered this question, and 670 indicated they had been provided money by their schools to purchase instructional materials. Even so, nearly 90% of those also reported spending their own money to purchase supplies, with reported amounts ranging from $20 to $4,000. The most frequently mentioned reasons given by those who responded with additional remarks were to supplement classroom text books and reading materials (teachers were less likely to report that their schools' supply of textbooks or library books met the schools' needs). Teachers also reported buying materials for classroom-based activities such as art or science projects.

All teacher were asked the following question in the survey:

In the LAST SCHOOL YEAR, how much of your own money did you spend on classroom supplies, without reimbursement? (Please use your best estimate for costs incurred, in whole dollars. If none, please mark None.

About 85% of the 1,288 teacher responding to the survey reported spending their own money for classroom supplies, averaging $329 per teacher.

EXTRA DUTY FUNDS

There are many extracurricular activities in all school levels, including sports, clubs, debate teams, school publications, student council, and other organizations and events. Schools use extra duty funds to pay stipends for teachers who coach athletics and those who supervise after-school clubs or other extracurricular activities, such as the newspaper or the yearbook.

Extra duty funds have been included in the matrix since 2003. In their 2006 report, Picus and Associates wrote that students who are engaged in extracurricular activities tend to "perform better academically than students not so engaged, though too much extra-curricular activity can be a detriment to academic learning."[16] (For a more complete history of extra duty funds in the matrix, please see Appendix C.)

Act 743 of 2017 increased the per-student foundation funding rate to include the following amounts for technology, and the foundation funding set in Act 667 of 2019 includes rates at:

	2018	2019	2020	2021
Per-Student Rate	$65.50	$66.20	$66.20	$66.20
% Change	1%	1%	0%	0%

DISTRICT AND CHARTER SCHOOL EXPENDITURES

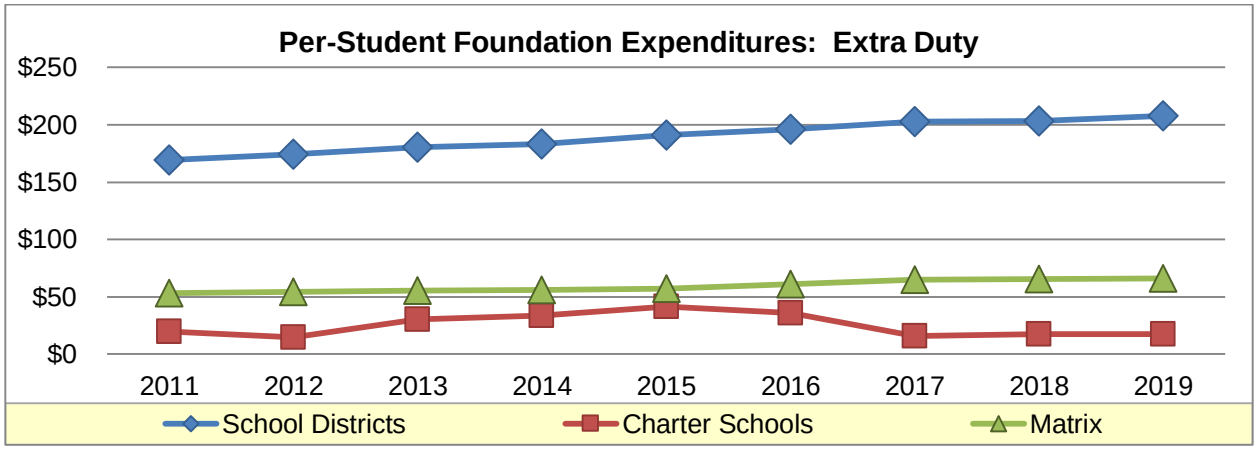
In 2018-19, districts and charter schools collectively spent more than $93 million in foundation funding on extra duty expenditures.

Extra Duty: Foundation Funding and Expenditures		
	Funding	Expenditures
2016-17	$30,616,895	$93,438,671
2018-19	$31,616,895	$104,511,997

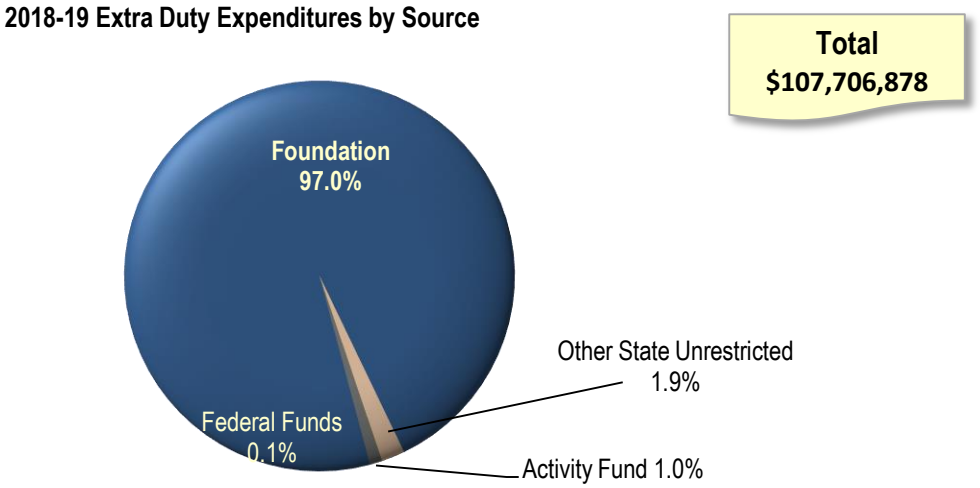
[16] Odden, A., Picus, L. O., & Goetz, M. (2006). Recalibrating *the Arkansas School Funding Structure.* Report prepared for Arkansas Joint Committee on Education, p. 45.

In comparison to the $66.20 per student allotted to schools for extra duty expenditures, **school districts and charter systems together spent about $3.31 for every per-pupil matrix dollar they received for extra duty expenditures during the 2018-19 school year, or $2.31 per pupil over what they receive in the matrix for that purpose.** That was about the same as was reported in the last adequacy study. When all fund sources are considered, the spending equaled $3.41 for every matrix dollar allocated for extra duty funds.

Charter school systems throughout the years have tended to spend below the amount provided in the matrix for extra duty costs, while traditional districts consistently spend more.

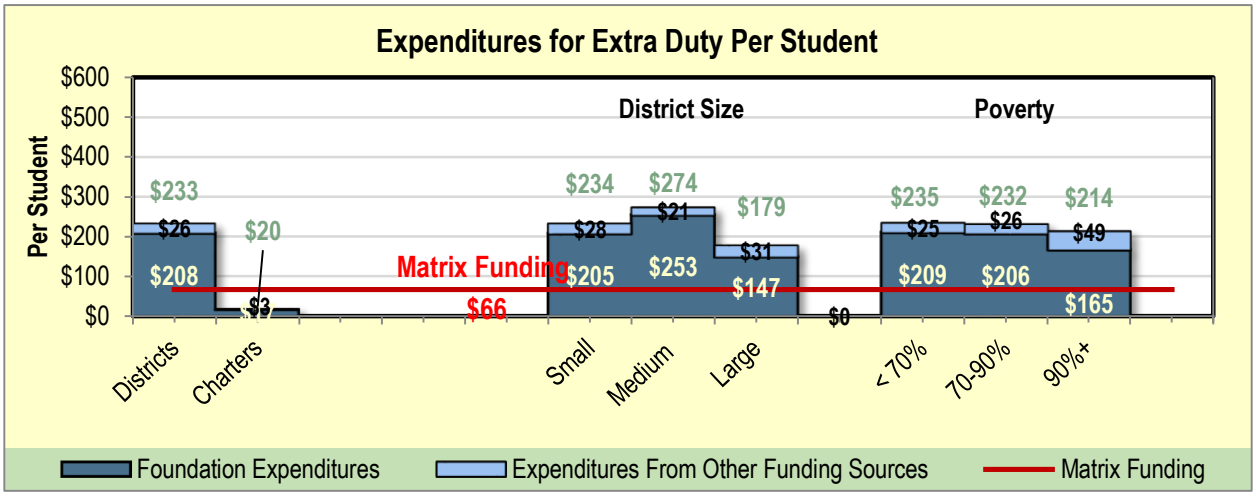


When all spending on extra duty costs is considered, expenditures are a bit higher when spending on instructional from any source of funds is considered. That total -- $107,706,878– means that **school districts and public charter school systems are actually spending about $2.40 per student over every extra duty dollar they receive in foundation funding.** In addition to using more foundation money than the matrix allots to the extra duty category, they are using other funding sources to purchase extra duty services and items to pay for about 3% of these expenses.



The chart below shows extra duty expenditures for various categories of school districts and charter systems. The columns on the left compare charters with traditional districts; the next two sets of columns compare *subsets of districts only*.

While districts spend much more from both foundation and all funds than the matrix allowed for extra duty funds, charters spent less than half that amount.



Notes: 1) Small school districts have up to 750 students; medium have 751-5,000 students and large schools have 5,001 and more. 2) Sums may be plus or minus $1 due to rounding.

SUPERINTENDENTS' RANK OF NEED: 17TH

For all districts and charter schools together, extra duty funds is ranked as the lowest line item in the matrix needing additional funding, according to the BLR's survey of superintendents. It ranked **17th** out of the 17 matrix items. However, variability of opinion occurs among the categories. District superintendents ranked the item **17th**, although they on average spend $200 of non-matrix funds on extra duty costs. Charter system leaders, on the other hand, indicated that this was a higher level of need for them by ranking extra duty funds at **12th** even though they spent much less matrix or other funds on extra duty items in 2018-19. The other categories with rankings different from 17th were medium-sized districts (**15th**) and low- and high-poverty districts (**15th**).

SUPERVISORY AIDES

Supervisory aides are staff who help students get on and off buses in the morning and afternoon and supervise lunch and recess periods. The legislature included supervisory aides in the original 2003 matrix with per pupil funding set at $35. (Please see Appendix C for a more complete history of supervisory aides in the matrix.)

There are no statutory or regulatory requirements that schools employ supervisory aides. However, there are statutory limitations on districts' use of teachers for non-instructional supervisory duties. State law prohibits districts from assigning teachers to more than 60 minutes of "non-instructional duties" per week without providing them additional pay (§ 6-17-117). Additionally, state law requires school districts to provide teachers with at least a 30-minute uninterrupted lunch period free of supervisory duties (§ 6-17-111).

The supervisory aide funding amount in the matrix remained flat through FY19. Act 743 of 2017 set the per-student foundation funding rate to include the following amounts for supervisory aides:

	2018	2019	2020	2021
Per-Student Rate	$50	$50	$50	$50
% Change	0%	0%	0%	0%

DISTRICT AND CHARTER SCHOOL EXPENDITURES

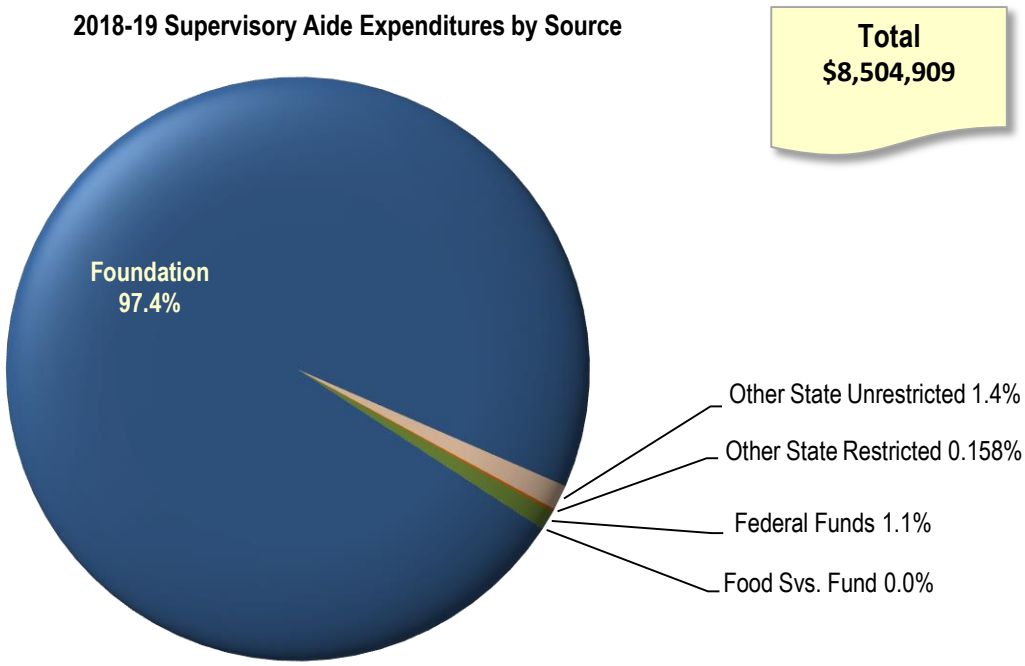
Districts and charter schools together spent about $7.5 million of their foundation funds on supervisory aides in 2018-19, or about a third of the foundation funding they received for that purpose.

Supervisory Aides: Foundation Funding and Expenditures		
	Funding	**Expenditures**
2016-17	$23,631,470	$7,032,843
2018-19	$23,780,000	$7,568,570

In comparison to the $50 per student allotted to schools for supervisory aide expenditures, **school districts and charter systems together only spent about 35 cents for every per-pupil matrix dollar they received for supervisory aides during the 2018-19 school year.** That was about five cents more per pupil than the spending for supervisory aides that was reported in the last adequacy study.

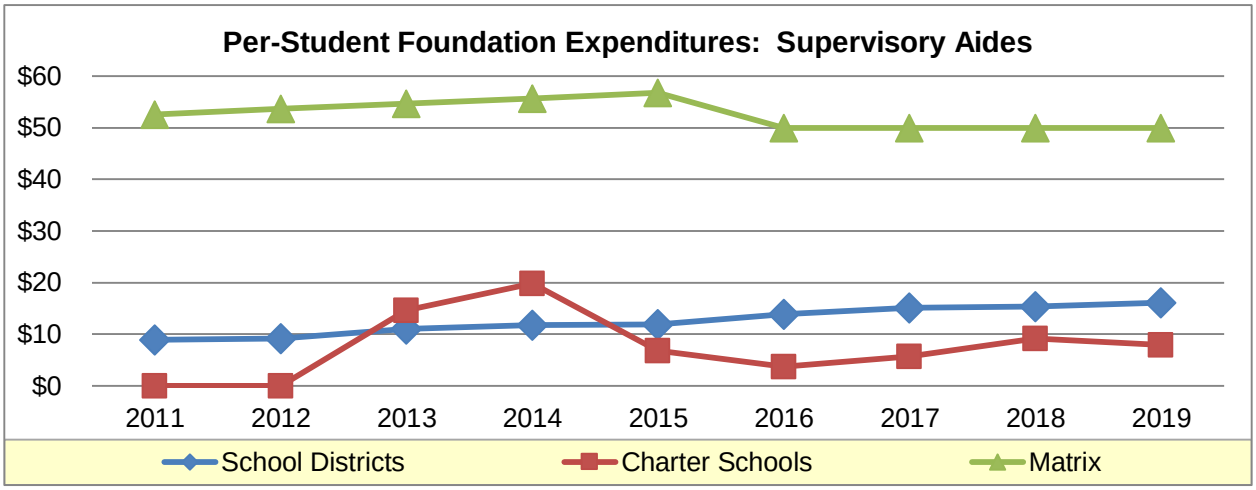
When all spending on supervisory aides is considered, expenditures are only slightly higher when spending on these aides from any source of funds is considered. That total -- $8,504,909 – means that **school districts and public charter school systems spent about 36 cents per student for every supervisory aide dollar they received.**

Expenditures for supervisory aides were made mainly with foundation money.



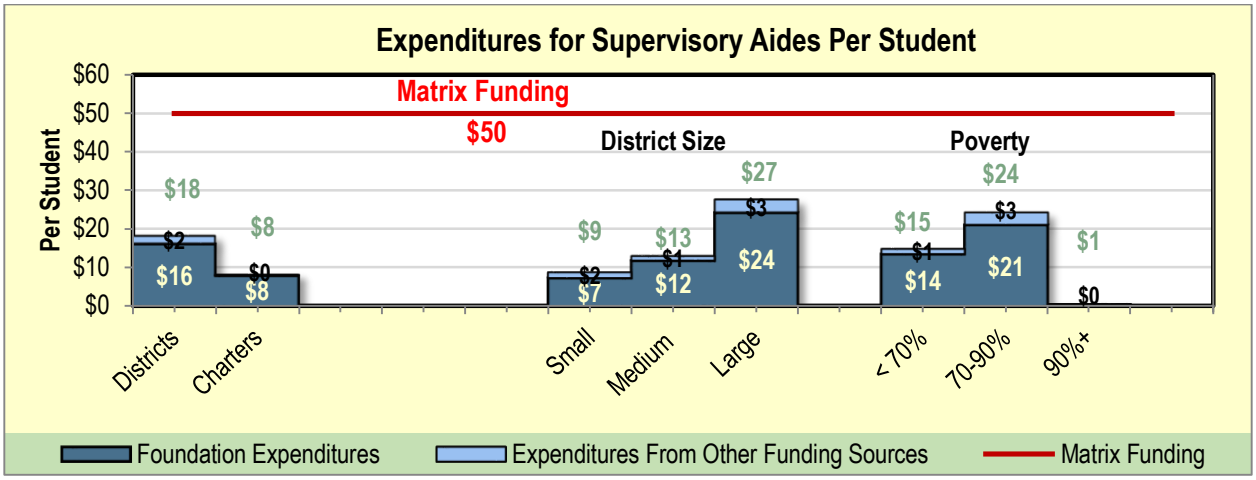
NOTE: Funding sources listed as 0.0% have some expenditures for substitutes but the amounts are less than half of a percent of the total.

The following graph shows the per-student expenditures for supervisory aides from foundation funding between 2011 and 2019. Both districts and charter schools consistently spent below the matrix funding level for supervisory aides.



The chart below illustrates spending patterns on supervisory aides for different categories of school districts/charter systems. The columns on the left compare charters with traditional districts; the next two sets of columns compare *subsets of districts only*.

Neither districts nor charters spend the $50 per student for supervisory aides set in the matrix, even when considering expenditures from all sources of funds.



Notes: 1) Small school districts have up to 750 students; medium have 751-5,000 students and large schools have 5,001 and more. 2) Sums may be plus or minus $1 due to rounding.

SUPERINTENDENTS' RANK OF NEED: 13TH

Overall, school districts and charter systems spent on average less on supervisory aides than foundation funds provide. At a rank of **13th**, all district/charter systems ranked supervisory aides in the lower half of items needing additional funds. Even so, leaders of charter schools ranked it at **15th**, so slightly lower, while large school districts ranked the need for additional funding for supervisory aides the highest, at **12th**. The only other categories of districts not assigning a rank of 13th were small districts (**14th**) and medium- and high-poverty districts (**15th)**.

SUBSTITUTES

When teachers are absent, schools must rely on substitute teachers to manage classes. In 2003, the Joint Adequacy Committee recommended that districts receive funding to pay for 10 days for each classroom teacher and specialist teacher (non-core) in the matrix. (Please see Appendix C for a more complete history of substitutes in the matrix.)

State statute requires districts to provide teachers with one day of paid sick leave per contract month (§ 6-17-1204), or a total of nine or ten days for most teachers. These leave days, in addition to days the teachers are out of the classroom to attend professional development programs, result in the need for districts and charter schools to employ substitute teachers.

State law requires substitute teachers to have a high school diploma or an equivalency certificate (GED). State law prohibits substitute teachers from teaching a class more than 30 consecutive school days unless the substitute has a bachelor's degree or is licensed by the state to teach (§ 6-15-1004(e)). To employ degreed substitutes longer than 30 days, districts and charter schools must request a waiver. For the 2018-19 school year, 130 districts employed 431 long-term substitutes during the year while four charter school systems employed 22 during the year.

State statute previously required districts with such waivers to be identified on their annual school district report cards. Act 294 of 2017, however, eliminated that requirement.

State law also previously exempted individuals substituting for non-degreed vocational technical teachers from all educational requirements, but Act 294 repealed that language, making them subject to the same educational attainment standards as other substitutes.

	2018	2019	2020	2021
Per-Student Rate	$70.40	$71.80	$71.80	$71.80
% Change	2%	2%	0%	0%

DISTRICT AND CHARTER SCHOOL EXPENDITURES

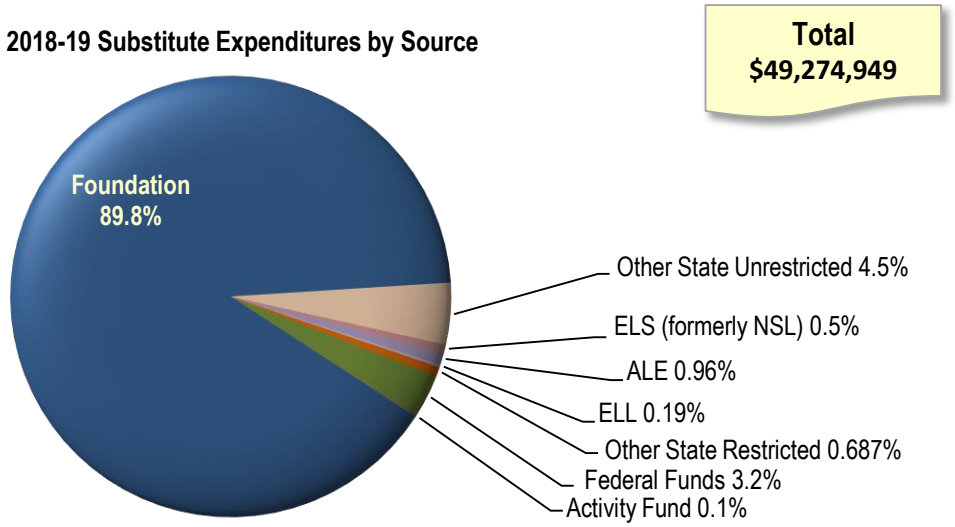
Districts and charter systems together spent almost $39.5 million out of foundation funds for substitutes in 2018-19:

Substitutes: Foundation Funding and Expenditures		
	Funding	Expenditures
2016-17	$32,611,429	$39,007,176
2018-19	$34,291,436	$39,443,485

Using the $71.80 per student allotted to schools for substitute expenditures, **school districts and charter systems together spent 29 cents over every per-pupil matrix dollar they received for substitutes during the 2018-19 school year,** about 10 cents more than the per pupil amount reported in the last adequacy study.

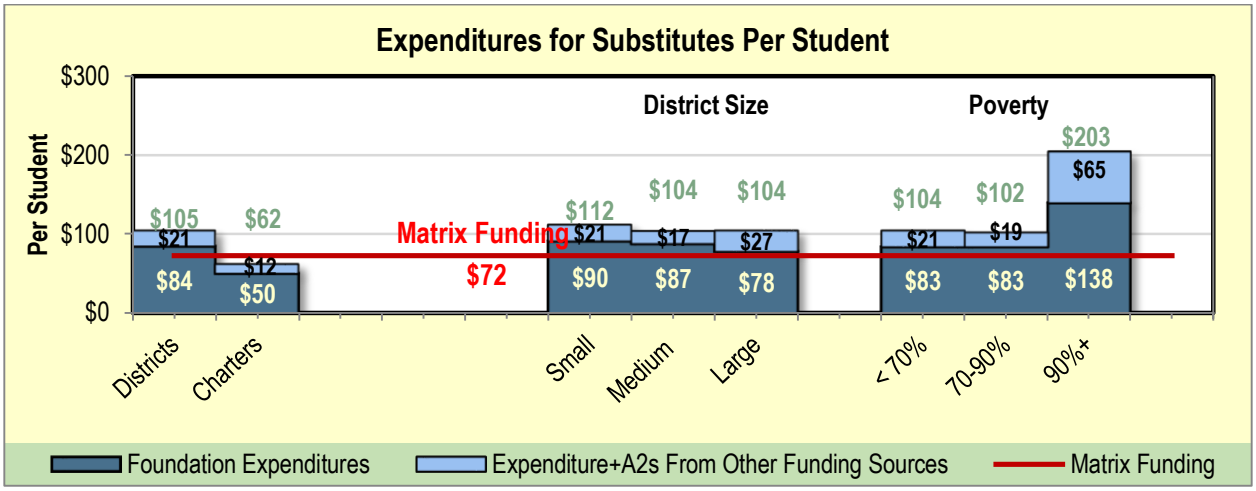
When all spending on substitutes is considered, expenditures are a bit higher. That total -- $49,274,949 – means that **school districts and public charter school systems spent about 44 cents per student over every foundation dollar they received for substitutes.**

Expenditures for substitutes are made mainly with foundation money, the other main sources being other state unrestricted (4.5%) and federal funds (3%).



The chart below illustrates spending patterns on substitutes for different categories of school districts/charter systems. The columns on the left compare charters with traditional districts; the next two sets of columns compare *subsets of districts only*.

Charters were the only subset that did not spend the full matrix amount – or over that amount – for substitutes out of foundation funds.



Notes: 1) Small school districts have up to 750 students; medium have 751-5,000 students and large schools have 5,001 and more. 2) Sums may be plus or minus $1 due to rounding.

Ten charter school systems held waivers from DESE's rules governing substitutes, which require for substitutes to have a high school degree to be a temporary substitute (less than 30 consecutive days) and a bachelor's degree to be a long-term substitute. In addition, all 25 charter systems and 50 school districts have waivers from teacher licensure requirements, which could lessen the need to hire long-term substitutes when a licensed teacher cannot be found.

SUPERINTENDENTS' RANK OF NEED: 12TH

Among all superintendents of school districts and charter systems, the need for additional funding for substitutes ranked **12th** out of all 17 matrix items, with some variability among the categories. Superintendents of school districts paid more than the foundation funds provided for substitutes in 2018-19 and ranked the need for additional funds slightly higher (**12th**) than did

superintendents of charter schools (**14th**). Charter schools spent less on substitutes than the matrix provided, both in terms of using foundation funds only and when all source funds are considered. High-poverty districts ranked it the highest (**10th**) among the categories, while small-sized and low-poverty schools ranked the need at **11th**. Medium-sized and medium-poverty schools ranked the need at **12th**.

Daily Rates

Arkansas's 2018-19 substitute funding rate of $71.80 supported an average daily rate of pay of about $127, plus 22% in benefits, for the 24.94 classroom teachers in the matrix. To determine how this amount compared with districts' actual practice, the BLR asked superintendents to provide information on their substitute pay rates. On average, districts pay a rate that is considerably below the amount supported in the matrix, as shown in the responses to the following question:

What is your district's average daily pay for substitutes who are certified teachers? Substitutes with degrees but who are not certified? Substitutes with no degree?

	District/Charter Average*	Range
Certified teachers	$86.32	$35-$300
Substitutes with degrees but not certified	$75.52	$55-$245
Substitutes with no degree	$72.87	$50-$108

*Averages exclude districts when they entered 0, provided two rates, provided an hourly rate, or provided an annual salary.

OTHER NON-MATRIX EXPENDITURES

Districts and charter schools use foundation funding for purposes not included in the matrix and not specifically noted as being essential for educational adequacy. These non-matrix items include a variety of expenditures for resources that have not been assigned to a specific matrix line item in this analysis. It is important to note that foundation funding is unrestricted funding, and districts are free to use it however best fits their needs. Spending on non-matrix items should not be considered necessarily problematic or incorrect. In some cases, expenditures were placed in this category simply because they did not fit with the specific intent of the matrix.

Description	2018-19 Expenditures From Foundation Funds	2018-19 Expenditures Per Student From Foundation Funds
Athletic supplies and transportation	**$24,284,161**	**$50.85**
Activity supplies and transportation	$2,799,326	$5.86
Supplies and objects in instruction and instructional support not otherwise classified as instructional materials, technology, etc.	**$33,290,439**	**$69.70**
Selected instructional program coordinators and other instructional personnel for programs outside regular school programs, including preschool, summer school, homebound instruction	$12,463,829	$26.10
Classified guidance services	$3,908,833	$8.18
Instructional aides	**$69,502,990**	**$145.53**
Classified library support	$4,039,774	$8.46
Supplies and materials for counselors, nurses, and other student support services	$3,955,162	$8.28
Pre-kindergarten programs	$540,463	$1.13
Food service	$43,708	$0.09
Community outreach	$0	$0.00

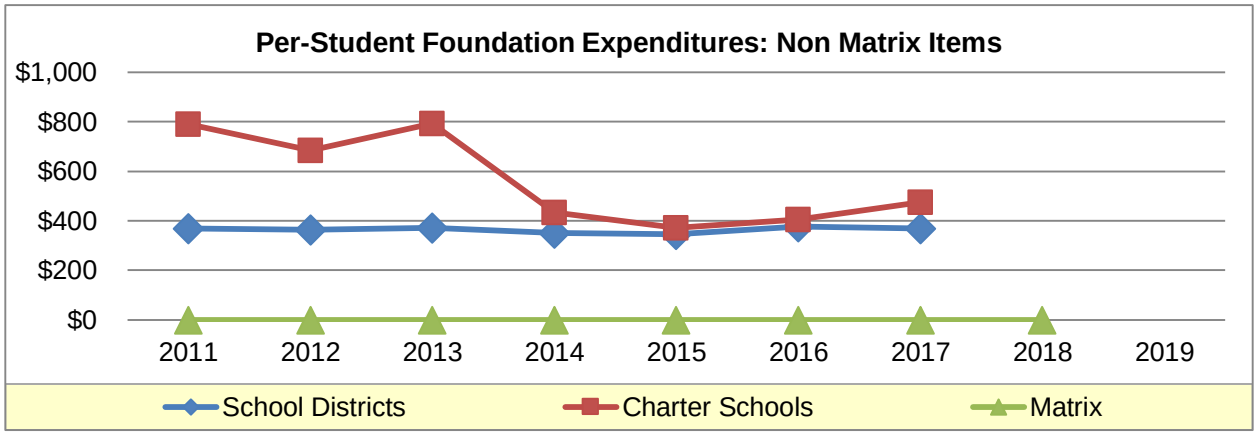
Description	2018-19 Expenditures From Foundation Funds	2018-19 Expenditures Per Student From Foundation Funds
Other financing uses such as bonded indebtedness not accounted for in the debt service fund and indirect costs	$331,873	$0.69
Non-technology related facilities construction and site improvement	$7,379,700	$15.45
Other miscellaneous items	$14,924,560	$31.25
Total other non-matrix items	**$177,464,818**	**$371.58**

DISTRICT AND CHARTER SCHOOL EXPENDITURES

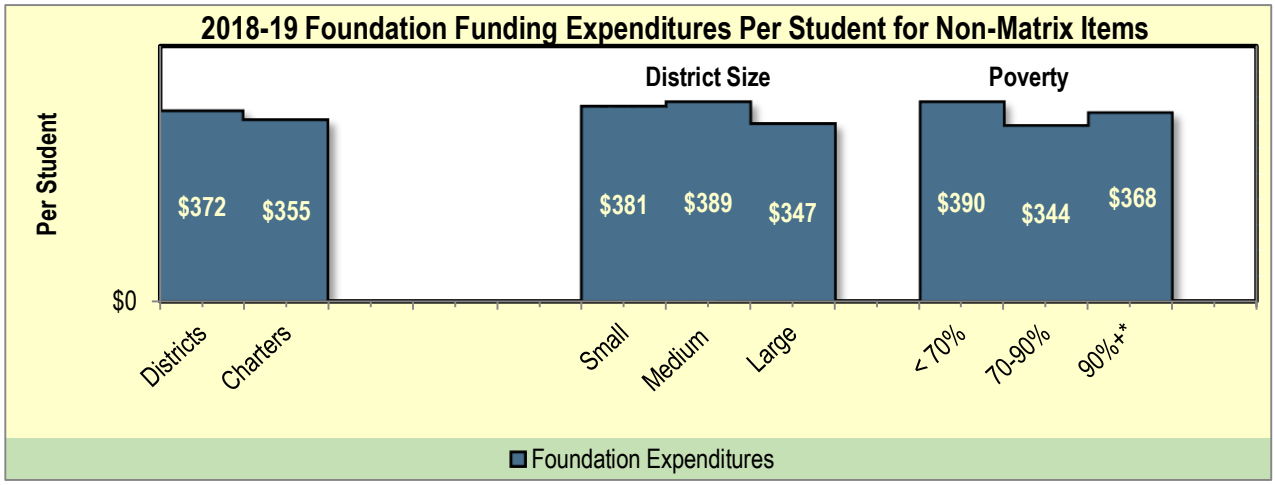
In 2018-19, districts and charter schools spent about $177.5 million of their foundation funding dollars on items not specifically identified in the matrix. This equates to about $372 per student, and it is about $1.25 million less than reported in the last adequacy report.

Other Non-Matrix Items: Foundation Funding and Expenditures		
	Funding	Expenditures
2015-16	$0	$178,726,695
2018-19	$0	$177,464,818

The following graph shows the per-student expenditures for non-matrix items from foundation funding between 2011 and 2019. The decrease in charter schools' per-student spending between 2013 and 2014 is mostly due to a drop off in debt service spending by six charter schools. The drop in charter school per-student expenditures that year largely resulted from the schools' shifting the accounts from which they were making debt service payments (from the accounts they use to hold foundation funds to other accounts), making it appear that expenditures of foundation funds decreased. Charter schools' overall debt service payments dropped by only about $370,000, or about 15% of their 2013 expenditures.



The following chart compares the per-student spending of foundation funding for resources that were not included in the matrix. It also compares districts' per-student spending based on district size, poverty level and student achievement.



Note: 1) Small school districts have up to 750 students; medium have 751-5,000 students and large schools have 5,001 and more.

INSTRUCTIONAL AIDES

Instructional aides are included in this category of non-matrix items because they are not included in the matrix. In 2003, Picus and Associates recommended against providing funding for instructional aides because "research generally shows that they do not add value, i.e., do not positively impact student academic achievement."[17] However, the consultants noted that research has found instructional aides can have a positive impact on student reading under particular circumstances. While the consultants questioned the value of instructional aides, many districts consider instructional aides a necessary component in the delivery of education.

When the Education Committees rehired Picus, Odden and Associates in 2014, the consultants continued to note that evidence "does not support the use of instructional aides for improving student performance," but they noted that the research does indicate instructional aides can have an impact as tutors if they are properly selected and trained according to specific educational criteria. The consultants suggested that "districts may want to consider a possible use of instructional aides that is supported by research."[18] The consultants recommended increasing the number of *supervisory* aides to 2.1 per 500 students, but because the consultants' discussion of instructional aides appears in the report's section on supervisory aides, it appears they were suggesting that some of the supervisory aides could serve as instructional aides. Additionally, Picus, Odden and Associates recommended adding funding to the matrix to support aides for special education. They recommended one aide for every 150 students, or about 3.3 aides for a school of 500 students. The Education Committees in 2014, however, did not add any instructional aides to the matrix formula.

DISTRICT AND CHARTER SCHOOL EXPENDITURES FOR INSTRUCTIONAL AIDES

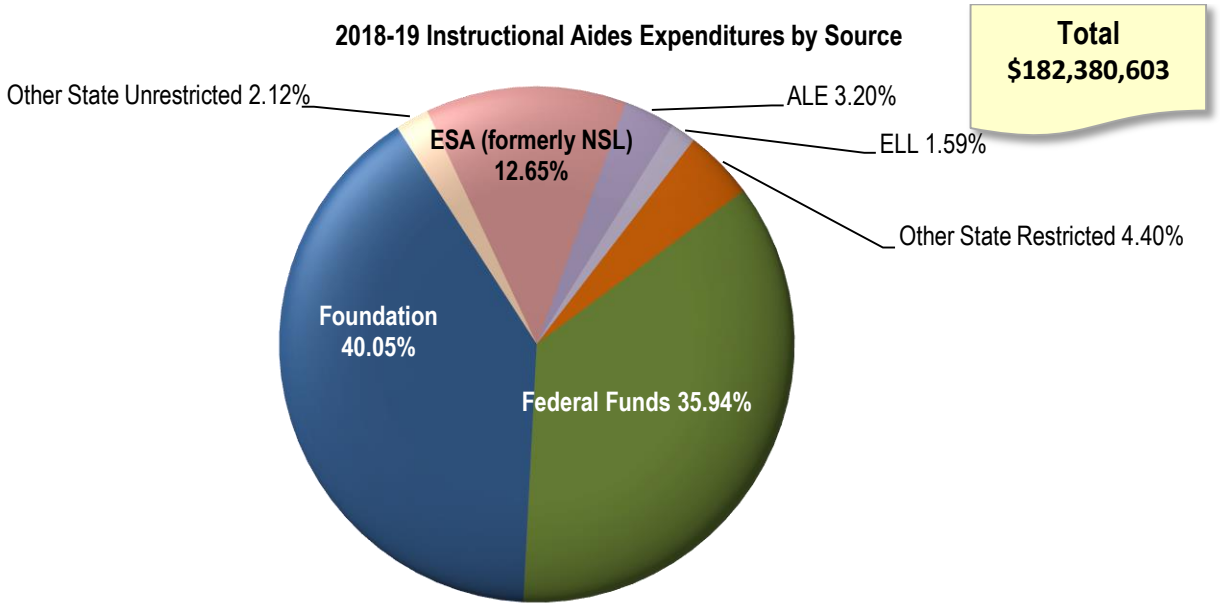
In 2018-19, districts and charter systems spent more than $69.5 million on instructional aides from foundation funds, or about $145 per student. That was $14 more per student than was

[17] Odden, A., Picus, L. O., Fermanich (2003). *An Evidence-based Approach to School Finance Adequacy in Arkansas. Report* prepared for the Arkansas Joint Committee on Education Adequacy, p. 40.
[18] Picus Odden & Associates (2014). Desk Audit of the Arkansas School Funding Matrix and Developing an Understanding of the Potential Costs of Broadband Access For All Schools, Sept. 5, 2014, p. 39.

spent out of foundation funds for instructional aides than was reported in the last adequacy study.

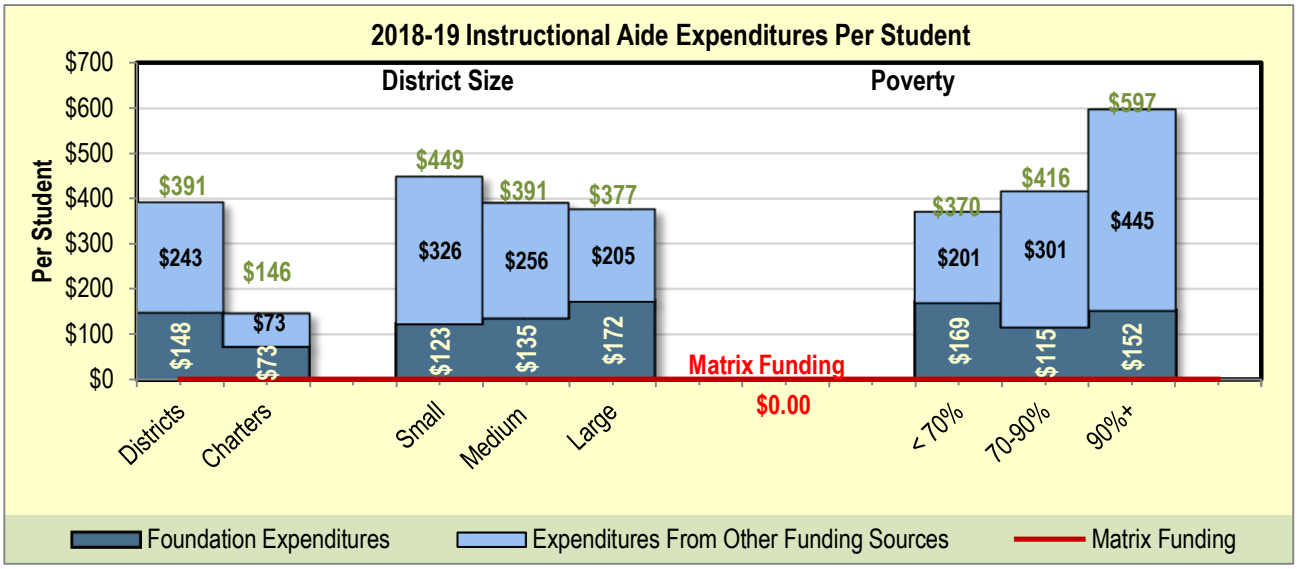
	Instructional Aides: Foundation Funding	Instructional Aides: Foundation Expenditures
2016-17	$0	$61,953,273
2018-19	$0	$69,502,990

When funds from all sources are included, districts and charter systems spent about $182 million on instructional aides, or about $381 per student. Foundation funds covered about 40% of these costs, while other main sources of funding came from federal funds (36%) and ESA (13%).



The following chart shows spending on instructional aides from both foundation funds and all fund sources. The columns on the left compare charters with traditional districts; the next two sets of columns compare *subsets of districts only*.

While the matrix does not provide an amount of foundation funding for instructional aides, both districts and charters spent about nine times more out of foundation funds on these paraprofessionals than they did on supervisory aides in 2018-19. Likewise, out of foundation funds, districts spent about $84 more per student on instructional aides than they did substitutes that year; while charters spent about $23 more per student.



Notes: 1) Small school districts have up to 750 students; medium have 751-5,000 students and large schools have 5,001 and more. 2) Sums may be plus or minus $1 due to rounding.

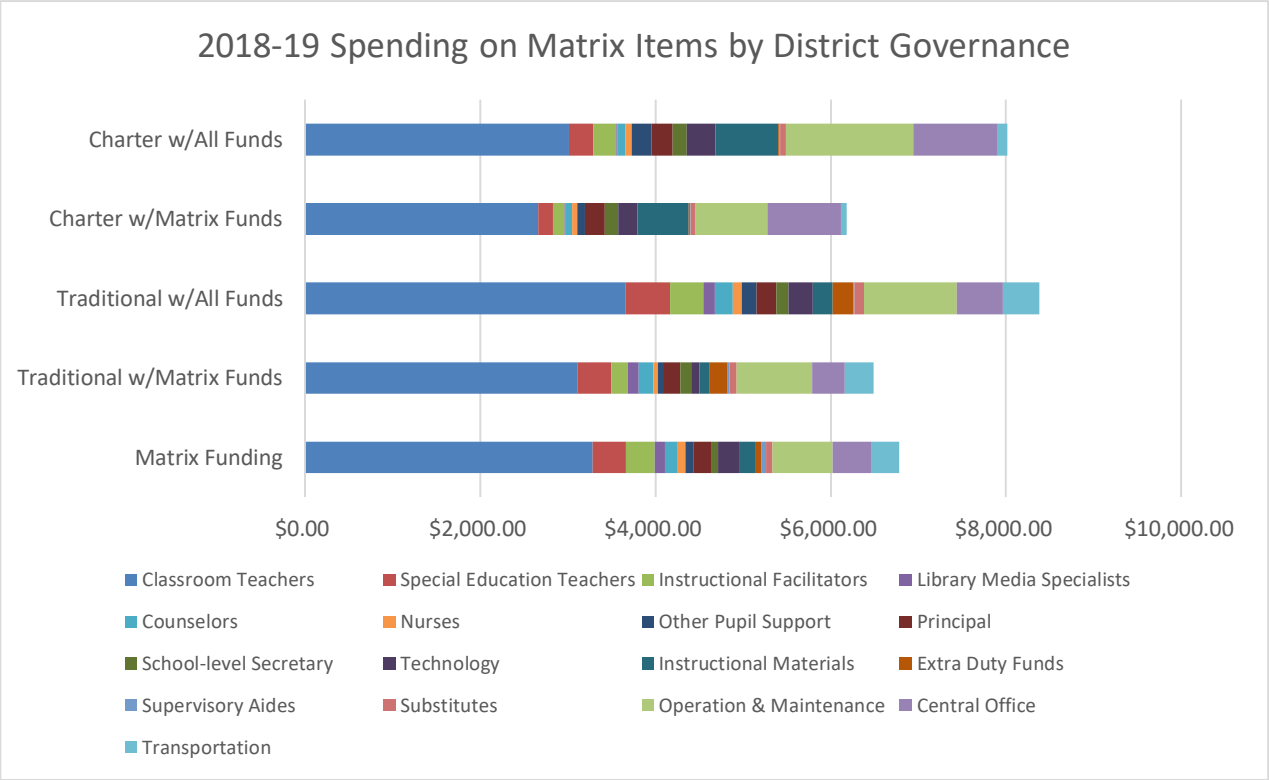
FULL MATRIX DISTRICT COMPARISONS

The variety of needs districts have and their individual student characteristics make it unlikely each matrix line item's funding will fit all schools equally well, which is why districts are not required to spend according to the levels established in the matrix. The following charts compare the way districts and charters, as well as, districts of different sizes and poverty levels use foundation funding to address the needs of their students. The data are provided as the per-student funding amount provided by the matrix and the per-student expenditures of districts and charter schools. The following charts provide district and charter per student foundation spending on school level resources as well as the other items in the matrix, which were provided in previous reports.

BY GOVERNANCE: DISTRICTS AND CHARTER SYSTEMS

Per Pupil Expenditures (red = below matrix amount; green = above matrix amount)

	Matrix Funding	Traditional w/Matrix Funds	Traditional W/All Funds	Charter w/Matrix Funds	Charter w/All Funds
Classroom Teachers	$3,282.65	$3,018	$3,655	$2,665	$3,015
Special Education Teachers	$381.72	$384	$508	$166	$272
Instructional Facilitators	$329.08	$194	$381	$130	$268
Library Media Specialists	$111.88	$121	$134	$8	$9
Counselors	$146.11	$169	$202	$79	$90
Nurses	$88.19	$52	$102	$57	$74
Other Pupil Support	$94.77	$61	$174	$88	$226
Principal	$198.10	$194	$220	$229	$239
School-level Secretary	$81.70	$124	$141	$156	$163
Technology	$250	$98	$278	$217	$332
Instructional Materials	$183.10	$113	$227	$581	$710
Extra Duty Funds	$66.20	$208	$233	$17	$20
Supervisory Aides	$50	$16	$18	$8	$8
Substitutes	$71.80	$84	$105	$50	$62
Operation & Maintenance	$685.00	$859	$1,059	$822	$1,456
Central Office	$438.80	$374	$528	$843	$961
Transportation	$321.20	$327	$418	$69	$113
Other Non-matrix Items	$0	$372	$4,042	$355	$1,590
TOTAL (w/out non-matrix items)	$6,780.30	$6,486	$8,383	$6,185	$8,018
TOTAL (w/non-matrix items)		$6,858	$12,425	$6,540	$9,608

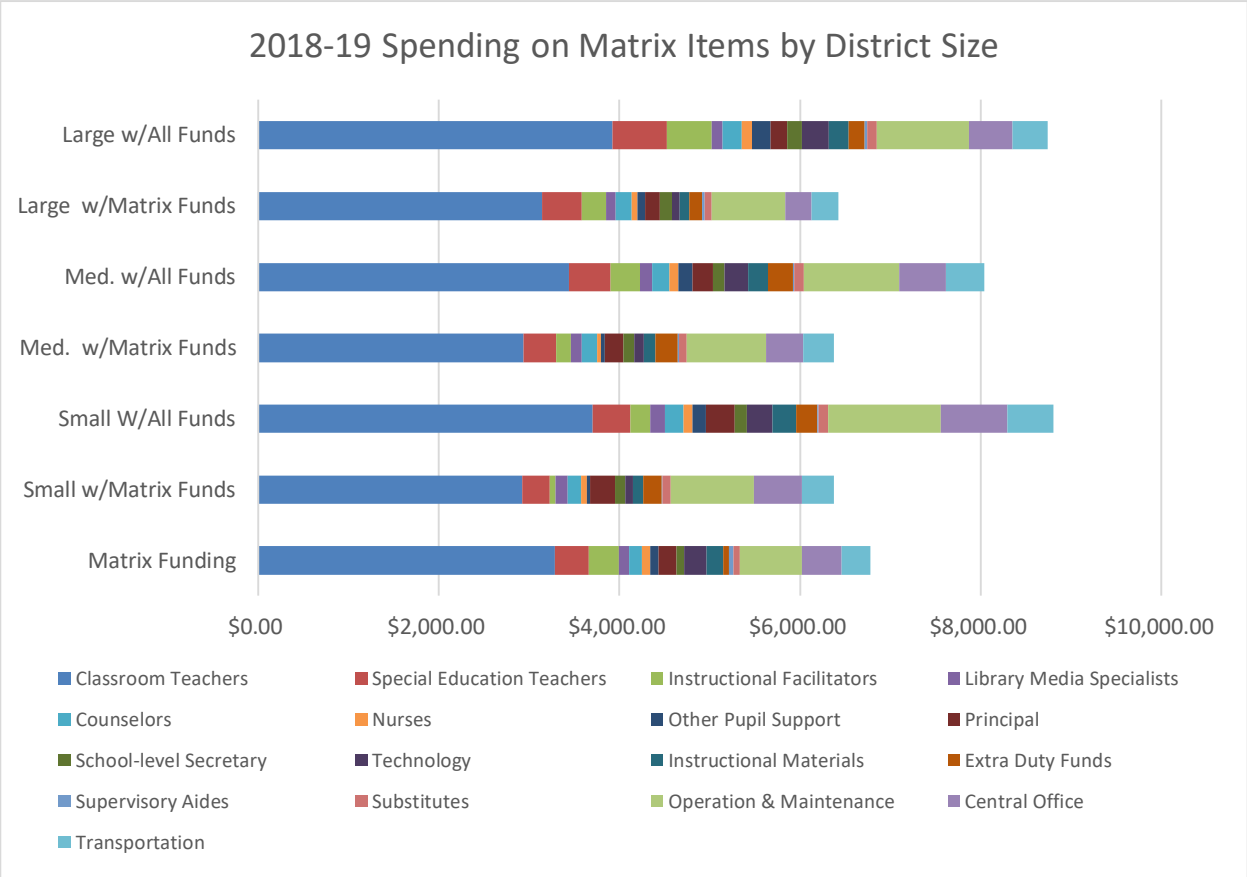


DISTRICTS BY SIZE

Per Pupil Expenditures (red = below matrix amount; green = above matrix amount)

	Matrix Funding	Small w/ Matrix Funds	Small W/All Funds	Med. w/ Matrix Funds	Med. w/All Funds	Large w/Matrix Funds	Large w/All Funds
Classroom Teachers	$3,282.65	$2,927	$3,704	$2,940	$3,444	$3,144	$3,925
Special Education Teachers	$381.72	$304	$417	$357	$457	$440	$599
Instructional Facilitators	$329.08	$62	$223	$163	$325	$267	$495
Library Media Specialists	$111.88	$136	$158	$126	$136	$110	$126
Counselors	$146.11	$151	$209	$166	$194	$178	$211
Nurses	$88.19	$59	$95	$45	$95	$60	$112
Other Pupil Support	$94.77	$38	$155	$45	$156	$88	$204
Principal	$198.10	$276	$317	$205	$226	$160	$188
School-level Secretary	$81.70	$112	$131	$119	$129	$134	$159

	Matrix Funding	Small w/ Matrix Funds	Small w/All Funds	Med. w/Matrix Funds	Med. w/All Funds	Large w/Matrix Funds	Large w/All Funds
Technology	$250.00	$82	$286	$108	$262	$88	$298
Instructional Materials	$183.10	$116	$265	$121	$225	$103	$222
Extra Duty Funds	$66.20	$205	$234	$253	$274	$147	$179
Supervisory Aides	$50.00	$7	$9	$12	$13	$24	$27
Substitutes	$71.80	$90	$112	$87	$104	$78	$104
Operation & Maintenance	$685.00	$926	$1,242	$879	$1,055	$816	$1,020
Central Office	$438.80	$532	$738	$407	$523	$292	$484
Transpor-tation	$321.20	$353	$512	$344	$422	$297	$390
Other Non-matrix Items	$0	$381	$3,668	$389	$3,295	$347	$4,055
TOTAL (w/out non-matrix items)	$6,780.30	$6,376	$8,807	$6,377	$8,040	$6,426	$8,743
TOTAL (w/ non-matrix items)		$6,757	$12,475	$6,766	$11,335	$6,773	$12,798

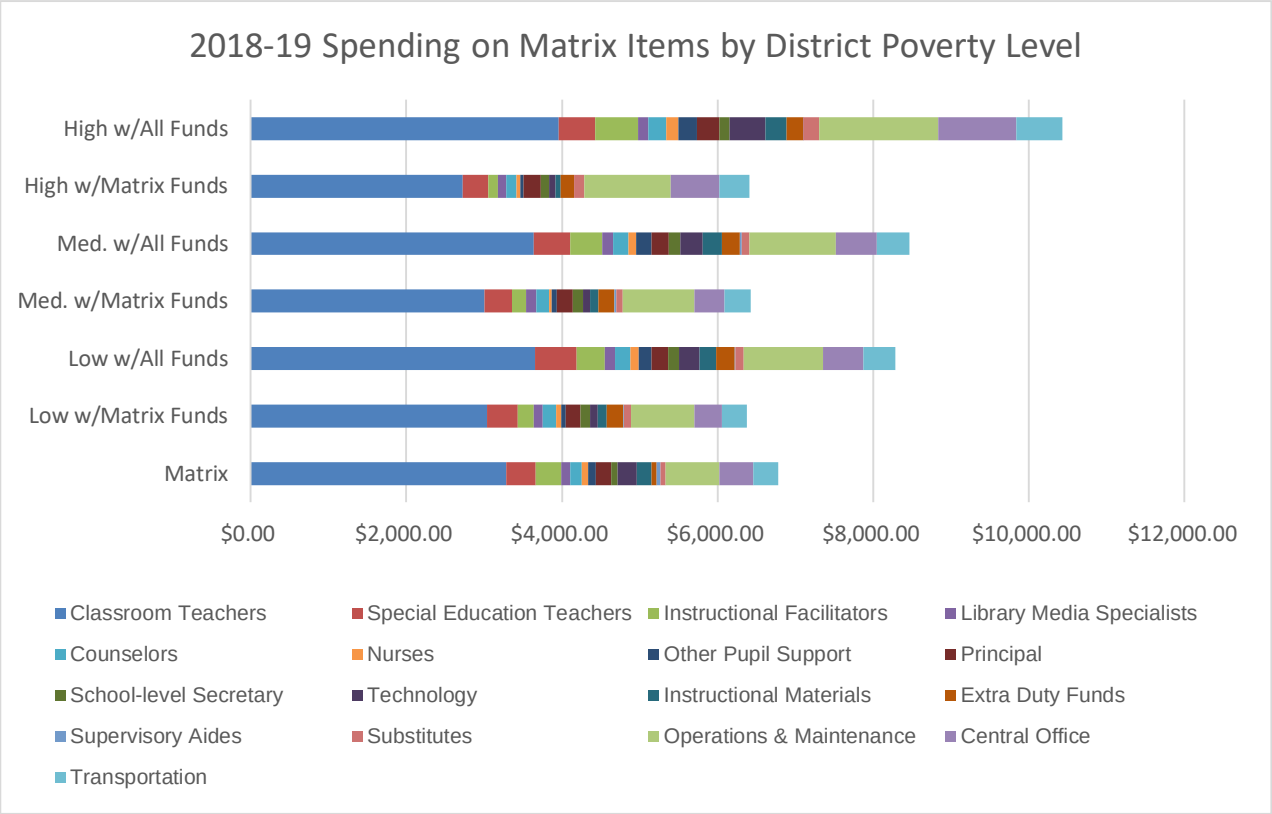


DISTRICTS BY POVERTY

Per Pupil Expenditures (red = below matrix amount; green = above matrix amount)

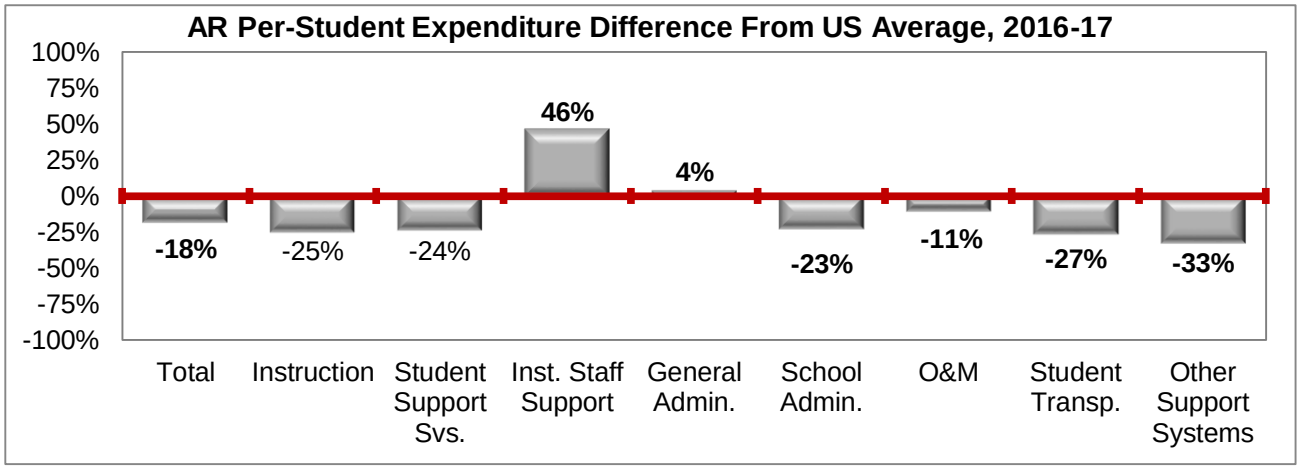
	Matrix	Low w/ Matrix Funds	Low w/All Funds	Med. w/Matrix Funds	Med. w/All Funds	High w/ Matrix Funds	High w/All Funds
Classroom Teachers	**$3,282.65**	**$3,035**	**$3,657**	**$3,001**	**$3,639**	**$2,728**	**$3,958**
Special Education Teachers	**$381.72**	**$401**	**$535**	**$360**	**$467**	**$330**	**$470**
Instructional Facilitators	**$329.08**	**$203**	**$357**	**$182**	**$413**	**$119**	**$554**
Library Media Specialists	**$111.88**	**$118**	**$132**	**$127**	**$138**	**$106**	**$131**
Counselors	**$146.11**	**$172**	**$202**	**$165**	**$201**	**$132**	**$228**
Nurses	**$88.19**	**$65**	**$103**	**$32**	**$97**	**$52**	**$159**
Other Pupil Support	**$94.77**	**$58**	**$162**	**$67**	**$193**	**$40**	**$233**
Principal	**$198.10**	**$185**	**$213**	**$207**	**$227**	**$223**	**$289**

	Matrix	Low w/ Matrix Funds	Low w/All Funds	Med. w/Matrix Funds	Med. w/All Funds	High w/ Matrix Funds	High w/All Funds
School-level Secretary	$81.70	$122	$141	$128	$142	$108	$132
Technology	$250.00	$102	$264	$93	$294	$77	$460
Instructional Materials	$183.10	$117	$216	$108	$244	$72	$270
Extra Duty Funds	$66.20	$209	$235	$206	$232	$165	$214
Supervisory Aides	$50.00	$14	$15	$21	$24	$0	$1
Substitutes	$71.80	$83	$104	$83	$102	$138	$203
Operations & Maintenance	$685.00	$815	$1,016	$918	$1,109	$1,109	$1,531
Central Office	$438.80	$357	$521	$393	$522	$620	$1,007
Transportation	$321.20	$320	$412	$335	$420	$392	$593
Other Non-Matrix Items	$0	$390	$3,849	$344	$3,895	$368	$8,540
TOTAL w/out non-matrix items	$6,780.30	$6,376	$8,285	$6,426	$8,464	$6,408	$10,433
TOTAL w/nonmatrix items		$6,804	$12,134	$6,770	$12,359	$6,779	$18,973



NATIONAL COMPARISON

The following bar chart shows how Arkansas's per-student spending compares with the national average using the most recent national data available from the National Center for Education Statistics. The chart covers the services addressed in this report: general (district) administration, other central office administrative support, operations & maintenance, and student transportation.



General administration expenditures are those "for the board of education and superintendent's office for the administration of LEAs, including salaries and benefits for the superintendent, the school board, and their staff."

Operation and maintenance (O&M) expenditures are those for "the operation of buildings, the care and upkeep of grounds and equipment, vehicle operations (other than student transportation) and maintenance, and security."

Student transportation services expenditures are those for vehicle operation, monitoring, and vehicle servicing and maintenance associated with transportation services. Expenditures for purchasing buses are reported under equipment.

Other support services expenditures are those "for business support services (activities concerned with the fiscal operation of the LEA), central support services (activities, other than general administration, which support each of the other instructional and support services programs, including planning, research, development, evaluation, information, and data processing services)."

APPENDIX A: TECHNOLOGY NEEDS DURING COVID-19

The BLR sent a second survey to districts to inquire about technology needs during the out-of-school learning period resulting from the COVID-19 pandemic in spring 2020. The survey was in the field from April 15 to May 8, with a response rate of 82%. Some of the questions from the fall 2019 survey of superintendents (99% response rate) were repeated; others were modified slightly and some new questions were added. When answers can be compared for pre- and post-pandemic contrasts, those comparisons are included.

About half the superintendents responding answered that they had already spent $2.5 million for technology and technology-related items in response to the needs caused COVID-19. In addition to hotspots, expenditures included purchases of computers and devices and professional development. Still, nearly 10% of the responding superintendents commented that it was too early to report all of their expenditures, that they were waiting to either be able to code for reimbursement from or make expenditures with CARES Act[19] money, or that many of their expenses would not be realized until next fall when computers and devices sent home with students would likely need to be replaced or repaired. Some also mentioned that vendors had their requests on back order.

The overall trend that emerges in the following answers is the barrier caused by the lack of broadband in rural areas and for families across the state who are unable to afford it. As one superintendent commented, “In this situation, the learning gaps between affluent communities and rural communities in poverty become even larger.” Others echoed these comments, and several mentioned that they had families in their districts who did not have internet access at home nor the resources to take their children to “hot spots” – usually parking lots in the community at which they could connect devices to the internet. One superintendent responded, “Hot spots are not an option b/c [sic] we live in such a rural area. We have given our students the opportunity to meet virtually, but most have utilized paper and pencil methods b/c [sic] of a lack of internet on the student's behalf.”

About 10 districts reported purchasing or trying to purchase hot spots, but one reported, “The district was unable to purchase hot spots for student and teacher use due to unavailability from vendors.” A few mentioned that the expense of hot spots limited how many they could buy. After this survey was already in the field, the Division of Elementary and Secondary Education announced that it was working with the University of Arkansas CAST team by building a map to display all free and public access WI-FI for the state. While we were unable to ask about this resource, it should provide some help in addressing this learning barrier.

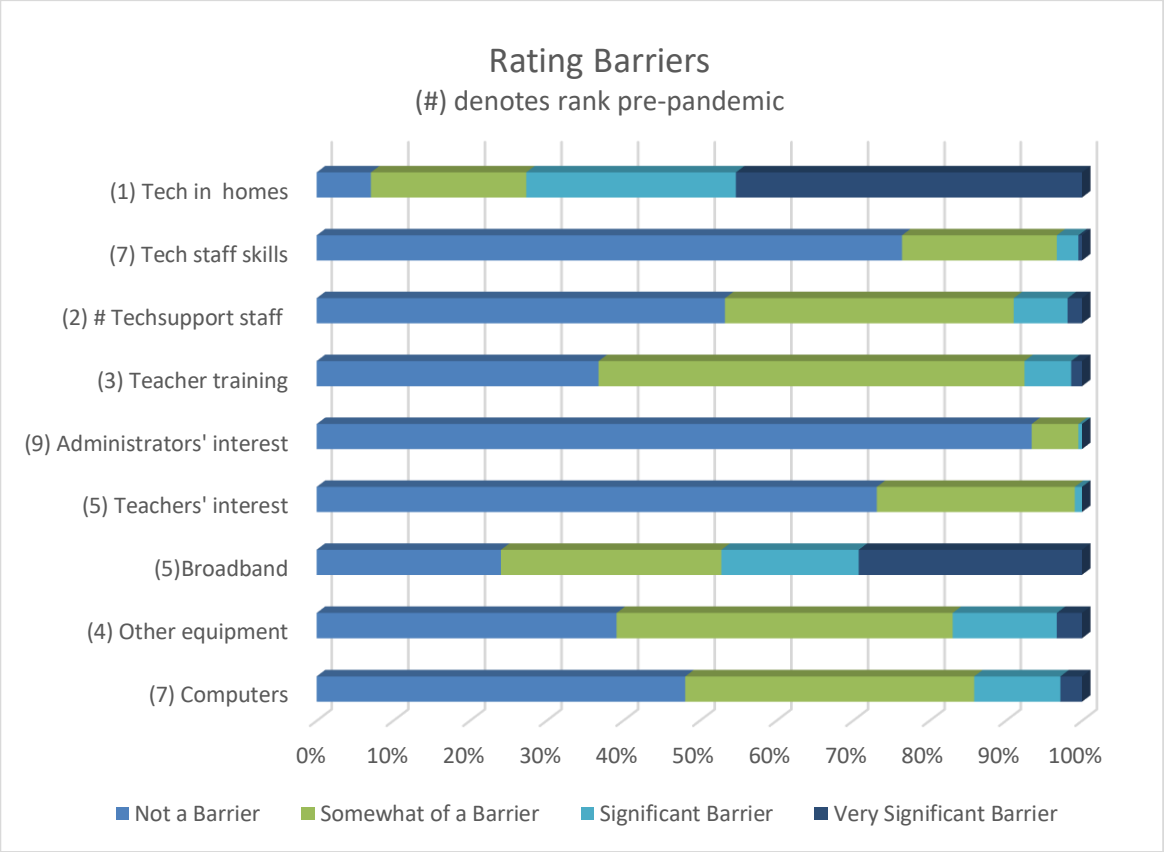
A number of other resources to help families manage distance learning have been implemented since the survey was sent to superintendents, including programming on PBS and a learning guide and hotline to help with alternative methods of instruction.

QUESTIONS AND RESPONSES

1. **Rate the barriers your district faces in the use of technology during the CORONAVIRUS CRISIS?**
   - **Inadequate supply of computers**
   - **Inadequate supply of other types of equipment**

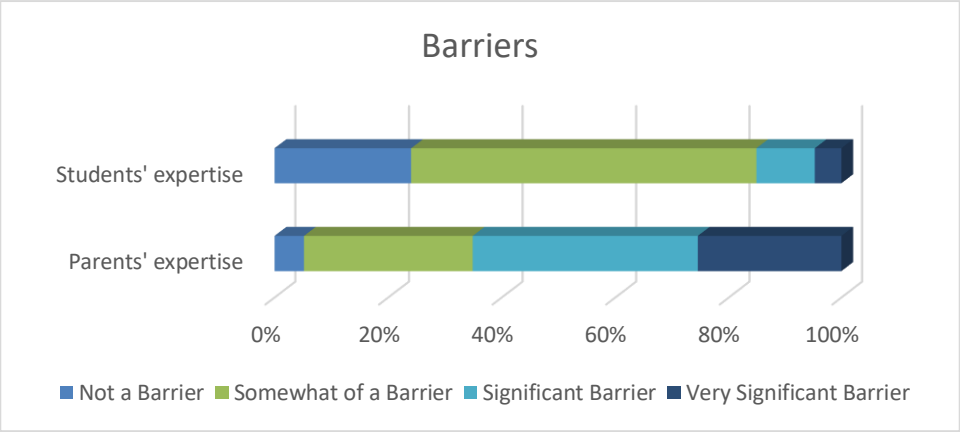
[19]On May 12, 2020, the Division of Elementary and Secondary Education (DESE) applied for $128,758,638.00 Elementary and Secondary School Emergency Relief (ESSER) funds. The application was approved on May 14, 2020 and funds became available on May 14, 2020.

- **Inadequate broadband**
- **Inadequate interest among teachers**
- **Inadequate interest among administrators**
- **Inadequate teacher training**
- **Inadequate number of technology support staff**
- **Inadequate knowledge or skills among technology support staff**
- **Inadequate technology in students' homes**



The BLR added two additional barriers in light of the out-of-school learning environment:

- **Parents lack the expertise to assist their children with on-line/at-home learning.**
- **Students lack the technical expertise to effectively participate in on-line/at-home learning.**

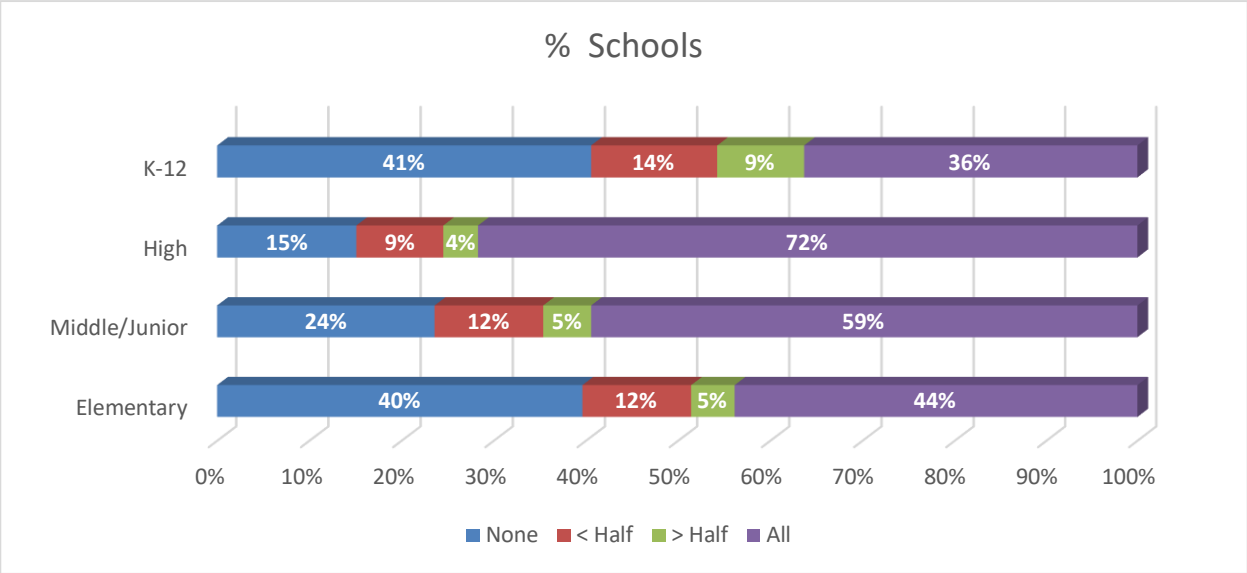


Of the 80 superintendents providing additional comments in reply to an open-ended question at the end of the survey, just over half mentioned the lack of internet connectivity in many students' homes. This seemed particularly true in rural areas, where the availability of broadband was the issue, but also for families who either could not afford to pay for service at all or who could not afford plans that were sufficient for streaming and/or downloading video content. Some typical comments included:

- One of our major issues is connectivity for our families. Even the wealthiest families in West Arkansas do not have reliable internet access.
- This COVID-19 crisis has divided my students into the haves/have-nots based on Internet availability. Many of our staff members do not have Internet/cell phone service at their homes.
- The school district has all the resources it needs to fully integrate on-line learning. However, the lack of investment in rural Arkansas is almost criminal creating a digital divide between the haves and have-nots.
- Our problem is that we are a high poverty area and several of our students don't have internet in their homes. We have tried to pay their bill, but many of them previously held accounts that are past due and they are not wanting to participate.

Another significant barrier superintendent's identified was not asked about in the BLR's fall 2019 survey: lack of parental expertise to help children learn while at home. Just over two thirds of the superintendents rated this as either a significant of very significant barrier.

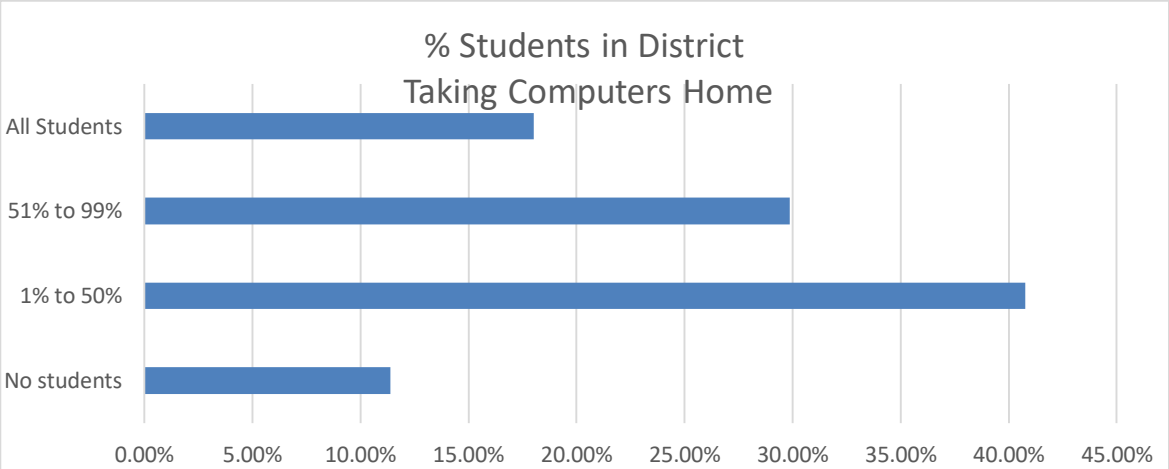
2. **How many of your district's SCHOOLS ALLOWED students to take home school computers (including tablets) during the CORONAVIRUS CRISIS? (Phones, portable media players and other small electronics are NOT considered computers for the purpose of this question.)**



Pre-Pandemic Question: How many of your districts SCHOOLS currently allow some or all students to take home school computers (including tablets)? Phones, portable media players and other small electronics are NOT considered computers for the purpose of this question.

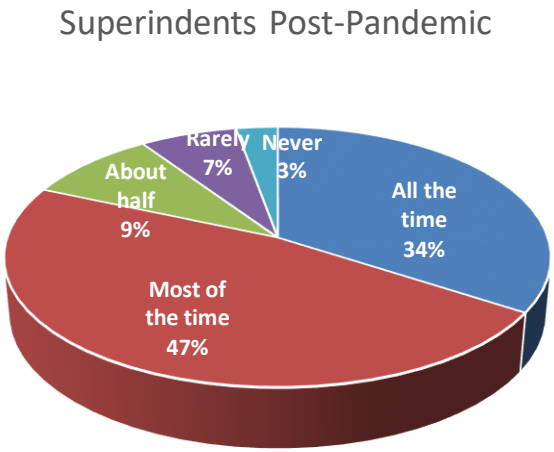
Older students were more likely to be able to take devices home with them, with 127 school districts and charter school systems allowing at least some of their high school students to do so. Meanwhile, 62 districts and charter school systems allowed some or all of their middle school students to take devices home and 24 allowed some or all elementary students to do so. In the open-response section of the survey, several superintendents noted that they only sent computers or devices home with students who did not have one available at home while others opted not to send home devices if there was no connectivity in the student's home.

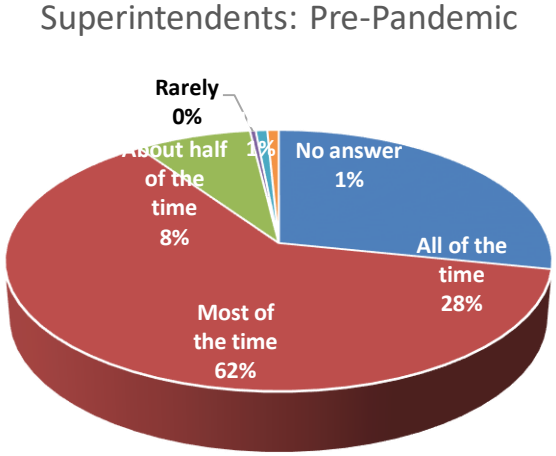
3. **What proportion of your DISTRICT's students were able to take home school computers for at-home learning during the CORONAVIRUS CRISIS?**



4. How sufficient is your district's broadband in allowing for smooth operations of all instructional and administrative functions during the CORONAVIRUS CRISIS?

- **It's sufficient all the time.**
- **It's sufficient most of the time.**
- **It's sufficient about half of the time.**
- **It's rarely sufficient.**
- **It's never sufficient.**





While this question was worded to match the original fall 2019 survey, it seems to have been influenced by the sufficiency of the community's broadband access. Several superintendents' said the wording was confusing to them, echoing these words of one superintendent: "Our DISTRICT'S onsite broadband is very good. The availability to our poor, rural families of off-campus broadband varies from 'OK' to non-existent."

Pre-Pandemic

	Average Response		
	Superintendents	**Principals**	**Teachers**
City	1.7	2.0	2.2
Suburb	1.6	1.9	1.9
Town	1.8	2.0	2.1
Rural	1.9	2.0	2.1

1. It's sufficient **all the time**.
2. It's sufficient **most of the time**.
3. It's sufficient **about half of the time**
4. It's **rarely** sufficient.
5. It's **never** sufficient.

Post-Pandemic

	Superintendent's Average Response
City	1.8
Suburb	1.8
Town	2.0
Rural	2.0

1. **RATE the QUANTITY and Quality of the following technology resources in your district to handle at-home learning during the CORONAVIRUS CRISIS.**

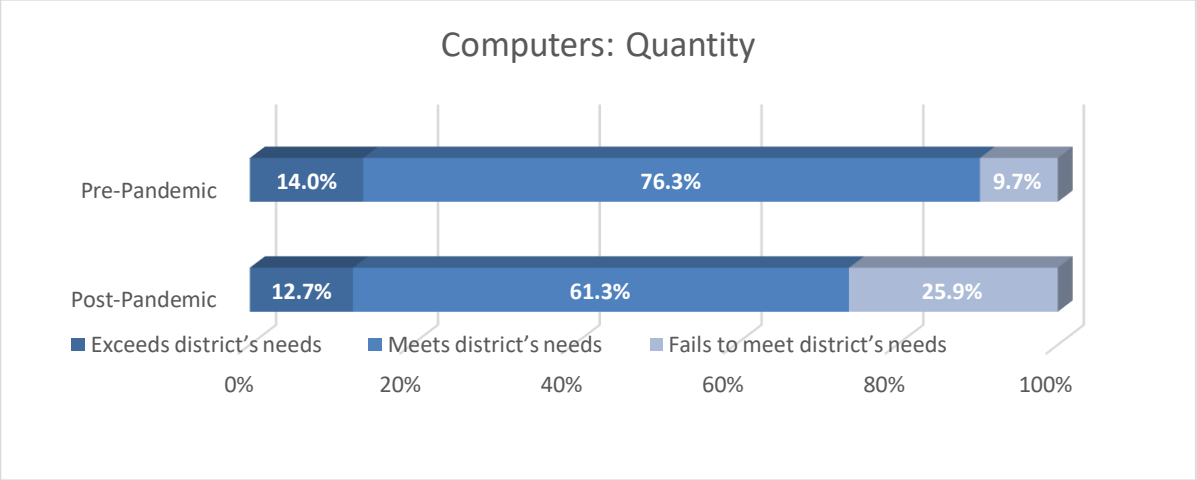
- **Computers and devices**
- **Software and electronic subscriptions**
- **Staff with expertise in integrating technology in the classroom**
- **Tech support**

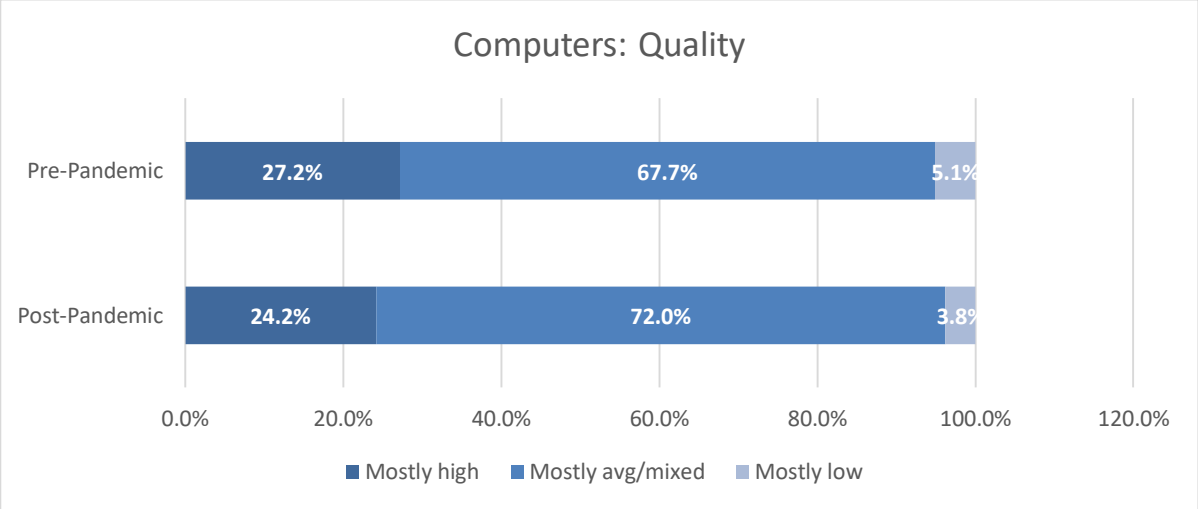
Multiple choice options for QUANTITY

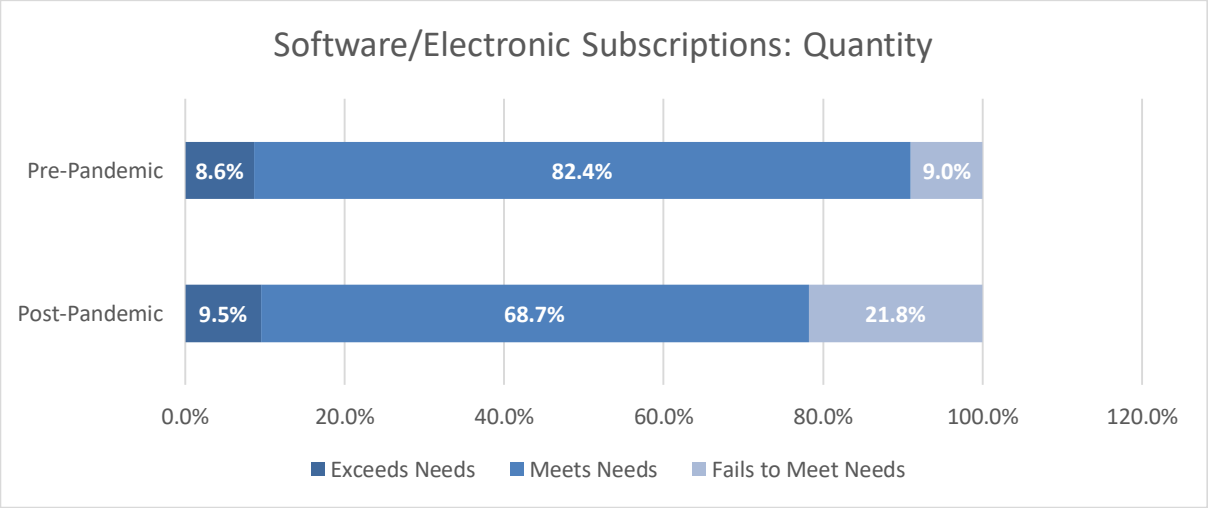
- **Exceeds school's needs**
- **Meets school's needs**
- **Fails to meet school's needs**
- **Not available**

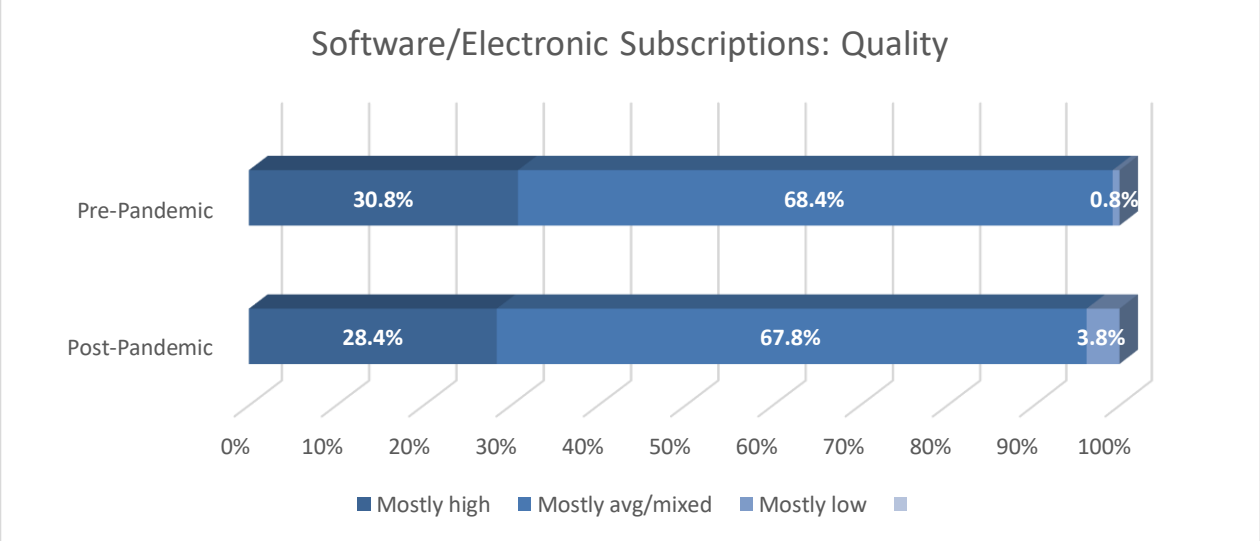
Multiple choice options for QUALITY

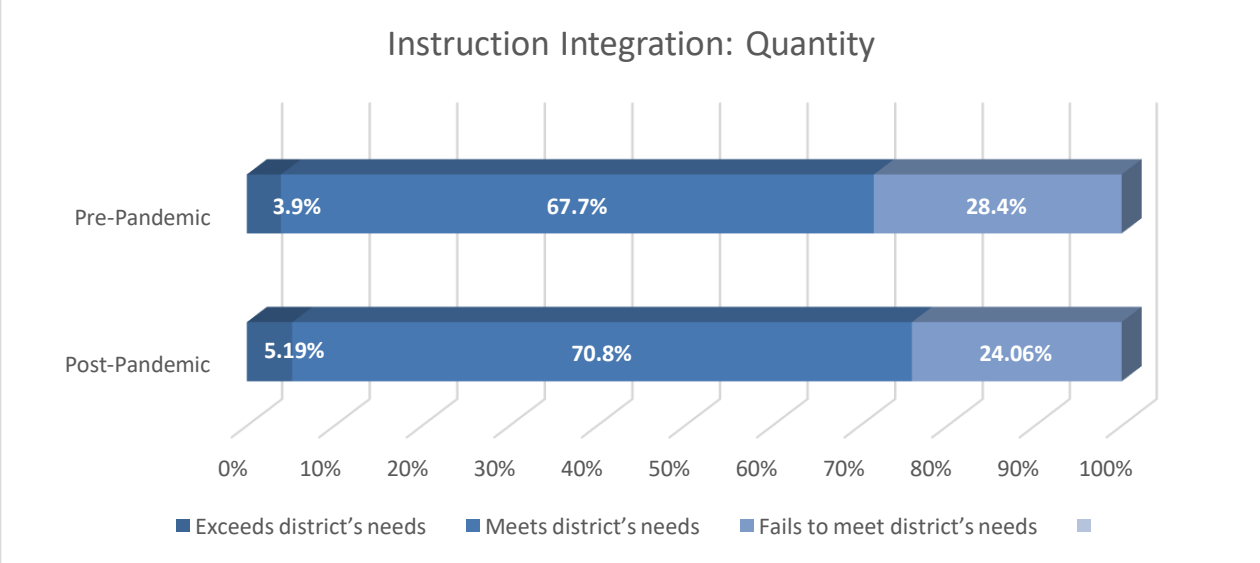
- **Mostly high quality**
- **Mostly average quality**
- **A mix of high, low, and average quality**
- **Mostly low quality**
- **Not available**

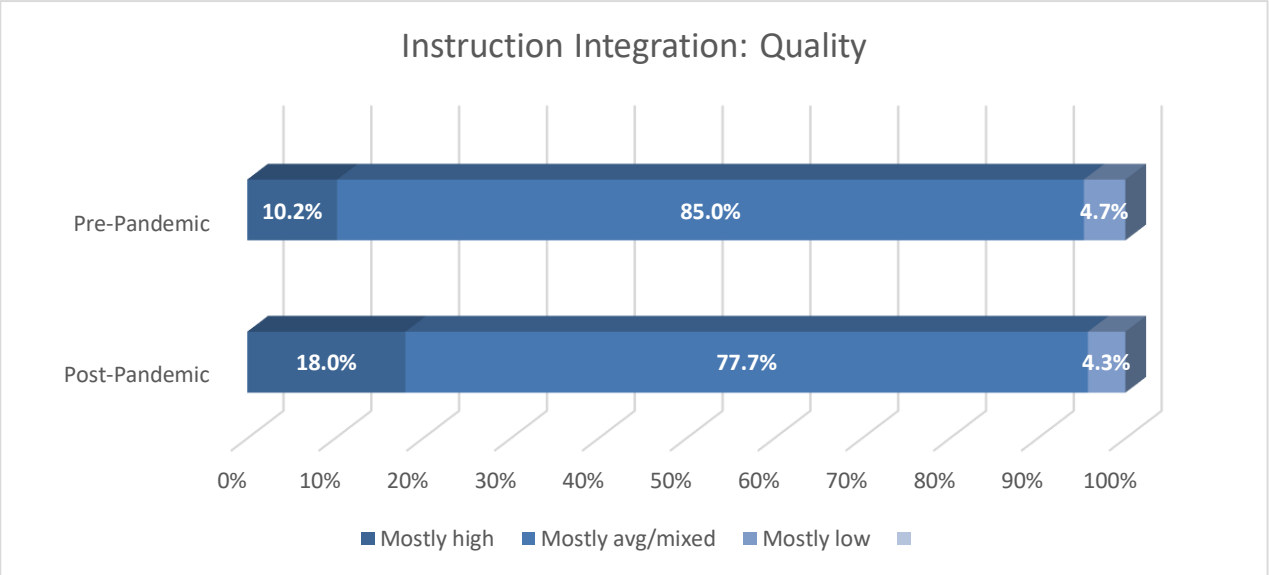


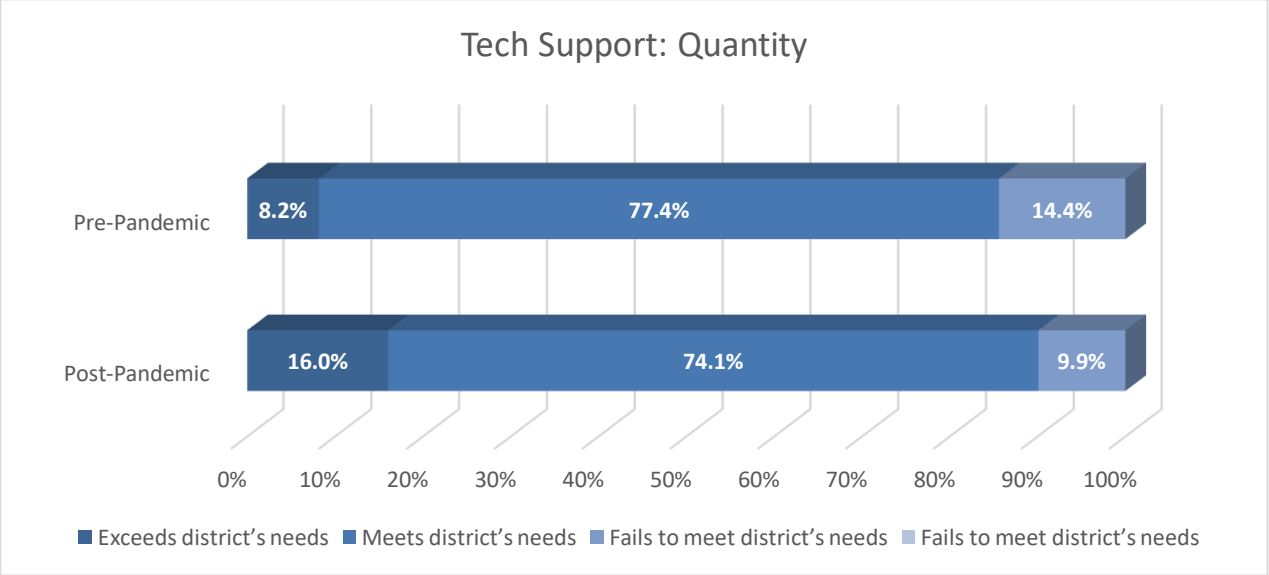


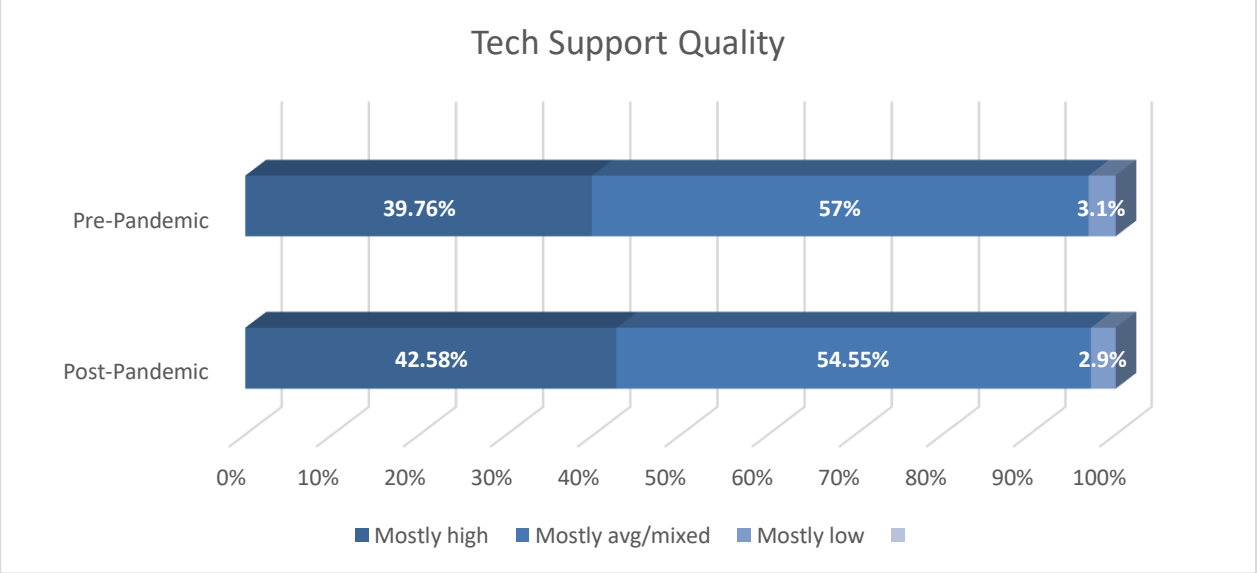

Software/Electronic Subscriptions: Quantity
Pre-Pandemic
Post-Pandemic
8.6%
82.4%
9.0%
9.5%
68.7%
21.8%
0.0%
20.0%
40.0%
60.0%
80.0%
100.0%
120.0%
Exceeds Needs
Meets Needs
Fails to Meet Needs


Software/Electronic Subscriptions: Quality
Pre-Pandemic
Post-Pandemic
30.8%
68.4%
0.8%
28.4%
67.8%
3.8%
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Mostly high
Mostly avg/mixed
Mostly low

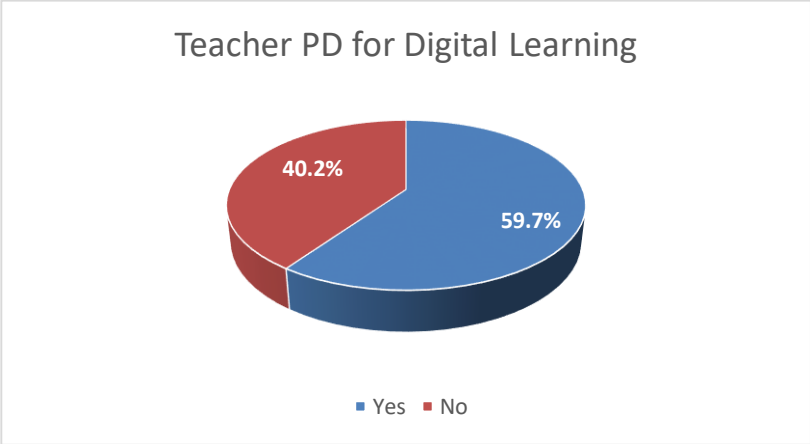

Instruction Integration: Quantity
Pre-Pandemic
Post-Pandemic
3.9%
67.7%
28.4%
5.19%
70.8%
24.06%
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceeds district's needs
Meets district's needs
Fails to meet district's needs


Instruction Integration: Quality
Pre-Pandemic
Post-Pandemic
10.2%
85.0%
4.7%
18.0%
77.7%
4.3%
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Mostly high
Mostly avg/mixed
Mostly low


Tech Support: Quantity
Pre-Pandemic
Post-Pandemic
8.2%
77.4%
14.4%
16.0%
74.1%
9.9%
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceeds district's needs
Meets district's needs
Fails to meet district's needs
Fails to meet district's needs


Tech Support Quality
Pre-Pandemic
Post-Pandemic
39.76%
57%
3.1%
42.58%
54.55%
2.9%
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Mostly high
Mostly avg/mixed
Mostly low

6. **This spring, have any teachers in your district participated in any special training for classes that were not originally offered as digital learning but NOW are due to the CORONAVIRUS CRISIS?**



7. **How have digital learning vendor partners assisted during the CORONAVIRUS CRISIS?**

FORM OF ASSISTANCE	% DISTRICTS INVOLVED
Vendor provided other support to districts' teachers and students	**36.2%**
District used more course offerings/online curricula already available by vendor	**27.6%**
Vendor created new digital learning courses / curricula for use during crisis	**12.4%**
Vendor provided no additions due to Covid-19	11.0%
We contracted with new vendors to add services during the crisis	4.8%
We have no digital learning vendor partners	7.9%

8. **Has your district spent funds on technology or technology-related needs (Equipment/Devices, Professional Development/Training, Licensing Agreements/Software, other...) strictly to support your effort to educate your students during the coronavirus period of no in-school learning?**

Just over 50% of the superintendents responding to the survey this spring told the BLR that they had spent about $2.5 million for the technology needs of their district related to the pandemic situation. Of those spending money, superindents reported the following expenditures and fund sources:

SOURCE FUND	EQUIPMENT	PD	LICENSING/ SOFTWARE	OTHER	TOTAL
Foundation	$1,202,606	$20,015	$97,891	$61,915	$1,382,427
Title 1	$491,835	$8,243	$29,148	$73,574	$602,800
Dedicated M&O	$66,760	$0	$0	$3,480	$70,240
Other Unrestricted State Funds	$92,852	$5,000	$22,976	$14,060	$134,888
ESA	$188,489	$59,000	$19,040	$50,500	$317,029
ALE	$10,000	$2,000	$300	$2,520	$14,820
PD	$0	$7,000	$0	$0	$7,000
ELL	$4,500	$0	$30	$400	$4,930
TOTAL	$2,057,042	$101,258	$169,385	$206,449	**$2,534,134**

APPENDIX B: DATA AND METHODOLOGY

FOUNDATION FUNDING EXPENDITURES

To calculate district expenditures, the Bureau of Legislative Research (BLR) extracted data from a data warehouse maintained by the Arkansas Public School Computer Network (APSCN) Division of the Arkansas Division of Elementary and Secondary Education (DESE). The expenditure coding system in APSCN does not perfectly align with the categories of the matrix. For example, there is no single expenditure code districts use to identify "technology" expenditures as recognized by past adequacy studies. The BLR has used its best judgment in categorizing the expenditures in a way that best fits the legislative intent expressed in past adequacy reports. The expenditure calculations in this Resource Allocation report are not perfectly comparable with numbers provided in past reports as the BLR has, from time to time, made slight changes in the categorization of expenditure codes it uses.

Additionally, precisely measuring districts' foundation funding expenditures has always been hindered by the fact that there is no single source of funds code that identify expenditures made using exclusively foundation funding. School districts have a variety of revenues they can use to pay for resources listed in the matrix. In the district accounting system, foundation funding is placed in and spent from two account-like funds: the Salary Matrix Fund and the Operating Matrix Fund. However, other district revenues, such as excess property tax revenue, can be placed in these accounts and comingled with current year foundation funding.

To estimate the expenditures made using foundation funding, the BLR divided the foundation funding districts and charter schools received in 2018-19 ($6,781 per student) by the total expenditures made from the Salary Matrix and Operating Matrix accounts to reach an individual percentage for each district. That percentage was then applied to districts' expenditures made from those two accounts to determine the portion of expenditures made using foundation funding. Although the percentage is different for each district, statewide about 91.6% of all expenditures made from the Salary Matrix and the Operating Matrix accounts are considered expenditures of foundation funding.

Additionally, there is not perfect uniformity in the way districts and charter schools code their expenditures. While the Arkansas Financial Accounting Handbook published by the Division of Elementary and Secondary Education (DESE) describes the expenditure code structure and defines what each code is meant to cover, there are differences among districts and charter schools in the way they apply the codes to their own expenditures.

For each matrix line, this report provides average staffing levels and expenditures for the 235 districts and 25 open-enrollment charter schools operating in 2018-19.[20] This report also provides the districts' expenditures per student when grouped by district size (based on prior year average daily membership, or ADM) and by the percentage of students who are eligible for free or reduced-price lunch (FRPL). This type of analysis allows for a comparison of spending patterns based on the size of a district or the level of poverty among its student population. **The spending patterns allow legislators to better understand whether there are certain types of districts that are particularly hindered or helped by the foundation funding formula. Where inequities exist, legislators may consider changing the foundation funding formula, which affects every district equally per student, or they may consider changing, adding or deleting supplemental funding targeted toward particular types of districts.** For example, if small districts are determined to be disadvantaged by the foundation funding

[20] This report does not include the Excel Center, a charter school focused on adult education, in its analysis. This report also treats Covenant Keepers charter school and Friendship Aspire Little Rock as one charter school for 2018-19 because Friendship Aspire took over for Covenant Keepers when the State Board of Education revoked the school's charter mid-way through the 2018-19 school year.

formula, one way legislators could address the issue is by adjusting special needs isolated funding. For the most part, the ADM and FRPL percentage used for each school year are from 2017-18, because those data were used as the basis for distributing state funding in 2018-19.

The following table provides the number of districts in each category and selected characteristics of the group. Only traditional school districts are included in the analysis using this segmentation (by ADM and FRPL). Open-enrollment charter schools are included only in the charter school grouping.

		# of Districts	District Avg. ADM	Total ADM	District Avg. FRPL%
District Size	Small (750 or Less)	82	526	43,158	71.7%
	Medium (751-5,000)	137	1,742	238,761	63.7%
	Large (5,001+)	16	11,132	178,115	55.2%
Poverty	Low Poverty (<70%)	113	2,456	277,520	54.5%
	Medium Poverty (70%-<90%)	112	1,571	175,945	74.9%
	High Poverty (90%+)	10	657	6,570	93.5%

Source: Arkansas Division of Elementary and Secondary Education, State Aid Notice; Child Nutrition Unit, Audited Free and Reduced Price Lunch.

EXPENDITURES FROM OTHER FUNDING SOURCES

This report also provides information on district expenditures for matrix items (e.g., operations and maintenance) using funding other than foundation funds. For each matrix item, this report includes a bar chart showing the per-student amount of funding districts collectively spent on each matrix item from foundation funding and how much they spent using all other funding sources. For each matrix item, this report also provides a pie chart showing the percentage of districts' total expenditures that were made using foundation funding and the percentage made using other sources of funds. The pie charts describe the fund sources using the following fund types:

- **Foundation**: The portion of the unrestricted state funds that equals the matrix funding amount of $6,781 per student for the 2018-19 school year.
- **Other State Unrestricted:** Unrestricted state funding other than foundation funding (e.g., declining enrollment funding, student growth funding). These funds are considered unrestricted because districts are not limited in the way in which they can spend them.
- **Enhanced Student Achievement (ESA)**: State categorical funding based on the percentage of students receiving free or reduced price meals. This funding was called National School Lunch state categorical funding from 2005 to 2019, but Act 1083 of 2019 renamed this funding Enhanced Student Achievement. For simplicity's sake, this report calls this funding ESA funding even when referring to its use prior to Act 1083.
- **Professional Development (PD)**: State categorical funding for professional development activities.
- **Alternative Learning Environment (ALE)**: State categorical funding for alternative learning environments.
- **English Language Learner (ELL)**: State categorical funding for English language learners.
- **Other State Restricted**: Restricted state funds expended from the Salary and Operating Funds other than state categorical funds (e.g., special needs isolated transportation funding and catastrophic occurrences special education funding). These funds are considered restricted because they are intended for a particular use.
- **Federal Funds**: Federal grant funds, such as Title I, expended from the Federal Grants Fund.

- **Building Fund**: Bond proceeds, state Partnership Program facilities funding or other funds used for facilities acquisition and construction purposes.
- **Debt Service Fund**: Generally, consists of property tax revenues transferred to this fund for retirement of bonded indebtedness and interest.
- **Capital Outlay/Dedicated M&O**: Property taxes from approved local millage for specific purposes.
- **Activity Fund**: Admission receipts, sales, dues and fees relating to school-sponsored athletics and activities.
- **Food Service Fund**: Includes daily sales from student meals and state and federal funding for food service operations.

DISTRICT AND CHARTER SCHOOL EMPLOYEES AND SALARIES

This report provides information on the numbers of district and charter school employees and salaries included in districts' expenditures. The average salaries in this report have been calculated using DESE's Arkansas Financial Personnel Salaries and Full-Time Equivalent (FTE) Positions Cross-Reference coding structure and data.[21] The salaries include regular salaries, bonuses, unused leave, severance, and early retirement, but do not include other benefits, such as health insurance and retirement, or the employer share of Medicare/Social Security payments. The salary amounts include those paid from all types of funds, including federal funds.

STATUTE AND STANDARDS

The foundation funding matrix is largely based on state Accreditation Standards ("Rules Governing Standards for Accreditation of Arkansas Public Schools and School Districts"), which set minimum staffing and resource levels schools must provide. In past years, BLR examined whether districts are able to meet established statutory and regulatory standards as one measure of the adequacy of foundation funding. If many districts were out of compliance on a particular standard, it could suggest an issue with the sufficiency of funding.

The 2018 adequacy study documented a number of standards violations, including teachers not fully licensed for the subject they were teaching, failure to meet student-to-staff ratios and failure to adhere to class size limits. Today, however, schools and school districts are able to receive waivers from most statutes and standards if they have difficulty meeting them. Additionally, teacher licensure issues—previously one of the most frequently noted accreditation violations on schools' and districts' accreditation reports—are now no longer considered accreditation violations when teachers are teaching under an approved additional licensure plan (ALP).[22] With these changes, the accreditation violations dropped nearly to zero. The only district cited with accreditation violations in 2018-19 was Lee County School District with violations in the following areas:

- Student discipline policy
- Graduation requirements
- Records retention policy
- Student services plan
- School guidance program

[21] Arkansas Department of Education – Division of Elementary and Secondary Education(DESE), Statewide Information System Handbook, 2018-19, pages 139-141, https://adedata.arkansas.gov/sis/ManagedContent/Docs/sisman1819.pdf

[22] Jacks, M., DESE, Feb. 18, 2020 email.

- Screening and interventions for dyslexia

In the absence of standards violations, this report documents instances of waivers that districts and schools receive from meeting relevant statutes and standards.

The waivers from accreditation standards that relate to the sections of this report are:

Technology: Library Media/Media Services
2-D.1 Each school district shall annually budget and expend sufficient resources to purchase and maintain an appropriate balance of print, non-print and electronic media that is adequate in quality and quantity to meet the academic standards for all students

Instructional Materials
1-A.7 Each public school district shall adopt instructional material consistent with the public school district's curriculum and the Arkansas Academic Standards and educational goals established by the State Board of Education in Accordance with the laws of the State of Arkansas and the rules of the Department

SURVEYS AND SCHOOL SITE VISITS

As part of the 2020 Adequacy Study, the BLR conducted online surveys of superintendents and principals in Arkansas. The BLR also visited a randomly selected, representative sample of 74 schools and interviewed their principals. Teachers in the 74 randomly selected schools were also invited to complete an online survey. The online surveys allowed the BLR to collect specific, quantitative data from districts, while the principal interviews asked more open-ended qualitative questions. This report provides the questions and responses from these surveys when applicable to foundation funding and the matrix. Responses to other survey questions have been or will be presented in other reports throughout the Adequacy Study process.

The superintendent and principal surveys were conducted using online questionnaires. The **superintendent survey** was distributed beginning July 23, 2019, and the last district responded **November 21, 2019**. The BLR received responses from all 235 school districts and 24 of the 25 open enrollment charter schools.

The **principal survey** began October 14, 2019, and the last principal response was received **December 12, 2019**. A total of **1,045** principal surveys were distributed and **752** principals completed the survey, providing a **72%** response rate.

December 18, 2019. The BLR visited a total of **74** schools and interviewed the principals of those schools. Some schools invited other staff members to the interviews, and some included their superintendents in the conversation.

The BLR invited certified teachers in the 74 randomly selected schools to complete an online teacher survey. Each principal was asked to provide the name of a teacher or staff member who would distribute the teacher survey instructions and individual access codes to his/her colleagues. Generally, only certified teachers assigned to teach a class were invited to complete the survey (i.e., not administrators), but the survey pool also included guidance counselors, English as a second language teachers, alternative education teachers, library/media specialists and instructional facilitators, regardless of whether they were assigned to teach a class. **Teachers accessed the survey online** using an individual code that was distributed to them by the teacher representative assigned by the principal. A total of **2,482** surveys were distributed, and **1,288** teachers responded by **January 15, 2020**, for a response rate of nearly **52%.**

Finally, the BLR administered a supplemental survey during the spring of 2020 (April 14 to May 1) to collect information about the ability of school districts and charters systems to meet the technological needs required for the final months of NO in-school learning due to the coronavirus pandemic. Of the 260 superintendents surveyed, 213 responded for an overall response rate of 82%.

To elicit the most candid responses, district and school staff were assured their answers would not be individually identified; therefore, responses are provided only in aggregate. Quotes used from the surveys and site visits are provided only where the respondent and school cannot be identified.

NATIONAL COMPARISON DATA

This report also uses data from the National Center for Education Statistics (NCES) to compare Arkansas's spending and staffing patterns with those of other states. For staffing numbers, the BLR used 2017-18 data from NCES's Elementary/Secondary Information System. For some broader categories of expenditures, the BLR used Table 236.30, Total expenditures for public elementary and secondary education and other related programs, by function and state or jurisdiction: 2016-17.

APPENDIX C: OVERVIEW AND HISTORY OF MATRIX AND SCHOOL RESOURCE ITEMS SPECIFICALLY

FOUNDATION FUNDING OVERVIEW

Foundation funding is the building block of public education funding in the state of Arkansas (A.C.A. § 6-20-2301 et seq.). Every year the state distributes foundation funding to each school district on a per-student basis. Foundation funding is **unrestricted**, meaning the state does not specify what school districts may or may not purchase with it. This policy is intended to provide flexibility for the specific needs of each school district, allowing some districts to spend more on teacher salaries, for example, while other districts may have higher transportation needs.

Foundation funding is made up of four sources of funding:

- Uniform rate of tax (URT),
- 98% URT adjustment,
- Miscellaneous funds and
- State foundation funding aid.

The **URT** is a constitutionally mandated minimum millage rate (or property tax rate) that school districts must levy at the local level. This rate is set at 25 mills, and the revenue generated is used specifically for school operations. The **98% URT adjustment funding** is state money used to supplement districts where actual URT collections are less than 98% of what was anticipated based on assessments. This funding ensures that districts receive at least 98% of their total URT funding when the county is unable to collect the full amount from its citizens.

Miscellaneous funds are monies school districts receive from "federal forest reserves, federal grazing rights, federal mineral rights, federal impact aid, federal flood control, wildlife refuge funds, and severance taxes," that are "in lieu of taxes and local sales and use taxes dedicated to education" [§ 6-20-2303(12)(A) and (B)].

State foundation funding aid is then provided to make up the difference between the per student foundation funding level set by the Legislature ($6,781 per student in 2018-19) and the amount of money raised through the combination of the URT, the 98% adjustment and miscellaneous funds. For example, if a district's URT, 98% adjustment funding and miscellaneous funding collectively generated $2,781 per student in 2018-19, the district would have received an additional $4,000 in state foundation funding aid, for a total of $6,781. The two smaller components of foundation funding are the 98% URT Actual Collection Adjustment and other types of funding collectively considered "miscellaneous funds".

Statewide, URT made up about 36% of the total foundation funding (for districts and charter schools) in 2018-19, while state foundation funding aid covered about 63%. However, these percentages varied greatly among individual districts. For example, in the Poyen School District, state foundation aid covered 92% of the foundation funding, with URT paying just 8%. Four districts in 2018-19 collected more than $6,781 per student in URT alone and therefore received no state foundation funding aid. For charter schools, which have no tax base from which to collect funds, the entire foundation funding amount is covered by state foundation funding aid.

Foundation Funding Components	District Total	% of Total	Charter Total	% of Total
URT	$1,169,273,935	37.4%	$0	0%
State Foundation Funding Aid	$1,916,781,794	61.3%	$118,161,086	100%
98% Adjustment	$25,942,934	0.8%	$0	0%
Miscellaneous	$12,997,740	0.4%	$0	0%
Total	**$3,124,996,403**		**$118,161,086**	

Foundation funding is distributed based on a school district's **average daily membership** (**ADM**), which is the calculation representing a district's total number of students. Each school district receives the foundation funding amount set for each year multiplied by its prior year ADM. For example, the foundation funding rate was $6,781 for the 2018-19 school year. If a school district's ADM was 1,000 for the previous year, its funding would be determined by multiplying $6,781 by 1,000 for a total of $6,781,000.

THE MATRIX

Arkansas uses a specific formula, known as the **matrix**, to arrive at the per-student funding amount. The matrix calculates the per-student funding based on the cost of personnel and other resources needed to operate a prototypical school of 500 students. Legislators involved in the biennial Adequacy Study recommend the dollar amount needed to fund each line item of the matrix, based on the money needed to adequately fund school districts' educational needs. Unlike the foundation funding rate ($6,781 for 2018-19), the matrix is not established in statute. Instead, it is used as a tool to set the foundation funding rate. The matrix is divided into two basic sections: 1.) the number of people needed for the prototypical school of 500 students, and 2.) the cost of all needed resources. The first section describes the 35.69 school-level personnel needed for the prototypical school.

	Matrix Item	2019 FTE
Classroom Teachers	Kindergarten	2.00
	Grades 1-3	5.00
	Grades 4-12	13.80
	Non-Core	4.14
	Subtotal	24.94
Pupil Support Staff	Special Education	2.90
	Instructional Facilitators	2.50
	Library Media Specialist	0.85
	Counselors & Nurses	2.50
	Subtotal	8.75
Administration	Principal	1.00
	Secretary	1.00
	Total	**35.69**

The second section of the matrix specifies the cost of the staff described in the first section of the matrix, as well as the cost of all other needed resources. The matrix is divided into three cost categories:[23]

1. **School-level salaries** of teachers and other pupil support staff, a principal and a secretary. The matrix also identifies the salaries for the school-level staff and calculates the per-student cost of paying the identified salaries for the number of staff needed. For example, 24.94 classroom teachers at $65,811 each costs a total of $1,641,326. For a school of 500 students, that calculates to about $3,283 per student.

School-Level Staffing	Salary & Benefits	Per-Student Funding Amt.
Classroom Teachers	$65,811	$3,282.65
Pupil Support Staff	$65,811	$1,151.75
Principal	$99,012	$198.10
Secretary	$40,855	$81.70

School-Level Resources	Per-Student

[23] The individual per-student funding amounts total $6,780.30, which was rounded up to $6,781 per student for the total foundation funding rate.

2. **School-level resources** including instructional materials and technology-related expenses.

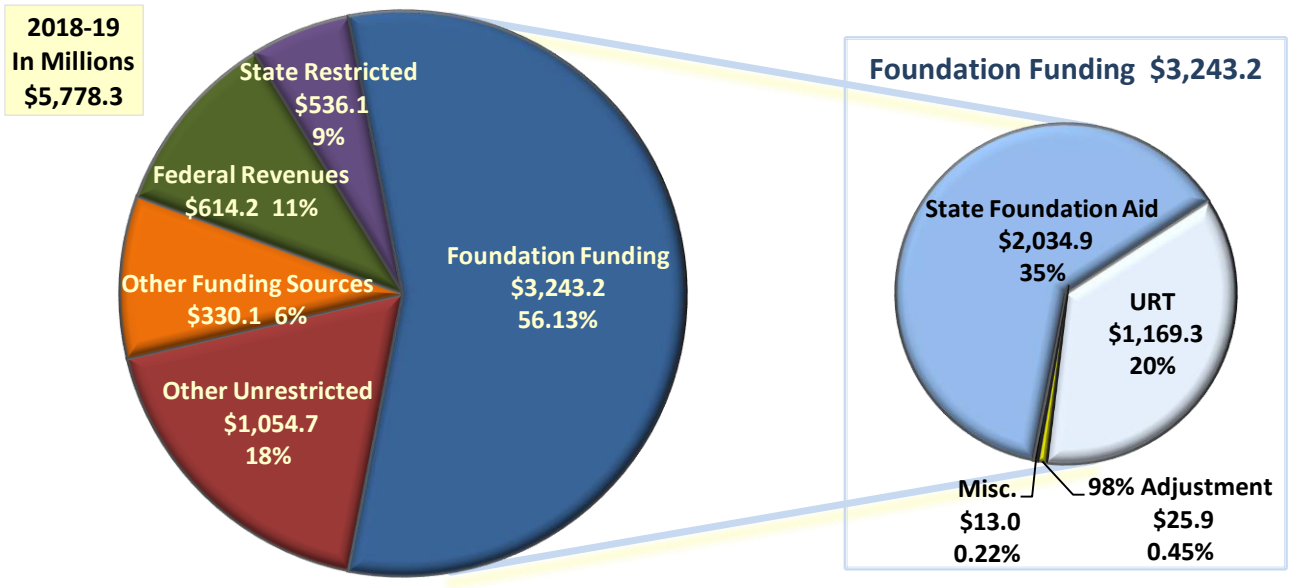
3. **District-level resources**, which include funding for districts' operations & maintenance, central office and transportation expenses.

	Funding Amt.
Technology	$250.00
Instructional Materials	$183.10
Extra Duty Funds	$66.20
Supervisory Aides	$50.00
Substitutes	$71.80

District-Level Resources	Per-Student Funding Amt.
Operations & Maintenance	$685.00
Central Office	$438.80
Transportation	$321.20

EDUCATION FUNDING IN ARKANSAS

Arkansas schools receive many different types of funding. In 2018-19, school districts and open-enrollment charter schools received about $5.8 billion in total revenue. **Foundation funding makes up 56% of that amount.** The following chart illustrates the significance of foundation funding as a part of districts' and charter schools' total revenue. The pie chart also demonstrates that a significant amount of additional revenue is available to districts and charter schools to meet their needs.



- **Foundation Funding** primarily consists of property tax revenues (URT) and the state aid portion of foundation funding. (The components of foundation funding are described in the next section of this report.)
- **Other Unrestricted Funds** include student growth funding, declining enrollment funding, isolated funding and other local revenue sources. School districts have broad authority to spend these funds for their educational needs without limitation.
- **Other Funding Sources** include the sale of bonds for construction activities, loans, insurance compensation for loss of assets, other gains from disposals of assets and other miscellaneous funding.
- **Federal Revenues** include Title I funding, the Individuals with Disabilities Education Act (IDEA), Part B funding, School Lunch and Breakfast grant funds and other federal grant funding.

- **State Restricted Funds** include ESA and other categorical funds, as well as funding for early childhood education, adult education, career education, special education, educational service cooperatives, academic facilities and other grants for specific programs.

BACKGROUND: TECHNOLOGY IN THE MATRIX

The technology line item of the matrix was originally set at $250 per student based on the 2003 recommendations of the Legislature's education consultants Picus and Associates. This rate was established to provide districts $125,000 per 500 students to purchase, update, and maintain hardware and software. The funding was designed to provide one computer for every three students and the technology infrastructure needed for distance learning. On the advice of the consultants, the General Assembly set the technology funding rate at $250 per student, but over the next two years, the General Assembly decreased the amount to $185 per student, due to evidence presented to the Education Committees that the price of technology was decreasing.

In 2006 when the consultants were rehired to adjust the matrix, they again recommended providing districts with $250 per student to pay for technology expenditures. This time they detailed the individual costs comprising the $250 funding amount. This funding was designed to cover four categories of technology expenditures: 1.) computers, 2.) operating system and other non-instructional software, 3.) network equipment, printers and copiers, and 4.) instructional software and additional hardware. Picus and Associates described the four components and recommended the following per-student cost for each.

	Consultants' 2006 Recommended Technology Resources		Per-Student Cost
1) Computers	• One computer for every four students, plus one computer for every teacher, principal and other key school staff, which calculates to an overall ratio of 1 computer for every three students		$100
2) Operating system and other non-instructional software	• Operating system (e.g., Windows) • Productivity suite (e.g., Microsoft Office) • Server software	• Database • Antivirus/anti-spyware • Other network	$50
3) Printers, copiers, network equipment	• Network equipment and internet connectivity	• Copiers, 240 copies per student • Printers	$50
4) Instructional software and additional hardware	• Instructional hardware: e.g., LCD projectors, smart boards (interactive whiteboard), document cameras (digital overhead). • Instructional software		$50

Picus and Associates noted that the technology funding was designed to cover the costs of physical technology needs and services, not technology employees. Technology staff, they noted, are funded through other line items in the matrix. Specifically, a 0.5 FTE technology assistant is provided through the instructional facilitator line item of the matrix, and the central office line item supports a technology coordinator.

While the consultants reiterated their recommendation in 2006 that technology should be funded at $250 per student, the Adequacy Subcommittee determined that $185 per student accurately reflected the cost of technology (minus technology staff) in schools. However, the subcommittee opted to increase the technology funding in 2007-08 to $220 and decrease it to $201 for 2008-09 based on a declining inflationary index for computers. From 2009 through 2015, the technology line item steadily increased as a cost-of-living adjustment was applied each year to the total foundation funding rate.

Hired again in 2014, Picus, Odden and Associates noted that technology has become a necessary instructional tool that should be embedded in student programs and school

management. They recommended funding technology at $250 per student. The Education Committees agreed with that finding and recommended increasing the funding level by 5.4% for FY16 and 5.1% for FY17. After the 2016 Adequacy Study, the Education Committees decided against additional increases for the technology component of the matrix for FY18 and FY19. Act 743 of 2017 increased the per-student foundation funding rate to include the following amounts for technology, and Act 667 of 2019 set the rates at:

	2018	2019	2020	2021
Per-Student Rate	$250	$250	$250	$250
% Change	0%	0%	0%	0%

BACKGROUND: INSTRUCTIONAL MATERIALS IN THE MATRIX

In 2003, the Joint Adequacy Committee adopted the recommendation that the state provide $250 per student for instructional materials and supplies[24]. This funding level was based on recommendations in other states. The General Assembly accepted this recommendation and adopted $250 per student as the funding level for instructional materials.

In 2006, Picus and Associates recommended a reduced funding amount of $185 per student and specified the types and costs of instructional materials that would be included. This amount was intended to cover textbooks, consumable supplies (e.g., workbooks) and pedagogical aides, library texts and electronic services, formative assessments (mid-year assessments designed to gauge students' progress and areas of for additional instruction) and funding for elementary teachers to purchase instructional materials. Based on the cost estimates provided below, the recommended funding amount was calculated to be $160 per student plus $25 per student for formative assessments.

2006 Consultant Recommended Per-Student Funding Levels	Elementary	Middle	High
Textbooks	$60	$70	$100
Consumables (workbooks, worksheets, etc.) and pedagogical aides (math manipulatives and science lab supplies)	$60	$50	$50
Library texts and electronic services	$20	$20	$25
Formative assessments (informal periodical testing used to gauge what student are learning and to adjust teaching strategies)	$25	$25	$25
Teacher purchase of instructional materials	$20	NA	NA
Total	**$185**	**$165**	**$200**

The Adequacy Subcommittee, however, recommended funding instructional materials without formative assessments, which are not required by statute or accreditation standards. The Subcommittee set the funding at $160 per student and recommended further study of the issue. The Education Committees subsequently received expert testimony on formative assessments, but opted not to include funding for formative assessments in the matrix. The instructional materials funding level gradually increased as annual inflationary adjustments were added through 2014-15. The instructional materials component of the matrix has not been increased since the 2014-15 school year.

BACKGROUND: EXTRA DUTY FUNDS IN THE MATRIX

In 2003, the Joint Adequacy Committee recommended providing $90 per student for extra duty activities. The amount was calculated based on $60 per student for middle schools and $120

[24] In one part of the consultants' 2003 report, Picus and Associates indicated that the $250 per student was meant to cover "instructional materials, equipment, student activities" (p. xii) and in another part of the report "instructional materials and supplies" (p. 40).

per student for high schools. Although a panel of education professionals convened for the Adequacy Study asked that $30 per student be added for elementary schools, the Committee did not recommend additional funds for these younger students.

In their 2006 report, Picus and Associates wrote that students who are engaged in extracurricular activities tend to "perform better academically than students not so engaged, though too much extra-curricular activity can be a detriment to academic learning."[25] They noted that while districts received $90 per student for extra duty funds, they actually spent $215 per student for activities during the 2004-05 school year, most of which was spent on athletics. They argued that while athletics are important, "we are not aware of any research that suggests the benefits of highly competitive interscholastic athletic programs is any more important in improving student learning than more modest athletic programs." They further argued that funding for athletic coaches should be at the same level as the funding provided for stipends for other extra-curricular activities. They recommended adding only an inflationary adjustment to the extra duty funding in the matrix, increasing the amount to $100 per student, and suggested that districts wanting to spend more on athletics could do so using local funds.

The consultants' 2006 report recommended $100 per student, but that recommendation was based on an earlier miscalculation in the original matrix. The Adequacy Subcommittee determined that the original number did not properly weight the funding amount to account for the fact that elementary students, who made up nearly half of the student population, did not require extra duty funding. The General Assembly corrected the calculation in 2007 by applying the consultants' 2003 recommendation to the 2005-06 count of elementary, middle and high schools. That calculation resulted in a per-student cost of $48.84, which was rounded to $50 for the 2006-07 matrix level. The matrix amount for extra duty pay was developed using the following calculations:

2006 Basis for Extra Duty Pay				
School/Grade	**2005-06 Enrollment**	**% of Total**	**Unit Price**	**Weighted Cost**
Elementary	224,241	48.34%	$0	$0
Middle	101,739	21.93%	$60	$13.16
Secondary	137,942	29.73%	$120	$35.68
Totals	**463,922**	**100%**		**$48.84**

In the years since the funding amount was set, the extra duty line gradually increased as the foundation funding amount received annual inflationary increases.

In their final report of the 2014 Adequacy Study, the Education Committees recommended increasing the per-student foundation funding rate for extra duty by 6.7% for FY16 and 6.3% FY17. The Committees reasoned that the extra duty funding level did not account for the extracurricular activities in elementary schools that they believed were increasingly common, particularly STEM-related activities. For FY18 and FY19, the Education Committees recommended increasing the per-student funding level for extra duty by 1% each year.

BACKGROUND: SUPERVISORY AIDES IN THE MATRIX

During the 2003 Adequacy Study, the Joint Adequacy Committee took the advice of panels of Arkansas educators and provided $35 per student to pay for supervisory aides to monitor students getting on and off the bus and during lunch and recess. Although the state accreditation standards do not specifically require supervisory aides, the educator panels urged the Legislature to include this funding due to a law passed in 2003 limiting the amount of time teachers may be assigned to these supervisory duties.

[25] Odden, A., Picus, L. O., & Goetz, M. (2006). Recalibrating *the Arkansas School Funding Structure.* Report prepared for Arkansas Joint Committee on Education, p. 45.

When the consultants were rehired in 2006, they noted that the original $35 per student was intended to provide two full-time supervisory aides for a school of 500 students. They recommended two supervisory aides, but they suggested increasing the funding amount to $98.70 per student. This higher amount was based on a salary of $24,676 each.

The Adequacy Study Oversight Subcommittee, however, determined that a school of 500 students would require just one supervisory aide each day. They based this conclusion on a 2006 survey conducted by ADE in which districts were asked to submit the total hours spent for supervisory duties and the cost of those hours. That data indicated that the average number of supervisory hours per day per student equaled .01742, or 8.71 hours per day for a school of 500 students. The average salary and benefit cost of this time was $87.21 per hour. Due to the statutory time restrictions, teachers could fill only 6.28 hours of the 8.71 supervisory hours needed, leaving 2.43 hours that would need to be filled by a non-teacher. For this amount of time, the Adequacy Subcommittee determined that one supervisory aide would be adequate, but increased the level of funding by 33%, based on the information provided by ADE. The 2016-17 matrix funding amount of $50 per student provided a salary of $25,000 (not including benefits) for one supervisory aide.

In the years since the funding amount was set, the supervisory aide line gradually increased as the foundation funding amount received annual inflationary increases through 2014-15. In their final report of the 2014 Adequacy Study, the Education Committees recommended decreasing the per-student foundation funding rate for supervisory aides by 11.8% for FY16 with no increase for FY17. The Committees reasoned that districts had spent only 20% of the foundation funding provided for supervisory aides.

BACKGROUND: SUBSTITUTES IN THE MATRIX

In 2003 the Joint Adequacy Committee recommended districts receive funding to pay for 10 days for each classroom teacher and specialist teacher (non-core) in the matrix. The Committee calculated the funding amount based on an average daily salary of $100, plus benefits, or $121 per day.

In 2006, Picus and Associates noted that the funding level the General Assembly had approved for substitutes appeared to adequately cover what districts were spending on substitute teachers. However, they noted that districts tended to pay less than the $100 per day salary on which the matrix is based. “The data actually showed that the average daily reimbursement rate for substitute teachers was below the average wage of a building custodian. Such a low number indicates a problem; either qualified substitute teachers are not available so the wage paid equals the worth of the substitute hired, or substitute wages need to increase to allow districts to hire more qualified substitute teachers.”[26]

The consultants recommended that the funding level for substitute pay continue to be based on an average daily salary of $100. The Committee, however, reduced the substitute funding allocation based on evidence that the average daily pay for substitutes is lower than $100. Instead, the Committee used a base salary of $75 per day for substitute teachers and set the funding amount at $59 per pupil. In the following years, the funding level increased annually as inflationary adjustments were applied to the foundation funding rate.

In their final report of the 2016 Adequacy Study, the Education Committees recommended increasing the per-student foundation funding rate for substitutes by 2% for FY18 and FY19.

[26] Odden, A., Picus, L. O., Fermanich (2003). *An Evidence-based Approach to School Finance Adequacy in Arkansas. Report* prepared for the Arkansas Joint Committee on Education Adequacy, p. 46, http://www.arkleg.state.ar.us/education/K12/AdequacyReportYears/2003%20Final%20Arkansas%20Report%2009_01_2003.pdf