ARKANSAS GENERAL ASSEMBLY

HOUSE INTERIM COMMITTEE ON EDUCATION
and
SENATE INTERIM COMMITTEE ON EDUCATION

Senator Jane English
Senate Chair

Representative Bruce Cozart
House Chair

December 15, 2020

Senator Jim Hendren
President Pro Tempore
Arkansas Senate
Room 320, State Capitol
Little Rock, Arkansas 72201

Representative Matthew Shepherd
Speaker of the House
Arkansas House of Representatives
Room 350, State Capitol
Little Rock, Arkansas 72201

Re: Response from Augenblick, Palaich and Associates (APA) concerning the Study of Arkansas's Current Educational Adequacy Study Processes.

Dear President Hendren and Speaker Shepherd:

In 2019, a Request for Proposal (RFP) was issued by the Bureau of Legislative Research (BLR) requesting education adequacy consulting services for the House Education Committee and the Senate Education Committee. Augenblick, Palaich and Associates (APA) was granted the RFP to perform the Study of Arkansas's Current Educational Adequacy Study Processes and began its work in February 2020.

On December 14, 2020, the Committees voted to approve the final report presented by APA, including the full set of recommendations found in Section 12. Please find attached the conclusion of this study, which becomes Volume III of the 2020 Educational Adequacy Study that was submitted to you on October 30, 2020.

In addition, on December 14, 2020, the Committees approved a legislative recommendation as well, which reads:

> **Based on research and Arkansas case-study findings that the schools who perform best, especially with a low-income and English learner students, demonstrate many of the characteristics of professional learning communities, such as strong leaders, staff, school culture, and targeted, data-driven interventions, this body highly recommends a professional learning community concept to be considered an integral component of adequacy. It further recommends that our schools of higher**

education incorporate professional learning community principles into their curriculum for elementary and secondary education degrees and that the Division of Elementary and Secondary Education continue to make recommendations to the legislature for reasonable and proper implementation and maintenance of this program.

The three volumes of the 2020 Educational Adequacy Study are also available at the following link: https://www.arkleg.state.ar.us/Education/K12/AdequacyReports?folder=2020.

The members of the Education Committees look forward to working with you and the incoming members of the 93rd General Assembly to ensure the continued adequacy of our state's system of public education.

Sincerely,

Senator Jane English
Chair
Senate Interim Committee on Education

Representative Bruce Cozart
Chair
House Interim Committee on Education

cc: The Honorable Asa Hutchinson, Governor, State of Arkansas

Enclosure: Volume III

State Capitol, Room 315 Little Rock, Arkansas 72201 Phone (501) 682-1937 Fax (501) 682-1936

Arkansas School Finance Study

By

Augenblick, Palaich and Associates, WestEd and Partners

December 2020

Executive Summary

This report concludes a yearlong school finance study completed by Augenblick, Palaich and Associates (APA), in partnership with WestEd, on behalf of the Arkansas House and Senate Education Committees. The study described in this report was intended to "provide to the members of the Arkansas General Assembly detailed and accurate information concerning the current efficacy of the biennial adequacy study and evaluation undertaken by the Committees, and to provide the Committees with recommendations regarding reform or replacement of the current methods for determining educational adequacy in the State of Arkansas."

Arkansas currently utilizes a resource matrix to fund districts along with several adjustments outside of the matrix. The funding system was put in place in response to the Lake View court case, and the bulk of the system has been in place since the mid 2000s. The Bureau of Legislative Research (BLR) evaluates most aspects of the system over a two-year cycle and presents their findings to the Education Committees, who then determine the adequate funding level for Arkansas districts and schools.

The Request for Proposals (RFP) for this project requested a broad study that required analysis in 31 study areas including, but not limited to:

- Examining the equity and adequacy of the current resource matrix used to establish school and district funding
- Analyzing student performance
- Addressing poverty and achievement gaps
- Examining staff attraction and retention
- Exploring the impacts of district, school and class size
- Determining how the state should define college and career readiness for graduates

Study Team

APA and WestEd have worked across the country helping policymakers improve school finance systems. The study team has unparalleled experience in applying nationally recognized adequacy approaches, a deep understanding of the complexities associated with school finance systems, the ability to create digestible and actionable findings for policymakers, and the ability to support the development and implementation of revised or new funding formulas.

In addition to APA and WestEd, the study team includes other national school finance experts, including Michael Griffith (independent consultant, formerly at the Education Commission of the States), Dr. William Hartman (Pennsylvania State University), and Robert Schoch (independent consultant).

Study Methods

Literature and Document Reviews

For many of the study areas noted above, the study team reviewed available literature and documentation, including: (1) academic research, (2) prior Arkansas studies by the BLR and outside consultants, (3) adequacy studies from other states over the past 20 years, (4) Arkansas Department of

Education rules, standards, and accreditation requirements, and (5) other relevant Arkansas policy documents. The study team also conducted national policy scans — reviewing policies in all 50 states — with special attention to a set of comparison states. The study team identified these comparison states in collaboration with the Committees.

These comparison states included all Southern Regional Education Board (SREB) states as well as Massachusetts, as shown in Table E.1.

Table E.1: Selected Comparison States

Alabama	Kentucky	Mississippi	Tennessee
Delaware	Louisiana	North Carolina	Texas
Florida	Maryland	Oklahoma	Virginia
Georgia	Massachusetts	South Carolina	West Virginia

LEA Survey

The study team conducted a survey of LEAs regarding current resource use and practices in a number of areas, including school/LEA size issues (existing policies, best practices, and impact), best uses of funding for low-income students, and capital needs, to gather data that was not currently collected by the state. The survey was administered to all district superintendents and charter system directors in July 2020. The study team received responses from 181 districts and charter systems, representing 72 percent of districts and 48 percent of charter systems. Responses were generally representative of the state as a whole.

Fiscal and Performance Data Analysis

The study team conducted a series of statistical analyses to examine opportunity gaps across the state, and some of the implications of these gaps for disadvantaged student populations. By investigating the impact of poverty, school and workforce characteristics, and funding on academic outcomes, the study team sought to uncover important relationships that underlie academic performance within the state. The performance and expenditure data used in each analysis was provided by ADE. Specific methodologies are discussed in Chapter 4.

In addition to the analysis to understand the relationship between funding and performance, the study team examined fiscal data from the state disaggregated by administrative, instructional, and student support. The study team also reviewed the work completed by BLR regarding current district expenditures in matrix resource areas from their 2020 reports, and then closely examined LEAs' use of ESA funds and professional development funds based upon data provided by BLR using the account coding they developed.

Case Studies

The study included the selection of 15 case study schools that exceeded performance expectations for student growth. The study team identified the highest-ranked schools that outperformed expectations for each region of the state and by grade span. A school was then eligible to be selected if it had a letter grade of A or B, or if the school had a C grade and had improved its letter grade from 2018 to 2019.

Schools also had to have a higher-than-average low-income student percentage (above 63 percent) or a higher-than-average English learner (EL) student percentage (above 8 percent). The highest-ranking elementary school, middle school, and high school that met the criteria were selected from each region.

The study team conducted interviews with each of the schools to better understand what factors contribute to the school's success. Interview questions fell into eight main topic areas: school staffing, school schedule, curriculum and instructional programs, assessments and data, extra support strategies for struggling students, professional development, additional monetary and non-monetary supports, and school culture and leadership.

Educator Panels and Online Stakeholder Engagement

The study team gathered feedback from stakeholders in the state through two avenues: (1) targeted panel discussions with educators around the state and (2) an online stakeholder survey that was open to all educators and the broader community. Both avenues were intended to gather feedback in study areas, including college and career readiness, supporting low-income students, staff attraction and retention, and perspectives on the education funding system in the state.

The study team convened over 20 educator panels including: 10 district and charter system administrator panels (2 per each of the five identified regions: Central, Northwest, Northeast, Southwest, Southeast), 2 statewide CFO/business manager panels, 4 statewide school administrator panels and 6 statewide teacher panels. The study team asked district superintendents, charter system directors, and each Arkansas education professional association to nominate panelists and then sent all nominees an invitation to participate. About 125 educators participated in the panels, of whom 85 were district/charter system administrators and CFOs/business managers.

In order to engage a wider set of stakeholders in the study process, the study team also created an online survey that was open for three weeks and available to all educators and the broader community. A total of 3,025 individuals participated in the stakeholder survey, roughly split equally between educators and community members, from over 170 different districts/charter systems.

Additional Qualitative and Quantitative Work

Additional qualitative and quantitative work included additional descriptive data, correlation, and regression analysis regarding the impact of waivers, vouchers, enrollment changes, and teacher workforce and education opportunities (such as access to CTE and advanced course work opportunities) information. Further, the study team used GIS software to visually map district data. All data was provided by ADE — either directly or through the state online data website —or BLR. The study team also interviewed Education Cooperative leadership regarding the services they provide to districts.

Chapter Summaries

Chapter 2: Background

This chapter provides an overview of the current education funding system in Arkansas, including the court decisions that prompted the adoption of the current system, and highlights general areas of

concern about state education funding identified by Arkansas educators and community members during the course of the study.

There were two relevant court cases decided by the Arkansas Supreme Court; *Dupree* and *Lake View* that affect the school funding system in Arkansas. In the *Lake View* case the court found the funding system in Arkansas was unconstitutional for 10 reasons. The general assembly took nine action steps to satisfy its constitutional obligation. The action steps require a biennial adequacy review, creation of foundation funding, adoption of categorical funding for at-risk, EL, special education students, adjustments for declining and growing enrollment and more. To determine foundation funding, the state utilizes a funding matrix based largely upon the findings of a 2003 adequacy study by Picus Odden and Associates (POA), then known as Lawrence O. Picus and Associates.

The FY21 matrix is presented in Tables E.2 and E.3.

Table E.2: Matrix Staffing for a Prototypical School

Matrix Item		FTEs per 500 students
Classroom Teachers	Kindergarten (20:1)	2.00
	Grades 1-3 (23:1)	5.00
	Grades 4-12 (25:1)	13.80
	Non-Core (20%)	4.14
Pupil Support Staff	Special Education	2.90
	Instructional Facilitators	2.50
	Library Media Specialist	0.85
	Counselors and Nurses	2.50
Administration	Principal	1.00
	Secretary	1.00
Total		**35.69**

Table E.3: Per Student Amounts for School-Level Salaries and Benefits, School-level Resources, and District-Level Resources

Matrix Item		Per FTE	Per Student Amount
School-Level Salaries and Benefits	Classroom Teachers	$68,470.00	$3,415.28
	Pupil Support Staff	$68,470.00	$1,198.23
	Principal	$99.012.00	$198.10
	Secretary	$40,855.00	$81.70
School-Level Resources	Technology		$250.00
	Instructional Materials		$187.90
	Extra Duty Funds		$66.20
	Supervisory Aides		$50.00
	Substitutes		$71.80
District-Level Resources	Operations and Maintenance		$705.70
	Central Office		$438.80
	Transportation		$321.20
Total			**$6,975**

The total of these resources in the foundation funding amount ($6,975 in FY21).

A total of three adequacy studies conducted by outside firms since the early 2000s have reviewed the funding formula, in addition to the BLR reports every two years. The first was the 2003 study noted above, then in 2006 POA performed a recalibration of the education funding system which led to similar class size and lower funding for instructional materials; however, called more for resources for pupil support staff. Lastly the study in 2014 was a desk audit that compared the matrix to the evolved EB model. The BLR reports review all the components of the funding system.

The current study included an online stakeholder survey asking a series of questions to both educators and community member to gauge the general public perception of the funding system and to identify any resource areas that were of particular concern. Educators and community members were asked whether they agreed or disagreed with a series of statements. A majority of educators felt the funding system responds to the different needs of students; however, they felt that funding system did not ensure similar educational opportunities for all students, respond to the different needs of districts, and equitably distribute funding to school districts. A majority of community members felt the funding system responds to the different needs of students, ensures similar educational opportunities for all students, and responds to the different needs of districts.

Chapter 3: Analyses of the Uniform Rate of Tax and School Finance Equity

This chapter addresses the study team's analyses and findings for the tasks of assessing the impact of the finance system on school finance equity and assessing the state funding formula's Uniform Rate of Tax (URT). Our equity analysis examines the equity of the state's finance system with a particular focus on how equitably it provides for key education resources across districts, including personnel resources, program resources, and educational outcomes. The study team's analysis of the URT examines its current impact on district funding, its impact on equity, the impact of increasing the URT millage, and the impact of excess maintenance and operations (M&O) mills.

Both the BLR's 2017 analysis of horizontal equity and fiscal neutrality and this analysis of educational personnel and program resources and student outcomes indicate that Arkansas's school finance system is quite equitable. One area of concern is the higher than desired correlation coefficients measuring the relationship between local property wealth and district revenue reported in the BLR study; however, this concern is offset to some extent by the low wealth elasticity coefficients as measured by the Gini Coefficient, which indicate that increases in local property wealth do not have a significantly large effect on district revenues. The CVs and correlation coefficients generated by our analyses of specific educational resources and outcomes were all within acceptable ranges.

Similarly, our analysis of the URT and excess M&O mills did not find any immediate cause for concern. Arkansas's use of a foundation funding approach and relatively high state share of foundation funding supports an equitable finance system and a moderate local share of funding. While the number of districts currently accessing additional M&O mill levy revenues is low, our quintile analysis found that more districts in the wealthiest quintile levy excess M&O mills and the average per-student revenue raised increases with property wealth. Our analysis also found a small but steady increase in the number of districts levying excess M&O mills. Both circumstances could potentially negatively affect the equity

of the funding system if these trends worsen. The state should monitor both of these items going forward.

Though the property wealth of districts does not seem to be correlated to the personnel resources, program offerings, or student outcomes, other areas of the study show that there are relationships between other student and/or district characteristics and these areas. Chapter 4 begins to examine the relationships between student needs, performance, and funding. Chapter 7 looks at differences by district size.

Chapter 4: Indicators Impacting Student Performance

In this chapter, the study team first reviews student demographics in the state then analyzes: (1) achievement gaps across student groups, (2) the effect of concentrations of poverty on student outcomes, supplementary analyses to illustrate how varying degrees of poverty differentially impacted student academic performance, (3) the impact of class sizes on student outcomes, and (4) the relationship between student performance and educational funding.

The chapter begins with an overview of the data and the study team's analytical research methods. This overview outlines the research questions, variables of interest, and statistical approaches that comprised the quantitative analysis (see Table 4.1 below). Next, the chapter provides a summary of each individual analysis, including the methodology, and key takeaways. The chapter concludes by drawing connections between the team's findings, supplementary analyses, and related implications.

The study team's analyses supported the far-reaching effects poverty has across the state, both at the school and student level. The majority of students in Arkansas are low-income, and the team's analyses indicated that poverty is linked to lower academic performance. There are disproportionately higher rates of low-income status in (1) Black and Hispanic/Latinx student groups, (2) the categories of, migrant, homeless, and English learner (EL) and special education, and (3) in rural areas. Observable achievement gaps existed for students of color, students identified as EL, special education students, and/or low-income students compared to their peers.

Though the concentration of poverty of a school had negative impacts on student proficiency a student's low-income status had a far greater impact on that student's proficiency level. Being individually identified as a low-income student was more detrimental to student performance than attending a school with a high concentration of poverty.

Funding varied very little based on student demographics. Though low-income populations did receive more funding, the additional funding was never more the 9 precent between any group. The level of difference in funding might not be enough to drive changes in outcomes for students from low-income backgrounds.

The team also acknowledges, however, the limitations of the analysis, and that the investigations summarized here were either descriptive and/or relied on observational data. The team further notes that while these analyses cannot be utilized to support causal claims regarding potential relationships

between student- and school-level indicators and academic achievement, the findings have relevant implications to education adequacy within the state of Arkansas.

The relationship between certain demographic characteristics and student outcome shows the importance of evaluating the resource differences needed across student demographic groups. Chapter 5 looks at the how states target funds to at-risk populations, using low-income status as a proxy, and Chapter 6 provides details on programs and interventions that have been found to be effective with these populations.

Chapter 5. Addressing Poverty and Achievement Gaps: Funding Approaches

From a funding approach perspective, addressing the achievement gaps observed in the prior chapter is two-fold, first providing the resources needed to serve all students as part of the foundation matrix, and then providing additional targeted resources for specific student groups. A comparison of the resource matrix to the findings of both prior Arkansas adequacy studies and adequacy studies in other states nationally is included in Chapter 11. This chapter focuses on the approaches to targeting resources to at-risk students and includes:

- Methods for targeting resources for struggling students in Arkansas and other states
- Discussion of the use of free and reduced-price lunch (FRL) status as a proxy for being at-risk and alternative proxy measures
- How districts are currently using ESA funds and district perspectives of the most effective use of these funds

The majority of states provide funding for at-risk populations with most states using either a single or multiple weight adjustment. These formulas often rely on FRL students counts for funding but the accuracy of FRL counts is diminishing with the implementation of the CEP program. A number of alternative proxies for counting low-income students are available to Arkansas policymakers.

A number of states are already using a proxy other than FRL, ranging from direct certification to Census poverty counts. However, each alternative presents advantages and disadvantages. Districts would see disparate impacts under the implementation of the counts with impacts ranging across different regions of the state. The alternative that would most closely preserve the current count levels and distribution across districts is the alternative certification form. This option requires the state to develop and administer a new FRL certification form to replace the federal form in districts participating in CEP. While this option preserves current counts and can be used with the existing ESA formula, it results in additional costs to the state and increased administrative burden on participating CEP schools and districts.

There are a number of allowable uses for ESA funding. Survey respondents identified a few areas as the effective/most effective uses of ESA funds including supplies and materials; instructional and student support personnel; early interventions; extended learning opportunities, and professional development.

The use of ESA funds is generally aligned with the priorities expressed by districts, but the scale of funds does not closely align with the priorities expressed by districts.

Chapter 6. Addressing Poverty and Achievement Gaps: Strategies

The prior chapter focused on approaches to provide targeted funding to students to address poverty and achievement gaps. This chapter is intended to examine effective programs and strategies that schools can implement to address these gaps, including:

- Common themes in research-driven areas from case study schools that are successfully serving their low-income and EL students
- Research on the effects of poverty and the most effective programs and strategies to support struggling students

The Arkansas case study schools that are successfully serving their low-income and EL students demonstrate many of the characteristics of effective schools found in research, including research on "beating the odds" schools since the 1970s. These characteristics include: (1) effective leadership; (2) strong teacher workforce; (3) high-quality curricula and instructional practices; (4) use of data to drive instruction, with frequent formative and summative assessments, within a continuous improvement framework; (5) high expectations for all students; (6) emphasis on building personal relationships among staff, among students, and between staff, students, and parents; and (7) ample opportunities to learn and relearn content.

Research has consistently shown that student poverty levels are correlated with academic achievement and outcomes, and can have impacts on communities, schools, and students. From the community perspective, studies show that children who are poor, growing up in neighborhoods with concentrated poverty, face greater challenges than children who are poor growing up in lower-poverty neighborhoods. Students face communities with social and economic isolation, lack of employment, and health risks. Children in poor neighborhoods suffer from higher rates of social-emotional problems. While the Arkansas specific analyses partly supported these findings, the study team found strong evidence to suggest that an individual student's low-income status is a stronger predictor of standardized assessment performance than the concentration of poverty of the students school, suggesting that policymakers should think deeply about legislative solutions to support students that are individually identified as low-income.

It is important to note that no single approach is assured of working in all situations. Effectiveness varies based on the specific context of the community, school, and student; capacity and motivation of district and school staff to implement with fidelity; availability of necessary resources and supports; and ability to assess progress and make necessary adjustments. Schools with effective leadership, capable instructional staff, and sufficient resources are also best able to identify and successfully implement effective instructional strategies and programs.

However, there are different approaches that systems have employed to address these issues. Effective instructional strategies and programs include prekindergarten programs; full-day kindergarten; small

class sizes; tutoring; extended learning time; and effective social-emotional learning programs. Community-based school models and wrap-around services are also effective strategies for addressing community wide poverty impacts (concentrations of poverty).

Chapter 7. College and Career Readiness

College and career readiness (CCR) is an important area of focus nationally, in SREB states, and in Arkansas. By 2025, two out of every three jobs in the U.S. will require some postsecondary education and training.[1] To explore college and career readiness, this chapter:

- Reviews available performance data in CCR areas in Arkansas and comparison states
- Examines access to CCR courses across the state, including variation between districts
- Shares LEA survey information on what changes LEAs would like to make in the area of career and technical education (CTE) or what other educational opportunities they would like to offer their students in CCR areas
- Reviews research on indicators of postsecondary success
- Examines CCR definitions, including research and policies in other states, stakeholder feedback from educators and community members on what components should be included, and recommend definition language

College and career readiness is an important area of focus nationally, in SREB states. National research identifies a wide variety of college- and career-readiness indicators and predictors of postsecondary success, including related assessment outcomes, behaviors, grades, coursework, and skills. Arkansas has a robust set of data available to measure and monitor college and career readiness in many of the same areas identified by the research.

Further, many states have adopted actionable definitions including components of core academic knowledge, behavior skills and dispositions, learning capabilities, and career planning and preparation. Stakeholders strongly supported the inclusion of these elements, particularly “soft skills” and a definition that valued career readiness.

The study team recommends a Career Readiness definition (presented in Chapter 12 as Recommendation 4) that is based upon key components of actionable definitions from other states and best practice research, and it is supported by stakeholder feedback on a college and career readiness definition that focuses on career readiness, recognizing that college is but one avenue to get to a career.

Chapter 8. District, School and Class Size

This chapter examines district, school, and class size. The size of districts and schools can have a direct impact on the resource needs of districts and the opportunities students are afforded within those districts, including class size. The study team first provides some background on districts and schools in Arkansas. Second, available research and national policies on ideal district and school size are examined. Third, the study team examines the relationship between district size and educational opportunities for

[1] Southern Regional Education Board (SREB) https://www.sreb.org/topic-college-and-career-readiness

students in Arkansas. Fourth, approaches to addressing the needs of small, rural, and isolated districts are examined.

Arkansas has a diverse set of districts and schools with much of the student population attending school in districts in relatively low population areas. Districts tend to be small, with an average district size of 1,800. About a third of all the schools in the state enroll less than 500 students, with around 30 percent of schools having 300 or less students. The variation in district size and high concentration of smaller schools, makes it important that the state examines the differences in opportunities that smaller schools and districts face.

In examining the data for Arkansas, there are observable economies of scale for personnel, particularly teachers and district staff with smaller districts having more of these staff per-student than larger districts. There is less correlation between per-student costs and district size than one might expect, but this is likely due to tradeoffs that smaller districts are making, including having lower salaries to allow for the higher levels of staffing needed. Overall, smaller settings also appear to be able to provide a strong curriculum, but it is more weighted towards CTE than more traditional college preparation courses, such as AP and foreign language. To overcome some of the diseconomies of scale faced by smaller districts, Arkansas districts appear to rely on ESCs.

There does not appear to be one "best" district or school size based on the research, especially in a state that has a wide variation of community sizes and population density. Instead, it is important to ensure that the funding system is accounting for the cost differences districts face due to size, something that many states do through a district size adjustment. A similar adjustment could be considered in Arkansas to provide the resources needed for the state's smallest settings.

Chapter 9. Attraction and Retention of Staff

The ability of districts to attract and retain qualified staff can have a direct impact on student outcomes. Further, districts face national systemic barriers and local barriers to securing staff.

This chapter details the study team's work on attraction and retention of staff, including examining the national research on attraction and retention of teachers, administrators, and nurses, comparing workforce data and policies in the comparison states; analysis of differences in qualifications of teachers across districts in Arkansas; and providing stakeholder feedback.

The nation faces a teacher shortage with teacher preparation programs unable to produce the number of teachers needed to keep up with student growth and teacher attrition. Arkansas has enacted programs many states use to try to attract and retain teachers, including loan and scholarship programs for new teachers and hard-to-staff school and subject bonuses to attract teachers to specific settings.

Arkansas data shows disparities in the teacher workforce when looking at district need and size. Districts with higher rates of FRL students employee teachers with lower years of experience and lower percentages of master's degrees. The same pattern holds for smaller districts. Stakeholders indicated in both the educator panels and online survey that salaries are a large factor in teacher recruitment and

retention. Starting salaries, the potential for growth in salaries, and the competitiveness of Arkansas salaries to neighboring state salaries all impact districts' ability to attract and retain teachers. Strong support and PD help districts keep teachers. Special education, math and science teachers are hard to attract across the state, along with some classified staff such as bus drivers.

There is less research on attraction and retention for administrators though districts face high costs when replacing a principal with estimates ranging from $36,850 to $303,000 per principal. States are creating approaches to support and grow administrators. This includes direct support for new administrators and evaluation systems used to identify skills gaps of administrators.

Research shows nurses can provide savings to schools with one study estimating over $130,000 in savings through workload reductions of other school staff. Schools are directly competing with many other sectors for nurses, leaving many schools without full-time nurses. Arkansas's current student-to-nurse ratio is in the middle of the comparison states but higher than the recommended ratios from national organizations.

Chapter 10. Other Requested Studies

The RFP requested the study team investigate a number of additional topic areas, including professional development, teacher collaboration/planning time and extra duty time; student mental health; impact of waivers in Act 1240 schools; impact of enrollment change; impact of vouchers; and capital needs, which are all addressed in this chapter.

Professional Development (PD): Research has found that effective PD: (1) focuses on content and also models effective practice; (2) incorporates active learning; (3) promotes collaboration; (4) allows for job-embedded practice; (5) includes coaching to provide personalized support; (6) continues for a sufficient duration to allow teachers time to learn, practice, implement, and reflect; and (7) aligns with school goals, state and district standards and assessments, and professional learning activities. The intended purposes of the state's PD funding approach are well aligned with the research on effective practices, including that it allows for training of a sufficient duration (10 days available), includes coaching (instructional facilitators in the matrix), and allows for collaboration and embedded learning (available planning and collaboration time). Teachers also had duty-free lunches and limited extra duties, due in part to the additional funding provided by the state for supervisory aides. However, districts historically spend more on PD and extra duty compensation than they receive.

Student Mental Health: The funding matrix currently provides a line item for counselor/nurse positions but does not otherwise specifically identify student mental health positions as a resource item. Based on the national data, Arkansas LEAs staff student mental health positions at lower (better) ratios than the comparison states, although still at higher levels than the professional associations recommend. Many states have adopted an overall state-level approach addressing student mental health including Arkansas which has implemented the Arkansas AWARE program.

LEAs vary in ways they serve student mental health needs: larger systems are more likely to use district- or system-employed therapists than smaller systems; and LEAs with higher concentrations of poverty

were more likely to access specialists through ESCs than higher-wealth districts. Educator panelists identified the availability of mental health services for students as a key area of concern.

Waivers: Looking at schools in non-charter districts that are eligible to receive waivers under Act 1240, nearly all have waivers for flexible schedules, followed by waivers related to teacher licensure, attendance, and librarian/media specialists. The study team examined changes in student demographics, performance, and expenditure between schools that had at least one waiver other than a flexible schedule waiver and those that did not. The team found that schools with waivers had similar demographics and literacy outcomes to schools without waivers, but lower math outcomes. The schools with waivers also had higher expenditures per student.

Using a linear regression model, the study team examined the impacts of having waivers after controlling for student and district demographics, as well as prior expenditure and performance levels. The study team found minimal correlations between aggregate waiver categories and outcomes but did find some correlations when looking at individual waivers. However, even an observed correlation does not necessarily indicate that the waivers caused these differences. Overall, strong conclusions about the impact of waivers cannot be drawn.

Enrollment Changes: Current approaches in Arkansas to address student growth and decline fit within the accepted methods found nationally to address enrollment changes. The study team does not see a reason to suggest changes to the current approaches. Arkansas could consider funding only districts growing at a high rate, acknowledging that many districts can absorb smaller changes. Before changing, it should consider how well smaller growing districts can absorb these changes. The study team would not suggest a change in the state's declining enrollment funding since declining districts are being funded on prior year counts and are also seeing the benefit of declining enrollments in the current year.

Vouchers: Arkansas currently offers a single voucher program for students with disabilities and does not offer a tax credit scholarship program. Comparison states range in the programs offered – five states do not have either type of program, four states offer both, while seven others offer one or the other. The impact voucher programs have on state funding are invariably tied to the structure of each program. Some state voucher programs pull from the general education fund and reduce the total dollars available to LEAs, while others (including the Arkansas program) are funded by separate state appropriations from general K-12 funding. Tax credit scholarships are funded entirely by private donations; however, the tax credits donors receive reduces a state's total revenue by the amount of credits provided in a given year.

Capital Needs: Arkansas's Academic Facilities Partnership Program (Program) for capital funding is similar to those used throughout the country and in the comparison states. The state provides funding to qualified projects that meet the highest levels of need based on a given funding cycles priorities. The level of state funding is determined on the FWI of each receiving district.

Recent program funding seems related to wealth and need and less related to setting or size. The systems design to increase capacity in lower property wealth districts seems to be working as less

wealthy districts report turning to the Program more frequently for major renovation, while wealthier districts report they are relying on local bonding capacity. Middle wealth districts do report struggling to find support for major capital projects through Program funding or local bonded indebtedness.

Chapter 11. Review of Resources in Matrix and Methods for Routinely Reviewing Adequacy

This chapter reviews all resource components in the matrix, first by comparing it against three prior Arkansas studies conducted by POA as well as against adequacy studies in other states. It then summarizes all information from the various study activities for each matrix component and provides a discussion of methods for routinely reviewing adequacy.

After comparing information from all study sources, there are a number of matrix areas where the evidence regarding resource levels is most consistent including:

- K-3 student ratios
- Non-core teacher staffing at the secondary level
- Secretary
- Library/ Media Specialist
- Assistant Principal
- Instructional materials
- Student mental health
- School safety and security

In Chapter 12, the study team makes recommendations in these areas. The study team does not recommend adoption of a specific resource level, but instead recommends that the Committees reconsider these matrix items based on the convergence of the study's findings.

The study team also believes that the state meets its Lake View obligations by having "constant study, review, and adjustment" to the funding system, with constant study and review being addressed through the three adequacy studies conducted by an outside firm and the adequacy work of BLR. However, while there have been a number of adjustments made to the matrix since implementation, the main staffing parameters of the matrix have changed little over time. As such, the study team offers a recommendation in Chapter 12 for a hybrid approach to reviewing adequacy that incorporates this existing review with a broader adequacy study using two or more adequacy approaches identified above.

Chapter 12. Recommendations

This chapter provides a set of recommendations that reflect this study's body of work. The study team recognizes both that it is the legislature's role to determine adequacy and that the state does not have unlimited resources. Further, the study team has not been asked to establish adequacy levels. As such, the recommendations do not identify specific resource targets, although several are framed around resources levels, as related to the research that has been completed.

The recommendations are based on various analyses conducted by the study team including:

- Fiscal and performance data analysis using data from the Arkansas Department of Education (ADE) and the Bureau of Legislative Research (BLR)
- LEA survey of current resource use and practices
- Case studies
- Literature reviews
    - National research
    - Current practices and adequacy studies in other states
    - Previous Arkansas studies
- Stakeholder engagement
    - Educator panels
    - Stakeholder survey
- Additional quantitative and qualitative work

These recommendations were developed in areas where the body of evidence across all analyses identified the need for specific consideration of an item. For each recommendation, the study team identified the recommendation as well as the related context and supporting evidence.

The study team also identified several "best practice" consideration areas that did not meet the recommendation criteria described above but are important to note given their relevance to this work. These additional suggestions are often process or data related and could be addressed without significant changes to state systems. These best practice considerations are also included in the relevant chapters throughout the report.

Recommendation 1: The state should consider adopting a hybrid approach to reviewing adequacy. In addition to the current two-year adequacy review cycle, a larger-scale study, utilizing multiple approaches to adequacy review, could be implemented at a regular interval set every six to 10 years with a focus on all aspects of funding, including (but not limited to) base resources, adjustments for student characteristics, and adjustments for district characteristics. Student characteristics include being low-income (using FRL as a proxy), an English Learner (EL), or in special education. District characteristics could include size or regional cost differences.

Several approaches could be implemented, and the study team suggests at least two approaches be used in conjunction with each other. The evidence-based approach can be used to examine the base cost and adjustments for student characteristics. The professional judgment and/or cost function approaches could be utilized to examine all aspects of the formula (base cost and adjustments for both student and district characteristics), and the successful schools approach could be utilized to examine the base cost amount.

The implementation of any of the approaches should be related to specific outcome goals for students. Various levels of student performance could be examined using either the cost function or successful schools approaches, allowing the Committees to understand the difference in resource needs for various outcome levels. The study team suggests that at least in the near term, a resource model, based

on either the evidence-based or professional judgement approach, be kept in place, as the history for review has been based on the ability to examine an explicit resource base.

Context and supporting evidence: As discussed in Chapter 2 and 11, the state meets its Lake View obligations by having "constant study, review, and adjustment" to the funding system. Since the early 2000s, the state has implemented both constant study and review through three adequacy studies conducted by an outside firm and the adequacy work of BLR. The two-year cycle of studying all aspects of the matrix conducted by BLR allows the state to meet the Continuing Adequacy Evaluation Act of 2004. Though determining funding based on a specific resource allocation matrix does create some tension between the funding model and expectations for expenditures at the district level, it does provide a clear line of sight to the setting of adequacy by the legislature. Though there have been a number of adjustments made to the matrix since implementation, the main staffing parameters of the matrix have changed little over time.

The study team believes a larger scale, multi-mode review would benefit Arkansas by allowing the state to align resource allocation with performance and funding needs identified in this study related to both student and district characteristics in Chapters 4 and 8.

The detailed data analysis in Chapter 4 showed that student groups, such as low-income, EL, and special education, had lower outcomes than other students in the state. This was true when controlling for student and district characteristics, including student race and ethnicity, average teacher experience, average class size, millage rates, population density, and proximity to urbanized areas. Table E.4 compares the proficiency rates of each student group versus the relevant comparison group.

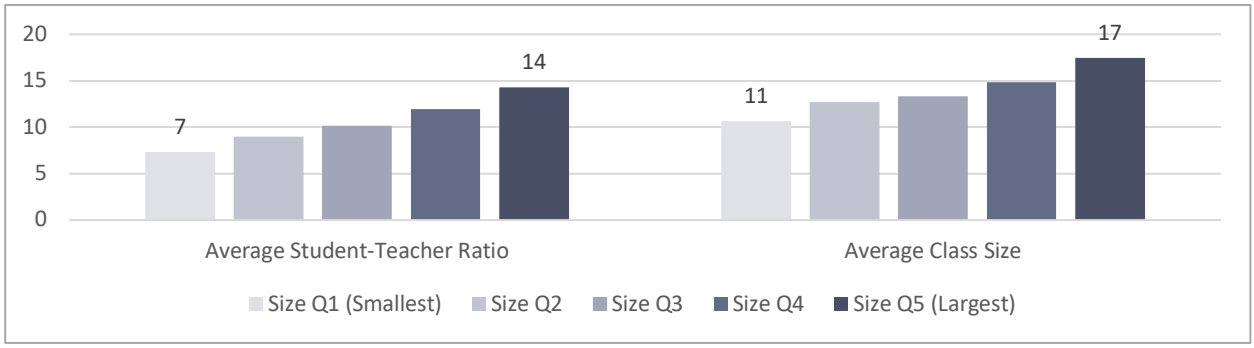
Table E.4: Achievement Gaps by Student Group

Student Population	Proficiency Rate	Comparison Group Proficiency Rate	Gap
ELA			
Low-income (FRL) Students	34.6%	63.1% (Non-FRL Students)	28.5%
EL Students	13.8%	47.1% (Non-EL Students)	33.3%
Special Education Students	7.2%	49.8% (Non-SPED students)	42.6%
Under-Represented Minority (URM) Students	33.0%	55.4% (White & Asian Students)	22.4%
Math			
Low-income (FRL) Students	38.2%	64.6% (Non-FRL Students)	26.4%
EL Students	22.6%	49.6% (Non-EL Students)	27.0%
Special Education Students	12.2%	52.5% (Non-SPED students)	40.3%
URM Students	32.3%	54.3% (White & Asian Students)	22.0%

Stakeholder engagement and BLR data analysis also indicate that districts struggle to provide the resources needed for these student groups. Districts reported needing to use funds from other sources to cover the costs of special education and EL services. Often, Enhanced Student Achievement (ESA) dollars are utilized to cover the costs of both special education and EL services (and to address other areas that support all students), limiting the use of ESA resources for low-income students.

Further, districts reported that smaller districts often face difficulties resourcing schools at the current matrix level, often having to redirect resources to meet classroom staffing needs or to provide a minimum FTE level. The differences in economies of scale between larger and smaller districts is readily apparent when looking at average student-to-teacher ratios and average class sizes (note, these figures include all teachers in schools), as shown in Chart E.1.

Chart E.1: Average Student-to-Teacher Ratios by District Size Quintile



Differences in economies of scale for Arkansas districts are also seen in the total teaching FTEs in a school, and in other staff positions when expressed as FTE per 500 students (Table E.5).

Table E.5: Arkansas Personnel by District Size Quintile, Average FTE per 500 Students (2018/19 NCES)

Size Quintile	LEA Administrators	LEA Administrative Support Staff	School Administrators	School Administrative Support Staff	Full-Time Equivalent (FTE) Teachers	Total Guidance Counselors	Librarians/ Media Specialists
1 (smallest)	1.6	4.4	2.1	4.2	56.5	1.8	1.5
2	1.1	3.3	1.9	3.1	49.0	1.6	1.5
3	0.8	3.0	1.8	3.3	46.3	1.5	1.4
4	0.6	2.8	2.0	3.5	40.9	1.4	1.2
5 (largest)	0.3	2.5	1.9	2.9	35.4	1.3	0.9

As shown in Table E.5, the size of the district has an impact on the number of personnel needed in the district and its schools. Many of the personnel categories show the need for more staff per 500 students in smaller districts. At the school level, teacher FTEs are nearly 60 percent higher in the smallest quintile districts compared to the largest quintile. While there are class size guidelines that drive the number of teachers needed, there are also minimums that must be met (such as having a 4th grade teacher even if a district only has 10 4th graders) that reduce average class sizes and increase the FTE needed.

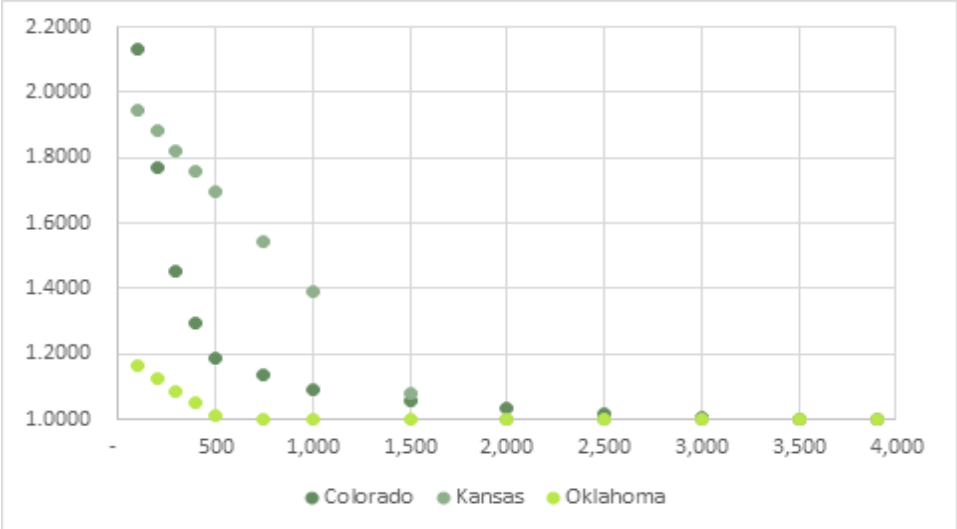
The staffing diseconomies of scale in smaller districts, which are often rural, can result in the inability to provide competitive wages to staff, impacting the ability of districts to attract and retain personnel, as seen in the salary differentials shown in Table E.6 and discussed in Chapter 9.

Table E.6: Average Salaries by District Size and Locale

By Size Quintile	Average Classroom Teachers Salaries
Size Q1 (smallest)	$42,227
Size Q2	$43,792
Size Q3	$44,650
Size Q4	$46,963
Size Q5 (largest)	$51,395
By Locale	
Rural	$44,992
Urban/Suburban	$52,149

The current matrix does not differentiate resources by district size, resulting in some districts being much more efficient than others and therefore better able to leverage their funding, while smaller districts lack this ability. An alternative approach, used by many states, would be to have an adjustment based on district size that provides higher levels of per-student funding to address the economies of scale issues in smaller district settings. This adjustment is not just for isolated settings but for all smaller districts. Chapter 8 models examples of size adjustments in other states, benchmarked to either 500 students as the base (lowest point) or 3900 students. The example benchmarked against 3,900 students is shown below.

Chart E.2: Examples of Size Adjustments with 3,900 Students as the Base



Adjustments like these examples are consistent with school finance research that indicates that per student costs increase as size decreases, resulting in an observable "j-curve" relationship. The study would recommend that such an adjustment be reviewed as part of the larger study to ensure it in Arkansas specific.

Overall, a multi-approach study would address many of the areas highlighted in the study, including allowing the state to examine the costs for all students with an emphasis on special needs populations and differences in costs faced by districts due to size and locale.

Recommendation 2: Revisit current incentive structure to increase the number of highly qualified teachers serving students at high-need schools and small schools. Monitor and ensure teacher quality is equitable across schools.

Context and supporting evidence: As shown in Chapter 9, access to qualified educators varies across the state, including in districts with higher concentrations of low-income students and in smaller districts. An analysis of teacher workforce data indicates that teaching staff at schools serving larger low-income, and particularly more impoverished student populations, as defined by those that qualify for free lunch or that are identified through direct certification, are less qualified than teachers at more affluent schools. This presents a clear issue of equity and access to quality instruction. Table E.7 below shows that as the percentage of students directly certified or who qualify for free lunch increases, the percentage of teachers: (1) with a master's degree, and (2) who are fully certified in the subject area they teach both decrease.

Table E.7: Teacher Education and Certification by Need Decile

Deciles: % Free Lunch/Direct Certification	% of Teachers with a Master's Degree	% of Teachers Fully Certified for their Positions
1st (lowest)	45%	98%
2nd	41%	98%
3rd	37%	98%
4th	39%	97%
5th	35%	98%
6th	37%	96%
7th	40%	97%
8th	38%	97%
9th	37%	93%
10th (highest)	32%	91%

A similar difference in teacher education and certification is seen by school size, as shown in Table E.8.

Table E.8: Teacher Education and Certification by School Size Decile

Deciles: School Enrollment	% of Teachers with a Master's Degree	% of Teachers Fully Certified for their Positions
1st (smallest)	28%	89%
2nd	29%	91%
3rd	34%	94%
4th	36%	97%
5th	33%	98%
6th	36%	98%
7th	38%	97%
8th	41%	97%
9th	40%	96%
10th (largest)	44%	98%

At present, there is a moderate negative correlation between teacher salaries and school enrollment size, and the same is true for teacher salaries in a school and that school's share of low-income students.

The state currently has programs that attempt to address some of the attraction and retention issues in smaller and higher needs districts including High-Priority District Teacher Recruitment and Retention program and aspects of the National Board for Professional Teaching standards programs. Ensuring that the incentives in these programs are driving the expected changes is important for addressing the disparities in teachers across settings.

Additionally, providing resources targeted to smaller and higher student need districts may allow districts to become more competitive in salary, attracting and/or retaining higher qualified staff members. The resources could also be used to improve working conditions, which has been shown to improve retention.

Recommendation 3: Develop a legislative task force to investigate and address the out-of-school factors that inhibit performance for high need students within the state.

Context and supporting evidence: As shown in Chapter 4, compared to schools with low concentrations of low-income students within the state, schools with the highest concentrations of low-income students are smaller and more remote, graduate fewer students, and have lower proficiency rates in English and math. In addition, they serve: (1) large percentages of at-risk students, and (2) significantly fewer white students, as compared to more affluent districts. It is also important to note that, based on 2019 data, students with the most needs also face the most challenges related to achievement gaps, as shown in Recommendation 1.

The differences in students' performance levels are not indicative of student abilities but rather suggest differences in instructional needs and required supports, as well as external factors, such as generational poverty and systemic issues like racism and classism. Much of the feedback that the study team heard suggested that low-income students come into schools with a variety of physical and emotional needs that must be addressed before their educational needs can be addressed. Given that many of these issues are not solely educational and likely represent a nexus of agencies and funding sources, the study team proposes that the legislature examine the ways educational disparities are systematically reinforced in the broader community.

This task force should be guided by the prevailing literature on the impacts of poverty and programs to address as outlined in Chapter 6, with a focus on the in- and out-of-school factors that can impact and/or inhibit student success. Specifically, the study team recommends convening a task force charged with developing legislative solutions to any issues that are identified, which might include: (1) access of low-income students to before- and after-school enrichment activities[2]; (2) availability of mental health services to students in high-need schools or those in remote locations[3]; (3) access to internet and technology in low-income communities[4]; and lastly, (4) availability of services offered to students' families, e.g., referrals, adult education, and health care services.[5] Taken together, these areas represent

[2] Hodges et al., 2017
[3] Swick & Powers, 2018
[4] Du et al., 2004; Slavin & Storey, 2020
[5] Starkey & Klein, 2000; Cosgrove et al., 2020

opportunities for the legislature to support the whole child, and to address the myriad factors that invariably impact student academic achievement.

The task force would be led by members of the Education Committees but also include other participants. This could include other legislators on relevant committees; teacher, administrative, and non-certified representatives; ADE staff; and stakeholders from organizations involved in providing wrap-around services for students and families.

Recommendation 4: The state should adopt a career readiness definition that includes: 1) core academic knowledge and skills, 2) capabilities, 3) behavior skills and dispositions, and 4) postsecondary preparation and planning. The study team recommends that the definition be focused on career readiness for all students, as college is just one of several pathways to a career.

The study team recommends the following Career Readiness definition:

> *Upon high school graduation, Arkansas students should be prepared to take the next steps toward a career regardless of whether that is college (two- or four-year), a technical program, military service, or an entry-level career position.*
>
> *More specifically, an Arkansas student who is career ready will have:*
>
> - *Gained core academic knowledge in mathematics, science, and English language arts to enable them to successfully complete credit-bearing, first-year courses at a postsecondary institution.*
> - *Demonstrated capabilities such as communication, critical thinking, collaborative problem-solving, time management, and information and technology skills.*
> - *Developed behavioral skills and dispositions such as dependability, perseverance, working effectively with others, adapting, and managing stress.*
> - *Developed financial literacy.*
>
> *All Arkansas students should be guided in career exploration, planning, and decision-making throughout their K–12 education to enable them to successfully navigate their chosen career path. This includes knowledge of careers, industries, and postsecondary education and training opportunities, identification of individual interests and abilities, and development of a personalized postsecondary plan with the concrete steps that need to be taken to enter a specific career field after graduation. Further, students should have had opportunities to participate in advanced, concurrent enrollment, career and technical education (CTE) or other career-focused courses, internships, and apprenticeships to demonstrate that they are career ready.*

Adjustments to the resource matrix in upcoming recommendations 5b (non-core teacher allocation), 5f (student mental health to prioritize guidance in current counselor allocation), and 5g (instructional materials) would support school and district implementation of the Arkansas Career Readiness Definition.

Context and supporting evidence: Within the state's Comprehensive Testing Assessment Accountability Program statute, college and career readiness is defined in a limited manner and focused on students "successfully completing credit-bearing, first-year courses at a postsecondary institution; and embarking on a chosen career." This existing definition has been incorporated and expanded on in the recommended definition. An actionable definition like the one proposed that includes specific academic knowledge, skills, and traits that students are expected to have in order to be college and career ready is well supported by national research and policy recommendations from organizations such as ACT and the federally funded College and Career Readiness and Success Center. Adopting this (or a similar) definition would also place Arkansas among the other roughly 15 states that include capabilities, behavior skills, and college and career preparation knowledge and skills in their definitions.

Educators and community members who participated in stakeholder engagement strongly supported a definition that included the above elements, with particularly strong support for the inclusion of "soft skills," like the noted capabilities and behavioral skills and dispositions and an increased focus on career readiness.

Recommendation 5: The Committees should reconsider current matrix resource levels in the areas where the body of evidence is most consistent.

The study team does not offer a specific recommendation for each area of the matrix but instead has included the matrix areas with the most consistent evidence regarding resource levels from various study sources. The study team does not recommend adoption of a specific resource level, but instead recommends that the Committees reconsider these matrix items based on the convergence of the study's findings as presented in Chapter 11.

> <u>Recommendation 5a: The Committees should reconsider the current student-to-teacher funding ratios for students in kindergarten through third grade.</u>
>
> *Context and supporting evidence:* The study team's examination of previous EB studies for the state, other national adequacy studies, stakeholder engagement feedback, and literature review findings all point to lower student-to-teacher funding ratios for kindergarten through third grade than currently provided for in the Arkansas matrix. The EB studies and other national adequacy studies suggest funding at a 15:1 ratio, while the study team's literature review identifies ratios of between 13 and 17:1.
>
> Though the data analysis did not provide evidence of improved performance at lower class-size ratios, a number of factors must be considered when examining this finding. First, class size information used for the analysis was aggregated to the school level. Therefore, the study team was only able to analyze the effects of average class size on school-level outcomes. Optimally, an investigation of class-size effects would consist of a student-level analysis, with teachers and students randomly assigned into classrooms of different class sizes (Hanushek, 1999). Secondly, differences in class size by core classrooms or grade level were not documented for analysis.

Finally, the literature review suggests that until class sizes reach the levels indicated, below 17:1, impacts are not likely to be seen.

To better understand the impact of class size, the study team suggests that class-size data be collected by class type (e.g. core classes, pullout special education or EL classes, etc.) and grade level to support a more granular analysis.

Recommendation 5b: The Committees should reconsider the non-core staffing level for high schools.

Context and supporting evidence: The study team's examination of previous EB studies for the state, other adequacy studies, and stakeholder engagement shows evidence that more non-core staff are likely needed for high schools. The most recent EB study and national studies identify the need for 33 percent more staff above core teaching staff. Stakeholders expressed the need for a higher number of non-core teachers to provide for adequate planning time and to meet course offering needs, such as CTE and Advanced Placement. This ability to focus more on these types of career readiness courses would allow the matrix to be well aligned with the recommended career readiness definition that includes a focus on providing opportunities for students to take advanced course work and career-focused courses.

Recommendation 5c: The Committees should reconsider the secretary staffing level provided in the matrix.

Context and supporting evidence: The current funding of 1.0 secretary FTE is below recommendations and feedback from the EB studies for the state, other adequacy studies, and stakeholder engagement. The most recent EB studies and other adequacy studies all suggest resources of at least 2.0 secretary FTE. Stakeholders identified that at least two were needed to cover all the responsibilities of a school's front office, and similarly case study schools above 400 students generally had at least two secretarial staff members.

Recommendation 5d: The Committees should reconsider the library/media specialist staffing level funded in the matrix.

Context and supporting evidence: The current funding of .85 librarian/media specialist FTE is below recommendations and feedback from the EB studies for the state, other adequacy studies, and stakeholder engagement feedback. This level of funding is also below state rules/accreditation. The most recent EB studies and other adequacy studies all suggest resources of at least 1.0 library/media FTE. Stakeholders identified that the funding level is below what is required for a school of 500 students in the state's accreditation system.

Recommendation 5e: The Committees should consider identifying a separate line for assistant principal FTE in the matrix.

Context and supporting evidence: The current matrix does not separately provide resources for an assistant principal. Current Arkansas accreditation requirements state that "schools with an enrollment exceeding 500 students shall employ at least one full-time principal and a half-time assistant principal, instructional supervisor, or curriculum specialist." Past matrix review studies have identified the ability of districts to utilize part of funded instructional facilitator FTE to staff an assistant principal. Currently, districts have 1.78 instructional facilitators and 0.84 assistant principals per 500 students (a total of 2.64 FTE), while the matrix provides 2.5 FTE for instructional facilitators. Other adequacy studies all had at least one assistant principal for 500 students, with variation by grade level, and case study schools of similar size also had at least one assistant principal. Stakeholder feedback also suggested the need for an assistant principal (at least half-time) in a school of 500 students. The study team suggests separating out the resources for assistant principal from the instructional facilitator line item for greater transparency and to allow for consideration of the resources provided separately.

Recommendation 5f: The Committees should consider adding resources for mental health and school security/SROs to the matrix.

Context and supporting evidence: Two resource areas were most frequently mentioned during stakeholder engagement as being missing from the matrix: school safety/SROs and mental health resources. Though the matrix identifies resources for guidance counselors and nurses, stakeholders felt that growing student needs go beyond the expertise of guidance counselors and that specific student mental health resources need to be identified. Stakeholders also expressed that the reliance in many districts on outside/community agencies to provide specialized therapy beyond a school counselor's expertise can create barriers to access. Further, providing additional mental health resources would allow counselors to focus on guidance, including supporting students as they explore careers, develop postsecondary plans, and participate in internships or apprenticeships.

No resources are currently identified for school security/SROs in the matrix. Stakeholders identified this as an area that is being covered by other funding, including ESA funds. Community members in particular shared concerns in this area. There are growing concerns over security in schools and it is a high priority area for many districts without a direct source of funding.

These resources could also be funded separately as a categorical outside the matrix.

Recommendation 5g: The Committees should reconsider the funding for instructional materials in the matrix.

Context and supporting evidence: The Committees have increased funding for FY22 and FY23 to $192.60 and $197.40 per student, respectively. These figures still fall below the recommended funding from all three Arkansas EB studies and other adequacy studies, all of which recommend at least $250 per student. Districts currently spend $227 per student for instructional materials. Instructional materials allocations could also be used to address assessment needs, both for interim assessments to allow for data-driven instruction, or to meet any current or forthcoming needs, such as dyslexia screeners or measuring career readiness skills (for example: ACT WorkKeys).

Recommendation 6: The state should smooth its ESA funding formula with a focus on providing higher resources per student at lower concentrations of students. Additionally, the formula should be created as a weight above the foundation amount, allowing ESA funding to rise at the same rate as foundation funding. All ESA funds should flow through this formula, including funding currently provided as a separate match grant.

Context and supporting evidence: This recommendation is intended to address three issues in the current approach to ESA funding: (1) funding cliffs, (2) the resource needs of students at lower concentration tiers, and (3) ESA funding historically increasing at a slower rate than foundation funding.

As the report mentioned in Chapter 5, Arkansas's current ESA funding formula provides funding based on three different funding tiers, which creates "cliffs" at each tier threshold. For example, a 1,000-student district with 69 percent of its students qualifying for free or reduced-price lunches (FRL) would currently receive $362,940 (1,000 x .69 x $526). If the districts added just one more FRL student, increasing funding would increase to $735,700 (1,000 x .70 x $1,051). A one percentage point change in concentration is effectively worth $372,760, more than the total amount of funding for the 690 students in the first example. These cliffs embed a high degree of uncertainty in funding and put undue pressure on districts to identify students close to the two cliff thresholds.

The data analysis in Chapter 4, indicates that a school's concentration of poverty, or the percentage of low-income students within a school, is not a statistically significant predictor of proficiency. In contrast, study findings indicated that an individual student being from a low-income background is in fact a strong and statistically significant predictor of academic performance. Compared to their wealthier peers, students who were low-income were more than seven percentage points less likely to achieve proficiency in math and English. These findings suggest it is more prudent to examine individual student economic status when analyzing student performance, as opposed to a focus on school-level poverty.

Further, foundation funding through the matrix has historically increased at a higher rate than ESA funding. As noted in Recommendation 1, feedback from districts and analysis of expenditures indicates that these funds are being used to support other student groups and provide resources for all students, further diluting the potential positive impact of funding for low-income students.

The study team suggests that a new ESA formula be implemented in light of the issues described above. First, the new ESA formula should focus on targeting a more similar level of resources for all eligible students to better align with the student performance research findings. The formula can then include a concentration of poverty adjustment that provides additional resources for districts with the highest concentration of low-income students, but the formula should be smooth, ensuring that there are no cliffs in the system. The study team also recommends that the new formula be a weighted adjustment linked to the matrix foundation amount (base). The creation of the adjustment can be based on a per-student amount but then expressed as a weight of the base. This will allow the ESA funding to rise over time in conjunction with changes to the foundation amount.

The study team recommends that all ESA funds be distributed through this formula mechanism instead of provided funding through two streams: the ESA funding categorical and an ESA grant match program.

Recommendation 7: The Committees should consider removing special education funding from the resource matrix and provide funding based on actual special education students served.

Context and supporting evidence: Special education is primarily funded through the 2.9 FTE per 500 students included in the funding matrix as discussed in Chapter 11. This is considered a census-based funding model and presumes that districts have similar percentages of special education students and that these students have similar levels of special education needs. However, as also noted in Chapter 11, most states (36) fund special education based upon actual student counts recognizing that the percentage of special education students can vary in districts.

Table E.9 shows how special education percentages and spending vary across LEAs in Arkansas.

Table E.9: Percentage of Special Education Students and Spending Per Special Education Student

	2017/18	2018/19
Percentage of Special Education Students		
Min	2.66%	4.76%
Max	26.56%	33.90%
Mean	12.92%	13.61%
Standard Deviation	3.16%	3.25%
Spending per Special Education Student		
Min	$1,574	$1,364
Max	$18,669	$15,441
Mean	$5,032	$4,899
Standard Deviation6	$1,762	$1,513

In 2017/18, the minimum percentage of special education students in an LEA was just 2.66 percent and 4.76 percent in 2018/19. The maximum percentages were 26.56 and 33.90 percent, respectively. The

6 The standard deviation is a statistic that measures the dispersion of a dataset relative to its mean and is calculated as the square root of the variance.

average special education percentage was 12.92 percent in 2017/18 and 13.61 percent in 2018/19, with the majority of schools falling within three percentage points of the mean each year. Spending per special education student ranged from just under $1,600 to over $18,500 in 2017/18 and from just under $1,400 to just over $15,500 in 2018/19. Conversely, the average per student spending for special education students was $5,032 in 2017/18 and $4,899 in 2018/19, with a standard deviation over $1,500 per special education student in each year.

Arkansas could use the results of the multi-approach adequacy update described in Recommendation 1 to first establish special education funding levels either through a single weight for all special education students or multiple weights based on student need. This weight(s) would then be applied to the special education student enrollment count and thus provide differentiated funding based on the distribution of students with special education needs across the state. In addition, a multi-weight system would also align resources to the levels of services students need in each district.

Contents

I. Introduction

This report concludes a yearlong school finance study completed by Augenblick, Palaich and Associates (APA), in partnership with WestEd, on behalf of the Arkansas House and Senate Education Committees. The study described in this report was intended to "provide to the members of the Arkansas General Assembly detailed and accurate information concerning the current efficacy of the biennial adequacy study and evaluation undertaken by the Committees, and to provide the Committees with recommendations regarding reform or replacement of the current methods for determining educational adequacy in the State of Arkansas."

Arkansas currently utilizes a funding matrix to fund districts along with several adjustments outside of the matrix. The funding system was put in place in response to the *Lake View* court case, and the bulk of the system has been in place since the mid 2000s. The Bureau of Legislative Research (BLR) evaluates most aspects of the system over a two-year cycle and presents their findings to the Education Committees, who then determine the adequate funding level for Arkansas districts and schools.

The Request for Proposals (RFP) for this project requested a broad study that required analysis in areas similar to those studied currently by BLR but also in areas not currently evaluated by BLR staff. The 31 study areas included examining the equity and adequacy of the current funding matrix used to establish school and district funding; analyzing student performance; addressing poverty and achievement gaps; examining staff attraction and retention; exploring the impacts of size; determining how the state should define what it means for graduates to be college and career ready; and more. The wide-ranging topics required for this study were addressed through the following study activities:

- Fiscal and performance data analysis
- Case studies
- Literature/document reviews
- Educator panels and online stakeholder engagement
- LEA survey of current resource use and practices
- Additional qualitative and quantitative work

Later in this chapter, each of the study areas is cross walked with the study activities used to examine the study area.

Study Team

APA and WestEd have worked across the country helping policymakers improve school finance systems. The study team has unparalleled experience in applying nationally recognized adequacy approaches, a deep understanding of the complexities associated with school finance systems, the ability to create digestible and actionable findings for policymakers, and the ability to support the development and implementation of revised or new funding formulas.

APA is a Denver-based education policy consulting firm established in 1983. APA has not only conducted adequacy studies in more than 20 states but has also designed school finance systems that were enacted in New Hampshire, Kentucky, Louisiana, Colorado, Mississippi, Ohio, Maryland, Kansas, New Jersey, and

Pennsylvania. In several states, those systems are still operating today. In the most recent legislative session, Nevada adopted an entirely new finance system based in large part on APA's work.

APA also developed one of the accepted approaches to adequacy, the successful schools approach, and has refined and used the professional judgment approach more than any other firm in the country. Using these approaches and others, APA has analyzed the level of resources school districts need to fulfill state student performance expectations in other states and the District of Columbia: Alabama, Connecticut, Delaware, Illinois, Indiana, Michigan, Missouri, Montana, Nebraska, New Hampshire, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Washington, DC, and Wyoming. The firm has analyzed the equity of school finance systems in most of the states listed above and others, including Louisiana and Texas.

APA provides research and technical assistance to states and school districts as a subcontractor with the Regional Education Laboratory (REL) Central through the U.S. Department of Education's Institute of Education Sciences (IES). APA also has extensive experience in evaluating education programs and initiatives, conducting policy scans and reviews, estimating the costs of quality preschool programs, conducting return on investment analyses, and designing and costing educator compensation plans.

WestEd is a preeminent educational research, development, and service organization with over 700 employees and 14 offices nationwide. WestEd has been a leader in moving research into practice by conducting research and development (R&D) programs, projects, and evaluations; by providing training and technical assistance; and by working with policymakers and practitioners at state and local levels to carry out large-scale school improvement and innovative change efforts. The agency's mission is to promote excellence, achieve equity, and improve learning for children, youth, and adults. In developing and applying the best available resources toward these goals, WestEd has built solid working relationships with education and community organizations at all levels, playing key roles in facilitating the efforts of others and in initiating important new improvement ventures. In 2016, WestEd celebrated a half-century milestone, marking 50 years of improving learning and healthy development for children, youth, and adults from cradle to career.

WestEd offers a number of services to educational agencies across the country. The Performance and Accountability service line helps to build systematic coherence within educational organizations across the U.S. to ensure the opportunity for equitable outcomes for all students. The team specializes in matters of state and school district finance and resource allocation, having worked with states such as California, Kansas, Florida, and North Carolina to review and identify appropriate levels of spending to achieve desired student outcomes. Further, the agency has worked with dozens of school districts, both urban and rural, to assess their resource allocation patterns as a means to maximize the effectiveness of those dollars to drive student outcomes.

In addition to APA and WestEd, the study team includes other national school finance experts, including **Michael Griffith** (independent consultant, formerly at the Education Commission of the States), **Dr. William Hartman** (Pennsylvania State University), and **Robert Schoch** (independent consultant).

Required Study Areas

Section 3.0.A Adequacy Study

In response to Section 3.0.A of the RFP, the study team addressed methods for routinely reviewing adequacy (Section 3.0.A.1); concentrations of poverty, achievement gaps and programs to address and the correlation between performance and funding (Sections 3.0.A.2–4); a review of adequacy studies nationally (Section 3.0.A.5), a review of resources in the state's current funding matrix (Section 3.0.A.6), and a college and career readiness definition (Section 3.0.A.7).

Table 1.1: Section 3.0.A Study Requirements

	Fiscal and Performance Data Analysis	Case Studies	Literature/ Document Review	Educator Panels/ Stakeholder Engagement	LEA Survey	Additional Quantitative Work	Additional Qualitative Work
1. Recommended Methods for Routinely Reviewing Adequacy			X				
2. Concentrations of Poverty	X		X	X	X		X
3. Identification of Gaps and Programs to Address	X	X	X	X		X	X
4. Correlation Between Performance and Funding	X	X					
5. Review of Adequacy Studies			X				
6. Review of Resources in Matrix	X	X	X	X	X	X	
7. College/Career Readiness			X	X			X

Section 3.0.B School and District Size

The work required in section 3.0.B primarily focused on issues related to class and school size (Sections 3.0.B.1–5), as well as isolation and remoteness (Sections 3.0.B.6 and 8). Section 3.0.B.7 examined the relationship of class size requirements, student-teacher ratios, teacher salaries, and other factors.

Table 1.2: Section 3.0.B Study Requirements

	Fiscal and Performance Data Analysis	Case Studies	Literature/ Document Review	Educator Panels/ Stakeholder Engagement	LEA Survey	Additional Quantitative Work	Additional Qualitative Work
1. Current School Size Policies					X	X	
2. School Size Best Practices			X		X		X
3. Impacts of School/District Size			X		X	X	
4. Recommendations on Ideal Size of Schools			X				
5. Public Input on School Size Standards				X	X		X
6. Addressing Small District Size and Remoteness	X		X				
7. Class Size Requirements, Student/Teacher Ratios and Salary Variations	X		X			X	
8. Identification and Operation Criteria for Isolated Schools and/or Districts			X				

Section 3.0.C Additional Studies

The last section of the RFP identified a number of additional study areas to be addressed on a variety of topics. It also specifically required the use of case studies (Section 3.0.C.9) and educator panels (3.0.C.16), both of which are described in the next section on study methods.

Table 1.3: Section 3.0.C Study Requirements

	Fiscal and Performance Data Analysis	Case Studies	Literature/ Document Review	Educator Panels/ Stakeholder Engagement	LEA Survey	Additional Quantitative Work	Additional Qualitative Work
1. Evaluation of Economically Disadvantaged Student Proxy							
1.a Community Eligibility Provision Evaluation			X			X	
1.b Impact on State Aid Formulas						X	
1.c Alternative Proxies			X			X	
2. Impacts on Equity						X	
3. Impacts of Enrollment Changes			X			X	
4. Attracting and Retaining Administrative and Educational Staff			X	X		X	
5. Attracting and Retaining Nurses			X	X		X	
6. Resources for Student Mental Health Issues			X	X			
7. Capital Needs			X		X	X	
8. Best use of Poverty Funds	X	X	X	X	X		
9. Case Studies of Successful Schools		X					
10. Impact of Vouchers	X		X			X	
11. Impact of Waivers			X			X	
12. Examination of Uniform Tax Rate			X			X	
13. Funding for Concentrations of Poverty	X		X				
14. Professional Development and Extra Duty Time		X	X		X		
15. Comparison of Prior Study Recommendations and Legislation			X				
16. Educator Panels				X			

Study Methods

Literature and Document Reviews

For many of the study areas noted above, the study team reviewed available literature and documentation, including: (1) academic research, (2) prior Arkansas studies by the BLR and outside consultants (Picus Odden and Associates), (3) adequacy studies from other states over the past 20 years, (4) Arkansas Department of Education rules, standards, and accreditation requirements, and (5) other relevant Arkansas policy documents. The study team also conducted national policy scans — reviewing policies in all 50 states — with special attention to a set of comparison states. The study team identified these comparison states in collaboration with the Committees.

These comparison states included all Southern Regional Education Board (SREB) states as well as Massachusetts, as shown in Table 1.4 below.

Table 1.4: Selected Comparison States

Alabama	Kentucky	Mississippi	Tennessee
Delaware	Louisiana	North Carolina	Texas
Florida	Maryland	Oklahoma	Virginia
Georgia	Massachusetts	South Carolina	West Virginia

LEA Survey

The study team conducted a survey of LEAs regarding current resource use and practices in a number of areas, including school/LEA size issues (existing policies, best practices, and impact), best uses of funding for low-income students, and capital needs, to gather data that was not currently collected by the state.

The survey was administered to all district superintendents and charter system directors in July 2020. The study team received responses from 181 districts and charter systems, representing 72 percent of districts and 48 percent of charter systems. Responses were generally representative of the state as a whole, as shown in Table 1.5.

Table 1.5: Comparison of LEA Survey Responses to State Population

	Percentage of All LEAs in the State	Percentage of LEA Responses
FRL Quintiles		
Q1 (lowest)	20%	20%
Q2	20%	22%
Q3	20%	17%
Q4	20%	22%
Q5 (highest)	20%	19%
LEA Size Quintiles		
Q1 (smallest)	20%	18%
Q2	20%	17%
Q3	20%	21%
Q4	20%	21%
Q5 (largest)	20%	23%
Locale		
Urban/Suburban	23%	20%
Rural	77%	80%
Region		
Northeast (Upper Delta)	25%	30%
Northwest	29%	29%
Southwest	18%	14%
Central	18%	16%
Southeast (Lower Delta)	10%	12%

The LEA resource use and practices survey is included in Appendix 1.

Fiscal and Performance Data Analysis

The study team conducted a series of statistical analyses to examine opportunity gaps across the state, and some of the implications of these gaps for disadvantaged student populations. By investigating the impact of poverty, school and workforce characteristics, and funding on academic outcomes, the study team sought to uncover important relationships that underlie academic performance within the state. The performance and expenditure data used in each analysis was provided by ADE. Specific methodologies will be discussed in Chapter 4.

In addition to the analysis to understand the relationship between funding and performance, the study team examined fiscal data from the state disaggregated by administrative, instructional, and student support. The study team also reviewed the work completed by BLR regarding current district expenditures in matrix resource areas from their 2020 reports, and then closely examined LEAs' use of ESA funds and professional development funds based upon data provided by BLR using the account coding they developed.

Case Studies

The study included the selection of 15 case study schools that exceeded performance expectations for student growth. The study team identified the highest-ranked schools that outperformed expectations for each region of the state and by grade span. A school was then eligible to be selected if it had a letter grade of A or B, or if the school had a C grade and had improved its letter grade from 2018 to 2019. Schools also had to have a higher-than-average low-income student percentage (above 63 percent) or a higher-than-average English learner (EL) student percentage (above 8 percent). The highest-ranking elementary school, middle school, and high school that met the criteria were selected from each region.

- **Northwest Region:** Lamar Elementary School, Helen Tyson Middle School, Jasper High School
- **Southwest Region:** Oscar Hamilton Elementary School, Mena Middle School, Lafayette High School
- **Central Region:** Theodore Jones Elementary School, Lisa Academy North Middle School, Lisa Academy North High School
- **Northeast Region:** Weiner Elementary School, Paragould Junior High School, Riverview High School
- **Southeast Region:** Des Arc Elementary School, Crossett Middle School, Lakeside High School

The average enrollment in case study schools was 361 students. The percentage of low-income students ranged from 64 percent to 88 percent. The percentage of English Learners ranged from 0 to 29 percent. Two of the 15 case study schools are innovation schools, and two are charter schools.

The study team conducted interviews with each of the schools to better understand what factors contribute to the school's success. Interview questions fell into eight main topic areas: school staffing, school schedule, curriculum and instructional programs, assessments and data, extra support strategies for struggling students, professional development, additional monetary and non-monetary supports, and school culture and leadership.

The case study interview protocol is included in Appendix 1 and summaries of each case study are included in Appendix 6.

Educator Panels and Online Stakeholder Engagement

The study team gathered feedback from stakeholders in the state through two avenues: (1) targeted panel discussions with educators around the state and (2) an online stakeholder survey that was open to all educators and the broader community. Both avenues were intended to gather feedback in study areas, including college and career readiness, supporting low-income students, staff attraction and retention, and perspectives on the education funding system in the state.

Educator Panels Process and Participation

The study team convened over 20 educator panels in September, including:

- Ten district and charter system administrator panels, two per region (Central, Northwest, Northeast, Southwest, Southeast)
- Two statewide CFO/business manager panels
- Four statewide school administrator panels
- Six statewide teacher panels

The study team asked district superintendents, charter system directors, and each Arkansas education professional association to nominate panelists and then sent all nominees an invitation to participate.

About 125 educators participated in the panels, of whom 85 were district/charter system administrators and CFOs/business managers. Getting school-level participation was difficult given the challenges school administrators and teachers are facing this school year. Participants were from all regions in the state.

Educator panels discussed:

- The definition of College and Career Readiness
- The impacts of poverty on performance and resource needs
- The ability of schools and districts to attract and retain staff
- The Arkansas funding matrix and additional funding outside of the matrix for specific purposes

Specific educator panel questions can be found in Appendix 1.

Overview of Stakeholder Survey, Administration Process, and Respondents

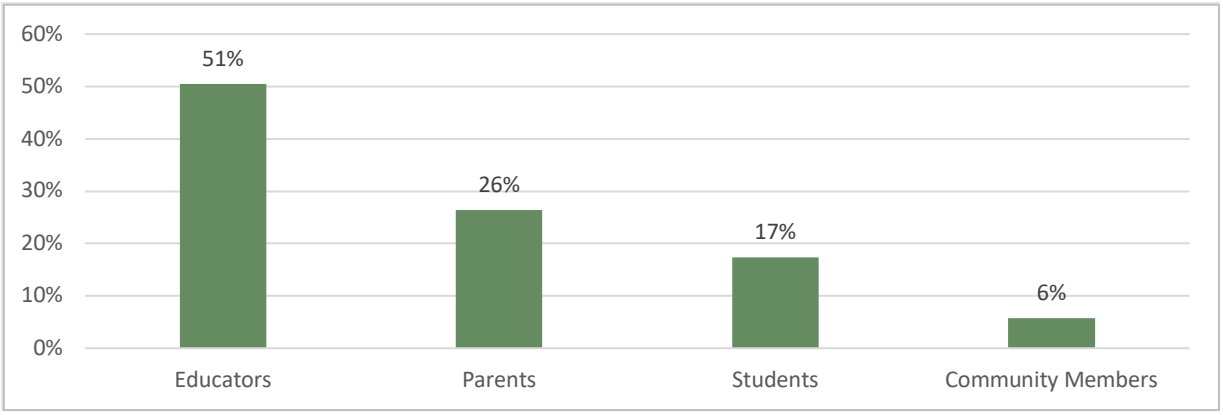
In order to engage a wider set of stakeholders in the study process, the study team created an online survey that was available to all educators and the broader community. Two online survey versions were created: a detailed educator survey and a more streamlined community survey for parents, students, business leaders, and community members.

Table 1.6: Online Stakeholder Survey

Question Area	Educator Survey	Community Survey
College and career readiness	x	x
Staff attraction and retention	x	
Perspectives on the funding system	x	x
Areas of feedback/concern regarding education resources and funding	x	x
Specific feedback on the funding matrix and additional categoricals	x	
Any other feedback to share	x	x

The survey was open September 3–18 (formally closed on September 21). To publicize the survey, the study team distributed a notice to: (1) all superintendents and charter system directors, who were invited to take the survey and distribute it to their staff and school communities, (2) all state educator professional associations, and (3) all newspapers in the state, using a media contact list provided by ADE. A total of 3,025 individuals participated in the stakeholder survey, roughly split equally between educators and community members.

Chart 1.1: Online Stakeholder Survey Participation



Of educator responses, half were from teachers, followed by responses from district or charter system administrators (11 percent), school-level administrators (9 percent) and instructional staff members (9 percent). The remaining 21 percent of responses were from student support staff members, other school-level staff, other staff (often retired), or school board members.

Educators and community members around the state participated in the survey from over 170 different districts/charter systems and 75 different counties.

Table 1.7 presents responses by region.

Table 1.7: Online Stakeholder Survey Participation by Region

	Educator Responses	Community Responses	State Population
Central	46%	59%	43%
Northeast (Upper Delta)	18%	19%	18%
Northwest	22%	8%	27%
Southeast (Lower Delta)	10%	11%	7%
Southwest	6%	3%	5%

Compared to the state population by region, educator responses were fairly similar to that distribution. More community responses were from the Central region, and fewer responses were from the Northwest and Southwest regions.

It is important to stress that the public stakeholder survey was intended to provide an opportunity for stakeholder engagement, much like public testimony or open listening sessions. As such, the intent was not to be a representative statistical sample, but to get feedback from those who were interested and willing to participate. However, the study team examined who participated to understand how it may impact the results. For example, in community responses, there was a high level of participation in fewer than 10 districts and in one charter system (representing about 50 percent of parent and student responses), so the study team examined results with and without the charter system and found that it had little impact on the overall tenor of responses.

The stakeholder survey is included in Appendix 1.

Additional Qualitative and Quantitative Work

Additional qualitative and quantitative work included additional descriptive data, correlation, and regression analysis regarding the impact of waivers, vouchers, enrollment changes, and teacher workforce and education opportunities (such as access to CTE and advanced course work opportunities) information. Further, the study team used GIS software to visually map district data. All data was provided by ADE — either directly or through the state online data website —or BLR. The study team also interviewed Education Cooperative leadership regarding the services they provide to districts.

Report Structure

The report presents the key findings for each required study area, organized into the following chapters as described in Table 1.8. Information from the educator panels and online stakeholder survey is included throughout the report, as relevant. Additional appendices provide further detail on these chapters and will be noted throughout.

Table 1.8: Report Structure

Chapter	Study Topic Areas Addressed
1. Introduction	Study team, study areas, and methods
2. Background	Overview of court decisions and state funding system
3. Analysis of Equity and Uniform Tax Rate	Equity Analysis, Impact of Uniform Tax Rate
4. Indicators of Student Performance	Identification of Gaps, Concentrations of Poverty, Correlation Between Performance and Funding, Class Size
5. Addressing Poverty and Achievement Gaps: Funding Approaches	Economically Disadvantaged Student Proxies, Funding for Concentrations of Poverty, Uses of Poverty Funds
6. Addressing Poverty and Achievement Gaps: Strategies	Case Studies, Addressing Concentrations of Poverty, Identification of Programs to Address Gaps
7. College and Career Readiness	College and Career Readiness Definition
8. Class, School, and District Size	School Size Best Practices, Current School Size Policies, Public Input on School Size Standards, Class Size Requirements, Student/Teacher Ratios, Impacts of School/District Size, Addressing Small District Size and Remoteness, Identification and Operation Criteria for Isolated Schools and/or Districts, Recommendations on Ideal Size of Schools,
9. Attracting and Retaining Staff	Attracting and Retaining Administrative and Educational Staff, Attracting and Retaining Nurses, Workforce and Salary Variations
10. Other Topic Areas	Professional Development and Extra Duty Time, Student Mental Health, Waivers, Enrollment Changes, Vouchers, Capital Needs
11. Review of the Arkansas Funding Matrix and Approaches for Routinely Reviewing Adequacy	Prior Arkansas Adequacy Studies, Adequacy Studies in Other States, Review of Resources in the Matrix, Methods for Routinely Reviewing Adequacy
12. Recommendations	Recommendations across study areas

2. Background

This chapter provides an overview of the current education funding system in Arkansas, including the court decisions that prompted the adoption of the current system, and highlights general areas of concern about state education funding identified by Arkansas educators and community members during the course of the study.

Key Takeaways

- The *Lake View* decision led to the general assembly taking nine action steps to satisfy its constitutional obligation, including adopting the funding matrix.
- The state routinely reviews its funding system with three adequacy studies conducted by an outside firm since the early 2000s and adequacy review by the Bureau of Legislative Research (BLR) of all funding system components every two years.
- A majority of educators felt the funding system responds to the different needs of students; however, they felt it did not ensure similar educational opportunities for all students, respond to the different needs of districts, and equitably distribute funding to school districts.
- A majority of community members felt the funding system responds to the different needs of students, ensures similar educational opportunities for all students, and responds to the different needs of districts.
- Areas of concern for educators were educator salaries, class sizes and student mental health, while areas of concern for community members were school safety, student mental health and resources for specific student groups (low-income, English Learners, special education, gifted).

Arkansas Funding System Court Decisions

The Arkansas Constitution states that Arkansas "shall ever maintain a general, suitable, and efficient system of free public schools and shall adapt all suitable means to secure to the people the advantages and opportunities of education" (Ark. Const. art 14, §1). There have been two cases decided by the Arkansas Supreme Court: *Dupree v. Alma Sch. Dist. No. 30 of Crawford County* and the *Lake View* decisions. *Dupree* decided that the state's constitutional responsibility included providing "equal education opportunity." The *Lake View* decisions found that the school funding system in Arkansas was unconstitutional for 10 reasons:

1. "Abysmal" funding in Arkansas.
2. Disparities in teacher salaries within the state.
3. Failure to conduct an adequacy study or define adequacy.
4. Low benchmark scores.
5. Need for Arkansas student remediation in college.

6. Needs of school districts in low-income areas (for improved and advanced curriculum, quality, teachers, and adequate facilities, supplies, and equipment).
7. Needs of school districts in high enrollment growth areas.
8. Recruitment and retention of quality teachers.
9. Special needs of poverty-level students, including English learners (EL).
10. Teacher salaries not comparable to surrounding states.

The General Assembly took nine action steps to satisfy their constitutional obligation:

1. Act 57 of the Second Extraordinary Session 2003 — the adequacy study. The court required a biennial adequacy review.
2. Act 108 of the Second Extraordinary Session 2003 — the "doomsday" provision that protects funding in the Educational Adequacy Fund and other resources available to the Department of Education Public School Fund Account of the Public School Fund. The court required funding education first under Act 108.
3. Adoption of a comprehensive system of accounting and accountability to provide state oversight of school district expenditures. The court required that this system be continually maintained.
4. Establishment of the Immediate Repair Program for facilities, the Academic Facilities Partnership Program, modification of academic facilities wealth index, and other provisions assisting school districts with academic facility needs.
5. Adoption of Amendment 74 to provide a 25 mill Uniform Rate of Tax (URT) and ensure that school districts receive the full amount of foundation funding if the actual school tax collection is less than 98 percent.
6. Adoption of categorical funding for alternative learning environments, EL, and NSL students.
7. Creation of foundation funding.
8. Adoption of growth- or declining-enrollment funding.
9. Adoption of a minimum teacher salary schedule, allowance of the use of national school lunch categorical funding to supplement certain teacher salaries, and provision of incentives to attract and retain teachers in high-priority districts.

The following sections will look more closely at how the state established an adequate level of foundation funding and then the process it undertakes to meet the requirement of "constant study, review, and adjustment" of the funding system.

Establishing Adequate Foundation Funding through the Matrix

During the Second Extraordinary Session of 2003, the General Assembly enacted a substantially new school district funding system based on the recommendations of Picus Odden and Associates (POA), then known as Lawrence O. Picus and Associates. Act 59, The Public School Funding Act of 2003, developed per-student funding amounts by assigning costs to the various educational inputs recommended by the consultants. Inputs were established using the Evidence-Based (EB) adequacy approach, which assumes that information from research can be used to define the resource needs of a

prototypical school or district to ensure its students can meet state standards. The approach both estimates resource amounts and specifies the programs and strategies by which such resources could be used efficiently. The Act does not mandate that districts use their Act 59 funding to fund the programs and strategies recommended by the consultants.

The inputs enacted in Act 59 were compiled into a school district funding matrix used to produce a per-student foundational funding amount along with additional funding for programs for students with special needs, alternative learning environments, and professional development for instructional staff. The funding matrix specifies key inputs and funding levels for districts and schools assuming a 500 student K–12 school/district. These consist of:

- School staff salaries.
- School staffing for administration, classroom teachers, and pupil support personnel.
- Per-student resources for technology, instructional materials and supplies, extra duty funds, supervisory aides, and substitutes.
- Per-student or eligible-pupil categorical programs for EL students, at-risk students, and students requiring alternative learning environments.
- District-level resources for operations and maintenance, central office operations, and student transportation.
- Annual per Average Daily Membership (ADM) foundation increases.

The majority of the matrix mirrored the recommendations from POA; however, there were three key areas where the matrix differed.

- The consultants recommended class sizes of 15:1 for grades K–3. The matrix funded class sizes of 20:1 for kindergarten and 23:1 for grades 1–3. Both Picus & Associates and the state recommended classes of 25:1 for grades 4–12.
- Increasing funding for support staff in districts with higher concentrations of low-income students. POA recommended increasing staffing for student support and remediation staff above base level at a rate of 1.0 FTE per 100 additional low-income students, while the matrix provided no additional funding beyond the base level.
- The number of librarians/media specialists provided at each level of schooling (the consultants were higher at the middle and high school levels) and above 1.0 FTE.

Current Funding Matrix (FY 21)

The matrix is divided into two sections:

1. The number of people (expressed in Full Time Equivalents or FTEs) needed for the prototypical school of 500 students.
2. The cost of all the other resources needed at the school- and district-level.

Table 2.1 shows the number of FTE provided for the prototypical school of 500 students, followed by Table 2.2 that shows the per-student amounts for all school- and district-level resources.

Table 2.1: Matrix Staffing for a Prototypical School

Matrix Item		FTEs per 500 students
Classroom Teachers	Kindergarten (20:1)	2.00
	Grades 1-3 (23:1)	5.00
	Grades 4-12 (25:1)	13.80
	Non-Core (20%)	4.14
Pupil Support Staff	Special Education	2.90
	Instructional Facilitators	2.50
	Library Media Specialist	0.85
	Counselors and Nurses	2.50
Administration	Principal	1.00
	Secretary	1.00
Total		**35.69**

In a school of 500 students, the matrix funds 24.94 classroom teachers, 8.75 pupil support staff, and two administration staff for a total of 35.69 total staff.

Table 2.2 shows the per-student amounts for matrix items in 2020, including school-level salaries and benefits, school-level resources, and district-level resources.

Table 2.2: Per-Student Amounts for School-Level Salaries and Benefits, School-level Resources, and District-Level Resources

Matrix Item		Per FTE	Per-Student Amount
School-Level Salaries and Benefits	Classroom Teachers	$68,470.00	$3,415.28
	Pupil Support Staff	$68,470.00	$1,198.23
	Principal	$99.012.00	$198.10
	Secretary	$40,855.00	$81.70
School-Level Resources	Technology		$250.00
	Instructional Materials		$187.90
	Extra Duty Funds		$66.20
	Supervisory Aides		$50.00
	Substitutes		$71.80
District-Level Resources	Operations and Maintenance		$705.70
	Central Office		$438.80
	Transportation		$321.20
Total			**$6,975**

School-level salaries and benefits are set for classroom teachers, other pupil support staff, a principal, and a secretary. These salary and benefit amounts are then applied to the FTEs identified in Table 2.1 to calculate the per-student cost. In total, the per-student amount for school-level salaries and benefits is $4,893.31. School-level resources then include the non-personnel costs for instructional materials, technology-related expenses, and supplemental staff, totaling $625.90 per student. District-level resources include funding for districts' operations and maintenance, the central office, and

transportation expenses. The amount per student for district-level resources is $1,455.70. The total foundational amount provided through the funding matrix is $6,975 per student.

While the FTEs provided have not changed significantly since the first matrix was adopted in 2004/05, amounts for salaries and benefits, school-level resources, and district-level resources have been adjusted. Appendix 2 includes a chart of matrix resource levels from FY05 to FY21.

It is important to highlight that the matrix is not set in statute; rather, it is used as a tool to set the foundation funding amount.

District Funding

Each district's foundation funding amount is then applied to the student enrollment counts for the district. Funding is first generated locally through 25 mills of property tax levied in each district, the URT. The state then provides the difference between the amount raised by the 25 mills and the foundation funding amount. Though this foundation funding amount is generated based on specific resource allocations in the matrix, districts may use the funding as they see fit.

In addition to matrix funding, the state also provides other unrestricted and restricted funding to districts. Unrestricted funding includes student growth funding, declining enrollment funding, and isolated funding alongside an additional local revenue. School districts have broad authority to spend these funds for their educational needs without limitation. State-restricted funds include Enhanced Student Achievement Funds (ESA) and other categorical funds, as well as funding for early childhood education, adult education, career education, high-cost special education, educational service cooperatives, academic facilities, and other grants for specific programs.

There is also federal revenue and other funding sources available to districts. Federal revenue includes Title I funding, the Individuals with Disabilities Education Act (IDEA), School Lunch and Breakfast grant funds, and other federal grant funding. 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.

The matrix and other education funding streams are reviewed by BLR on a regular schedule and presented to the House and Senate Education Committees to make sure funding is meeting the court ruling and the needs of the districts and students in the state.

Process for Study and Review of Funding Adequacy

Since the early 2000s, the state has implemented both constant study and review through three adequacy studies conducted by an outside firm and the adequacy work of BLR. The two-year cycle of studying all aspects of the matrix conducted by BLR allows the state to meet the Continuing Adequacy Evaluation Act of 2004.

Bureau of Legislative Research (BLR) Adequacy Review

On a two-year cycle aligned with the biennium, BLR reviews all components of the funding system, including — but not limited to — documenting the development and historical variation of components, detailed analysis of current expenditures and staffing levels, interviews and surveys with districts and schools, impact and performance analysis, and benchmarking against national data where available. Many of these areas are similar to areas addressed in this study. In the prior biennium, BLR produced the following adequacy reports:

- Academic Standards
- Special Education
- Fiscal Distress
- Declining-enrollment Funding
- Student Growth Funding
- Career and Technical Education
- Waivers of Statutory and Regulatory Requirements
- Resource Allocation-School Staffing
- Resource Allocation-School Resources
- Resource Allocation-District Resources
- Alternative Learning Environment Categorical Funding
- Professional Development Categorical Funding
- Equity
- Teacher Salaries
- Teacher Recruitment and Retention

Outside Consultants

In addition to the 2003 study that led to the establishment of the funding matrix, POA conducted studies in 2006 and 2014.

The 2006 study was a recalibration of the education funding system resulting from the 2003 adequacy study. The major changes in the alignment between the consultants' recommendations and the funding matrix following the 2006 POA recalibration study included adopting the matrix's larger class sizes for grades K–3, the number of school secretaries in a prototypical school (2.0 FTE vs. 1.0 FTE in the matrix), and the lower funding in the matrix for instructional materials and technology. The matrix was still below the consultants' recommendations for pupil support staff and staff for at-risk programs and librarians/media specialists.

The 2014 study was a desk audit. It assessed how the matrix compared to an EB model that had evolved since 2006, but it did not provide estimates of what the new model would cost if implemented in Arkansas. The areas where the EB model exceeded inputs in the matrix included a return to K–3 class size of 15:1; an increase in elective teachers to accommodate block scheduling at the school level; additional special education teacher FTE and the addition of special education aides; a significant increase in staffing for alternative learning environment programs; additional EL teacher FTE; higher funding for instructional materials, technology, and professional development; and continued higher staffing for librarian/media specialists and pupil support and at-risk program staff.

Stakeholder Perspectives and Concerns Regarding the Funding System

During this study, the state also sought to understand stakeholder perspectives on the education funding system. Through an online stakeholder survey, the study team asked a series of questions to both educators and community members to gauge the general public perception of the funding system and to identify any resource areas that were of particular concern. Other feedback collected through the survey, such as on college and career readiness, staff attraction and retention, and matrix resources, will be addressed in the relevant chapters of this report.

Perspectives on the Funding System

Educators and community members were asked whether they agreed or disagreed with a series of statements regarding:

- The equity, responsiveness (to student needs and district characteristics), flexibility, and transparency of the education funding system in Arkansas
- If schools and districts were using resources effectively

Responses are included for the two question blocks, with educator and community member responses identified separately. The first block asked how stakeholders viewed the current funding system in the areas of responsiveness, equity, and transparency.

Table 2.3: Educator Perspectives of the Current Funding System, Part 1

The current funding system…	Strongly Agree/ Agree	Strongly Disagree/ Disagree
Responds to the different needs of students (such as low-income, special education, and EL)	55%	38%
Ensures similar education opportunities for all students	40%	54%
Responds to the different needs of school districts (size, location, enrollment changes)	36%	53%
Equitably distributes funding to school districts	34%	50%
Allocates funding in a manner that is clear and understandable	32%	46%
Responds to the different needs of charter systems	29%	13%

The majority of educators agreed that the system is responsive to the different needs of specific student groups but disagreed that it ensures similar education opportunities for all students, responds to the different needs of school districts due to certain characteristics, or equitably distributes funding to school districts.

Overall community member responses tended to lean toward positive agreement compared to educator responses; however, when student responses were excluded, they tended to be more negative as shown in Table 2.4.

Table 2.4: Community Member Perspectives of the Current Funding System, Part 1

Percentage of Respondents that "Strongly Agreed" or "Agreed"		
The current funding system…	**All Community Responses**	**Community Responses, Excluding Students**
Responds to the different needs of students (such as low-income, special education, and EL)	59%	31%
Ensures similar education opportunities for all students	63%	38%
Responds to the different needs of school districts (size, location, enrollment changes)	54%	45%
Equitably distributes funding to school districts	45%	32%
Allocates funding in a manner that is clear and understandable	45%	27%
Responds to the different needs of charter systems	44%	27%

Educators and community members were asked whether they agreed or disagreed with a number of statements regarding the efficient use of resources and the impact of the funding system.

Table 2.5: Educator Perspectives of the Current Funding System, Part 2

Statements	**Strongly Agree /Agree**	**Strongly Disagree/ Disagree**
Schools spend resources efficiently	**56%**	25%
Districts spend resources efficiently	53%	29%
Similar districts are funded fairly in relationship to one another	38%	36%
The current funding system is flexible enough to allow schools and districts to decide how resources should be used to serve students	35%	42%
Where a student lives does not determine the quality of their education	26%	69%
Taxpayers are treated equally across the state	25%	56%
It is easy to understand how funding is determined and allocated	21%	61%

A majority of educators agreed that schools and districts spend resources efficiently, while disagreeing that (1) where a student lives does not determine the quality of their education, (2) taxpayers are treated equally across the state, and (3) it is easy to understand how funding is determined and allocated.

Community responses were consistent with educator responses when student responses were excluded.

Table 2.6. Community Member Perspectives of the Current Funding System, Part 2

Percentage of Respondents that "Strongly Agreed" or "Agreed"		
Statements	**All Community Responses**	**Community Responses, Excluding Students**
Schools spend resources efficiently	41%	50%
Districts spend resources efficiently	33%	44%
Similar districts are funded fairly in relationship to one another	42%	41%
The current funding system is flexible enough to allow schools and districts to decide how resources should be used to serve students	30%	40%
Where a student lives does NOT determine the quality of their education	44%	30%
Taxpayers are treated equally across the state	49%	30%
It is easy to understand how funding is determined and allocated	45%	24%

Areas of Concern Related to Education Resources and Funding

The study team asked educators and community members what education resources and funding topics — outside of COVID-related issues — they would like to provide feedback about. A series of options was listed: capital needs, class sizes, educational opportunities, educator salaries or experience, efficiency of funding/resource use, equity, funding (overall or for certain student groups, schools, or districts/charter systems), instructional resources, school safety, student support resources, supports and services for specific student groups, and tax burden. Respondents could also select "other" and share any feedback outside of these categories, and they could then provide feedback on each topic selected via open text response.

For educators, the top three response areas were educator salaries or experiences, class sizes, and student support resources.

Table 2.7: Areas of Concern, Educators

Answer	**%**
Educator salaries or experience	31%
Class sizes	19%
Student support resources (student mental health, counseling, nursing, etc.)	17%
Supports and services for specific student groups (special education, low-income students, EL, gifted students, career and technical education students)	13%
Instructional resources (teachers, instructional coaches, tutors/interventionists, etc.)	13%
Funding (overall or for certain student groups, schools, or districts/charter systems)	12%
School safety	11%
Equity	10%
Educational opportunities (advanced courses, career and technical education, extracurriculars)	9%
Capital needs (construction, maintenance, etc.)	9%
Efficiency of funding/resource use	6%
Tax burden	4%
Other area	3%

Examples of specific concerns in the top three areas for educators included:

- **Educator salaries or experiences:** Responses overall were focused on the need to increase teacher salaries for reasons including growing workload/requirements, competitiveness with other professions, and competitiveness with other states/districts. Feedback addressed starting salaries and compensation tied to advanced degrees and additional years of experience, as well as the top end where teachers "capped out." Salary discrepancies between districts, particularly in smaller rural districts, were also highlighted.
- **Class sizes**: Feedback was primarily to reduce class sizes, particularly in the lowest grades, in order to ensure better outcomes for students, more personalization and one-on-one support, and more manageable class size for teachers.
- **Student support resources:** Nearly all responses were about needing additional mental health support for all students. Many suggested that this was a growing need. Suggestions for how to address this need varied, including more counselors, social workers, behavior specialists, and therapists. Some responses also raised concerns for educator mental health.

Most frequently noted areas of concern varied a bit for community members; their top three areas were school safety, student support resources, and resources for specific student groups.

Table 2.8: Areas of Concern, Community Members

Answer	%
School safety	19%
Student support resources (student mental health, counseling, nursing, etc.)	18%
Supports and services for specific student groups (special education, low-income students, EL, gifted students, career and technical education students)	17%
Educational opportunities (advanced courses, career and technical education, extracurriculars)	16%
Educator salaries or experience	16%
Class sizes	14%
Funding (overall or for certain student groups, schools, or districts/charter systems)	12%
Instructional resources (teachers, instructional coaches, tutors/interventionists, etc.)	10%
Equity	8%
Efficiency of funding/resource use	8%
Capital needs (construction, maintenance, etc.)	8%
Tax burden	5%
Other area	5%

Specific feedback for the top three areas for community members included:

- **School safety:** Feedback was varied, such as health and safety procedures related to COVID-19, the need for schools to be safer generally, lack of security in some buildings, the need for School Resource Officers at all schools, and regarding active shooter situations (associated drills, prevention, security, gun control, and armed staff).
- **Student support resources:** Feedback was predominately about needing more mental health support for students, as well as full-time nurses. Specific concerns were raised about student mental health during COVID-19 and with remote instruction.

- **Supports for specific student groups:** overall, responses stressed how important these resources were for students to give them equal opportunity and to provide differentiated, individualized instruction for all students. About a third of responses in this category were regarding the need for more funding for special education. Needed resources for low-income, CTE and gifted students were also frequently discussed.

Conclusions

There were two court cases decided by the Arkansas Supreme Court: *Dupree* and *Lake View.* In the *Lake View* case the court found the funding system in Arkansas was unconstitutional for 10 reasons. The general assembly took nine action steps to satisfy its constitutional obligation. The action steps require a biennial adequacy review, creation of foundation funding, adoption of categorical funding for at-risk, EL, special education students, adjustments for declining and growing enrollment and more.

Three adequacy studies conducted by outside firms since the early 2000s have reviewed the funding formula, in addition to the BLR reports every two years. The outside consultants performed an adequacy study in 2003 that identified the resource levels needed in the funding matrix. In 2006 the consultants performed a recalibration of the education funding system which led to similar class size and lower funding for instructional materials; however, called more for resources for pupil support staff. Lastly the study in 2014 was a desk audit that compared the matrix to the evolved EB model. The BLR reports review all the components of the funding system.

The current study included an online stakeholder survey asking a series of questions to both educators and community member to gauge the general public perception of the funding system and to identify any resource areas that were of particular concern. Educators and community members were asked whether they agreed or disagreed with a series of statements. A majority of educators felt the funding system responds to the different needs of students; however, they felt that funding system did not ensure similar educational opportunities for all students, respond to the different needs of districts, and equitably distribute funding to school districts. A majority of community members felt the funding system responds to the different needs of students, ensures similar educational opportunities for all students, and responds to the different needs of districts.

3. Analyses of the Uniform Rate of Tax and School Finance Equity

Introduction

This chapter addresses the study team's analyses and findings for the tasks of assessing the impact of the finance system on school finance equity and assessing the state funding formula's Uniform Rate of Tax (URT). Our equity analysis examines the equity of the state's finance system with a particular focus on how equitably it provides for key education resources across districts, including personnel resources, program resources, and educational outcomes. The study team's analysis of the URT examines its current impact on district funding, its impact on equity, the impact of increasing the URT millage, and the impact of excess maintenance and operations (M&O) mills.

Key Takeaways

- Arkansas's school funding system is reasonably equitable based on the results of this analysis and the BLR's 2017 analysis of horizontal equity and fiscal neutrality. An area of concern is the disparity among higher and lower property wealth districts in both accessing additional M&O mills and the amount per student raised, with higher property wealth districts more likely both to levy additional M&O mills and to raise more revenue per student. Because relatively few districts levy additional M&O mills the impact on the overall system's equity is likely modest. However, as the number of districts with additional M&O mills increases this could have a more serious equity impact.
- This analysis did not find any issues of concern with the current URT used with the foundation funding formula. At the current 25 mills the URT results in a moderate local share of foundation funding and lower property taxes for property owners than if the URT rate was higher.
- The property wealth of districts does not seem to be correlated to the level of district personnel resources, program offerings, or student outcomes. However, other areas of the study discussed in Chapter 4 show that there are relationships between other student and/or district characteristics and these resources and outcomes.

School Funding Equity

As a school finance term, "equity" is concerned with how resources are allocated across school districts and, ultimately, across schools and students. While the most common notion of equity would presume that a school finance system that distributes resources *equally* is equitable, school systems vary in their number of students with special needs, and thus will vary in the level of resources required to provide an equal opportunity to learn to all students. School districts also differ in their abilities to raise revenues locally. Disparities in local property and income wealth mean that some school districts may be able to raise significantly higher local revenues than other districts with a lower level of tax effort.

Districts also face factors beyond their control that can lead to higher operating costs. For example, districts may have small student enrollments or low population density.

There are multiple equity concepts that are typically addressed in school finance equity analyses. The most common equity concepts are horizontal equity, vertical equity, and fiscal neutrality.[7] These concepts are described below.

Horizontal equity is concerned with how equally resources are allocated to districts or students in similar situations. It is sometimes said that horizontal equity addresses the "equal treatment of equals." That is, an equitable school finance system will provide a roughly equal amount of resources to students with similar educational needs. Under a school finance system with high horizontal equity, students with no additional needs are funded roughly equally, regardless of which school district they attend.

Vertical equity measures how well school finance systems take into account varying student and district needs. A system with high vertical equity will provide more resources for students with greater educational needs or districts with characteristics that impact costs such as very small size or geographical isolation. In this way, a system with high vertical equity provides additional resources for supporting the programs and interventions that are required for students with greater educational needs to succeed in school. It also incorporates mechanisms for providing resources to offset the effects of characteristics that influence costs that are outside the control of districts.

Fiscal neutrality assesses the link between local wealth and the amount of revenue available to support a school district. A touchstone of school finance theory asserts that there should be little or no relationship between local wealth, such as the local property tax base and the amount of resources available to a local school district. A school finance system with high fiscal neutrality minimizes the relationship between local wealth, or capacity, and district spending.

Typically, the study team would make use of generally accepted statistical methods used in equity studies across the country to assess the equity of district revenues and expenditures in terms of horizontal and vertical equity and fiscal neutrality. However, because the Bureau of Legislative Research (BLR) recently examined the equity of the school finance system using traditional equity study methods,[8] we did not duplicate that work here. Instead, we examined how equitably certain educational inputs and outcomes were distributed across districts with varying levels of local wealth. In addition to basic equity measures such as the correlation coefficient and coefficient of variation, we compared these resources and outcomes across wealth quintiles.

The equity statistics used in both the BLR study and our analyses of educational inputs and outcomes include the following:

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[7] Berne & Stiefel, 1984

[8] See, for example, the report *Equity of Revenues and Expenditures in Arkansas School Districts* released by the BLR on September 19, 2017, https://www.arkleg.state.ar.us/Bureau/Document?type=pdf&source=education%2fK12/AdequacyReports/2018%2f2017-09-19&filename=EquityofRevenuesandExpenditresReport_BLR-3.

The mean or average. This is the simple average of all of the values of an item across all of the state's school districts (charter schools were not included in this analysis).

The coefficient of variation (CV). The CV measures how much items vary around the average. In statistical terms, CV is the standard deviation divided by the mean (average). If per-student expenditures or other district resources do not vary greatly across districts (low variation), then all expenditures or other resource values will be tightly packed around the average. If expenditures do vary greatly across districts (high variation), then the expenditure figures will be widely dispersed from the average.

The value of the CV ranges from zero upward and is presented in the tables as a decimal (for example 0.30). A lower number (closer to zero) indicates less variation, and a higher number indicates more variation, with a number over 0.10 showing a higher amount of variation than is typically desirable in a school finance system.

Correlation coefficient. The correlation coefficient is the most common statistic used for measuring fiscal neutrality, or the relationship between per-student property wealth and per-student resources. An equitable school finance system will show little relationship between the two, since local property wealth should not determine how much money a school system has available to spend. The correlation coefficient ranges from -1.0 to 1.0, where -1.0 represents a perfect negative relationship, and 1.0 represents a perfect positive relationship. In a perfect negative relationship, a one-unit increase in one item — such as a one-unit increase in per-student property wealth — results in a one-unit decrease in another item (e.g., per-student spending). In a perfect positive relationship, a one-unit increase in one item results in a one-unit increase in the other item. A correlation of zero means there is no relationship between two items. A generally accepted standard for an acceptable level of fiscal neutrality is equal to or less than 0.50.

Wealth quintiles. The study team also examined the distribution of resources by wealth quintiles. Wealth quintiles were determined by grouping districts by local wealth, as measured by assessed value (AV) per average daily membership (ADM), into five groups, each with an equal number of districts. Quintile 1 consists of the districts with the highest AV per ADM while quintile 5 consists of those districts with the lowest AV per ADM. Table 3.1 below summarizes the characteristics of each wealth quintile of school districts along with the statewide averages.

Table 3.1: School District Wealth Quintiles

Quintile	Number of Districts	AV per ADM	ADM	State and Local Revenues/ADM
Q1 (highest)	47	$186,184	132,695	$11,009
Q2	47	$112,309	91,325	$10,253
Q3	47	$89,924	80,418	$9,940
Q4	47	$73,561	100,964	$9,745
Q5 (lowest)	47	$55,367	54,633	$9,432
State	235	$109,339	460,035	$10,149

Each quintile is made up of 47 school districts, with total ADM enrolled by quintile ranging from 54,633 in quintile 5 to 132,695 in quintile 1. Local AV per ADM ranged from an average of $55,367 in quintile 5, the group of districts with the lowest local wealth, to an average of $186,184 in quintile 1, the wealthiest quintile. The table indicates there is some relationship between local wealth and state and local revenues per ADM, as quintile 5, the lowest wealth quintile, also had the lowest average state and local revenues per ADM, at $9,432 per ADM. This amount increases with each wealth quintile, with districts in quintile 1 averaging $11,009 per ADM.

BLR's Findings on Horizontal Equity and Fiscal Neutrality

The BLR equity study (BLR 2017) examined horizontal equity using two sets of revenue data: 1) district foundation and property tax funding per ADM, and 2) funding for the foundation program plus targeted categorical funding per ADM. For the later set of data, in addition to foundation revenue the BLR also included funding for the Enhanced Student Achievement (ESA) program — then known as National School Lunch (NSL) funding — English learners (EL), professional development, alternative learning environments, student growth, declining enrollment, isolated, special needs isolated, and special education catastrophic occurrences. To assess fiscal neutrality, the BLR calculated the correlation coefficient between local property wealth and per-student revenues and the Gini Coefficient — a measure of how equitably revenues or expenditures are distributed across different percentiles of student enrollment. Overall, the BLR analysis found that the school finance system is quite equitable.

Table 3.2 below presents the summary equity statistics for fiscal year 2013/14 through 2015/16 from the BLR study.

Table 3.2: Summary Equity Statistics for 2014 -2016

	Foundation and Property Tax Funding			Foundation Plus Other Targeted Categorical Funding		
	2014	**2015**	**2016**	**2014**	**2015**	**2016**
Horizontal Equity						
Mean	$7,098	$7,333	$7,392	$7,878	$8,107	$8,188
Restricted Range	$2,073	$1,852	$1,700	$2,487	$2,371	$2,563
Coefficient of Variation	0.19	0.17	0.16	0.15	0.16	0.15
McLoone Index	0.955	0.963	0.969	0.948	0.954	0.958
Fiscal Neutrality						
Correlation Coefficient	0.83	0.89	0.88	0.78	0.85	0.83
Gini Coefficient	0.055	0.056	0.040	0.060	0.060	0.058

Source: Bureau of Legislative Research, Equity of Revenues and Expenditures in Arkansas School Districts. September 2017.

Across the three fiscal years, the horizontal equity statistics shown here meet or are close to meeting generally accepted equity standards[9] in nearly all cases. The coefficients of variation are somewhat

[9] POA, 2014

higher than the standard of 0.100 but are not unreasonable. The results of the McLoone Index, which measures the bottom half of the distribution of revenues or expenditures per student to indicate the degree of equity of those school districts below the median, are all at or near the standard of 0.950 or higher.

The results of the fiscal neutrality analyses are more mixed than for horizontal equity. The correlation coefficients for all three years exceed the standard of 0.500, indicating a greater than desirable relationship between local wealth and per-student revenues. However, the Gini Coefficient is close to the desired value of 0.05 or less.

The following sections present our analysis of the equity across school districts of key school resources such as personnel and program offerings, and student outcomes as measured by ACT Aspire assessment scores and disciplinary actions.

Personnel Resources

The analysis of personnel resources found in school districts includes the following educational resources. These items serve as proxies for the quality of the educational program districts are able to offer. Data for all of these resources were taken from the ADE's My School website.

- The number of teachers per 1,000 students in a district
- The number of administrators per 1,000 students in a district
- The percentage of teachers in a district who have earned a master's degree (an indicator of teacher quality)
- The average years of experience of teachers in a district (another indicator of teacher quality)
- The average salary of classroom certified staff (the ADE includes teachers, librarians, and counselors as classroom certified staff)
- Average salaries of school district administrators

Table 3.3 summarizes the equity statistics for the number of teachers and administrators per 1,000 students in a district for the years 2013/14 through 2018/19.

Table 3.3: Equity Statistics for Teachers and Administrators Per 1,000 Students for 2014–2019

Variable	Statistic	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Teachers per 1,000 students	Mean	86.8	88.8	95.0	96.8	100.9	101.6
	Coefficient of Variation	0.206	0.238	0.286	0.300	0.304	0.312
	Correlation Coefficient	0.239	0.272	0.236	0.211	0.208	0.200
Administrators per 1,000 students	Mean	7.5	7.7	7.5	7.4	7.6	7.5
	Coefficient of Variation	0.328	0.339	0.322	0.298	0.368	0.297
	Correlation Coefficient	0.117	0.172	0.195	0.192	0.139	0.170

On average, the number of teachers per 1,000 students increased from 86.8 teachers in 2013/14 to 101.6 teachers in 2018/19, showing a steady growth in the number of teachers separate from changes in district enrollments. The CV for the number of teachers ranges from 0.206 in 2013/14 to 0.312 in 2018/19. The CV for each year exceeds the benchmark of 0.100 or less, indicating slightly more variation around the average than is desirable. However, this higher variation could be due to differences in student need from district to district, where districts with larger numbers of high-need students adding additional teachers to provide services to these students (e.g., remedial teachers paid for through Enhanced Student Achievement funds). The increase in the CV over time also suggests variation is increasing slightly over time. The correlation coefficient (measuring the relationship between local wealth and the number of teachers) is well below the benchmark figure of 0.500 or less, indicating that, on average, the number of teachers per 1,000 students has little relationship with local wealth. This suggests that the variation in the number of teachers described above is likely due to other factors such as the level of student need in a district.

The average number of administrators per 1,000 students has remained much more consistent over time, ranging from 7.4 administrators in 2016/17 to 7.7 in 2014/15. The average was 7.5 in 2018/19, the most recent year for which data were available. Similar to the number of teachers, the variation in the number of administrators per 1,000 students exceeds the benchmark of 0.10 or less. The level of variation in the number of administrators is greater than the variation in the number of teachers, falling near or exceeding 0.300 in each of the years examined. But, also like the number of teachers, the correlation coefficient was well below the benchmark of 0.500, indicating that the number of administrators is not being driven by the local wealth of a district.

Table 3.4 summarizes the equity statistics for the percentage of teachers with a master's degree in a district and the average years of experience of a district's teachers. Both of these measures are used as a proxy for teacher quality, although research has shown that they are less than perfect indicators of quality.

Table 3.4: Equity Statistics for Teachers with an MA and Years of Experience for 2014–2019

Variable	Statistic	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Percent Teachers with MA	Mean	43.0%	42.6%	38.1%	39.0%	39.8%	40.9%
	Coefficient of Variation	0.288	0.301	0.287	0.281	0.274	0.271
	Correlation Coefficient	0.011	0.016	0.013	0.035	0.026	0.086
Teacher Average Years of Experience	Mean	11.9	11.4	10.8	10.4	10.2	10.2
	Coefficient of Variation	0.201	0.224	0.244	0.254	0.271	0.263
	Correlation Coefficient	-0.111	-0.098	-0.112	-0.083	-0.074	-0.062

On average, the percentage of teachers with an MA has floated around the 40 percent mark between 2013/14 and 2018/19. The CV each year is above the 0.100 benchmark, but the correlation coefficient is very low, suggesting no relationship between teacher experience and local wealth.

This conclusion is reinforced in Table 3.5, which shows the percentage of teachers with an MA does not vary greatly by property wealth quintile. quintile 4, the group of districts with the second lowest property wealth per student (i.e., the second poorest set of districts in terms of local wealth), has among the highest percentage of teachers with an MA of all districts. This indicates that differences in the percentage of teachers with an MA across districts are being driven by factors other than a district's local fiscal capacity.

Table 3.5: Percentage of Teachers with an MA by Wealth Quintile for 2014–2019

Quintile	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Q1	43.3%	43.5%	38.7%	40.6%	41.2%	42.3%
Q2	41.8%	41.2%	38.8%	39.3%	39.7%	42.3%
Q3	43.5%	42.5%	36.3%	36.2%	39.2%	38.6%
Q4	43.5%	44.2%	38.8%	39.4%	39.9%	41.5%
Q5	42.8%	41.8%	38.1%	39.4%	39.1%	39.9%

The average years of teacher experience decreased slightly between 2013/14 and 2018/19, decreasing from 11.9 years in 2013/14 to 10.2 years in 2018/19. This could be the result of teachers from the Baby Boom generation retiring and being replaced with younger teachers. Again, the CV for each year exceeds the 0.100 benchmark, but not significantly. The correlation coefficient is very low and negative, indicating no relationship between local wealth and average years of teacher experience. To the extent a relationship exists, it is a negative one, meaning that higher wealth districts may actually have slightly lower average years of experience. Table 3.6 shows that quintile 5, the group of the most property-poor districts, has the highest average years of experience nearly each year presented in the chart. Again, this indicates that local wealth or fiscal capacity is not a driving factor for the level of teachers' experience in a district.

Table 3.6: Average Years of Teaching Experience by Wealth Quintile for 2014–2019

Quintile	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Q1	11.6	11.0	10.3	10.1	9.8	9.9
Q2	11.8	11.2	10.9	10.7	10.8	10.3
Q3	12.3	11.6	10.7	10.0	9.5	10.0
Q4	11.7	11.2	10.8	10.4	10.0	9.9
Q5	12.3	11.8	11.1	10.7	10.7	10.7

Table 3.7 summarizes the equity statistics for average salaries of classroom certified staff and administrators in a district. The average salaries shown for both are nominal salaries, meaning they have not been adjusted for inflation from year to year.

Table 3.7: Equity Statistics for Average Classroom and Administrator Salaries for 2014–2019

Variable	Statistic	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Average Classroom Salaries	Mean	$43,906	$44,184	$44,608	$44,838	$45,357	$46,076
	Coefficient of Variation	0.104	0.105	0.105	0.108	0.103	0.097
	Correlation Coefficient	0.009	0.038	0.013	0.032	0.051	0.056
Average Administrator Salaries	Mean	$71,565	$71,960	$73,799	$75,173	$75,750	$76,902
	Coefficient of Variation	0.123	0.139	0.124	0.122	0.138	0.115
	Correlation Coefficient	0.083	0.038	0.058	0.078	0.073	0.068

The average salary for classroom certified staff increased from $43,906 in 2013/14 to $46,076 in 2018/19. This represent a five percent increase (if salaries are adjusted for inflation, they actually decreased about three percent). The variation in teacher salaries, measured by the CV, is very low, falling close to the 0.100 benchmark in each year included in the analysis. There is also little to no relationship between local property wealth and average classroom certified staff salaries indicated by very low correlation coefficients each year. Both of these measures suggest that the distribution of average salaries across districts is not related to wealth.

Average administrator salaries increased from $71,565 in 2013/14 to $76,902 in 2018/19, a 7.5 percent increase (adjusted for inflation, the average salary decreased about half of a percent). Similar to classroom certified staff average salaries, variation across districts is quite low, with the CV falling just above the 0.100 benchmark each year. The correlation coefficients are also very low each year. Again, both of these measures suggest fairly equitable distribution of average salaries across districts.

Summary of Personnel Resources. The equity statistics for all of the personnel resources examined here indicate that the finance system equitably supports these resources when examining the relationship to wealth. The CV for most is higher than the CV benchmark of 0.100 or lower, but because the correlation coefficient between local wealth per student and each of these resources is below the 0.500 or lower benchmark, it appears that differences across districts are being driven by reasons other than local wealth. This finding coincides with the BLR's overall finding that the state's school finance is relatively equitable, that differences in per-student revenues and expenditures are not excessively varied across districts and do not have a strong relationship with local wealth per student.

Chapter 9 will further explore the relationship between teacher workforce data and student demographics and district characteristics.

Program Resources

This section examines the equity of the distribution of program resources found in districts. The data for this analysis are taken from the ADE's My School website. The program resources included in this analysis were:

- The percentage of students taking Advanced Placement (AP) and computer science courses in high school in a district
- The percentage of schools in a district offering before, after, and summer school programs
- The percentage of teachers in a district who have earned a master's degree (an indicator of teacher quality)
- The percentage of students in a district meeting or exceeding standards on the ACT Aspire math and literacy assessments

Table 3.8 summarizes the equity statistics for the percent of students taking AP and computer science courses in high school. It should be noted that these are not unduplicated numbers, meaning students taking more than one AP or computer course are counted multiple times. But these numbers do provide an indication of access or engagement in these courses across districts.

Table 3.8: Equity Statistics for Participation in AP and Computer Science Courses for 2014–2019

Variable	Statistic	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Percent of Students Taking AP Courses	Mean	20.8%	29.7%	29.2%	37.5%	36.8%	37.5%
	Coefficient of Variation	0.588	0.610	0.609	0.654	0.659	0.669
	Correlation Coefficient	0.110	-0.054	-0.059	-0.013	0.010	0.059
Percent of Students Taking Computer Science Courses	Mean	0.1%	0.3%	0.3%	1.4%	10.1%	12.4%
	Coefficient of Variation	7.57	4.37	4.15	2.31	1.16	1.06
	Correlation Coefficient	0.026	-0.034	-0.050	-0.002	0.141	0.155

The percentage of students taking AP courses has steadily increased, rising from an average of 20.8 percent in 2013/14 to 37.5 percent in 2018/19. The CV indicates that there is a great deal of variation across districts, with it exceeding 0.600 in all but the first year of the series. The CV has also been increasing nearly each year, indicating the variation is increasing over time. However, the correlation coefficient is very low, and even negative for several years, suggesting that factors other than local wealth are driving this variation. It is possible that district and high school size, or other factors, may come into play.

The data on computer science courses show that districts have been rapidly expanding their capacity in this area. In 2013/14 only about 0.1 percent of students were taking computer science courses, but the percentage increased rapidly to 12.4 percent in 2018/19, with growth taking off beginning in 2017/18.

Variation in participation was very high during the early years of this series, exceeding 7.0 in 2013/14. Over time, as the participation rate increased, variation, while still exceeding 1.0, fell significantly.

The low correlation coefficients for both types of programs show that participation was not related to local wealth. The correlation coefficients are very small, and in some cases, negative.

Table 3.9 summarizes the equity statistics for the percent of schools in a district offering extra learning time outside of the school day via before-, after-, and summer school programs. ADE's My School information system defines these programs as scheduled academic/tutoring time prior to the beginning of a school day (before-school), following dismissal of the regular school day (after-school), or following or prior to the academic school year (summer school). These data are only available for the past four years. These data only became available beginning in 2015/16.

Table 3.9: Equity Statistics for Percent of District Schools Offering Before-, After-, and Summer School Programs for 2014–2019

Variable	Statistic	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Percent of District Schools Offering Before-School Program	Mean	NA	NA	14.2%	14.7%	14.3%	15.4%
	Coefficient of Variation	NA	NA	1.83	1.79	1.76	1.76
	Correlation Coefficient	NA	NA	-0.080	0.017	-0.009	0.008
Percent of District Schools Offering After-School Program	Mean	NA	NA	46.8%	46.9%	46.8%	45.6%
	Coefficient of Variation	NA	NA	0.795	0.804	0.789	0.800
	Correlation Coefficient	NA	NA	-0.148	-0.087	-0.038	0.059
Percent of District Schools Offering Summer School Program	Mean	NA	NA	29.7%	29.8%	28.6%	30.2%
	Coefficient of Variation	NA	NA	1.251	1.241	1.174	1.106
	Correlation Coefficient	NA	NA	-0.075	-0.079	-0.023	0.010

Table 3.9 shows that after-school programs are the most widely offered programs examined, averaging between 45 percent and 47 percent of schools in a district. Summer school is the next most common program, offered by between 28 percent and 30 percent of district schools. Before school programs are offered by only about 14 percent to 15 percent of district schools.

The variation in the number of district schools offering these programs is very high. The CVs for both before-school and summer school programs are greater than 1.0 in each year reported. The CV for after-school programs is around 0.800 each year, still a very high figure (compared to the recommended benchmark of 0.100 or lower).

Once again, the correlation coefficients for all three programs are very low, and in some cases negative, indicating that a district's local wealth is not a factor in whether or not it offers these programs. Tables 3.10 and 3.11 show that schools in districts in quintiles 4 and 5, the poorest groups of districts, are as likely to offer AP and computer science programs than wealthier districts in some years.

Table 3.10. Percentage of Students in Grades 9–12 Taking AP Courses by Wealth Quintile for 2014–2019

Quintile	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Q1	20.4%	23.7%	22.3%	27.4%	26.4%	29.3%
Q2	19.0%	25.6%	25.1%	28.3%	28.0%	26.8%
Q3	16.2%	20.8%	22.9%	25.0%	24.3%	24.8%
Q4	17.0%	27.7%	24.7%	31.4%	28.8%	27.9%
Q5	15.0%	21.4%	22.1%	22.9%	23.3%	23.4%

Table 3.11: Percentage of Students in Grades 9–12 Taking Computer Science Courses by Wealth Quintile for 2014–2019

Quintile	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Q1	0.1%	0.1%	0.1%	1.8%	13.3%	15.9%
Q2	0.0%	0.3%	0.2%	1.5%	14.0%	14.6%
Q3	0.1%	0.1%	0.0%	0.8%	11.1%	14.8%
Q4	0.0%	0.3%	0.3%	1.2%	8.7%	11.2%
Q5	0.0%	0.1%	0.1%	1.8%	10.2%	11.0%

Tables 3.12, 3.13 and 3.14 show the percentage of schools in districts offering before-, after-, and summer-school programs. These tables show that schools in the poorest districts, those in quintiles 4 and 5, are more likely to offer before-, after- and summer-school programs than districts with higher property wealth. This is likely related more to higher student need in the lower property wealth districts than to differences in property wealth. However, in recent years the percentage of schools in quintile 5 offering after- and summer school programs has decreased slightly.

Table 3.12: Percentage of Schools in District offering Before-School Programs, by Quintile for 2014–2019

Quintile	2015/16	2016/17	2017/18	2018/19
Q1	10.3%	13.8%	14.1%	16.8%
Q2	11.7%	12.3%	11.8%	11.4%
Q3	14.5%	12.2%	12.7%	14.8%
Q4	15.4%	14.3%	15.4%	16.4%
Q5	13.0%	17.3%	14.5%	15.4%

Table 3.13: Percentage of Schools in District offering After-School Programs by District Wealth Quintile for 2014–2019

Quintile	2015/16	2016/17	2017/18	2018/19
Q1	44.2%	43.1%	48.7%	55.6%
Q2	50.2%	51.1%	50.5%	43.5%
Q3	53.9%	51.9%	48.8%	50.2%
Q4	59.9%	57.1%	61.1%	58.0%
Q5	51.7%	51.8%	46.7%	41.9%

Table 3.14: Percentage of Schools in District offering Summer-School Programs by District Wealth Quintile for 2014–2019

Quintile	2015/16	2016/17	2017/18	2018/19
Q1	25.3%	24.6%	33.2%	34.5%
Q2	26.2%	27.3%	28.5%	29.8%
Q3	35.0%	36.8%	32.1%	33.4%
Q4	40.9%	38.1%	43.4%	47.1%
Q5	29.4%	31.3%	26.0%	28.0%

Summary of Program Resources. Like our findings for personnel resources, the equity statistics for program resources show little to no relationship between local wealth and available program resources and the student outcome measures included in this analysis. In fact, on average the lowest wealth districts performed as well or better than wealthier districts.

Chapters 7 and 9 will further explore the relationship between educational opportunities, student demographics, and district characteristics.

Educational Outcomes

Table 3.15 examines three outcome measures, presenting equity statistics for the percent of students in a district who meet or exceed standards on the ACT Aspire math and literacy assessments, and the number of students involved in disciplinary actions per 100 students in a district (this count includes expulsions and in- and out-of-school suspensions). Some of these data only became available in 2015/16.

Table 3.15: Equity Statistics for Student Performance Measures for 2014–2019

Variable	Statistic	2013/14	2014/15	2015/16	2016/17	2017.18	2018/19
ACT Aspire Math: Percent of Students Meeting/Exceeding Standards	Mean	NA	NA	42.3%	45.6%	44.0%	44.2%
	Coefficient of Variation	NA	NA	0.255	0.254	0.276	0.278
	Correlation Coefficient	NA	NA	-0.017	-0.040	-0.064	-0.093
ACT Aspire Literacy: Percent of Students Meeting/Exceeding Standards	Mean	NA	NA	46.9%	51.3%	41.6%	42.2%
	Coefficient of Variation	NA	NA	0.224	0.216	0.266	0.264
	Correlation Coefficient	NA	NA	0.033	0.020	-0.023	-0.069
Disciplinary Actions per 100 Students	Mean	28.8	34.5	36.2	34.7	35.0	34.4
	Coefficient of Variation	1.05	0.928	0.950	0.896	0.861	0.867
	Correlation Coefficient	-0.025	0.009	0.040	0.038	0.106	0.071

The table shows that since 2015/16, between 42 percent and 46 percent of students met or exceeded standards on the ACT Aspire math assessment, and between 41 percent and 51 percent met or exceeded standards on the ACT Aspire literacy assessment. Variation in district performance on the two assessments has been fairly consistent over time, with the CV averaging around 0.250 for both assessments. While higher than the 0.100 or less benchmark, this is still a relatively low level of variation across districts. The correlation coefficients between performance on the assessments and local wealth are also very low, showing little relationship between local wealth and performance, and are consistently negative for the math assessment. In fact, Tables 3.16 and 3.17 show districts in the two lowest wealth quintiles tend to perform as well or, in some cases, outperform wealthier districts. An analysis of other factors that may lead to differences in student performance among districts is presented in Chapter 4.

Table 3.16: Percentage of Meeting or Exceeding Standard on ACT Aspire Math Assessment by District Wealth Quintile for 2014–2019

Quintile	2015/16	2016/17	2017/18	2018/19
Q1	43.0%	46.3%	43.8%	43.3%
Q2	41.5%	43.0%	40.6%	41.4%
Q3	41.1%	44.6%	44.1%	43.8%
Q4	42.2%	46.3%	45.4%	44.9%
Q5	43.7%	47.7%	46.2%	47.5%

Table 3.17: Percentage of Meeting or Exceeding Standard on ACT Aspire Literacy Assessment By District Wealth Quintile for 2014–2019

Quintile	2015/16	2016/17	2017/18	2018/19
Q1	47.2%	52.3%	41.6%	41.4%
Q2	46.6%	49.5%	39.2%	41.3%
Q3	45.9%	50.3%	41.3%	41.1%
Q4	47.1%	51.1%	42.2%	42.1%
Q5	47.7%	53.3%	43.7%	45.1%

Summary of Educational Outcomes. The equity statistics for the three reported outcomes all show that there is little relationship between outcomes and local property wealth. The study team's analysis found that at the district level there is not a high level of variation across districts and that this variation is not related to local property wealth.

Chapter 4 will further explore the relationship between educational outcomes, student demographics, and district characteristics.

Assessing the URT

In this section we examine the impacts of the URT and excess M&O mill levies.

Overview of the URT

Similar to a majority of other states, Arkansas employs a foundation school finance formula. Under a foundation formula, the state establishes a minimum per-student allocation of revenue. For the 2018**/**19 school year, Arkansas's per-student foundation amount was $6,781. Foundation formulas also attempt to equalize revenue raising capacity across districts by establishing a uniform millage or tax rate that is applied to the local tax base of all districts in the state. This equalization attempts to sever the relationship between local district revenue raising capacity and per-student revenues by using state aids to fill the gap between the foundation revenue amount and the amount raised locally by the uniform millage rate. This uniform millage or tax rate is known in Arkansas as the URT and is set by law at 25 mills.

A district's local share of the foundation amount is determined by multiplying its local tax base, or assessed value, by the URT. If 98 percent of the local share is less than the foundation amount, the balance of the foundation amount is provided in the form of state aid to districts. If 98 percent of the local share exceeds the foundation revenue amount, the district does not receive any state aid. In FY 2018**/**19, the per-ADM local share amount ranged from $572 to $6,781 — the full foundation amount. Districts on the low end of this range have very low local wealth and receive most of their foundation revenue through state aid. Alternatively, districts that raise most or all of their foundation revenue have high local wealth. In FY 2018/19 the 25 mill URT (at 98 percent) raised approximately $1.2 billion. As of 2018**/**19, the average local share of foundation funding was 39.5 percent compared to a state share of 60.5 percent. However, the local share ranged widely from 8.4 percent to 100 percent. The

corresponding range of state shares was 91.6 percent for a very low-wealth district to zero percent for districts whose local share equals or exceeds the foundation amount.

The study team was asked to assess "how well the URT meets the revenue needs of districts." The question of how well the revenue meets the needs of districts is better directed to the funding level of the foundation amount, which determines the majority of unrestricted revenue raised by districts. The purpose of the URT is to determine the appropriate respective foundation financing responsibilities of the state and local districts. From this perspective, the evidence suggests the current URT supports funding equity and avoids placing undue reliance on local revenue raising capacity. Finance equity is inherent in the foundation formula approach used in Arkansas because it both sets a uniform amount of per-student base funding and through the URT also sets a uniform local tax effort. With an average state share of foundation funding of about 60 percent, the state is also assuming a substantial share of foundation financing, resulting in a lower average funding burden on districts and local taxpayers. While we do not have data on the state and local shares of foundation revenue in other states, the National Center for Education Statistics (NCES) reports state and local shares for all revenues as reported in the F-33 Annual Survey of School System Finances. According to the most recent F-33 data (2017**/**18), the average state share of funding was 51.2 percent while Arkansas's state share at the time was 58.2 percent, placing it among the top 20 states in terms of state share of funding.

Increasing the URT

The study team was also asked to assess the impact of increasing the URT. In 2018**/**19, the URT raised approximately $1.2 billion statewide at the current 25 mills. An increase of 1.0 mill raises an estimated additional $49.3 million statewide. The average property tax increase at the district level is $214,041, but the amount varies widely across districts depending on local wealth, ranging from $14,128 to $3.8 million. The most substantive impact of increasing the URT is to shift some of the responsibility for funding the foundation amount from the state to local districts. As noted above, the local/state share of funding foundation revenue in 2018**/**19 was 39.5% local/60.5% state. A one-mill increase in the URT would change those shares to 41.1% local/58.9% state, on average a 1.6 percentage point increase in the local share and an equal reduction in the state share. Table 3.18 looks at local/state shares by wealth quintiles.

Table 3.18: Change in State/Local Foundation Shares by District Wealth Quintile with 1 Mill Increase in URT

	Current 25 Mills		+ 1 Mill to 26 Mills	
Quintile	**Local Share**	**State Share**	**Local Share**	**State Share**
Q1	63.8%	36.2%	65.9%	34.1%
Q2	40.6%	59.4%	42.2%	57.8%
Q3	32.5%	67.5%	33.8%	66.2%
Q4	26.6%	73.4%	27.6%	72.4%
Q5	20.0%	80.0%	20.8%	79.2%
Avg.	39.5%	60.5%	41.1%	58.9%

Because the local/state share ratio changes based on districts' local wealth, with higher wealth districts raising more of their foundation revenue locally and lower wealth districts raising less, the local impact of a 1.0 mill increase in the URT will vary by district wealth. Districts in quintile 1 (Q1), the highest wealth districts, would experience, on average, a 2.1 percentage point increase in their local share of foundation funding. Those districts in Q5, the lowest wealth districts, would experience an average increase in their local share of 0.8 percentage points. From a per-student perspective, a 1 mill increase in the URT would increase local property tax foundation revenues per ADM (and decrease state revenues by the same amount) by an average of $107 per ADM. By wealth quintile the changes would be:

- Q1: $144 per ADM
- Q2: $110 per ADM
- Q3: $88 per ADM
- Q4: $72 per ADM
- Q5: $54 per ADM

Excess M&O Mills

State law allows districts to raise M&O mills in excess of the 25 mill URT with voter approval. Districts may raise additional discretionary mills on top of the URT's 25 mills or an additional 3.0 dedicated M&O mills. In 2018**/**19, 59 of the 235 districts, or about a quarter of all districts, raised additional discretionary mills above the 25 mill URT. Ten districts levied the additional dedicated M&O mills. Only two districts levied both types of additional M&O mills: Russellville and Little Rock. These are both higher property wealth districts that fall into quintile 1. The discretionary M&O mills ranged up to 14.9 mills while the dedicated M&O mills ranged between 0.90 mills to 3.0 mills.

While giving districts additional levy authority above mandatory education levies may be good policy in terms of recognizing voters' local preferences for supporting education and facilitating local control, the practice can also have a negative impact on funding equity or serve as a warning sign for other problems with the state's school finance system. Equity concerns may be raised if districts with high property wealth are either significantly more likely to levy excess mills than districts with less property wealth or if they raise substantially more revenues on a per-student basis. Either of these circumstances can lead to inequities in the funding system. On the other hand, if most districts are levying a significant amount in excess M&O levies, this may be an indication that the foundation or other components of the state's finance system are not providing an adequate level of resources for districts. We analyzed excess levies in Arkansas from this perspective.

To address the first issue (Are districts with more property wealth more likely to levy excess mills or to raise significantly more excess levy per-student revenues?), we calculated correlation coefficients between local property wealth and excess levy mill rates and revenues. First, we calculated the correlation coefficient between local property wealth per ADM and excess M&O mills. This correlation was a modest 0.229, showing a relatively weak correlation between the two variables. We also

calculated the correlation coefficient between local property wealth per ADM and excess M&O revenue per ADM. This correlation was higher, 0.424, showing a moderate correlation between the two variables, but still below the generally accepted equity benchmark of 0.50 for fiscal neutrality. These correlation coefficients suggest that what is driving additional M&O revenue decisions may be more about local preferences for higher levels of educational services than about local property wealth.

We also examined both the prevalence of excess levy mills and the amount of revenue per student raised by property wealth quintiles. The average excess M&O revenue raised among those districts with excess levy mills was $363 per student. Per-student revenues ranged from $5 to $2,091. As Table 3.19 below shows, Q1, the quintile of districts with the highest property wealth, has the highest percentage of districts that levy excess M&O mills while also raising the most per-student excess M&O revenue. The percentage of districts' excess levy mills continues to decrease slightly from Q2 to Q5 while the amount per student raised also decreases. These numbers show that districts with greater property wealth are taking greater advantage of the option to raise excess M&O mills and are raising more funds than districts with less property wealth. Because relatively few districts are levying excess mills, this is not yet having much impact on equity. However, if the number of districts levying excess mills continues to grow, the state could begin to see a greater negative impact on equity.

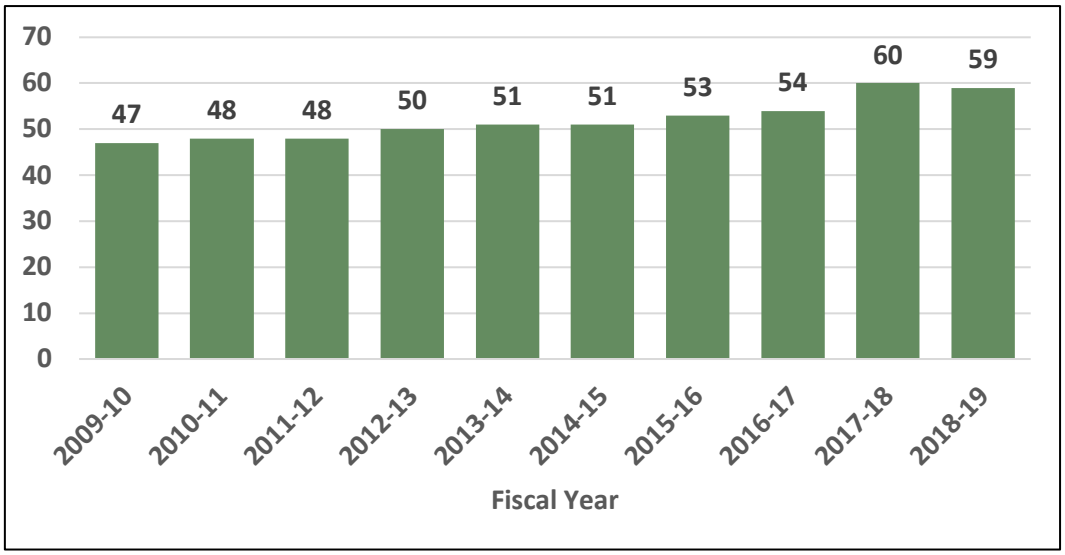
Table 3.19: Excess M&O Levies by District Wealth Quintile

Quintile	Percent of Districts with Excess M&O	Average Excess M&O Per-Student Revenue
Q1	51.1%	$543
Q2	27.7%	$296
Q3	19.1%	$241
Q4	17.0%	$212
Q5	10.6%	$137

Regarding the second issue (Are one or more components of the state's finance system failing to provide adequate levels of resources for districts?), only about a quarter of all districts currently levy excess M&O mills. This suggests that there is not yet strong demand for raising substantial revenues beyond those generated by the state's funding formulas.

While the number of districts with excess M&O mills is still relatively modest, Chart 3.1 below shows the number has been slowly but steadily increasing over time. It should be noted that the foundation amount set by the state increased by between 1.5 percent and 2 percent through 2014**/**15, but only by 1 percent from 2015**/**16 on, which may be causing more districts to use excess mills to maintain current program levels.

Chart 3.1: Number of Districts with Excess M&O Mills



Conclusions

Both the BLR's 2017 analysis of horizontal equity and fiscal neutrality and this analysis of educational personnel and program resources and student outcomes indicate that Arkansas's school finance system is quite equitable. One area of concern is the higher than desired correlation coefficients measuring the relationship between local property wealth and district revenue reported in the BLR study; however, this concern is offset to some extent by the low wealth elasticity coefficients as measured by the Gini Coefficient, which indicate that increases in local property wealth do not have a significantly large effect on district revenues. The CVs and correlation coefficients generated by our analyses of specific educational resources and outcomes were all within acceptable ranges.

Similarly, our analysis of the URT and excess M&O mills did not find any immediate cause for concern. Arkansas's use of a foundation funding approach and relatively high state share of foundation funding supports an equitable finance system and a moderate local share of funding. While the number of districts currently accessing additional M&O mill levy revenues is low, our quintile analysis found that more districts in the wealthiest quintile levy excess M&O mills and the average per-student revenue raised increases with property wealth. Our analysis also found a small but steady increase in the number of districts levying excess M&O mills. Both circumstances could potentially negatively affect the equity of the funding system if these trends worsen. The state should monitor both of these items going forward.

Though the property wealth of districts does not seem to be correlated to the personnel resources, program offerings, or student outcomes, other areas of the study show that there are relationships between other student and/or district characteristics and these areas. Chapter 4 begins to examine the relationships between student needs, performance, and funding. Chapter 7 looks at differences by district size.

4. Indicators Impacting Student Performance

In this chapter, the study team first reviews student demographics in the state then analyzes: (1) achievement gaps across student groups, (2) the effect of concentrations of poverty on student outcomes, supplementary analyses to illustrate how varying degrees of poverty differentially impacted student academic performance, (3) the impact of class sizes on student outcomes, and (4) the relationship between student performance and educational funding.

The chapter begins with an overview of the data and the study team's analytical research methods. This overview outlines the research questions, variables of interest, and statistical approaches that comprised the quantitative analysis (see Table 4.1 below). Next, the chapter provides a summary of each individual analysis, including the methodology, and key takeaways. The chapter concludes by drawing connections between the team's findings, supplementary analyses, and related implications.

Key Takeaways

- The majority of students in the Arkansas public school system are classified as low-income, with disproportionately higher rates of low-income students in (1) Black and Hispanic/Latinx groups, (2) the categories of migrant, homeless, and English learner (EL) and special education, and (3) in rural areas.
- There were observable achievement gaps for low-income, EL, special education and underrepresented minority (URM) students; not only do these discrepancies persist from one year to the next, but also that proficiency gaps widened over time.
- The study team's analyses indicated that poverty is linked to lower academic performance. Further, attending a school with a high concentration of poverty was less detrimental to student's academic proficiency than that student individually being identified as a low-income student.
- While funding varied based on student demographics, (1) these differences did not amount to more than $800 in additional per-student funding on average, (2) none of the groups analyzed received more than 9% more in per-student funding than any other group, and (3) racial/ethnic groups that comparatively received more per-student funds were disproportionately low-income.

Analysis Methods

Data and Definitions

The analyses in this chapter rely primarily on three sources of data: the Arkansas Department of Education (ADE), ADE's My School Info online database, and the National Center for Education Statistics (NCES). ADE provided student-level data in response to a February 2020 data request. These data provided requisite information on student demographics, school funding, and student assessment

outcomes. The study team obtained school-level data on average class sizes, personnel, and student academic growth from ADE's My School Info online database. The team obtained data on population density and proximity to urbanized areas from the NCES online database. The analytical sample comprised over 1.1 million student records and spanned four fiscal years (from 2015/16 to 2018/19).[10]

Analysis Overview

The study team's analyses aligned with four distinct areas of inquiry. First, the study team studied statewide gaps/disparities in achievement by student demographics with the intent of identifying demographic groups of students who lagged behind their peers on academic achievement, per-student spending, and, more broadly, access to education opportunities. Second, the study team evaluated concentrations of poverty and how school-level poverty affected academic performance. For this analysis the team examined the effects of school-level poverty and individual student low-income status, and then how school characteristics and academic outcomes varied based on school-level poverty across the state using different metrics. Third, the team investigated the impact of per-student spending across different academic outcomes by assessing the relationship between student performance and per-student spending. Fourth, the team examined average class size variation across the state, its relationship with student performance, as well as the factors that influenced average teacher salaries. Table 4.1 below summarizes the analyses, research questions, variables, level of analysis, and statistical methodology discussed in this chapter.

Table 4.1: Summary of Analytical Research Methods

Analysis	Research Question(s)	Dependent Variable(s)	Independent Variable(s)	Controls	Level of Analysis	Statistical Model	Years
1. Identification of Gaps	Do proficiency and growth gaps exist in Arkansas by student demographics? Do gaps vary by funding level?	Level of proficiency in math, level of proficiency in ELA	Student demographic characteristics	Student low-income, SPED, EL status; race/ethnicity	Student level	No statistical model estimated; analysis was descriptive and correlational	2015/16 to 2018/19
2a. Concentrations of Poverty	How does a school's concentration of poverty impact assessment outcomes?	Proficient in math, proficient in English Language Arts (ELA)	Low-income student percentage at the school level	Student low-income, SPED, EL status; race/ethnicity; school locale	Student-level	Linear probability model	2015/16 to 2017/18
2.b Outcomes by Poverty Level	How do class sizes and test scores vary by poverty level? Do these trends change depending on the measure of poverty?	Average class size; Math proficiency rate; ELA proficiency rate	Low-income student percentage	N/A	School-level	No statistical model estimated – analysis was descriptive	2018/–19

[10] See Appendix 4, Figure 4.A.1.1 for a data inventory of key data terms, definitions, and acronyms.

Analysis	Research Question(s)	Dependent Variable(s)	Independent Variable(s)	Controls	Level of Analysis	Statistical Model	Years
3. Performance and Funding	What is the relationship between funding and student academic performance?	Level of proficiency in math, level of proficiency in ELA	Per-student expenditures	Student low-income, SPED, EL status; race/ethnicity	Student - level	Least Absolute Shrinkage Selection Operator; Ordinal Logistic Regression	2015/16 to 2018/19
4. Class Size	How does class size or student-teacher ratio affect assessment outcomes?	Growth in math, growth in ELA, average teacher salary	Average class size, student-teacher ratios	School low-income, SPED, EL status; race/ethnicity percentages (class size analysis); district total FTE; total mills (workforce analysis)	School-level	Linear model	2015/16 to 2017/18

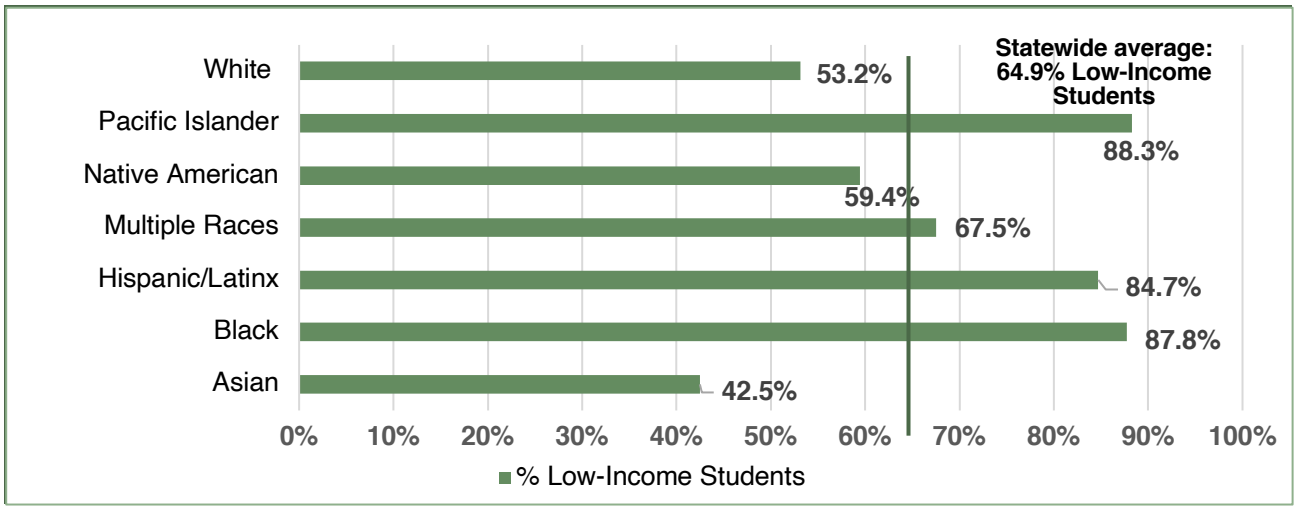
The next section summarizes the team's findings on each stand-alone analysis in sequence; and the chapter concludes by synthesizing the research conducted and the related implications for the use of poverty funding within the state.

Summary of Findings

Poverty Status in Arkansas

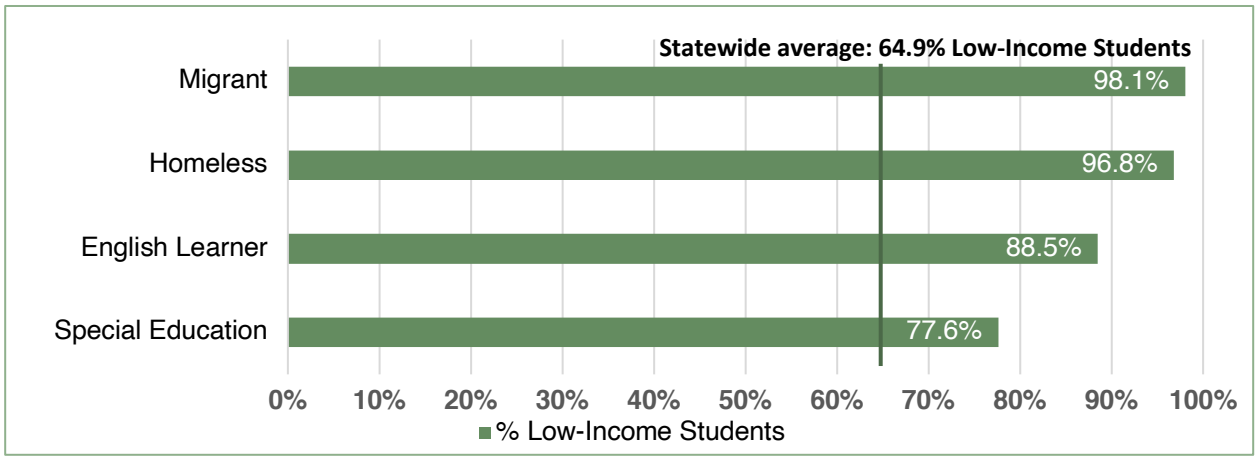
When using free and reduced-price lunch (FRL) status as a proxy for low-income status, the majority of students in the Arkansas public school system are classified as low-income. There are disproportionately higher rates of low-income students in (1) Black and Hispanic/Latinx groups, (2) the categories of migrant, homeless, and English learner (EL) and special education, and (3) in rural areas. During the 2018/19 school year, roughly 65 percent of all students qualified for free and reduced-price lunch, including students that were directly certified. In 2018/19, the analysis showed that while approximately 65 percent of all students in the state that were identified as low-income, rates differed by race and ethnicity; 42.5 percent of Asian and 53.2 percent of White students were low-income, compared to 87.8 percent of Black and 84.7 percent of Hispanic/Latinx students. (Figure 4.1).

Figure 4.1: Low-Income Status by Race & Ethnicity



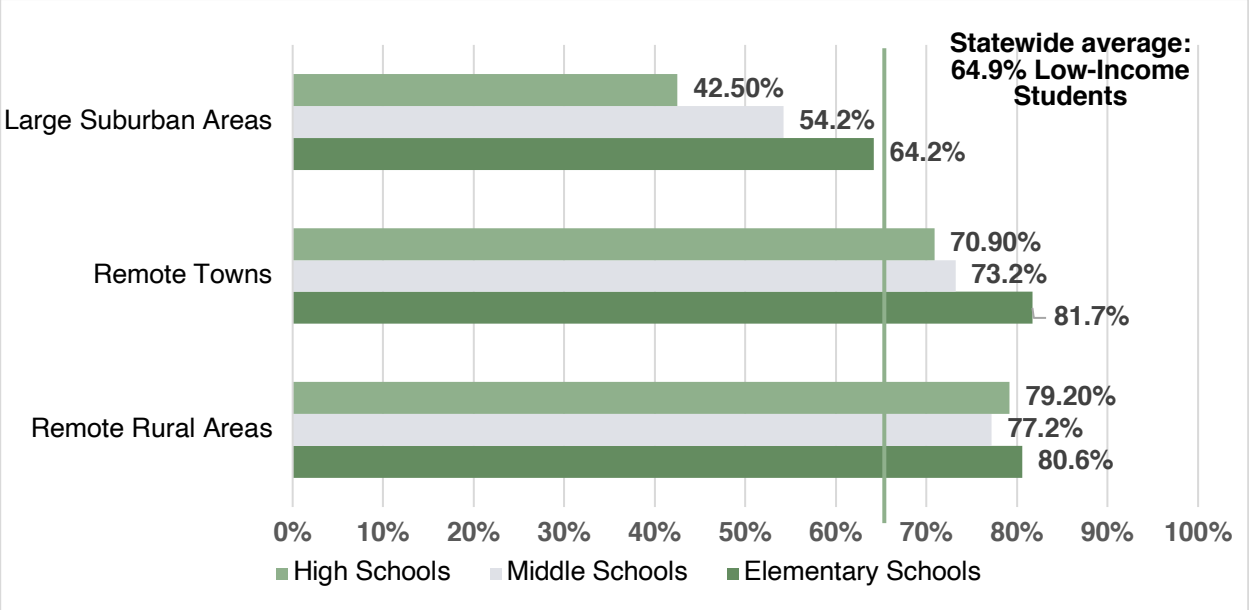
This same year, migrant, homeless, and English learner (EL) students, along with students with disabilities (SPED) had disproportionately high rates of low-income students, with 98.1 percent, 96.8 percent, 88.5 percent, and 77.61 percent of these students classified as low-income, respectively (Figure 4.2).

Figure 4.2: Low-Income Students by Migrant, Homeless, EL & SPED Status



Furthermore, the analysis showed that schools in large suburban areas had the lowest concentrations of poverty with an average of approximately 57 percent of low-income students, as compared to schools in remote towns and rural areas with an average of over 75 percent of low-income students. (Figure 4.3.) The team then analyzed how a school's concentration of poverty impacted student achievement.

Figure 4.3: Concentrations of Poverty by Remoteness and School Type



Identification of Achievement Gaps

The study team conducted an exploratory data analysis to identify gap areas in proficiency, growth, and per-student spending by student demographics in Arkansas. For this analysis, the team examined (1) student-level demographic and school-level expenditure data, and (2) school-level proficiency and value-added (VAM) growth measures on the ACT Aspire assessment.[11] The team also examined proficiency across different student demographics and compared proficiency rates and per-student spending levels between disadvantaged students and their peers. These preliminary analyses enabled the team to report on relationships between school demographics and academic outcomes, as well as the approximate magnitude of correlations.

Arkansas proficiency data indicated that gaps persist across different student demographics. In 2019, the statewide proficiency rate on the ACT Aspire was 43.7 percent in ELA, and 46.6 percent in math. Examining student population subsets demonstrated that—in both ELA and math—students with disabilities (SPED), most students of color, and low-income and limited English proficient (EL) students all had lower proficiency rates than the state average. Moreover, when compared to their counterparts, these students displayed significant gaps in terms of the percentage of students proficient in ELA and math. Table 4.2 depicts the (1) statewide proficiency rates for disadvantaged student groups, (2) substantial gaps between disadvantaged students and their peers, and (3) a comparison of these students' proficiency rates and gaps.

[11] VAM measures are a broad categorization of statistical techniques used to attribute positive or negative student academic performance to teachers, schools, or districts.

Table 4.2: Student Proficiency Rates and Gaps

Student Population	Proficiency Rate	Comparison Group Proficiency Rate	Gap
ELA			
Low-income (FRL) Students	34.6%	63.1% (Non-FRL Students)	28.5%
EL Students	13.8%	47.1% (Non-EL Students)	33.3%
Special Education Students	7.2%	49.8% (Non-SPED students)	42.6%
Under-Represented Minority (URM) Students	33.0%	55.4% (White & Asian Students)	22.4%
Math			
Low-income (FRL) Students	38.2%	64.6% (Non-FRL Students)	26.4%
EL Students	22.6%	49.6% (Non-EL Students)	27.0%
Special Education Students	12.2%	52.5% (Non-SPED students)	40.3%
URM Students	32.3%	54.3% (White & Asian Students)	22.0%

Academic growth in ELA and math declined as the percentage of disadvantaged students within a school increased. With the exception of ELA proficiency for EL students, this finding comported with the analysis of ACT Aspire proficiency rates. For EL students, as the percentage of EL students in a school increased, so too did ELA growth on the ACT Aspire. The analysis further illustrated that in most cases, growth and proficiency declined as schools served larger percentages of disadvantaged students, which will be further explored in the next section.

Concentrations of Poverty

The study team conducted school-level and student-level analyses to examine the effect of poverty on academic achievement measures. For the school-level analysis, the team used data aggregated to the school level to understand how variation in school demographics impacts average student achievement. The team found that increasing a school's proportion of low-income students by one percentage point resulted in a (1) 0.15 percentage point decline in the school's ELA proficiency rate, and (2) 0.1 percentage point decline in the school's math proficiency rate (see Appendix 4.A.2, Figure 4.A.2.1). While a school's concentration of poverty affected proficiency on the ACT Aspire assessment, it did not appear to similarly affect mean growth at the school level. The analysis further indicated that a school's growth depended less on its concentration of poverty, and more on the school's growth from the previous year and the proportions of EL or SPED students it served. This is an encouraging feature of the growth measure since a school's growth was less dependent on student demographics, and ostensibly more dependent on the school's ability to support student learning. It is in line with prevailing literature outlining the shortcomings associated with an over-emphasis on student proficiency measures.[12]

The team then analyzed how concentrations of poverty, and individual student poverty status, affected student-level learning outcomes. This was done by estimating a probability model and examining the factors that increased or decreased a student's likelihood of being proficient in both math and ELA. One

[12] Ho, A. D. (2008). The problem with "proficiency": Limitations of statistics and policy under No Child Left Behind. Educational researcher, 37(6), 351-360.

of the findings was that a school's concentration of poverty had a negative relationship with an individual student's probability of being proficient. Summarily, a one percentage point increase in a school's concentration of poverty generated an approximate 1.5 percentage point decline in the likelihood that a given student was proficient in math or ELA. That is, simply attending schools with larger percentages of low-income students appeared to negatively affect an individual student's performance. Stated differently, as a school's concentration of poverty increased, individual students were less likely (had lower probabilities) to be proficient in math and ELA. However, because these results did not meet stringent statistical significance thresholds, we interpret them with caution.[13] With these limitations in mind, the team also looked at other factors that potentially impacted student performance.

This led the study team to also analyze an individual student's low-income status- as opposed to the concentration of poverty at a student's school- to investigate its relationship with student performance. Essentially, the team wanted to compare the impact of attending a low-income school with the impact of being low-income. The team found that being low-income had a larger influence on that student's proficiency level than a one percentage point increase in a school's percentage of low-income students. In other words, in math and ELA, low-income students were 7.9 and 7.3 percentage points less likely to achieve proficiency, respectively, than their wealthier peers. So, on average, a school's concentration of poverty would have to increase by nearly 8 percentage points to have the same effect on a student as being identified for free and reduced-price lunch, holding other variables constant. In short, the findings imply that large increases in ESA funding based on concentration of poverty thresholds may be less prudent than simply providing an appropriate amount of funding based on the number of low-income students within a school or district.

The analysis also revealed pertinent information about the prospect of students being proficient in math and ELA by student demographic. This is an especially important dynamic to consider as some demographics have disproportionately high rates of low-income students. In conducting this analysis, the team learned that with the exception of Hispanic/Latinx students, disadvantaged students were far less likely to be proficient in math and ELA than their peers. Compared to non-EL students and non-SPED students, EL and SPED students were 10 percentage points and 18 percentage points less likely to be proficient in math and ELA, respectively. Additionally, Black students were roughly 10 percentage points less likely to achieve proficiency in math and ELA than their White peers. In all, these findings coincided with the math and ELA proficiency disparities as most SPED, EL, and low-income students and students of color were less likely to achieve proficiency, thereby indicating that not only do these discrepancies persisted from one year to the next, but also that proficiency gaps widened over time.

[13] "Statistical significance" refers to probability values in hypothesis testing. Probability values in hypothesis testing represent the probability of randomly sampling the given data under the assumption that the null hypothesis is true. In short, small probability values are equated with statistical significance—or a high likelihood that the observed result was not one of random chance.

After controlling for other factors, the study team found that remoteness alone did not negatively impact student assessment scores. Similarly, after analyzing the relationship between school-level poverty, size, and remoteness, the team found that student demographics were more significant determinants of proficiency than school size or remoteness. This further reinforced the previous findings related to concentrations of poverty, specifically, that schools in remote areas were often those with the highest percentages of low-income students.

Outcomes by Level of Poverty

The study team calculated averages for school characteristics and student academic outcomes across deciles of poverty to identify trends as the concentration of poverty increased or decreased.[14] The team also calculated deciles using multiple socioeconomic status measures to determine if/how these trends changed based on the type of poverty measure used. The team used two measures to generate deciles including the percent of students (1) FRL and (2) Free Lunch + Direct Certification. We note, the first measure is inclusive of all students eligible to participate in the National School Lunch (NSL) program including those that applied for reduced or free priced meals via application and those directly certified, while the second measure excludes the reduced- price meal students. These measures potentially convey different trends, since students can gain access to the program through different processes, and also because the second measure is inclusive only of students that meet higher poverty thresholds (compared to students that qualify for reduced-price lunch). This analysis was purely descriptive and intended to capture differences between school characteristics and average academic achievement indexed by school poverty levels. (Tables 4.3 and 4.4)

Table 4.3: Summary Statistics by FRL Decile

FRL Decile	Student Teacher Ratio	Average Class Size	Graduation Rate	Math Growth	ELA Growth	% Met/Exceeded Math Proficiency Standards	% Met/Exceeded English Proficiency Standards
Decile 1 (lowest)	13.84	17.08	92%	81.86	80.89	61.0%	79.9%
Decile 2	13.42	16.73	85%	80.84	80.31	53.0%	73.9%
Decile 3	13.12	16.43	86%	80.29	80.22	50.3%	72.8%
Decile 4	12.33	16.00	87%	80.21	80.32	48.7%	70.6%
Decile 5	12.37	16.19	82%	79.55	79.60	44.6%	69.1%
Decile 6	11.47	15.02	89%	79.03	79.76	38.9%	64.0%
Decile 7	11.99	15.73	86%	79.86	80.23	44.1%	67.4%
Decile 8	13.25	16.54	86%	79.29	79.60	43.6%	65.3%
Decile 9	12.76	15.93	67%	78.73	79.00	35.6%	58.8%
Decile 10 (highest)	14.05	17.49	83%	78.17	79.02	29.2%	52.5%

[14] Deciles are portions of a population or group, divided into 10 equally sized portions, depending on their value for a particular variable.

Table 4.4: Summary Statistics by Free Lunch + Direct Certification Decile

Free Lunch + Direct Cert. Decile	Student Teacher Ratio	Average Class Size	Graduation Rate	Math Growth	ELA Growth	% Met/Exceeded Math Proficiency Standards	% Met/Exceeded English Proficiency Standards
Decile 1 (lowest)	13.82	17.07	93%	81.81	80.88	62%	80%
Decile 2	13.18	16.37	85%	80.91	80.49	52%	74%
Decile 3	12.99	16.39	86%	80.16	79.99	51%	74%
Decile 4	12.36	16.12	88%	80.45	80.26	50%	71%
Decile 5	12.76	16.47	88%	79.48	79.77	45%	69%
Decile 6	11.72	15.10	84%	79.15	79.55	41%	66%
Decile 7	12.02	15.66	86%	80.06	80.53	45%	66%
Decile 8	13.04	16.63	85%	79.13	79.72	41%	65%
Decile 9	12.83	16.15	68%	78.95	79.12	35%	57%
Decile 10 (highest)	14.09	17.39	80%	77.81	78.68	28%	52%

Proficiency rates for schools with the highest concentrations of poverty were lower than proficiency rates at the wealthiest schools. In certain instances, the proficiency rates for wealthier schools were double that of schools with the highest rates of poverty. For example, 29.2% of students in schools with the highest percentages of low-income students were proficient in math. This is in comparison to 61% of students in schools with the lowest percentages of low-income students. Disparities in proficiency rates were also observed in ELA and across both measures. Summarily, wealthier schools had higher proficiency rates in math and ELA compared to less wealthy schools. There were similar discrepancies when analyzing high school graduation rates. The high schools with larger concentrations of poverty had, on average, lower graduation rates than schools that had smaller percentages of low-income students. This was the case when the poverty measure was all NSL participants (Table 4.3), or only students that qualified for free lunch or were directly certified (Table 4.4). The differences across levels, or concentrations of poverty, was much less pronounced for the growth measures. Although wealthier schools did in fact have higher growth rates, on average, schools above and below the median concentration of poverty level were much more comparable as it related to math and ELA growth. This was consistent across both measures. As previously stated, growth is an academic measure less dependent on student demographics than other measures, like proficiency. Equally, student-to-teacher ratios as well as class sizes did not vary widely when analyzed by school's concentrations of poverty.

Performance and Funding

Next, the study team examined demographic and expenditure data to ascertain any differences in school characteristics by per-student spending levels. For this area of inquiry, the study team conducted two additional inferential analyses: (1) an ordinal logistic regression (OLR), and (2) a least absolute shrinkage selection operator (LASSO). The team used the OLR analysis to study the relationship between

per-student funding and performance level category on the ACT Aspire assessment.[15] The team used the LASSO analysis to examine the relationship between per-student funding and student scaled scores in math and ELA to verify the results.[16]

The team's descriptive analysis showed that the state's median per-student expenditure was $9,483, while the mean was $10,160 per student. The difference between the median and the mean implied that the average per-student expenditure rate was pulled up by students funded at higher per-student amounts. The spending interquartile amount ranged from $8,425 to $11,013, indicating that half of all Arkansas students were funded within this range.[17] The team also observed that as per-student spending increased, school demographic characteristics changed as well (Table 4.5). Overall, the findings revealed that schools with more SPED, EL, underrepresented minority (URM), and low-income students expended more per-student. Furthermore, while funding varied based on student demographics, (1) these differences did not amount to more than $800 in additional per-student funding, (2) none of the groups analyzed received more than 9% more in per-student funding than any other group, and (3) racial/ethnic groups that comparatively received more per-student funds were disproportionately low-income.

Table 4.5: School Demographic Characteristics by Per-student Funding

Decile	Per-student Spending	% FRL	% Sped	% EL	% URM
Decile 1	$7,039	57.2%	11.8%	4.8%	34.8%
Decile 2	$7,919	55.6%	12.9%	3.3%	25.5%
Decile 3	$8,404	60.8%	12.4%	5.1%	30.9%
Decile 4	$8,819	66.2%	13.3%	8.3%	33.2%
Decile 5	$9,261	68.1%	12.9%	12.0%	45.6%
Decile 6	$9,670	59.9%	13.3%	7.5%	35.2%
Decile 7	$10,169	70.8%	14.0%	7.8%	36.1%
Decile 8	$11,041	70.8%	13.4%	10.2%	39.5%
Decile 9	$12,130	76.4%	13.8%	8.3%	47.0%
Decile 10	$17,223	72.3%	14.0%	6.7%	43.9%

The ACT Aspire performance analysis also suggested that students funded at higher rates performed similarly to students funded at lower rates. The team examined 3rd, 8th, and 10th grade math and ELA ACT Aspire scaled scores by levels of per-student funding. (See Appendix 4.A.3, Figures 4.A.3.1 - 4.A.3.6.) This part of the analysis implied that spending differences had a negligible impact on student performance. The team utilized the OLR approach to assess the impact of funding differences on average, while holding other variables constant. Evidence from the OLR analysis confirmed previous

[15] Ordinal logistic regression is a regression technique appropriate when an outcome is categorical and reflects an underlying or natural ordering. It is an extension of logistic regression.

[16] The Least Absolute Shrinkage Operator (LASSO) is a machine learning technique that utilizes penalized regression to iteratively select the most influential covariates while shrinking the unneeded covariate coefficients to zero.

[17] The interquartile range represents 50% of a distribution and encompasses observations from the 25th to the 75th percentile.

results by showing that irrespective of funding level, students had a similar probability of achieving proficiency (See Appendix 4.A.4). We again note that the only outcomes we analyzed are student test scores. Therefore, other positive outcomes that may have resulted from increased spending would not be apparent via our analysis. This means increases in social-emotional competencies, civic engagement, career readiness, and downstream wages could be present, but would not be unearthed in our findings.

Table 4.6 represents the marginal probabilities generated from the ordinal logistic regression. The probabilities showed that, irrespective of per-student funding level, students had the same probability of achieving a level 4 proficiency score on the ACT Aspire assessment.[18]

Table 4.6: Probabilities of Achieving Level 4 Proficiency in ELA and Math by Funding Amount

ACT Aspire Subject	Funding Amount	Probabilities of Achieving Level 4 Proficiency
ELA	$8,250	10.9%
	$11,250	
Math	$8,250	5.5%
	$11,250	

The LASSO approach added additional context and by and large confirmed the descriptive and OLR analysis results detailed above. The LASSO analysis demonstrated that funding had a positive effect on student achievement, though these gains were negligible. The study team found that for every additional $1,000 in per-student spending, ACT Aspire test scores increased less than a point for math and ELA. This indicated that even when controlling for background characteristics, students who received more per-student funding did not achieve substantively higher scaled scores for math and ELA. Taken together, these findings implied that while disadvantaged students received more per-student, the current amount of additional funding provided has not produced large enough gains in performance to achieve equitable outcomes. We caution that the results only reflect conventional testing outcomes, and do not provide insight into the way in which additional funds were allocated. Thus, gains in social emotional learning, improved facilities, or career readiness outcomes were not accounted for in this analysis.

Class Size

The investigation of class sizes and performance consisted of descriptive and observational analyses which enabled the study team to (1) identify variation in class sizes by school type, and (2) assess the relationship between class size and math and ELA growth on the ACT Aspire. In conducting this analysis, the team utilized an ACT Aspire value-added growth measure (VAM)[19] because smaller class sizes

[18] Level 4 is the highest proficiency level on the ACT Aspire statewide assessment.
[19] VAM measures are a broad categorization of statistical techniques used to attribute positive or negative student academic performance to teachers, schools, or districts.

presumably result in students receiving more direct instructional time, and thus support increased academic growth. The team also used Ordinary Least Squares regression[20] to model ACT Aspire growth.

It is important to note that class size data available from ADE was based upon all teachers and classes in a school, and not just in core instructional areas. Additionally, class size data was aggregated at the school level, which limited the team's ability to adequately parse differences in performance based upon class size variation. As a result, the class size information (1) did not solely reflect conventional classroom settings and presumably understated class sizes for core instruction, and (2) did not provide detailed data regarding the full inventory of class types it represented.

Schools with higher percentages of disadvantaged students more often had smaller class sizes. Though, this was not the case for EL and Hispanic/Latinx students, the general trend likely reflects deliberate strategies to decrease class sizes in schools with larger numbers of disadvantaged students. Notably, average class size decreased as the proportion of low-income, SPED, and homeless students increased. This was not the case, however, for schools with larger EL student populations, as these schools had larger class sizes than schools with fewer EL students. In sum, this demonstrated that EL students were more likely to attend schools with larger average class sizes. (See Appendix 4.A.4, Figure 4.A.4.2.)

The team analyzed the relationship between class size and ACT Aspire growth while controlling for student-, school-, and district- level characteristics as well. These findings demonstrated that class size did not have a statistically significant effect on ACT Aspire math or ELA growth. Other factors, such as the percentage of EL students within a school and a school's achievement from the previous year, were in fact better predictors of academic growth. While one might anticipate that smaller class sizes positively effect growth, the analysis implied that the class size reductions observed may not be enough to compensate for the higher concentrations of disadvantaged students that attend schools with lower class sizes.

Conclusions

The study team's analyses supported the far-reaching effects poverty has across the state, both at the school and student level. The majority of students in Arkansas are low-income, and the team's analyses indicated that poverty is linked to lower academic performance. There are disproportionately higher rates of low-income status in (1) Black and Hispanic/Latinx student groups, (2) the categories of, migrant, homeless, and English learner (EL) and special education, and (3) in rural areas. Observable achievement gaps existed for students of color, students identified as EL, special education students, and/or low-income students compared to their peers.

Though the concentration of poverty of a school had negative impacts on student proficiency, a student's low-income status had a far greater impact on that student's proficiency level. Being

[20] Ordinary Least Squares (OLS) is a common statistical model used to estimate the effect of one or more independent variables (e.g., student demographics, teacher experience) on a dependent variable (e.g., proficiency rates).

individually identified as a low-income student was more detrimental to student performance than attending a school with a high concentration of poverty.

Funding varied very little based on student demographics. Though low-income populations did receive more funding, the additional funding was never more the 9 percent between any group. The level of difference in funding might not be enough to drive changes in outcomes for students from low-income backgrounds.

The team also acknowledges, however, the limitations of the analysis, and that the investigations summarized here were either descriptive and/or relied on observational data. The team further notes that while these analyses cannot be utilized to support causal claims regarding potential relationships between student- and school-level indicators and academic achievement, the findings have relevant implications to education adequacy within the state of Arkansas.

The relationship between certain demographic characteristics and student outcome shows the importance of evaluating the resource differences needed across student demographic groups. Chapter 5 looks at the how states target funds to at-risk populations, using low-income status as a proxy, and Chapter 6 provides details on programs and interventions that have been found to be effective with these populations.

5. Addressing Poverty and Achievement Gaps: Funding Approaches

From a funding approach perspective, addressing the achievement gaps observed in the prior chapter is two-fold, first providing the resources needed to serve all students as part of the foundation matrix, and then providing additional targeted resources for specific student groups. A comparison of the funding matrix to the findings of both prior Arkansas adequacy studies and adequacy studies in other states nationally will be included in Chapter 11. This chapter will focus on the approaches to targeting resources to at-risk students and includes:

- Methods for targeting resources for struggling students in Arkansas and other states
- Discussion of the use of free and reduced-price lunch (FRL) status as a proxy for being at-risk and alternative proxy measures
- How districts are currently using ESA funds and district perspectives of the most effective use of these funds

Key Takeaways

- The majority of states provide funding to at-risk students utilizing a single weight/dollar amount, multiple weights/dollar amounts, categorical grants, and resource-based allocations.
- The implementation of the Community Eligibility Provision (CEP) has impacted the accuracy of the FRL counts used to run many of the at-risk funding systems.
- There are a few alternative approaches that could be used for counting students eligible for the Enhanced Student Achievement (ESA) categorical funding, but all create changes from the current distribution.
- Districts current spend ESA funding most heavily on curriculum specialists, coaches, and instructional facilitators, transfers to other categoricals, and other activities approved by Arkansas Department of Education (ADE). Arkansas districts generally use ESA funding in line with the areas they find most effective.

Methods for Providing Targeted Funding for At-Risk Students

Approach in Arkansas

The ESA categorical fund provides additional funding to districts based upon the concentration of students who are eligible for FRL through the National School Lunch Program (NSL) of the U.S. Department of Agriculture (USDA). This program was formerly known as National School Lunch (NSL) funding but renamed so it would not be confused with the federal NSL program. The ESA funding is intended to provide additional resources to address achievement. The funding must be used for allowable purposes or be used for activities approved by the ADE) The ESA Funding is tiered into three concentration categories: below 70 percent, 70 to 90 percent, and above 90 percent.

The three ESA funding tiers are:

1. School districts with 90 percent or more FRL students receive $1,576 per FRL student.
2. School districts with 70- 89 percent FRL students receive $1,051 per FRL student.
3. School districts with less than 70 percent FRL students receive $526 per FRL student.

There has been no change in ESA funding since fiscal year 2017; however, the legislature has supplemented ESA funds with a separate matching grant program to be used to help districts provide certain services, such as tutoring, pre-kindergarten programs, and before- and after-school programs. There is also additional transitional and growth ESA funding to address districts with changing enrollment that shifts the funds between various categories.

Approaches in Other States

Like Arkansas, most states provide additional funding, or compensatory revenue, for students who are considered to be at risk of poor academic achievement. Three states (Alaska, Delaware, and South Dakota) do not provide additional state funding for at-risk students. The remaining 47 states can be divided into four categories. Descriptions of the categories are provided below in Table 5.1.

Table 5.1: State Funding for At-Risk Students (2018/19)

Mechanism	States
Single student weight or dollar amount (31)	AL, AZ, CA, CT, HI, IN, IA, KY, LA, ME, MO, MA, MI, MN, MS, MO, NH, NM, NV, NY, ND, OH, OK, OR, RI, SC, TX, VT, WA, WV, WY
Multiple student weights or dollar amounts (8)	AR, CO, IL, KS, NE, NJ, PA, VA
Categorical grant (4)	FL, MT, UT, WI
Resource-based allocation (4)	GA, ID, NC, TN

Single Weight or Dollar Amount: There are 31 states that use a flat weight or dollar amount per student to provide additional funding for at-risk students. For example, West Virginia provides an additional $18 per student for the total number of students enrolled in a district (W. Va. Code § 18-9A-21). In contrast, Maine identifies students who are eligible for FRL as at-risk and provides an additional weight of 0.15 just for those students (20-A M.R.S.A. § 15675).

Multiple Weights or Dollar Amounts: When states fund at-risk students through multiple weights or dollar amounts, it is usually a sliding scale based on the concentration of at-risk students in a district. There are eight states that use this funding mechanism. Pennsylvania uses two different additional weights (either 0.3 or 0.6), based on the concentration of at-risk students in a district (24 P.S. § 25-2502.53). Similarly, Nebraska uses seven different weights, ranging from an additional 0.0375 to 0.225, where the weight increases as the percentage of at-risk students increases (Neb.Rev.St. § 79-1007.06).

Categorical Grant: Four states provide funding for at-risk student through a categorical grant based on state appropriations. For example, Florida provided $712,207,631 for the 2017/18 fiscal year for its

Supplemental Academic Instruction program. Districts can submit a plan to the state to receive funding through this program.

Resource-Based Allocation: There are four states that use a resource-based allocation for students at risk. Under this model, states allocate resources, like teachers and aides, based on the number of at-risk students. For example, Tennessee uses class size reduction to provide additional resources to at-risk students. The teacher-to-student ratio increases to 1:15 class size reduction for grades K–12, which is estimated to be the equivalent of $542.27 per identified student as at risk (T. C. A. § 49-3-361).

Use of Free and Reduced Lunch as a Proxy for At-Risk Status

While state funding formulas employ a variety of student characteristics for identifying and counting at-risk students, the most common proxy for at-risk status is being from a low-income family. For decades state compensatory formulas have used the count of students eligible for FRL as their count of low-income students (Greenberg, 2018). In 2019, 17 states used the number of eligible FRL students as their sole low-income student count, while another 9 states used FRL counts along with counts of other risk factors. Table 5.2 shows the type of poverty indicator used by states and the District of Columbia (Education Commission of the States, 2019).

Table 5.2: Poverty Indicators Currently Used in State At-Risk Funding Formulas

Poverty Indicator	Number of States	States Using
Free and Reduced-Price Lunch	17	AR, HI, IA, MA, ME, MD, MN, MO, ND, NE, NH, NJ, NV, OK, TX, WA, WI
No Indicator Used	9	AK, AL, AZ, DE, FL, GA, ID, MT, SD
Free and Reduced-Price Lunch and other Factor(s)	9	CA, CT, LA, MI, NY, OH, UT, VT, W
Other Risk Factors	4	NM, OR, RI, WV
Free Lunch Only	5	CO, KS, KY, MS, VA
Direct Certification	5	DC, IL, IN, SC, TN
Title I (Census) Counts	2	NC, PA

However, since the passage of the Healthy, Hunger-Free Kids Act (HHFKA) in 2010, the accuracy and viability of FRL counts have been diminished because CEP eliminates the requirement for annual FRL counts in participating schools. Under CEP, every student in a school is eligible to receive free meals if information from social services programs and school districts have identified 40 percent or more of its students as eligible for FRL through direct certification. Because all students in CEP schools are automatically eligible for free meals for four years, the schools are no longer permitted to collect federal applications from students for the purpose of determining their eligibility for FRL during this period. The intent of this requirement is to reduce the administrative burden on schools and to reduce the amount of paperwork required of low-income parents to gain access to free meal services.[21]

[21] Croninger, King Rice, & Checovish, 2015

However, elimination of the family FRL certification form creates a challenge for districts and states to collect up-to-date and accurate data on the number of low-income students in districts with schools participating in CEP for determining compensatory aid amounts. If the same count is used over the four-year CEP eligibility period, the number of low-income students may be undercounted in districts with increasing poverty levels or overcounted in districts where poverty is decreasing.[22] As a result, states have begun to explore or adopt alternatives to the FRL count.

Alternative Indicators of Economically Disadvantaged Students

Researchers and policymakers are involved in exploring ways to either adjust funding formulas to accommodate CEP requirements or develop an alternative count to FRL for estimating the number of low-income students in schools. These alternatives, which are still evolving, fall into three broad categories: 1) use of an alternative form, funded through school districts and the state, to certify household income, 2) use of hybrid models that rely on direct certification and federal school meal applications in schools that do *not* qualify for CEP, and relies on prior data or a multiplier to estimate the number of low-income students in schools that *do* adopt CEP, or 3) use of alternative indicators, including direct certification counts in all schools.

An alternative form is a state administered form designed to replace the federal form for certifying FRL eligibility for use in schools participating in CEP. An alternative form collects the same or similar information as the federal form and is distributed to school districts to provide to families of children who may be eligible for FRL. The advantage of an alternative form is that it continues collecting up to date FRL student counts even in schools participating in CEP. As a result, the counts remain consistent and sudden, significant revenue shifts across districts are avoided. California has adopted the alternative form approach to compensate for the loss of annual FRL counts in CEP schools. The two primary disadvantages are first, administering an alternative form negates the reduction in time burden on schools and families participating in CEP from having to manage and complete the federal form, and second, administering an alternative form may be costly to states and school systems.[23]

Under a hybrid model states and school systems continue to collect annual FRL counts in non-CEP schools but use another means, typically direct certification counts adjusted by a multiplier, for estimating counts in CEP schools. The multiplier is used to adjust direct certification counts, which tend to be lower than FRL counts, to approximate a FRL count. The federal government currently uses a multiplier of 1.6. Texas has adopted this federal multiplier for estimating FRL student counts in its CEP schools. While a multiplier provides a straightforward method for adjusting direct instruction counts, there are a couple of disadvantages to this approach. First, although the multiplier is effective at adjusting the direct certification count to approximate the FRL count at the aggregate state level, it can result in wide variations across individual districts. This variation is due mostly to the fact that most social services programs used for direct certification have lower income eligibility thresholds than the

[22] Croninger, et al., 2015
[23] Croninger, et al., 2015

reduced-lunch threshold of 185 percent of federal poverty guidelines. As a result, districts with a larger proportion of reduced-lunch eligible students may see a decrease in their counts and associated compensatory revenues. A second disadvantage is that the count no longer provides a student-level indicator of whether or not an individual student is low-income. State systems using the FRL count for disaggregating state assessment data for accountability and reporting purposes will be forced to either rely on outdated FRL data or adopt an alternative poverty indicator.

Finally, as table 5.2 above indicates, a number of states have implemented alternative counts or combined alternatives with their FRL counts. The most common count alternatives in current use are:

- Direct certification of families eligible for other support programs such as TANF, SNAP, Medicaid, or housing assistance,
- Census or Title I poverty counts,
- Other student risk factors such as students who are homeless, migrant, in foster care, and/or neglected, or
- Some combination of the above.[24]

Table 5.2 shows that currently five states use direct certification (District of Columbia, Illinois, Indiana, South Carolina, and Tennessee), two states use Census or Title I counts (North Carolina and Pennsylvania), and four states use one or more other risk factors.[25]

When developing or assessing potential alternative count mechanisms education policy organizations such as the Urban Institute and the Brookings Institution suggest adopting FRL alternatives consisting of multiple factors.[26] Some examples of factors to include in a multiple factor counts include:

- Expanding the number of support programs included in any direct certification process, such as Medicaid and WIC. WIC in particular expands the income range of eligibility up to 185 percent of federal poverty guidelines – the same as the reduced lunch upper limit.
- Including non-income-based risk factors such as homelessness, migrant, in foster care, or neglected.

Another panel convened by the National Center for Education Statistics (NCES) of the U.S. Department of Education in 2015 recommended that the following questions should be addressed when considering any alternative poverty count:[27]

- Is the count completed annually?
- Are students counted at the individual, school, district, or community level?
- What is the impact of the new count on the distribution of eligible students across districts?
- What is the impact of the new count on funding across districts?

[24] Greenberg, 2018
[25] Education Commission of the States, 2019
[26] Chingo, 2016, Greenberg, 2018, Harwell, 2020
[27] National Center for Education Statistics, 2015

The next section assesses participation in the CEP program in a selection of comparison states and the impact CEP has had on FRL counts.

Impact of CEP on FRL counts in Comparison States

Under CEP, schools may qualify all students for free meals if 40 percent or more of the students are directly certified as FRL eligible in prior years. Once a school is designated CEP, the eligibility is for four years during which time all students receive free meals. Additionally, during this time schools districts may not use a federal application to determine FRL eligibility. A school can re-qualify for CEP at the end of the fourth year through direct certification.

Other States Use of CEP

The study team examined the percentage of schools in each of the comparison states that use CEP. Schools participating in CEP range from a low of 16 percent in Virginia to a high of 75 percent in West Virginia. School participation is not highly correlated with overall FRL percentage, some of the lowest levels of participation are in states with high levels of FRL students, including Arkansas with just 19 percent participation but over 60 percent FRL students.

The study team analyzed the impact of CEP on FRL counts in Alabama, Maryland, Kentucky, Louisiana, and South Carolina. There was not a clear pattern of impact across the states with some states seeing higher growth in FRL CEP districts and other seeing larger decline in CEP districts. It appears the individual district characteristics and state policies led to different patterns in the state. Additional detail is provided in Appendix 5.

Impact of CEP on FRL counts in Arkansas

The study team was asked to evaluate the impact of the CEP program on FRL counts over time as well as the resulting impact on ESA funding. In this section we analyze how FRL counts have changed over time in schools participating in CEP and the estimated impact on ESA funding.

Participation in CEP

Implementation of CEP nationally began in 2011/12 with a phase-in of a limited number of states over each of three years. Arkansas began participating when the program became available nationally in 2014/15. In the first year of participation four schools from two school districts enrolled in the program.[28] Participation in the program has expanded since then. According to data compiled by the Food Research & Action Center (FRAC), there were 223 schools, including charter schools, participating in CEP during the 2018/19 school year.[29] A total of 57 school districts had at least one school participating in CEP that year. Table 5.3 shows participation information for districts with at least one school participating in CEP by region.

[28] Barker & Nicholson, 2018

[29] The FRAC database is available at https://frac.org/research/resource-library/community-eligibility-cep-database

Table 5.3: CEP Participation by Region

Region	Districts Participating In CEP	Schools Participating In CEP	Students Eligible for FRL	Total Enrollment
Central	4	16	3,894	4,941
Northeast (Upper Delta)	16	118	24,298	32,640
Northwest	15	88	8,548	11,659
Southeast (Lower Delta)	13	42	12,298	,15,325
Southwest	9	29	8,337	10,249
Total	**57**	**293**	**57,375**	**74,814**

The Delta region, including both the Upper and Lower Delta, had 29 districts with schools participating in CEP. With 16 districts, the Upper Delta region (Northeast) had the largest number of districts with CEP participating schools while the Central region had the lowest with only four districts. The Northwest region had 15 districts with CEP schools, the second highest number of districts among all regions. Looking at participating schools and total enrollment, the Northeast region had the largest number of schools, enrollment and students eligible for FRL. The Southeast region had the second highest number of participating schools and students, while the Central region had the lowest number.

To analyze changes in FRL counts over time the study team used school level data for the FRL counts used in the ESA aid calculations. These counts use both direct certification and FRL applications for free lunch counts and FRL applications for reduced lunch. According to Arkansas State Code (6-20-2303), the FRL percentage for schools participating in CEP is the FRL percentage from the school year prior to enrollment in CEP. This base year percentage is used for the duration of the four-year CEP participation window. Changes in the FRL counts were calculated separately for CEP schools, schools not participating in CEP, and schools that were CEP eligible but not participating, and schools nearing eligibility. First, the percentage point difference in the FRL concentration percentage was calculated between the 2018/199 school year FRL percentage and the earliest year data were available for each school (for example, for a school operating during the entire period the difference would be between the school's FRL concentration percentages in 2018/19 and 2013/14. For a school only operating for two years, the difference would be between 2018/19 and 2017/18). The difference in concentration percentages was used to control for changes in FRL counts due to enrollment changes in schools. We then compared the change in FRL percentages between CEP and non-CEP schools and districts.

This analysis was subject to certain limitations. First, the study team analysis of trends in FRL counts for schools and districts was limited to the years 2013/14 through 2018/19. School year 2013/14 was the earliest data readily available on the My School data portal. This year also corresponds with the last pre-CEP year of FRL count data. The study team also did not have data on when individual schools and districts enrolled in the CEP program, limiting our ability to compare pre- and post- CEP participation FRL counts and rates. As a result, our analysis examined the change in FRL percentages in all schools over all years in the 2013/14 to 2018/19 range during which schools were operational. The study team also had no way of collecting actual FRL eligibility data in CEP schools because these counts do not exist. Finally,

the analysis was limited to traditional schools operated by school districts due to limited and inconsistent data on charter schools over this time period. Only schools operating in 2018/19 with at least two years of FRL data were included in the analysis. Because eligibility is determined at the school level, the FRL count change calculations were made at the school level and then aggregated to the district level. As a result, our analyses and finding are limited to the inferences we can make from the FRL estimates made by the state for establishing district FRL percentages for calculating ESA aid amounts.

On average for all districts in the state, the FRL percentage decreased over this time period from an average FRL of 60.31 percent to 59.44 percent, a decrease of 0.87 percentage points. The average FRL percentage in districts with no CEP schools decreased significantly – by a total of 1.64 percentage points, falling from 58.15 percent to 56.53 percent. Conversely, districts with schools participating in CEP saw their FRL percentage increase by an average of 1.58 percentage points, increasing from 75.16 percent to 76.74 percent. The FRL percentage in districts with non-CEP schools with higher FRL concentrations - those designated as eligible for CEP but not participating or near eligible by the state, increased from 69.12 percent to 69.91 percent, an average increase of 0.79 percentage points, about half the increase of districts with schools participating in CEP.

While it is difficult to interpret what these numbers mean with certainty given the available data, these data suggest that the level of poverty in higher poverty schools in the state continued to increase even while rates in much of the rest of the state declined or increased at a slower rate. To confirm this, we examined the change in direct certification percentages for individual schools between 2013/14 and 2018-/19. Table 5.4 below presents these data. Among all schools the average FRL percentage decreased by 0.87 percentage point between 2013/14 and 2018/19. However, schools not participating in CEP experienced a greater decrease of 1.02 percentage points. Among schools eligible but not participating or nearing eligibility the percentage increased by 1.57 percentage points while schools currently participating in CEP increased by 0.87 percentage points. These changes roughly track the changes in direct certification percentages, although the change in direct certification showed a small decrease in the percentage of eligible students in the eligible but not participating and near eligible schools and a larger increase in currently participating schools. This may be due to the differences in which students are included in each count. FRL count include students up to 185 percent of the federal poverty guidelines while direct certification includes only students up to 130 percent of the federal poverty guidelines.

Table 5.4 presents the comparison of the percentage point changes for FRL and direct certification by schools' CEP status.

Table 5.4: FRL and Direct Certification Percentage Point Change by School CEP Participation: 2013/14 to 2018/19

Schools	Change in FRL %	Change in Direct Cert. %
All	-0.87	-1.48
Not Participating in CEP	-1.02	-2.04
Eligible or Near Eligible	1.57	-0.45
Participating in CEP	0.87	1.32

These data seem to confirm that the state's students overall have become somewhat less poor over time, but that schools with already higher rates of low-income students either had a smaller decrease in poverty or experienced an increase. Using FRL as the poverty measure, schools eligible but not participating in CEP or near eligible had the largest increase in low-income students between 2013/14 and 2018/19. Using direct certification as the measure, school already participating in CEP experienced the largest increase.

Impact of Alternative Indicators in Arkansas

The study team was also asked to analyze the impact of alternative proxies for identifying low-income students. In response the study team examined five alternative proxies. All of these make use current data collection, alleviating the need for the state to implement a potentially costly new data collection process. The five alternatives are:

1. Direct certification
2. Direct certification increased by the federal multiplier of 1.6
3. Direct certification increased by a 2.1 multiplier
4. U.S. Census count of children ages 5-17 living in poverty
5. Title I counts

As noted above, the current direct certification count is of students eligible for the Supplemental Nutrition Assistance Program (SNAP), which identifies students from families at 130 percent of the poverty level or below. Direct certification used with a 1.6 multiplier is the count used by the federal government for determining FRL reimbursements in CEP schools. The direct certification used with a 2.1 multiplier option was included because it results in statewide count that is most similar to the current FRL count. The Census count identifies children ages 5 to 17 from families at or below the federal poverty level, while Title I counts use the Census count plus counts of students who are neglected, delinquent, in foster homes, or eligible for the TANF program.

While all of these options are part of current data collections, each presents certain disadvantages as a proxy for low-income children. Direct certification, as currently configured, only counts the equivalent of free-lunch students, excluding those students eligible for reduced-price lunches between 130 percent and 180 percent of poverty. These counts may be increased by a multiplier but then the connection to individual students is lost. Use of a different count may be necessary for categorizing students by

income status for state assessment and accountability purposes. Census numbers are only available at the district level, not by school and would also exclude any students currently counted as FRL eligible who are above the federal poverty level.

The study team focused on the impact of alternative counts on each district's share of the current statewide FRL count. The full analysis on the impacts of the five alternatives is described in Appendix 5.

Direct Certification: The three approaches to direct certification counts were analyzed together because they are all multiples of the direct certification count, thus their share changes across districts are the same. Eighty-nine districts would see their counts change within a range of plus/minus 10 percent. Thirty-two districts would experience changes in their share of low-income students of nearly a third or more. Fifteen districts would experience changes of 40 percent or more. Changes would impact regions differently with the Southeast (Lower Delta) region experiencing a nearly 20 percent increase in state share. Conversely, the Northwest region would experience the largest decrease in state share of nearly 14 percent. The remaining regions would all experience more modest decreases in their state shares, ranging from -1.5 percent in the Northeast to -6.5 percent in the Central region.

Census: Using Census counts of children between ages 5 and 17 in poverty would result in more districts experiencing decrease since the income threshold is lower than that of direct certification. Fifty-four districts would experience a change in share of plus or minus 10 percent or less. Most districts, a total of 137, would see their shares decrease, with 40 having a reduction of 30 percent or more. Twenty-one districts would experience an increase in their share of 40 percent or more. The Southeast region would again experience the largest average increase in share of low-income students. The share in districts in this region would increase by an average of nearly 15 percent. Districts in the Central region would experience an average decrease in share of 14.5 percent. The Northeast and Southwest and North East regions would both see small positive share increases on average, while the Northwest region's share would decrease by nearly 10 percent.

Title I counts: Using the Census data from above plus counts of students eligible for certain programs or in special circumstances, the distribution of districts by change in share is very similar to the Census data presented above. Sixty-one districts would experience a change in share of plus or minus 10 percent or less. Most districts, a total of 139, would experience a decrease in their share, with 41 having a reduction of 30 percent or more. Twenty-one districts would experience an increase in their share of 40 percent or more. The Southeast region would experience the largest average increase in share of low-income students. Districts in this region would experience an average share increase 14.3 percent. Districts in the Central region would experience an average decrease in share of nearly 15 percent. The Northeast and Southwest and North East regions would both see small positive share increases on average, while the Northwest region's share would decrease by nearly 10 percent.

Current ESA Fund Use in Districts and LEA Survey Results

LEAs are provided ESA funding based on their percentages of FRL students. This section examines how those funds are used. Table 5.5 shows the list of current allowable uses of ESA Funds. In addition to the following list, districts are also allowed to use funding for other activities approved by ADE.

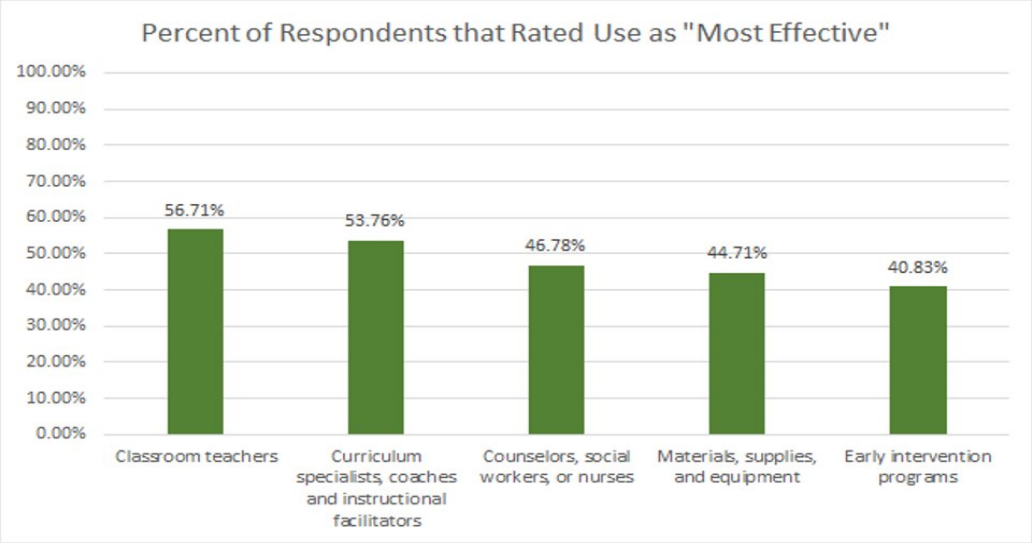
Table 5.5: Current Allowable uses of ESA Funds

Current Allowable uses of ESA Funds		
ACT fees	Interim assessments	School health coordinator
Before/After-school academic programs, including transportation	Meals	School improvement plan/scholastic audit
Classroom teachers	Materials, supplies, and equipment	School Resource Officers (SROs)
College and career coaches	Parent education	Summer programs
Counselors, social workers, or nurses	Concurrent courses or technical education	Teacher salary supplements
Curriculum specialists, coaches, and instructional facilitators	Pre-kindergarten programs	Teachers' aides
Early intervention programs	Professional development	The Arkansas Advanced Initiative for Math & Science
Expenses related to extended day/year	Program using arts-infused curriculum	Transfer to other categorical funds (PD, EL, ALE)
Experience-based field trips	Remediation programs	Tutors

LEA Survey Responses Regarding Best Uses of ESA Funds

The study team administered a survey to district superintendents and charter administrators in which respondents were asked to rank the effectiveness of each allowable use of ESA funds as either most effective, effective, somewhat effective, or not effective. In order to streamline the survey, the uses listed in the survey were allowable uses that had reported expenditures in prior years of at least 1 percent of total expenditures. In addition, there was a write-in option for "other allowable use."

Table 5.6: LEA Survey Responses: Percentage of Respondents Who Rated Use as "Most Effective"



Out of the 173 respondents 57 percent of them ranked classroom teachers as the most effective use of ESA funds, followed closely by curriculum specialists, coaches, and instructional facilitators (54 percent).

Table 5.7 then looks at responses when combining "most effective" rankings with "effective" rankings.

Table 5.7: LEA Survey Responses — Effective Use of ESA Funds (Most Effective + Effective)

Allowable Uses	Percent Rated Use Effective or Most Effective
Materials, Supplies, and Equipment	82%
Counselors, Social Workers, or Nurses	82%
Curriculum Specialists, Coaches, and Instructional Facilitators	81%
Early Interventions	78%
Professional Development	78%
Remediation	78%
Before/After-School Academic Programs	77%
Classroom Teachers	74%

As shown in Table 5.7, when "most effective" and "effective" are combined, the uses with the highest ranking (82 percent) were materials, supplies, and equipment and counselors, social workers, or nurses. Respondents rated school improvement plans/scholastic audits (19 percent) and parent education (16 percent) as non-effective uses of ESA funds.

The study team analyzed the variation in responses between urban and rural districts, small and large districts, districts with a high FRL population and those with a low FRL population. Urban and rural district respondents both rated classroom teachers and curriculum specialists/coaches as most effective. Additionally, rural district respondents rated counselors as most effective at a similar rate.

Large district respondents found curriculum specialists/coaches to be most effective while smaller district respondents found teachers and early interventions to be the most effective. Both high-FRL and low-FRL population respondents found curriculum specialist/coaches to be the most effective. Additionally, high-FRL population respondents found both curriculum specialists/coaches and counselors to be the most effective while low-FRL population respondents found classroom teachers to be the most effective.

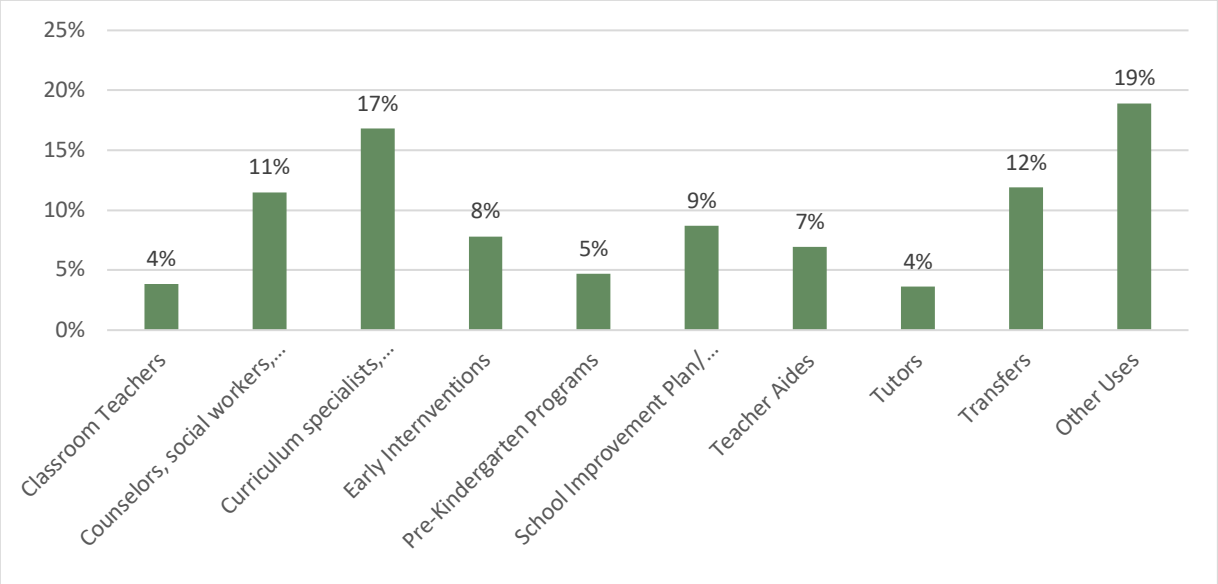
Sixty-eight respondents answered if there are any specific resources, programs, or strategies that they think are the most effective use of these funds. Forty-five percent of the respondents indicated that school resource officers were an effective use of funds, while 35 percent discussed individual instruction being the most effective. Other respondents used funds for mental health service, special education services, nurses, and salaries. Additionally, flexibility of funds was important to many of the respondents.

The next section will examine the use of ESA funds in the state.

Examination of Current LEA Use of ESA Funds

The study team used district expenditure data and coding provided by the Bureau of Legislative Research (BLR) to examine 2019/20 ESA fund expenditures by allowable use category. Similar to the survey, the study team collapsed expenditure categories with less than 1 percent of expenditures into "other allowable uses." Using this data, the study team examined the areas where LEAs used most of their ESA funds statewide and then examined differences in expenditures by wealth, FRL, and locale.

Table 5.8: Percent of Total State ESA Expenditures by Use
(Greater than 2% of Total ESA Expenditures), FY20



*All other allowable uses were under 2 percent of total expenditures and not limited to, college and career coaches, materials, supplies and equipment, parent education, professional development, summer programs, teacher salary stipends, and tutors.

Much of ESA funding is spent on curriculum specialists, coaches, and instructional facilitators (16 percent), transfers to other categoricals (14 percent), and other activities approved by ADE (12 percent).

The study team analyzed the differences between FRL, size, and locale. There were observable variations in a number of areas, including the average percentage of ESA funds used on classroom teachers, counselors/social workers/nurses, curriculum specialists/coaches, and other activities approved by ADE.

The study team compared the percentage of expenditures by use area with the percent rated as most effective and the percent rated as most effective or effective.

Table 5.9: Comparison of Expenditures to Reported Effective Uses

Use	% of Expenditures	% Rated as Most Effective	% Rated as Most Effective or Effective
Curriculum specialists, coaches, and instructional facilitators	16%	54%	81%
Other activities approved by ADE	14%	-	-
Transfers to other categorical funds	12%	24%	50%
Counselors, social workers, or nurses	11%	47%	82%
School Improvement Plan/Scholastic Audit	9%	7%	31%
Early interventions	8%	41%	79%
Teacher aides	7%	20%	47%
Other allowable uses	7%	-	-
Pre-kindergarten programs	5%	39%	28%
Classroom teachers	4%	57%	74%
Tutors	2%	31%	68%
Teacher salary stipends	2%	28%	65%
Professional development	1%	34%	69%
Before/after-school academic programs	1%	36%	77%
Parent education	0%	7%	80%
Summer programs	0%	23%	51%
College and career coaches	0%	14%	41%
Remediation programs	0%	40%	78%
Materials, supplies and equipment	0%	45%	82%

Two expenditure categories for which a high percentage of ESA funds are used were transfers to other categorical funds or other activities approved by ADE. The transfer to other categoricals suggests that districts' expenditures in these other areas are higher than current funding. Other top categories of expenditures are aligned with uses that districts rated as "most effective" in the survey, include counselors, social workers, or nurses; curriculum specialists, coaches, and instructional facilitators; and early interventions. There are a number of areas that were rated as effective in which districts are spending less than 5 percent of their total funds: before- and after-school programs, remediation, classroom teachers, and pre-kindergarten programs.

Conclusions

The majority of states provide funding for at-risk populations with most states using either a single or multiple weight adjustment. These formulas often rely on FRL students counts for funding but the accuracy of FRL counts is diminishing with the implementation of the CEP program. A number of alternative proxies for counting low-income students are available to Arkansas policymakers.

A number of states are already using a proxy other than FRL, ranging from direct certification to Census poverty counts. However, each alternative presents advantages and disadvantages. Districts would see disparate impacts under the implementation of the counts with impacts ranging across different regions of the state. The alternative that would most closely preserve the current count levels and distribution across districts is the alternative certification form. This option requires the state to develop and administer a new FRL certification form to replace the federal form in districts participating in CEP. While this option preserves current counts and can be used with the existing ESA formula, it results in additional costs to the state and increased administrative burden on participating CEP schools and districts.

There are a number of allowable uses for ESA funding. Survey respondents identified a few areas as the effective/most effective uses of ESA funds including supplies and materials; instructional and student support personnel; early interventions; extended learning opportunities, and professional development. The use of ESA funds is generally aligned with the priorities expressed by districts, but the scale of funds does not closely align with the priorities expressed by districts.

The next chapter examines the strategies that have been found to be effective in addressing the achievement gaps related to poverty.

6. Addressing Poverty and Achievement Gaps: Strategies

The prior chapter focused on approaches to provide targeted funding to students to address poverty and achievement gaps. This chapter is intended to examine effective programs and strategies that schools can implement to address these gaps, including:

- Common themes in research-driven areas from case study schools that are successfully serving their low-income and EL students
- Research on the effects of poverty and the most effective programs and strategies to support struggling students

Key Takeaways

- Arkansas case study schools that are successfully serving their low-income and EL students demonstrate many of the characteristics of effective schools found in research, including strong leaders, staff, school culture, and targeted, data-driven interventions.
- Research has consistently shown that student poverty levels are correlated with academic achievement and outcomes, and can have impacts on communities, schools, and students.
- There is no single "silver bullet" approach that works in for all communities, schools, and students. Schools with effective leadership, capable instructional staff, and sufficient resources are best able to identify and successfully implement effective instructional strategies and programs.
- Effective instructional strategies and programs include prekindergarten programs; full-day kindergarten; small class sizes; tutoring; extended learning time; and effective social-emotional learning programs.
- Community-based school models and wrap-around services are effective strategies for addressing community wide poverty impacts (concentrations of poverty).

Case Study Schools

Characteristics of Effective Schools

Research into the characteristics of effective schools, including "beating the odds" schools, dates to the 1970s. While studies have identified a range of different characteristics over time, the following common characteristics of effective high-poverty schools appear across most, if not all, of these lists: (1) effective leadership; (2) strong teacher workforce; (3) high-quality curricula and instructional practices; (4) use of data to drive instruction, with frequent formative and summative assessments, within a continuous improvement framework; (5) high expectations for all students; (6)

emphasis on building personal relationships — among staff, among students, and between staff, students, and parents; and (7) ample opportunities to learn and relearn content.[30]

The study team conducted a series of case study interviews with schools in Arkansas that are successfully serving their low-income students and their English Learner (EL) students to determine if these characteristics were in place, and what strategies were particularly influential to their success.

Case Study School Selection and Interview Process

The selection of case study schools was a three-step approach. First, the study team identified the highest ranked schools that outperformed expectations for student growth. Second, the study team filtered the schools based on three criteria: (1) whether they had a letter grade of A or B or if the school scored a C, but improved their grade from 2018 to 2019, and (2) had a higher than-average low-income student percentage (above 63 percent) or a higher than average EL student percentage (above 8 percent). The highest-ranking elementary school, middle school, and high school was selected from each region.

- **Northwest Region:** Lamar Elementary School, Helen Tyson Middle School, Jasper High School
- **Southwest Region:** Oscar Hamilton Elementary School, Mena Middle School, Lafayette High School
- **Central Region:** Theodore Jones Elementary School, Lisa Academy North Middle School, Lisa Academy North High School
- **Northeast Region:** Weiner Elementary School, Paragould Junior High School, Riverview High School
- **Southeast Region:** Des Ark Elementary School, Crossett Middle School, Lakeside High School

The average enrollment in case study schools was 361 students. The percentage of students (low-income) ranged from 64 percent to 88 percent. The percentage of English Learners ranged from 0 to 29 percent. Two of the 15 case study schools are innovation schools and two are charter schools.

The study team conducted interviews with each of the schools to better understand what factors contribute to the school's success. Interview questions fell into eight main topic areas: school staffing, school schedule, curriculum and instructional programs, assessments and data, extra support strategies for struggling students, professional development, additional monetary and nonmonetary supports, and school culture and leadership. These topic areas are aligned with research areas that studies have shown to be characteristics of effective schools.

Summaries of each case study school are included in Appendix 6.

[30] Chenoweth, 2009

Common Themes

A number of observable common themes were found in these research-driven areas for the schools that are successfully serving their at-risk students:

School staffing: Case study schools tended to be smaller overall and have smaller class sizes, but otherwise the study team found that there was no one "best" way to staff schools. Some schools relied on instructional facilitators, while others utilized paraprofessional or specialist teachers to provide interventions. Many schools also reported a low turnover of key staff; however, this was not true for all.

School schedule: All the schools had embedded time for intervention, and often enrichment, within the school day, with a strong focus on Response to Intervention (RTI) support. Approaches to integration varied: many schools had daily blocks of core instruction up to 90 minutes or more, while others included specific "flex" time periods or days in their schedule to provide personalized instruction. In most circumstances, common planning time was built into the schedule. At the elementary level, common planning time tended to be by grade, whereas at the secondary level it tended to be by content area. It is important to note that common planning was much harder to implement in smaller schools.

Curriculum and instructional program: Curriculum and instructional programs varied between case study schools, with each school using the model and instructional resources that best meet the unique needs of their students and schools. Case study schools emphasized the whole child and student-centered learning to ensure students are receiving all the supports they need. There is also a strong focus on soft skills and character development across all grades and schools. Further, many of the schools use community colleges and CTE courses to provide career and college coursework as well as Virtual Arkansas to provide courses that would not be offered in smaller settings.

Assessments and data: Case study schools were very data driven, using various assessments, both summative and interim, to inform practice. All the schools use data to identify struggling students and the areas that they need instructional support and to monitor their progress. Teachers also rely on data to adjust instruction and target support for students within the classroom, including a focus on addressing skill gaps, often through targeted drills.

Extra support strategies for struggling students: There were a variety of programs in place to support struggling students across the case study schools. Generally, case study schools had a strong focus on RTI support, with tiered interventions (small group, one-on-one, extended learning time) for students based upon their need, while building strong personal relationships and setting high expectations of all students. Many schools use before- and after-school programs, working to make sure the schedule is convenient for families and provide transportation. However, some schools are unable to provide before- and after-school programming because of transportation challenges.

Professional development: In all case study schools, there was a high level of collaboration between teachers and between teachers and school administration. Teachers had common planning time and, in

some case study schools, embedded professional development through the professional learning communities (PLC) model. Teachers in many schools were allowed to pick PD that aligned with their growth needs, and in many schools, teachers would lead professional development. In addition to the PLC approach, the RISE trainings were stressed as particularly helpful to their staff.

Student support services: Many schools have instituted social-emotional supports to meet students' needs. Some schools have rooms where students can go to decompress and utilize specific social-emotional curricula, such as Capturing Kids Hearts. Schools also have counselors who meet with small groups of kids throughout the year. Many schools provide mental health support through partnerships with community-based therapists, who bill through Medicaid. A few case study schools also reported having a health clinic to serve students at school, helping increase student attendance.

Additional monetary and nonmonetary support: Most of the case study schools have strong community support. Many are located in close-knit, multigenerational communities. Community members volunteer in the schools, especially at the elementary level. The local clubs, churches, families and businesses donate to the schools, and the schools form partnerships with businesses and local colleges to provide additional course offerings and career experiences.

School culture and leadership: In each school there is a strong school culture, with close relationships between staff, students, and families. Case study schools often had a distributed leadership model in which teachers are treated as professionals, and principals give them autonomy and include them in decision-making. Staff are also willing to pitch in and wear multiple hats. In many of the smaller schools there are very visible superintendents assisting in the school's success.

In addition to characteristics of effective schools found in the case study schools, there is a wide body of evidence about the impact of poverty and the best use of funds to address poverty and achievement gaps. This body of evidence will be reviewed in the remaining sections of this chapter.

Research on Effective Strategies Address Poverty and Achievement Gaps

Research has consistently shown that student poverty levels are correlated with academic achievement and outcomes. In 1966, the Coleman Report further documented that concentrations of poverty in schools impacted the educational outcomes of students, whether or not they were from families in poverty themselves (Coleman, et al., 1966). Since then, multiple studies have shown that a school's demographics are strongly related to its levels of student achievement (Gamoran & Long, 2006).

As concentrations of poverty increase in schools and districts, so do the types and numbers of services required to enable all students to be successful. Most state school-funding formulas account for the relationship between student poverty and student achievement by including mechanisms to provide additional funding for districts and schools serving students from low-income families (Wool, Fermanich & Reichardt, 2015). The impact these targeted funds have on improving student achievement depends in large part on how effectively they are used (Hawley Miles & Frank, 2008; Odden & Archibald, 2009).

The purpose of this section is to provide a brief overview of the ways in which poverty may impact student and school performance and to provide examples of key research-supported strategies school systems may consider investing in to improve student outcomes.

The Effects of Poverty on Children and Learning

The study team examined the effects of poverty and effective interventions from three perspectives: community, school, and student. The research includes examining the broader research-based strategies for serving students in poverty as well as specific research-based programs and curricula.

Community Effects

Studies show that poor children growing up in neighborhoods with concentrated poverty face greater challenges than poor children growing up in lower-poverty neighborhoods. Research shows that low-income neighborhoods often compound the negative effects of individual poverty by limiting residents' access to public and private resources.[31] For example, higher-income neighborhoods may have greater proximity and access to well-paying jobs, higher-performing schools, and more highly educated neighbors and classmates.[32] Wealthier families are also able to invest more in their children's cognitive and academic development.[33]

Researchers have also found that communities with concentrated poverty led to much higher rates of socio-emotional problems among their children. A study of 4- to 16-year-old children in the Netherlands found that children in the most deprived one third of areas had up to 80 percent higher rates of psychosocial problems like behavioral, socio-emotional, and academic issues than children in the least deprived one third of areas.[34] There are multiple reasons why neighborhood deprivation can lead to social and emotional issues, including lack of access to supports such as health care and day care, and the economic and social stress poverty imposes on families.[35]

School Effects

In addition to negatively affecting individual students, poverty may also affect entire schools and districts. The 1966 Coleman Report showed that "concentrated poverty inevitably depresses achievement on a school-wide and a district-wide basis."[36] Coleman found that the socioeconomic makeup of a school was more highly related to achievement than any other school factor. Some research suggests schoolwide effects of poverty could start at concentrations of poverty of between 25 percent and 50 percent.[37]

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[31] DeLuca & Rosenblatt, 2010
[32] DeLuca & Rosenblatt, 2010
[33] Reardon, 2011
[34] Reijneveld et al., 2014
[35] Reijneveld et al., 2004; Levanthal & Brooks-Gunn, 2000
[36] Poverty & Race Research Action Council, 2015, p. 19
[37] Schellenber, 1998

Research has shown that schools with higher concentrations of poverty influence the outcomes of all students in a school, not just low-income students. For all students, regardless of individual socioeconomic status (SES), the proportion of poor students in school is negatively correlated with academic achievement.[38] Similarly, a school's average SES is positively correlated with the academic achievement of the entire school, regardless of individual student economic status.[39] Thus, a school's average SES may have as much of an influence on a student's academic achievement as that student's individual SES.[40]

Research has identified some of the ways that concentrated poverty may affect learning for both students who are poor and students who are not. These mechanisms include peer effects that may depress motivation and attitudes about the importance of education; lower levels of parent involvement; and lower-quality school resources, such as teachers and curricula. The Poverty & Race Research Action Council (2015) found that high-poverty schools are more likely than other schools to have fewer qualified teachers or teachers who lack appropriate licensure. These teachers may be less effective at educating students because they may have lower levels of experience, education, and/or subject area expertise. High-poverty schools tend to have higher rates of teacher turnover and absenteeism than low-poverty schools.[41] Schools with high concentrations of poverty may also have diluted curricula accompanied by lowered expectations from their teachers and administrators. These high-poverty schools were less likely to offer gifted and talented programs than their more affluent peers.[42]

Student Effects

Poverty may affect students in several ways and through several different mechanisms. At the student and family level, poverty can produce (1) language gaps, (2) summer learning loss, and (3) attendance and motivation issues.[43]

First, research has shown that students living in poverty may have a significant language gap in comparison to their more affluent peers. These studies suggest that SES has a measurable impact on children's language proficiency and language-processing rates. This is likely related to the fact that higher-income parents tend to engage in more child-directed speech, while lower-income parents may not provide this same type of language modeling for their children.[44]

Second, concentrations of poverty within schools can produce higher levels of summer learning loss. During summers spent outside of school, students — particularly students from lower-income

[38] Kennedy, Jung, & Orland, 1986
[39] Perry & McConney, 2010
[40] Rumberger & Palardy, 2005
[41] Lippman, Burns, and McArthur, 1996
[42] Lippman et al., 1996; Poverty & Race Research Action Council, 2015
[43] Boone, 2007; Carey, 2013; Hernandez, 2011
[44] Fernald et al., 2013

backgrounds – may lose much of the learning they gained during the academic year.[45] While research shows that all students lose some of the past school year's learning over the summer, lower-income students experience a more dramatic learning loss.[46]

Third, attendance and motivation are also frequent issues for low-income students. These students are more likely to have chronic school attendance issues that may lead to decreased outcomes.[47] Further, in high-poverty contexts, hard work in school may not be clearly linked to success in life. Rather, high-poverty students may feel excluded from mainstream opportunities or goals. They may feel that, even with dedication and hard work, their benefit attainment will not match that of their middle-class counterparts.[48]

Strategies and Adjustments for Improvement

No single approach to school improvement is assured of working in all situations. The effectiveness of instructional strategies and interventions varies by the specific context of the community, school, and student; the capacity and motivation of district and school staff to implement new approaches with fidelity; the availability of necessary resources and supports; and the school or district's ability to assess progress and make necessary adjustments. However, a growing body of research highlights instructional approaches, strategies, and interventions that have been shown to improve students' academic outcomes. How effective these approaches may be in a particular district or school often depends on how well it fits the specific context of the district or school, whether it is implemented with fidelity, and whether its implementation is supported with adequate financial and nonfinancial resources.

Addressing Community Effects

Wraparound services, e.g., providing nonacademic supports for addressing physical health, mental health, economic stress, or family instability, may help to offset some of the effects of community and schoolwide poverty. A wrap-around services strategy includes such common components as conducting assessments to identify student need, coordinating necessary student supports, and establishing partnerships with surrounding neighborhoods and community service providers.[49] The community schools model provides one strategy for coordinating the provision of wraparound services. They are designed to bring together community resources to support a range of academic and nonacademic needs of students and families, such as social-emotional, health, mental health, and nutritional needs.[50] Under the community schools model, schools and districts partner with community organizations and agencies to provide expanded services to students. Four key components of community schools include (1) wraparound services, (2) a full-time coordinator embedded in the school, (3) expanded learning time

[45] Amatucci, 2014
[46] Boone, 2007
[47] Hernandez, 2011
[48] Poverty & Race Research Action Council, 2015
[49] Moore, 2014
[50] Moore, 2014

programs, and (4) engaging adults with the school.[51] Research indicates that community schools can improve student attendance, increase graduation rates, increase academic achievement, and reduce racial and economic achievement gaps. Cost-benefit research indicates ROI of up to $15 for every $1 invested in wraparound services for community schools.[52]

As of 2014, there were community school initiatives in school districts across 49 states plus the District of Columbia.[53] Some examples of community schools initiatives include efforts in the Baltimore City Schools; the Tulsa Area Community Schools Initiative; and the Bridges at Highland program, Bridges Elementary School, Palm Beach County School District. Additional information on these initiatives may be found at:

- Baltimore City Community Schools: https://www.familyleague.org/community-schools-and-ost/
- Tulsa Area Community Schools Initiative: https://www.csstrategies.org/index.php/tacsi-framework/ and http://www.communityschools.org/resources/tulsa_oklahoma.aspx
- Bridges at Highland: https://bridgesofpbc.org/highland/

Addressing Schoolwide and Student Effects

There is a large body of literature on why some schools are more effective than others, ranging from research into the general characteristics of effective schools to the efficacy of specific instructional approaches, strategies, and programs. Researchers have also investigated how to apply what has been learned through this research to improving underperforming schools and achieving better results for underserved students. Generally, these studies have found that the two go hand-in-hand. Schools with effective leadership, capable instructional staff, and sufficient resources are also best able to identify and successfully implement effective instructional strategies and programs.[54]

Research-Supported Strategies and Programs

Research has consistently found a number of strategies, or school features, effective in improving student outcomes, especially among at-risk, low-income students. This section provides a brief overview of several strategies that consistently appear in both the research literature and in studies of effective and adequately resourced schools:

- Prekindergarten program
- Full-day kindergarten
- Small class sizes
- Tutoring
- Extended learning time
- Effective social-emotional learning programs

[51] Olson, 2014
[52] Learning Policy Institute, 2017
[53] Olson, 2014
[54] Chenoweth, 2009

Prekindergarten: Pre-K programs have been shown to result in positive impacts that can persist throughout a child's school years and even into their adult life and career. The research also shows that high-quality early childhood education is particularly important for improving the academic outcomes of low-income children.[55] Prekindergarten programs create a wide range of benefits, from gains in individual levels of academic achievement (and decreases in special education service needs) to widespread societal improvements. Studies of the return on investment (ROI) of quality prekindergarten programs estimate a return of between three and seven dollars for every dollar invested.[56]

Academic gains are perhaps the most obvious benefits of universal prekindergarten. When entering school, students who attend high-quality prekindergarten, including low-income and minority students, are better prepared to learn than peers who did not attend high-quality prekindergarten.[57] For a year spent in prekindergarten, children get an average gain of about a third of a year of additional learning across language, reading, and math skills, though gains have been shown to be as high as one full year of additional learning in math and reading.[58] Universal prekindergarten can also help close achievement and educational attainment gaps between children of different socioeconomic and racial and ethnic backgrounds.[59] Evidence from long-term evaluations of both small-scale, intensive interventions and Head Start suggests that there are long-term effects from prekindergarten on important societal outcomes, such as high school graduation, years of education completed, earnings, and reduced crime and teen pregnancy.[60]

Full-Day Kindergarten: Research shows that full-day kindergarten, particularly for students from low-income families, has significant, positive effects on student learning in the early elementary grades.[61] Studies indicate that students attending full-day kindergarten are likely to make more progress and achieve at higher levels than students in half-day programs.[62]

A nationwide study conducted by the National Center for Education Statistics found that full-day kindergarteners make greater gains in math and reading even after controlling for race, income, gender, class size, and several other factors.[63] One meta-analysis of 23 studies on full-day kindergarten found that such programs accounted for 60 percent of the variance in student outcome measures.[64] Other research indicates that children attending full-day kindergarten tend to perform at higher levels in literacy and mathematics as measured by standardized tests and class grades.[65] Some studies suggest

[55] (Schweinhart, Montie, Xiang, Barnett, Belfield, & Nores, 2005
[56] (Yoshikawa et al., 2013
[57] (Gormley, Gayer, Phillips, & Dawson, 2005
[58] (Yoshikawa et al., 2013
[59] Karoly & Bigelow, 2005
[60] Yoshikawa et al., 2013
[61] (Slavin, Karweit & Wasik, 1994
[62] (Cryan, Sheehan, Wiechel, & Bandy-Hedden, 1992; Fairfax County Public Schools: Office of Program Evaluation, 2004
[63] Walston & West, 2004
[64] Fusaro, 1997
[65] Plucker, Spradlin, Magaro, Chien, & Zapf, 2007

that the academic benefits of full-day kindergarten persist through subsequent years.[66] There is also evidence that low-income, minority, or EL students may benefit even more from enrollment in full-day kindergarten than other students.[67] In addition to the academic benefits, full-day kindergarten may lead to more positive emotional, behavioral, and social outcomes for students.[68]

Small Class Sizes: There is a large body of literature documenting the positive impacts of small class sizes on students in grades K–3. Specifically, the research documents that smaller classes are especially beneficial for reading and math achievement and for low-income and minority students.[69]

The most influential study on class size to date is the Tennessee Project STAR study, a large-scale randomized study of students in grades K–3. Data from this study indicate that students in classes with 13–17 students outperformed students in classes with 22–26 students, even when the larger classes added an instructional aide.[70] Subsequent analysis of STAR data has shown that small classes in the early grades produce lasting benefits for students, such as higher high school graduation rates.[71] One study also found that smaller classes not only improved student achievement but were more cost effective than regular classes with aides.[72]

While the research on class sizes in the early elementary grades is substantial, there is little or no research to suggest that small middle or high school class sizes are beneficial to student performance.

Tutoring: A significant body of research documents the positive impact of one-on-one or small group tutoring at the elementary school level. A 1982 meta-analysis of 65 studies found that tutoring programs had positive effects on the academic performance and attitudes of tutored students.[73] Smaller-scale evaluations of elementary school tutoring programs produced similar results.[74] Many effective tutoring programs are aimed specifically at helping at-risk students, including low-income students and students who are not achieving standards, are mildly disabled, or have limited English proficiency.

[75]Several studies conclude that tutoring programs using certified teachers are likely to have larger effects on student achievement than programs using paraprofessionals.[76] Other research indicates that the most effective tutoring programs are highly structured, integrated with classroom subject matter, and use tutors with subject matter expertise and the ability to speak to students at their comprehension level.[77] It is far more likely that certified teachers possess these skills and the ability to construct lesson

[66] Elicker & Mathur, 1997; WestEd, 2005
[67] Plucker et al., 2007
[68] Hough & Bryde, 1996
[69] Achilles, 1999; Grissmer, 1999; Nye, Hedges, & Konstantopoulos, 2002
[70] Gerber, Finn, Achilles, & Boyd-Zaharias, 2001
[71] Finn, Gerber, & Boyd-Zaharias, 2005
[72] Grissmer, 1999
[73] Cohen, Kulik & Kulik, 1982
[74] Fashola & Cooper, 1999; Wasik & Slavin, 1993
[75] Al Otaiba, Schatschneider, & Silverman, 2005).
[76] Al Otaiba, Schatschneider, & Silverman, 2005; Wasik & Slavin, 1993
[77] Schmidt, Ahrend, Kokx, & Boon, 1993; Wasik & Slavin, 1993

plans than a paraprofessional or volunteer. The research also suggests that students who meet more frequently with tutors are more likely to show academic improvement.[78]

Extended Learning Time: The most common forms of providing students with extra learning time are through extended-day (typically after school) and extended-year (typically summer school) programs. While extended-day programs may include before-school time or the creative use of in-school time, and extended-year programs may include year-round schools, the most common forms are after-school and summer school programs. After-school programs typically include an academic component (e.g., tutoring, homework help, or academic instruction) as well as enrichment activities (e.g., arts, community service, or recreation). Most of the research on the outcomes associated with after-school programs suggests that they can have small positive effects on student outcomes at all school levels.[79] One such meta-analysis of 73 studies found that after-school programs improve students' self-confidence, positive feelings toward school, social behavior, school grades, and academic achievement.[80] A meta-analysis of 35 programs serving low-income students found significant gains in standardized test scores and work habits as well as reductions in problem behaviors.[81] Still another meta-analysis found that at-risk students improved their reading and math achievement through attending after-school programs.[82]

There is evidence that the more time students spend in after-school programs, the better the outcomes are.[83] The effect sizes of after-school programs are similar to those effect sizes for other remedial interventions, such as summer school or year-long Title I programs.[84]

Research has found that summer school programs serve to mitigate summer learning loss, resulting in increased reading achievement for low-income or at-risk students.[85] Other studies suggest that math skills may also be improved through summer school attendance.[86] Although there have not been any long-term studies, several have tracked student outcomes up to two years after the end of summer school. One study found that the advantages from summer school persisted for six months afterwards but were diminished by nine months.[87] However, other studies have found that positive effects lasted through at least two years post-summer school.[88]

Effective Social-Emotional Learning Programs: Social-emotional (SEL) learning programs seek to help students develop "healthy identities, manage emotions and achieve personal and collective goals, feel

[78] Reisner, Petry, & Armitage, 1990
[79] Granger, 2008
[80] Durlak & Weissberg, 2007
[81] Randell, Reisner, & Pierce, 2007
[82] Lauer et al., 2006
[83] Gardner, Roth, & Brooks-Gunn, 2009
[84] Gardner, et al., 2009
[85] Borman & Dowling, 2006; Zvoch & Stevens, 2013
[86] Zvoch & Stevens, 2013
[87] Schacter & Jo, 2005
[88] McCombs et al., 2011

and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions."[89] Studies of the effects of SEL programs in schools have found the programs result in:[90]

- Improved academic performance
- Better classroom behavior
- Increased ability to manage stress and depression
- Improved attitudes about themselves, others, and school

A meta-analysis of 213 school-based SEL programs serving 270,034 students found that the programs significantly improved both academic performance and students' social skills, attitudes, and behaviors. Subsequent data collections found the benefits of participating in the SEL programming persisted for at least six months after the SEL interventions ended.[91] Another meta-analysis found the effects of SEL programming on academics, behavior, emotional distress, and drug use may persist for up to 18 years.[92] A benefit-cost analysis conducted by the Center for Benefit-Cost Studies at Columbia University found that SEL programs returned $11 in benefits for every $1 invested.[93]

Sources of Research and Evaluation Findings on Effective Programs and Strategies

In addition to the broader, research-based strategies presented above, rigorous evaluations of specific curricula or interventions in literacy, mathematics, and other subject areas are available to help districts and schools choose the most appropriate and effective program from among many options. Employing cost-effectiveness analyses can also help states, districts, and schools make the most effective use of scarce resources. The most accessible source of program effectiveness ratings, based on rigorous methodological standards, is the What Works Clearinghouse (WWC), supported by the U.S. DOE.

The WWC rates the effectiveness of programs for literacy, math, science, English language learners, children with disabilities, behavior, and other areas. For example, WWC lists 57 programs that are proven or potentially effective in literacy, 17 programs in mathematics, 5 programs in the sciences, and 16 programs in social-emotional learning or behavior (in some cases a program may be listed under multiple areas).

The mission of WWC is to assist practitioners and policymakers in making evidence-based decisions using high-quality evaluation data. Trained and certified reviewers rate studies as to how well they meet WWC standards and provide summaries of studies meeting the standards.

[89] CASEL, 2020
[90] Taylor, Oberle, Durlak, & Weissberg, 2017):
[91] Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011
[92] Taylor, et al., 2017
[93] Belfield, Bowden, Klapp, Levin, Shand, & Zander, 2015

The rating criteria used by WWC reviewers includes:

- Are study subjects randomly assigned to treatment and control groups?
- Is the sample attrition low or high?
- Are there confounding factors or concerns with results?

Once reviewed, reports are rated in one of three categories: (1) meets WWC standards without reservations, (2) meets WWC standards with reservations, and (3) does not meet WWC standards. Table 6.1 shows the number of educational programs reviewed by program area and the number of programs showing positive or promising results. Those programs with positive results based on multiple high-quality evaluations are the most likely candidates for districts and schools to consider adopting.

Table 6.1: What Works Clearinghouse Program Areas

Program Area	Total Number of Programs Reviewed	Number of Programs with Positive Results or Showing Promise
Literacy	231	57
Mathematics	152	17
Science	3	2
Behavior	54	16
Children with Disabilities	36	16
English Learners	33	10
Teacher Excellence	10	4
Charter Schools	9	2
Pre-K	84	16
K–12	456	94
Path to Graduation	46	22
Post-Secondary	13	9

Conclusions

The Arkansas case study schools that are successfully serving their low-income and EL students demonstrate many of the characteristics of effective schools found in research, including research on "beating the odds" schools since the 1970s. These characteristics include: (1) effective leadership; (2) strong teacher workforce; (3) high-quality curricula and instructional practices; (4) use of data to drive instruction, with frequent formative and summative assessments, within a continuous improvement framework; (5) high expectations for all students; (6) emphasis on building personal relationships among staff, among students, and between staff, students, and parents; and (7) ample opportunities to learn and relearn content.

Research has consistently shown that student poverty levels are correlated with academic achievement and outcomes, and can have impacts on communities, schools, and students. From the community perspective, studies show that children who are poor, growing up in neighborhoods with concentrated poverty, face greater challenges than children who are poor growing up in lower-poverty neighborhoods. Students face communities with social and economic isolation, lack of employment, and health risks. Children in poor neighborhoods suffer from higher rates of social-emotional problems.

While the Arkansas specific analyses partly supported these findings, the study team found strong evidence to suggest that an individual student's low-income status is a stronger predictor of standardized assessment performance than the concentration of poverty of the students school, suggesting that policymakers should think deeply about legislative solutions to support students that are individually identified as low-income.

It is important to note that no single approach is assured of working in all situations. Effectiveness varies based on the specific context of the community, school, and student; capacity and motivation of district and school staff to implement with fidelity; availability of necessary resources and supports; and ability to assess progress and make necessary adjustments. Schools with effective leadership, capable instructional staff, and sufficient resources are also best able to identify and successfully implement effective instructional strategies and programs.

However, there are different approaches that systems have employed to address these issues. Effective instructional strategies and programs include prekindergarten programs; full-day kindergarten; small class sizes; tutoring; extended learning time; and effective social-emotional learning programs. Community-based school models and wrap-around services are also effective strategies for addressing community wide poverty impacts (concentrations of poverty).

7. College and Career Readiness

College and career readiness (CCR) is an important area of focus nationally, in SREB states, and in Arkansas. By 2025, two out of every three jobs in the U.S. will require some postsecondary education and training.[94] To explore college and career readiness, this chapter will:

- Review available performance data in CCR areas in Arkansas and comparison states
- Examine access to CCR courses across the state, including variation between districts
- Share LEA survey information on what changes LEAs would like to make in the area of career and technical education (CTE) or what other educational opportunities they would like to offer their students in CCR areas
- Review research on indicators of postsecondary success
- Examine CCR definitions, including research and policies in other states, stakeholder feedback from educators and community members on what components should be included, and recommend definition language

Key Takeaways

- National research identifies a wide variety of college- and career-readiness indicators and predictors of postsecondary success, including related assessment outcomes, behaviors, grades, coursework, and skills.
- Arkansas has a robust set of data available to measure and monitor college and career readiness in many of the same areas identified by the research.
- Many states have adopted actionable definitions including components of core academic knowledge, behavior skills and dispositions, learning capabilities, and career planning and preparation.
- The study team recommends a college and career readiness that focuses on career readiness, recognizing that college is but one avenue to get to a career. The recommended definition is based upon key components of actionable definitions from other states and best practice research and is supported by stakeholder feedback.

College and Career Readiness in Arkansas and the Region

In the SREB region, less than 40 percent of students meet college- and career-readiness benchmarks. On average, between 40 and 60 percent of first-year college students are required to take one or more remedial courses in English or math, and less than a quarter of students who required remediation earned a credential within eight years.[95]

[94] Southern Regional Education Board (SREB) https://www.sreb.org/topic-college-and-career-readiness
[95] 2017 SREB report on college and career readiness

Performance Outcomes

Table 7.1 presents postsecondary performance of Arkansas students on a variety of related indicators.

Table 7.1: Arkansas Postsecondary Performance (2018/19)

	All Students
Graduation Rate	87.6% (4-year), 90.2% (5-year)
Average ACT Scores: Composite	19.68
College-Going Rate	48.80%
Remediation Rate	64.90%
College Credit Accumulation Rates	56.10%

Arkansas performance compared to other states differs in many areas. The average ACT composite score in Arkansas is 19.68 compared to 20.9 nationally, with 17 percent of Arkansas graduates meeting ACT readiness benchmarks in all four subjects, compared to 27 percent nationally; there are also significant differences in achievement by race/ethnicity. Arkansas students also require remediation at a higher rate than their peers nationally, at both four- and two-year institutions and in English and math. However, Arkansas's graduation and placement outcomes for CTE completers are better than comparison states, with about 96 percent of CTE completers graduating and being employed, enrolled in a postsecondary institution, or in the military six months following graduation (placement outcomes), as shown in Table 7.2.

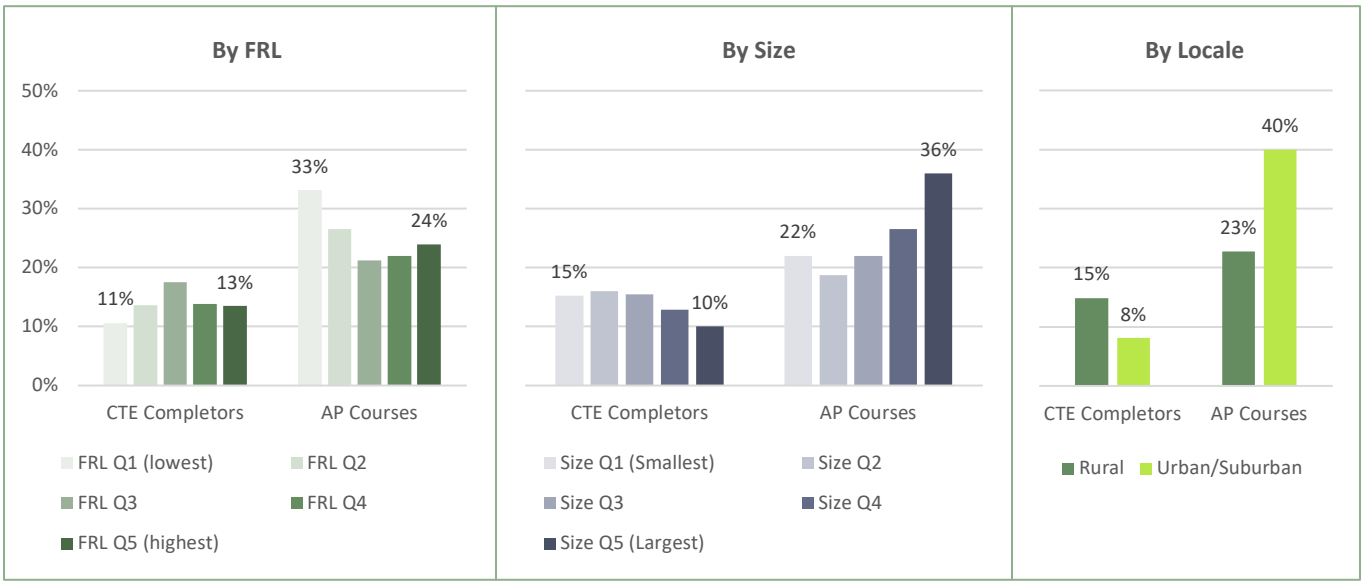
Table 7.2: Postsecondary Outcomes for CTE Completers, Perkins Act Data (2018/19)

State	% Technical Skill Attainment	Graduation Rate	Placement	% Nontraditional Completion
Alabama	92.17%	89.65%	91.10%	19.05%
Arkansas	**75.12%**	**96.70%**	**95.62%**	**22.21%**
Delaware	21.70%	99.07%	66.39%	25.68%
Florida	84.29%	97.47%	81.67%	98.15%
Georgia	67.54%	96.33%	99.70%	18.33%
Kentucky	72.81%	98.47%	93.02%	15.41%
Louisiana	95.59%	90.50%	56.99%	17.92%
Maryland	67.74%	99.38%	83.93%	27.55%
Massachusetts	90.61%	94.84%	96.39%	22.40%
Mississippi	61.19%	93.38%	89.41%	13.36%
North Carolina	78.38%	99.20%	94.45%	33.13%
Oklahoma	91.04%	96.40%	94.33%	14.24%
South Carolina	93.07%	98.34%	97.62%	78.55%
Tennessee	96.86%	98.03%	94.90%	27.18%
Texas	76.84%	96.37%	69.70%	38.02%
Virginia	97.07%	97.94%	96.23%	31.23%
West Virginia	91.97%	98.38%	88.63%	19.09%
Average	**79.65%**	**96.50%**	**87.65%**	**30.68%**

Access to College and Career Readiness Courses

Participation in CTE (measured by CTE completers) and Advanced Placement (AP) courses (total courses divided by high school enrollment) varied between districts based upon district size, percentage of FRL, and locale (urban/suburban vs. rural), as shown in Chart 7.1.

Chart 7.1: Variation in CTE and AP Participation by LEA Need, Size, and Locale



LEA Survey Responses

When asked if there were any changes that their district or charter system would like to make in the area of CTE, district superintendents and charter system directors reported the following responses, shown in Table 7.3.

Table 7.3: LEA Survey Responses: Changes Systems Would Like to Make in the Area of CTE

Change	%
Increase certifications	55%
Offer additional courses in current industry areas	52%
Increase participation	49%
Offer courses in other industry areas	34%
Provide CTE opportunities in earlier grades	34%
Have additional CTE courses at secondary career centers	33%
Access additional CTE courses through remote instruction	33%
Have additional CTE courses at postsecondary campuses	22%

The top challenges that respondents reported in making these changes included needing additional funding (65 percent); having specific technology (45 percent), equipment, or materials (44 percent); having building capacity/needed facilities (41 percent); having schedule limitations; and finding staff certified to teach (40 percent).

District superintendents and charter system directors were also asked if there were any additional educational opportunities they would like to offer their students (either expanding current opportunities or offering new opportunities). Respondents reported a number of responses related to college and career readiness, shown in Table 7.4.

Table 7.4: LEA Survey Responses: Additional Opportunities LEAs Would Like to Offer

Responses:	%
STEM courses	63%
Computer science courses	55%
Concurrent enrollment courses	52%
Advanced courses (such as AP/IB)	26%

Less than a quarter of respondents also answered that they would like to offer additional arts courses (24 percent), additional courses through remote instruction (23 percent), additional foreign language courses (20 percent), or other electives (7 percent). Challenges related to offering more STEM courses and computer science courses were similar, including needing specific technology, equipment, or materials; needing additional funding; having schedule limitations; having staff certified to teach; and having building capacity/needed facilities (about 50–60 percent of districts reporting each). Districts also reported challenges related to offering concurrent enrollment opportunities, such as needing additional funding, having schedule limitations, and having staff certified to teach (about 40–50 percent of districts reporting each).

The next section will explore college and career readiness definitions, including available research and policies in other states.

College and Career Readiness Definitions

In Arkansas, college and career readiness is defined within the state's Comprehensive Testing, Assessment, and Accountability Program statute as "the acquisition of skills a student needs to be successful in future endeavors, including successfully completing credit-bearing, first-year courses at a postsecondary institution; and embarking on a chosen career." Arkansas also has separate CCR standards within career and technical education (CTE) programs.

The majority of states have defined what it means to be college and/or career ready, though definitions vary widely in terms of how they weight college vs. career readiness and how detailed and actionable they are. Twenty-nine states have a college and career readiness definition, while an additional three states define college readiness separately from career readiness. Three states only have a college readiness definition, and one state only has a career readiness definition. Thirteen states do not currently have a college and/or career readiness definition at all.

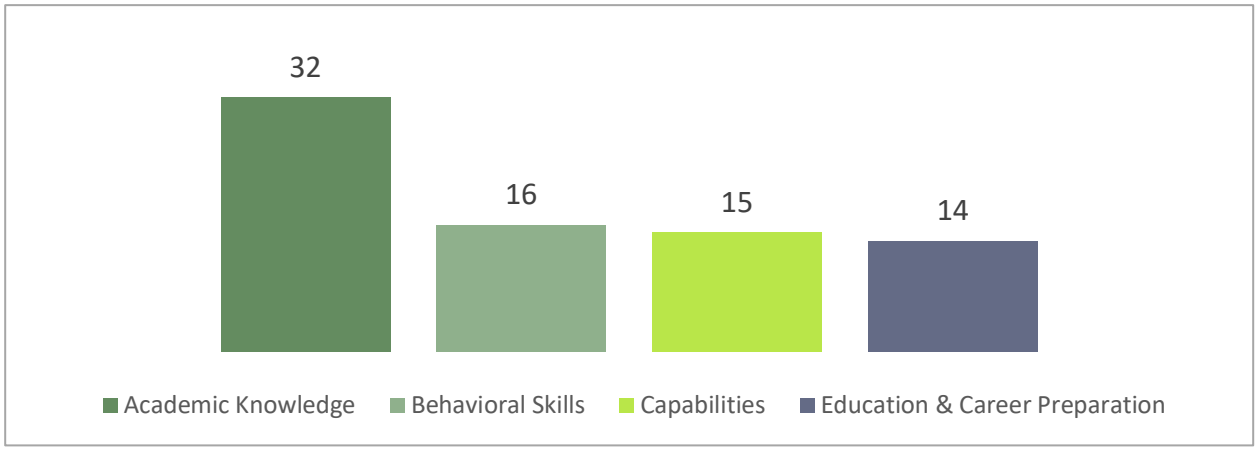
More actionable definitions identify specific academic knowledge, skills, and traits that students are expected to have to be college/ career ready, including:

- Core academic knowledge in Math, English language arts (ELA), and Science

- Capabilities: critical thinking, problem-solving, collaboration, and/or communication; often referred to as 21st Century Skills
- Behavioral/readiness skills or dispositions: resilience, perseverance, and dependability
- College and career preparation knowledge and skills: college/career exploration, planning, and decision-making

Chart 7.2 summarizes the number of states that include the above actionable definition components.

Chart 7.2: Number of State Definitions that Include Actionable CCR Components



Examples of state college and career readiness definitions (Maryland, Massachusetts, and Ohio) are included in Appendix 7.

Educators and community members were asked to give feedback on these potential components of a college and career readiness definition, and more broadly on what it meant to them for students to graduate from high school and be considered college and career ready.

Stakeholder Feedback

Educator Panels

Educators discussed the need to emphasize career readiness, not just college readiness. Many educators felt that the current standards and requirements are geared toward college and that the focus for the past two decades has been on every student going to college. One educator noted that even the phrase "college and career readiness" indicates the priority, since college comes first (even though career should alphabetically). Similarly, another educator said that it should be Career Readiness, since all students are working towards a career, while the path that gets them there varies. Educators made a number of suggestions, including: (1) incorporating a demonstration of skills, such as using ACT WorkKeys, (2) additional flexibility in current standards and graduation requirements to fit their path, and (3) more CTE, AP, concurrent enrollment courses, and internships and apprenticeships.

Educators also stressed that every student should leave high school with a next step and plan, regardless of whether that is college (two- or four-year), a technical program, military service, or an entry-level

career position. Some districts reported having career coaches, advisors, or counselors to help develop relationships and have one-on-one discussions to establish next steps and monitor concrete progress towards a plan. Further, educators said that certificates or concurrent/AP credit should be a component of progress toward the plan and that career exposure is important in younger grades to show them possible paths and ground discussions of next steps.

When asked about components of a definition of college and career readiness, educators felt that requirements for academic content knowledge was well addressed, but that a strong focus on behaviors, capabilities, and skills is also needed. This includes showing up on time, time management, communication, critical thinking, perseverance to complete a task when things get hard, problem-solving, self-advocacy, financial literacy, and reading and writing in a professional or technical setting (including resume writing). Some districts have worked with industries to identify necessary skills and have created "profiles of a graduate," which demonstrate what their students know and are able to do after graduation.

Online Stakeholder Survey

Both educators and community members were asked to indicate whether certain factors, aligned with the national research, should be included in a college and career readiness definition: (1) developing behavioral skills such as dependability, perseverance, working effectively with others, adapting, and managing stress, (2) learning capabilities such as critical thinking, collaborative problem-solving, and information and technology skills, (3) participating in career exploration and planning, (4) developing financial literacy, (5) receiving college and career advisement, (6) participating in CTE/career-focused courses, (7) learning academic content knowledge, (8) being prepared to enter a postsecondary institution without needing remediation, and (9) meeting assessment benchmarks, such as on the ACT.

Responses for educators are included in Table 7.5 and responses for community members are included in Table 7.6.

Table 7.5: Stakeholder Survey Responses:
Educator Opinions on College and Career Readiness Definition Components

Potential Definition Element	Strongly Agree	Agree
Developing behavioral skills such as dependability, perseverance, working effectively with others, adapting, and managing stress	81%	12%
Learning capabilities such as critical thinking, collaborative problem-solving, and information and technology skills	74%	20%
Participating in career exploration and planning	67%	27%
Developing financial literacy	66%	26%
Receiving college and career advisement	62%	32%
Participating in career and technical education (CTE)/career-focused courses	58%	33%
Learning academic content knowledge	58%	37%
Being prepared to enter a postsecondary institution without needing remediation	53%	33%
Meeting assessment benchmarks, such as those measured by the ACT	23%	50%

Of these, skills and capabilities were the components with the highest agreement, and assessment benchmarks. While educators indicated stronger agreement for each area, the overall prioritization was very similar for community members.

Table 7.6: Stakeholder Survey Responses:
Community Member Opinions on College and Career Readiness Definition Components

Potential Definition Element	Strongly Agree	Agree
Developing behavioral skills such as dependability, perseverance, working effectively with others, adapting, and managing stress	49%	40%
Learning capabilities such as critical thinking, collaborative problem-solving, and information and technology skills	46%	42%
Developing financial literacy	42%	41%
Receiving college and career advisement	41%	46%
Participating in career and technical education (CTE)/career-focused courses	39%	43%
Participating in career exploration and planning	38%	48%
Being prepared to enter a postsecondary institution without needing remediation	33%	40%
Learning academic content knowledge	31%	54%
Meeting assessment benchmarks, such as those measured by the ACT	21%	50%

The next section focuses on how to measure if students and meeting the expectations set for students through the college and career readiness definition.

Measuring College and Career Readiness

Research from the College and Career Readiness and Success Center (CCRS Center) has shown that there are a variety of indicators, predictors, and factors that are correlated with postsecondary success:

- **Indicators** are measures with an established threshold. Students who perform at or above the threshold (e.g., students who earn a 3.0 grade point average [GPA] or higher) are more likely to be prepared for their college and career pursuits.
- **Predictors** are measures that are strongly correlated with improved postsecondary outcomes but for which a numeric threshold has not been established.
- **Other potential factors** are skills and attributes that have been identified as important to students' success and are driven by sound theoretical arguments (e.g., collaborative skills are important for future success) but may not have reliable measurement metrics.

Appendix 7 also includes specific indicators, predictors and factors at different grade levels.

Current Measurements of College and Career Readiness in Arkansas

Graduation Requirements

The state's graduation requirements (Table 7.7) include career-focus credit requirements and are aligned with state college admission requirements.

Table 7.7: Arkansas Graduation Requirements

Subject	Credit Requirements
English	4
Math	4
Science	3
Social Studies	3
Oral Communication	0.5
Physical Education	0.5
Health and Safety	0.5
Fine Arts	0.5
Career Focus or Additional Content	6

In the SREB region, most states require four credits of English and math, with three states also requiring three years of science. Most state requirements are aligned with their state's college admission requirements. Four states specifically require CTE or career preparation courses in their graduation requirements; North Carolina requires career credits for a specific diploma path, as noted below.

Arkansas also provides additional recognition for career readiness through Arkansas Career Readiness Certificates using ACT WorkKeys, which are free to all Arkansas students. Several states provide diploma endorsement opportunities to students who meet certain college- or career-readiness standards. For example:

- **North Carolina**: Five endorsements available, including Career Endorsement, College Endorsement, College/UNC Endorsement, and Academic Scholars Endorsement
- **South Carolina:** College-Ready or Career-Ready Seals of Distinction
- **Ohio:** Career technical honors diploma and STEM honors diploma beginning in 2020/21

Available Outcomes Data

Arkansas has a robust set of data available addressing most of the indicators and predictors of postsecondary success found in national research to measure and monitor college and career readiness, including:

- **Assessment:** ACT Aspire performance and growth, ACT scores and participation rate, SAT scores and participation rate, NAEP scores
- **CTE:** completion (including nontraditional completion), technical skill attainment, placement
- **Advanced coursework:** Advanced Placement (AP) scores and participation rate, International Baccalaureate (IB) participation rate, concurrent enrollment course participation rate
- **Postsecondary**: college-going rate, college credit accumulation rate, remediation rate
- **Other outcomes:** GPA and on-time credits, attendance rate, retention rate, discipline data by type of infraction

Inclusion of College and Career Readiness in Accountability System

Arkansas's ESSA School Index includes:

- Weighted Achievement *(35 percent of ESSA School Index)*
  - Each student's individual performance on ACT Aspire exams, recorded as one of "1 - in Need of Support," "2 - Close," "3 - Ready," or "4 - Exceeding"
- Student Growth *(50 percent of ESSA School Index through 8th grade, 35 percent in grades 9–12)*
  - ADE uses a value-added model that refers to students' past ACT Aspire scores to predict current-year performance, allocating points to over- and under-performing schools accordingly. This subcomponent is itself a weighted average that also accounts for the English language proficiency among English learners at each school
- Graduation Rates *(15 percent of ESSA School Index in grades 9–12)*
  - Both 4- and 5-year high school graduation rates are considered, carrying 10 percent and 5 percent of the weight on the Index, respectively.
- School Quality and Student Success (SQSS) Indicators *(15 percent of ESSA School Index)*
  - For high schools, School Quality and School Success (SQSS) Indicators additionally include many components of college and career readiness. The ESSA School Index is calculated based upon: Weighted Achievement *(35 percent)*, Student Growth *(50 percent of ESSA School Index through 8th grade, 35 percent in grades 9–12)*, Graduation Rates *(15 percent of ESSA School Index in grades 9–12)* and SQSS Indicators *(15 percent)*. High School SQSS Indicators include on-time credits, high school GPA, ACT composite scores and readiness benchmarks, AP/IB/Concurrent Enrollment credits, computer science credits, and community service/service-learning credits. Concurrent enrollment includes Arkansas Career Education (ACE) courses.

Conclusions

College and career readiness is an important area of focus nationally, in SREB states. National research identifies a wide variety of college- and career-readiness indicators and predictors of postsecondary success, including related assessment outcomes, behaviors, grades, coursework, and skills. Arkansas has a robust set of data available to measure and monitor college and career readiness in many of the same areas identified by the research.

Further, many states have adopted actionable definitions including components of core academic knowledge, behavior skills and dispositions, learning capabilities, and career planning and preparation. Stakeholders strongly supported the inclusion of these elements, particularly "soft skills" and a definition that valued career readiness.

The study team recommends the following Career Readiness definition (also presented in Chapter 12 as Recommendation 4):

> *Upon high school graduation, Arkansas students should be prepared to take the next steps toward a career regardless of whether that is college (two- or four-year), a technical program, military service, or an entry-level career position.*

More specifically, an Arkansas student who is career ready will have:

- *Gained core academic knowledge in mathematics, science, and English language arts to enable them to successfully complete credit-bearing, first-year courses at a postsecondary institution.*
- *Demonstrated capabilities such as communication, critical thinking, collaborative problem-solving, time management, and information and technology skills.*
- *Developed behavioral skills and dispositions such as dependability, perseverance, working effectively with others, adapting, and managing stress.*
- *Developed financial literacy.*

All Arkansas students should be guided in career exploration, planning, and decision-making throughout their K–12 education to enable them to successfully navigate their chosen career path. This includes knowledge of careers, industries, and postsecondary education and training opportunities, identification of individual interests and abilities, and development of a personalized postsecondary plan with the concrete steps that need to be taken to enter a specific career field after graduation. Further, students should have had opportunities to participate in advanced, concurrent enrollment, career and technical education (CTE) or other career-focused courses, internships, and apprenticeships to demonstrate that they are career ready.

The definition put forth is based upon key components of actionable definitions from other states and best practice research, and it is supported by stakeholder feedback on a college and career readiness definition that focuses on career readiness, recognizing that college is but one avenue to get to a career.

If the legislature adopts this – or another – definition, the study team encourages state agencies to collaboratively identify the specific standards, skills, and indicators to measure using the robust data available within the state data system and consider any additional skill assessment needs.

8. District, School and Class Size

This chapter examines district, school, and class size. The size of districts and schools can have a direct impact on the resource needs of districts and the opportunities students are afforded within those districts, including class size. The study team first provides some background on districts and schools in Arkansas. Second, available research and national policies on ideal district and school size are examined. Third, the study team examines the relationship between district size and educational opportunities for students in Arkansas. Fourth, approaches to addressing the needs of small, rural, and isolated districts are examined.

Key Takeaways

1. The variation in size of districts and the high concentration of smaller schools makes it important that the state examines the differences in opportunities that smaller schools and districts face.
2. Research is mixed regarding the ideal size of schools and districts, and few states have set policies for school size.
3. Districts face differing economies of scale for personnel based on their size, such as for classroom teachers and district staff.
4. In Arkansas, there is less correlation between per-student costs and district size than one might expect, but this is likely due to tradeoffs that smaller districts are making, including having lower salaries to allow for the higher levels of staffing needed and utilizing the services of Education Service Cooperatives (ESCs).
5. Overall, smaller settings also appear to be able to provide a strong curriculum, but it is more weighted towards career and technical education (CTE) than more traditional college preparation courses, such as Advanced Placement (AP) and foreign language.
6. It is important to ensure that the funding system is accounting for the cost differences that districts face due to size, something that many states do through a district size adjustment. A similar adjustment could be considered in Arkansas to provide the resources needed for the state's smallest settings.

Arkansas Districts and Schools

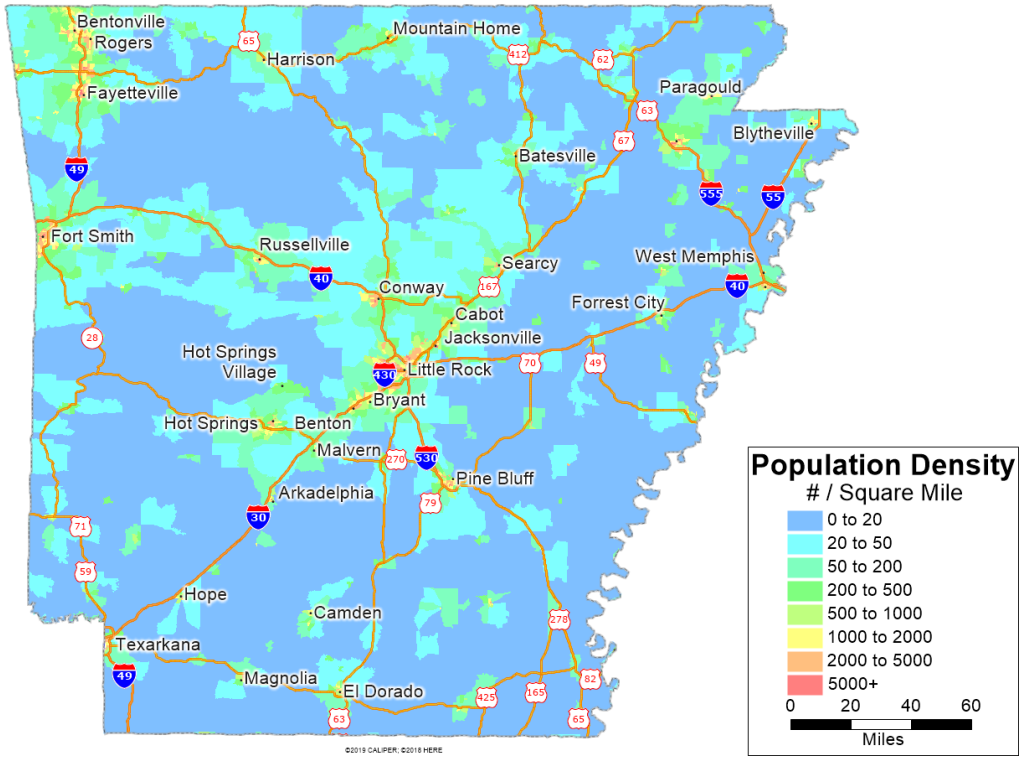
Arkansas Districts

Arkansas has a relatively small number of districts and charter systems — referred to as Local Education Agencies (LEAs) — with 263 LEAs in total. The largest is Springdale School District, with 21,882 students in 2020/21. The smallest is Hope Academy with 37 students. The average school district enrollment is 1,805. A number of mergers and boundary realignments have occurred over the years, consolidating

many of the smaller districts. Fifty-six LEAs have less than 500 students (41 districts if charter systems are excluded).

Arkansas has a low population density in many areas, with its residents mostly concentrated in a few urban areas. Map 8.1 displays the most densely populated areas in red, with lower population densities ranging from orange to yellow to green, and then blue for the least populated areas. Many school districts cover very large geographic areas but are small in terms of total population and school enrollment. District boundaries are shown in blue lines on the map. Although it might improve operational efficiency to merge some of these low population districts, the distances and other geographical barriers involved may make such combinations unfeasible, especially when alternatives are available that will improve services as cost effectively as possible.

Map 8.1: Population Density



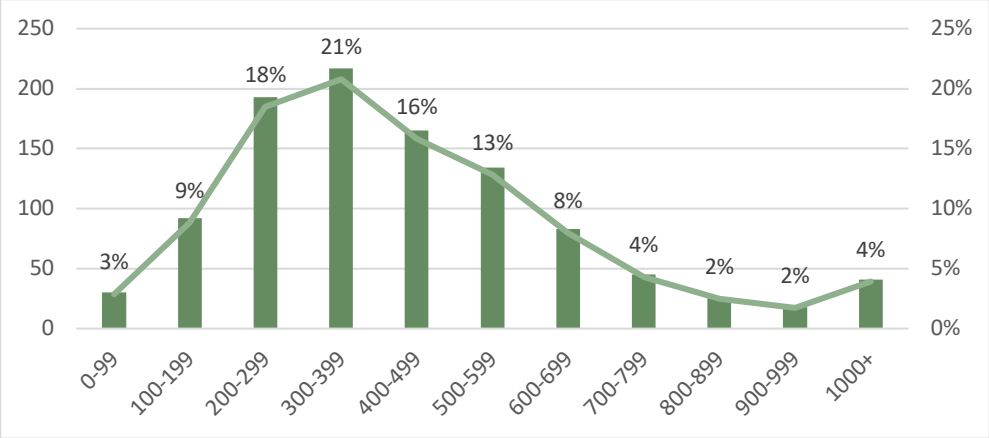
Nationally, the number of districts per state ranges from one statewide district in Hawaii to over 1,000 districts in Texas. Some states have countywide districts. Across the nation, school districts range in enrollment from fewer than 100 students per district to more than 100,000. In general, the enrollment of Arkansas school districts is proportionate to the nation, with most districts ranging in enrollment from 1,000 to 3,000 students.

Arkansas has a large proportion of rural school districts compared to the comparison states (SREB states + Massachusetts). While Arkansas and Massachusetts have nearly the same number of school districts, Massachusetts has 67 percent more schools. Texas has approximately four times more school districts than Arkansas but almost seven times more schools. In the United States, 53 percent of the school districts are rural, compared to 17 percent in Massachusetts, 61 percent in Texas, and 62 percent in Arkansas. In the United States, 28 percent of the schools are rural compared to 11 percent in Massachusetts, 24 percent in Texas, and 44 percent in Arkansas.

Arkansas Schools

As Arkansas districts are relatively small, schools also tend to be smaller. The average school size is 455 students, with 67 percent of schools with less than 500 students. Chart 8.1 below presents the distribution of school sizes.

Chart 8.1: Distribution of School Sizes



National Research and Policies on District and School Size

Research on Ideal District and School Size

Education policymakers across the country face the challenge of determining how to ensure that all students meet educational standards while achieving operational efficiency. In the past century, decision-makers have reduced the number of school districts while the population and student enrollments have increased through resulting in larger school districts and schools.

Numerous studies have reviewed the impact of school and district size on: (1) operational efficiency due to economies of scale; (2) curricular diversity and the ability to offer comprehensive and diverse offerings; (3) extracurricular program offerings and participation; (4) academic achievement; and (5) other variables, such as daily attendance, dropout rates, and discipline issues. Researchers have not reached a consensus on what number of students produces the ideal size for a school district or school, despite considerable exploration of the idea.

In terms of efficiency, school finance research depicts the relationship between size and cost as a reverse J-curve, with costs increasing at a more rapid rate as district size decreases.[96] A number of studies have argued that larger schools are more efficient, and some have concluded that the ideal high school would have 1,000 to 2,000 students to allow for bulk purchasing and to reduce per-student administrative costs. In contrast, other studies have found that increasing the size of an organization can result in inefficiencies or diseconomies of scale because of the added costs of coordination and supervision. The discussion of operational efficiencies often arises in conjunction with proposals to consolidate schools or districts and is therefore subject to advocacy bias.

The ability of a school or school district to offer a comprehensive and diverse curriculum is another subject of much research. Those who favor larger schools contend that large schools can offer a broader range of courses, including more advanced courses. Early studies concluded that small schools could provide a comprehensive, diverse offering of educational programs but only at great expense.[97] Another study examined National Assessment of Educational Progress data from 38 states and concluded that smaller school districts were less likely to offer a variety of specialized courses.[98] Providing similarly comprehensive and diverse educational programs at small schools is very costly, large school advocates maintain. On the contrary, several studies found that increases in school size did not translate into large increases in educational programming.[99] Another study found that increases in school size enabled schools to offer more courses, but only up to 400 students.[100] After reaching the 400-student mark, schools tend to offer more sections of the same courses rather than a wider variety of courses. Other studies supported the 400-student threshold.[101] Researchers also found that programs in some schools with as few as 500 students were as comprehensive as in schools with more than 3,000 students.[102] This could be explained by schools offering more sections of the same course rather than a wider variety of courses.

Studies on the optimal minimum size of a school district ranges from 400 to 2,000 students, while the optimal maximum size ranges from 4,000 to 6,000 students. Nearly 90 percent of Arkansas school districts are within the size range determined to be optimal by several studies.

Policies in Other States

While few states have specific laws or regulations on school size, many states influence school size decisions through a combination of guidelines, programs, and processes. Most states have an educational facility master planning process and professional staff at the state level who guide school districts through the process. A separate school construction planning process is followed when the

[96] AIR, 2012
[97] Conant 1967; Jackson, 1966
[98] Walberg and Walberg 1994
[99] Barker & Gump, 1964; Pittman & Haughwout, 1987
[100] Monk 1987
[101] Forbes, Fortune, & Packard, 1993; Fowler & Walberg, 1991; Howley, 1994; Monk, 1992
[102] Turner and Thrasher 1970

master plan and enrollment projections justify a school construction project. Most school construction design and approval processes start with educational specifications that set the design requirements to meet the desired educational program. The school construction planning process implements the educational specifications by determining the number of spaces needed of various types, ranging from regular classrooms to chemistry labs and gymnasiums. State school construction review and approval processes establish the student capacity of classrooms and other spaces as well as the recommended square footage of each type of space.

A few states were identified as having school size policies implemented through law, regulation, or guidelines, as shown in Table 8.1. They include Arizona, Florida, North Carolina, and Kentucky. Both Florida and North Carolina provide two different size recommendations. For Florida, the guidelines differ between new and existing schools. North Carolina's recommendations differentiate based on the goal for the district. If school climate is the goal, lower school sizes are recommended, while larger school sizes are recommended for efficiency.

Table 8.1: States with Laws, Regulations, or Guidelines on School Size

State	Elementary	Middle	High
Arizona	500	500	1,000
Florida – new schools	500	700	900
Florida – existing schools	820	1,139	2,180
North Carolina – based on school climate	300-400	300-600	400-800
North Carolina – based on economic efficiency	450-700	600-800	800-1,200
Kentucky (minimum-maximum)	300-600	400-900	500-1,500

As part of the LEA survey on current resource uses and practices, districts and charter systems were asked about any independent school size policies that they have set, and any process they have for incorporating public input on these decisions. Only 30 of the 181 districts or charters that responded to the statewide survey had independent school size policies in place. For those LEAs with school size policies, public input was provided on the policies through a number of approaches, including public hearings, surveys, and planning committees. However, over 30 percent of respondents said the public does not have input on the policies.

Class Sizes in Arkansas and Other States

Class Size Guidelines

In Arkansas, as in many other states, class size is governed by: state policies, district policies (in some circumstances), budget development guidelines, collective bargaining agreements, state and federal requirements for special needs programs, and other mandates. These class size standards, when applied to an existing school building (with various types of classrooms and other spaces), are a driving factor of total capacity in a school. However, enrollment fluctuations can change from one year to the next and impact the number of staff needed to maintain class size maximums. For example, if a class size is set at

25, and 50 students are enrolled, two classrooms are required. Three classrooms would be required if the following year's enrollment at that same grade level changed to 55. However, that only occurs if the class size guidelines are seen as set maximums and are not overriden by assignment of instructional aides or other measures. Additionally, as educational program requirements change, particularly in special education, space previously designed and used for regular education classrooms at 25 or more students per classroom are often converted for use by programs that require fewer students in each room. For these reasons, school capacity can change over time and even annually based on fluctuating enrollments. In schools with declining enrollments, districts often use classrooms below their original design capacity.

When asked as part of the LEA survey, few districts or charters responded that they had specific class size policies, as seen in the following table. Those that did respond were asked about the minimum, maximum, and ideal class sizes for each grade range. For the lower elementary grades, respondents felt that class sizes of 20-30 were ideal, with 25-30 best for upper elementary grades, 28-47 ideal for middle grades, and 28-50 best for high school.

Table 8.2: LEA Policies on Class Sizes

Does your school district or charter system have a policy or guidelines on class sizes?						
	Yes		No		N/A	
	Count	Percentage	Count	Percentage	Count	Percentage
Lower elementary grades (K–3)	10	62.50%	2	12.50%	4	25.00%
Upper elementary grades (4–5)	8	57.14%	2	14.29%	4	28.57%
Middle/junior high grades	8	61.54%	1	7.69%	4	30.77%
High school grades	8	66.67%	1	8.33%	3	25.00%

In absence of unique school or class size policies, nearly all LEAs rely on state guidelines. In Arkansas, there are two relevant sets of class size guidelines — what is provided through the matrix and then accreditation requirements that set required average class sizes and maximums. Current Arkansas class size policies and matrix funding ratios are presented in Table 8.3.

Table 8.3: Arkansas Class Sizes in the Matrix and per Accreditation Requirements

	Matrix Funding Level	Accreditation Requirements
Kindergarten	20:1	20:1 maximum or 22:1 with a half-time instructional aide
Grades 1–3	23:1	23:1 average; 25:1 maximum
Grades 4–5	25:1	25:1 average; 28:1 maximum
Grades 6–12	25:1	30:1 maximum

In grades 1-5, the matrix level and the accreditation required average are the same, with the maximum being a little higher. The maximum for grades 6-12 is higher than the funding level, providing some flexibility for schools. Kindergarten is different — both the matrix funding level and accreditation maximum is the same, which can create staffing difficulties for schools. For example, if a school had 40

kindergarteners, they could staff two classrooms of 20 with the two kindergarten teachers funded in the matrix. However, if the school had 45 kindergarteners, they would need three kindergarten classrooms to not go over the maximum requirements.

Table 8.4 compares class size guidelines in Arkansas to the comparison states, with a focus on core classes. Maryland and Delaware do not have state class size guidelines.

Table 8.4: Core Class Size Guidelines (maximum unless noted)

State	K	1–3	4–6	7–8	9–12
Alabama	18	18	26	28	24
Arkansas	20	23, average; 25, max	25, average; 28, max	30	30
Florida	18	18	22	22	25
Georgia	18	21	28	28	32
Kentucky	24	24	4: 28 5/6: 29	31	31
Louisiana	20	20			
Massachusetts	25 Avg.	25 Avg.			
Mississippi	22	27	Grades 5–8 self-contained – 30; Grades 5–12 departmentalized – 33		
North Carolina	28	28			
South Carolina	30	30	30	35	35
Tennessee	20	20	25	35	35
Texas	22	22	4:22		
Virginia (Average/Max.)	24/29	24/29	25/35		
West Virginia	20	25	25		

Arkansas class size guidelines at all grade levels are in the middle of the range compared to other states.

Relationship Between District Size and Educational Opportunity

The study team examined how the enrollment sizes of schools and school districts impact the educational opportunities for students. For these analyses, charter LEAs have been excluded, as charters may not serve all grades and may make different operational choices to suit their program models that are unrelated to their size.

The study team reviewed the impact of school and district size on: (1) class size, (2) curricular diversity and the ability to provide comprehensive and diverse offerings; (3) personnel, and (4) operational efficiency. Differences in teacher workforce by size will be addressed in the next chapter (Staff Attraction and Retention). To examine curriculum diversity and expenditures in Arkansas the study team used the Arkansas Department of Education (ADE) Data Center and the numerous variables for all districts in the state, then also used NCES staffing data.

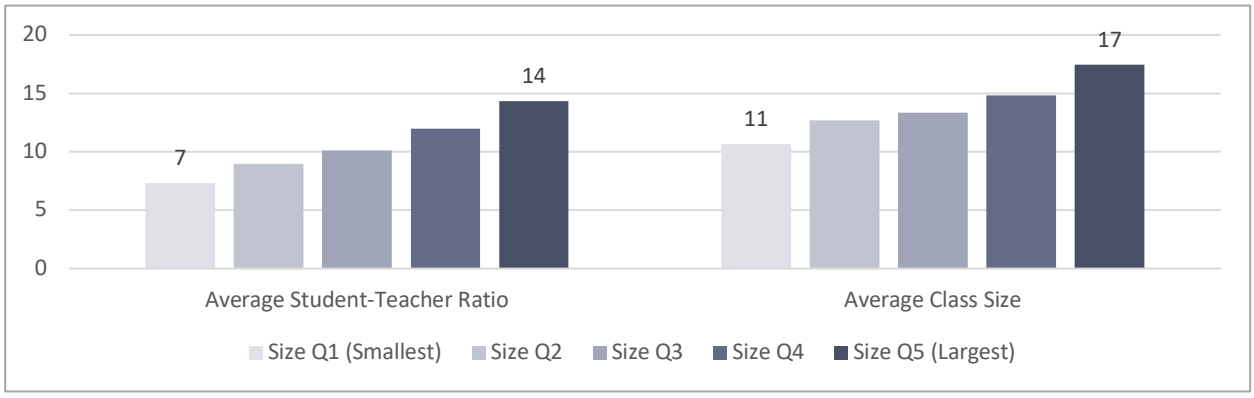
A correlational analysis was undertaken for each area. Correlation results are shown for each area with a perfect correlation represented by a 1.0 correlation coefficient, a perfect negative correlation

represented by a -1.0 coefficient, and no correlation represented by a 0.0 coefficient. The study team identifies the correlation coefficient for each variable, identifies the strength of the correlation, and provides some possible reasons for the result.

Class Sizes and Student-Teacher Ratios in Arkansas Districts

Class sizes and student-teacher ratios vary widely in Arkansas. Not unexpectedly, class sizes and student-teacher ratios tend to be lower in smaller districts. Chart 8.4 presents this information by district size quintile.

Chart 8.4: Average Student-to-Teacher Ratios and Class Sizes by District Size Quintile



As shown, the smallest quintile average-teacher ratios are half that of the largest quintile (7:1 compared to 14:1), and the average class size is also lower (11:1 compared to 17:1). As the current funding matrix does not differentiate by school or district size, the staffing diseconomies of scale in smaller districts, which are often rural, can result in the inability to provide competitive wages to staff, as will be seen in the salary differentials discussed in Chapter 8.

Curriculum Diversity

The common belief is that larger districts or schools can offer a more comprehensive and diverse set of courses and educational programs. The study team examined if larger districts offer more comprehensive and diverse curriculum and educational programs, including providing more career education programs, AP programs, specialized computer science programs, or other types of elective courses, like fine arts and foreign language.

To examine curriculum diversity, the number of students taking certain courses was correlated with district size, expressed as number of courses per 500 students. Table 8.5 first looks at this information by size quintile, then examines correlations to determine if differences are statistically significant.

Table 8.5: Curriculum Diversity by District Size Quintile, Courses Taken per 500 Students

Size Quintile	AP	CTE	Computer Science	Fine Arts	Foreign Language
1 (smallest)	30	266	18	80	21
2	29	248	14	101	27
3	32	243	21	95	29
4	39	224	20	102	36
5 (largest)	57	209	21	99	45

There appears to be more AP courses taken in larger districts, while conversely fewer CTE courses taken, a pattern first presented in chapter 6 (College and Career Readiness). Similar to AP courses, there appears to be more foreign language courses in larger districts, with less of an observable pattern for computer science and fine arts courses.

Table 8.6: Correlations Curriculum Diversity by District Size, Courses Taken per 500 Students

	Correlation Coefficient	Strength of Analysis	Analysis and Possible Reasons
AP	0.44	Moderate, positive	Larger districts offer more AP courses
CTE	-0.26	Weak, negative	Smaller districts offer more CTE courses
Computer Science	0.05	Very weak, positive	Minimal variation in the number of courses taken
Fine Arts	0.10	Very weak, positive	Minimal variation in the number of courses taken
Foreign Language	0.44	Moderate, negative	Larger districts offer more foreign language courses

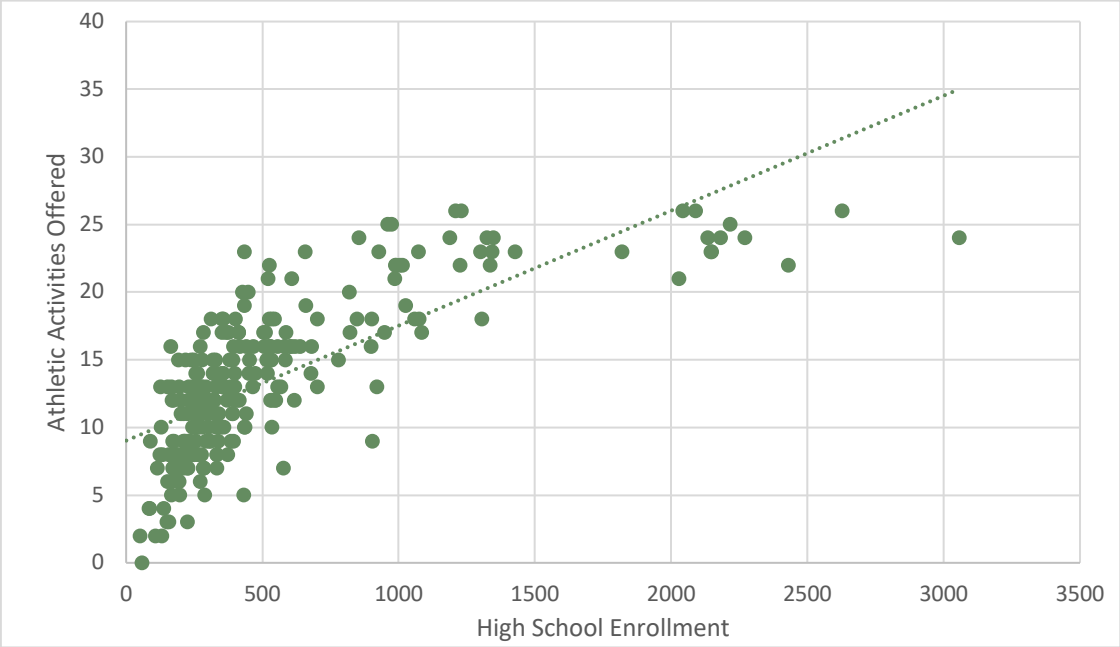
As Table 8.6 shows, there are weak relationships between district size and curriculum offerings in many areas. However, students in larger districts tend to take more AP and foreign language courses (moderate correlation), while students in smaller districts take CTE courses at a slightly higher rate (weak correlation). Overall, it appears students have similar opportunities in computer science and fine arts regardless of the size of districts. The very largest district provides far more opportunities in AP course work, and there is a steady increase in foreign language courses in larger districts. Conversely, students in smaller districts take more CTE courses than their counterparts in larger districts. Districts seem to be able to provide a diverse curriculum with some divergence between smaller and larger districts in the type of programming provided.

Extracurriculars

To determine whether school size has an impact on extracurricular programs, the study team collected information from the Arkansas Activities Association for both athletic and non-athletic activities at the high school level, based on the 2018-19 school year. Consistent with the research, larger schools can offer more activities, both athletic and non-athletic with a strong correlation of 0.74. The number of non-athletic activities is lower than the number of athletic activities and has a weaker relationship to school size.

The analysis shown on Chart 8.6 shows a strong relationship between athletic activities and school size for school with less than 1,200 students. For schools larger than 1,200 students, the number of activities is relatively consistent. It also shows a wide variation across all levels of high school enrollment.

Chart 8.5: Athletic Activities Offered vs. School Enrollment



Compared to athletic activities, fewer non-athletic activities are offered and there is a much weaker relationship exists for non-athletic compared to athletic activities.

Personnel

The study team them examined the impact that size has on personnel in a district using NCES data for 2018/19. For this analysis, charter LEAs have been excluded as these LEAs often make different staffing choices to fit their unique models and needs. Table 8.7 presents personnel FTE per 500 students (to allow comparison across districts as well as to the funding matrix) in specific personnel categories for each size quintile.

Table 8.7: Personnel by District Size Quintile, Average FTE per 500 Students (2018/19 NCES data)

Size Quintile	LEA Administrators	LEA Administrative Support Staff	School Administrators	School Administrative Support Staff	Full-Time Equivalent Teachers	Total Guidance Counselors	Librarians/ Media Specialists
1 (smallest)	1.6	4.4	2.1	4.2	56.5	1.8	1.5
2	1.1	3.3	1.9	3.1	49.0	1.6	1.5
3	0.8	3.0	1.8	3.3	46.3	1.5	1.4
4	0.6	2.8	2.0	3.5	40.9	1.4	1.2
5 (largest)	0.3	2.5	1.9	2.9	35.4	1.3	0.9

As shown in the Table 8.7, the size of the district has an impact on the number of personnel needed in the district and its schools in many personnel categories, reflecting the economies of scale that can be achieved. At the district level, larger districts have fewer LEA administrators and LEA administrators per 500 students than smaller districts, meaning that while they have generally more district staff as a total in larger districts, the number of administrators per student (shown as per 500 students) is higher to perform needed district functions.

At the school level, there is less difference in school administrators and guidance counselors, suggesting these are staffed more as a caseload versus a fixed number of staff needed. For example, while each school likely has a principal, as they increase in size, they would have additional assistant principals or deans, keeping the overall number of administrators per 500 students similar. Conversely, a librarian media specialist is often more of a fixed staffing level need (i.e., one librarian/media specialist is needed in a school), so as a per 500 student figure, it takes more resource at a smaller district size than a larger district to provide that minimum level of staffing. Finally, teacher FTEs is one area that is clearly impacted by the economies of scale of a district. While there are class size guidelines that drive the number of teachers needed, there are also minimums that must be met (such as having a 4th grade teacher even if a district only has 10 4th graders) that increase the FTE needed. Table 8.8 examines the correlations for each personnel category.

Table 8.8: Correlations for Personnel by District Size, Average FTE per 500 Students (2018/19 NCES data)

	Correlation Coefficient	Strength of Analysis	Analysis and Possible Reasons
LEA Administrators	-0.44	Moderate, negative	Economies of scale for fixed positions
LEA Administrative Support Staff	-0.20	Weak, negative	Minimal economies of scale
School Administrators	-0.05	Very weak, negative	Minimal economies of scale
School Administrative Support Staff	-0.08	Very weak, negative	Minimal economies of scale
Full-Time Equivalent (FTE) Teachers	-0.40	Moderate, negative	Classroom minimum staffing levels, then fulfilling class size guidelines
Total Guidance Counselors	-0.25	Weak, negative	Economies of scale for minimum level, but then caseload driven
Librarians/ Media Specialists	-0.38	Moderate, negative	Economies of scale for fixed positions

The strongest correlations were for LEA administrators, teachers, and librarian/media specialists. No area was perfectly correlated, as other factors, such as student need, location, and available resources can also influence school staffing.

Operational Efficiency

Operational efficiency evaluates the cost per unit or, in the case of schools, the cost per student. It examines if larger districts are more efficient to operate due to economies of scale. To examine operational efficiency in Arkansas and its relationship to district size, the study team looked at total expenditures per student, as well as specific categories within total expenditures: regular instruction, student support services, school administration, district administration, and total district-level support (inclusive of district administration, central services, M&O, transportation, and other district-level

support). The study team was looking to see how district expenditures varied per-student spending in these areas and if they were moderately or strongly negatively correlated with district size. This would indicate that costs are higher for smaller districts and that economies of scale provide larger districts with lower costs. For this analysis, charter systems were excluded.

Table 8.9: Operational Efficiency Per Student Spending by Quintile

District Size Quintile	Regular Instruction	Student Support Services	School Administrative Services	General (District) Administration	Total District Level Support	Total Current Expenditures
1 (smallest)	$4,583	$554	$504	$499	$2,785	$11,680
2	$4,210	$505	$475	$348	$2,440	$10,544
3	$4,119	$515	$492	$306	$2,278	$10,261
4	$3,950	$497	$491	$240	$2,107	$9,977
5 (largest)	$3,909	$547	$525	$212	$1,989	$9,870

Spending varied by district size in a number of areas including regular instruction, general (district) administration, total district-level support, and total current expenditures. Spending was more consistent for student support and school administration. Table 8.10 then explores whether any of these observable variations had a statistically significant correlation with district size.

Table 8.10: Operational Efficiency Per-Student Spending Correlations

Variable (All Per Student)	Correlation Coefficient	Strength of Analysis	Analysis and Possible Reasons
Regular Instruction	-0.09	Very weak, negative	Savings from teacher utilization offset by higher salaries
Student Support Services	0.09	Very weak, positive	No difference between costs by size
School Administration Services	0.23	Weak, positive	No economies of scale seen in larger districts, larger districts likely using assistant principals
General (District) Administration	-0.40	Moderate, negative	Economies of scale for fixed administrative positions
Total District Level Support	-0.26	Weak, negative	Some economies of scale for fixed administrative and central services positions
Total Current Expenditures	-0.08	Very weak, negative	Minimal economies of scale

However, as seen in table 8.10, most of the spending areas were not strongly or even moderately negatively correlated with district size. In fact, school administration and student support services indicating either higher costs for larger districts or that additional resources are provided in these areas in larger districts. Instructional expenditures are not significantly higher in smaller districts, likely due to higher staff FTE needs (per student) being offset by lower salaries, as seen in Chapter 9. Expenditures for general (district) administration were moderately negatively correlated with district size, suggesting there are economies of scale related to district size.

Use of Education Service Cooperatives to Address Operational Efficiency

Within the state, the 15 Education Service Cooperatives (ESCs) help overcome the economies-of-scale issues many districts face by providing a large number of services. Table 8.11 shows the districts, schools, students, and teachers served by each ESC.

Table 8.11: Districts, School, Students, and Teachers Served by Each ESC (2019/20)

Education Service Cooperative	Districts	Schools	Students	Teachers
Arch Ford Educational Service	26	97	41,697	3,639
Ark.River Educational Service Center	9	35	15,246	1,095
Crowley's Ridge Education Co-Op	22	76	36,493	2,964
Dawson Education Service Co-Op	22	85	42,689	3,267
Dequeen/Mena Educ. Co-Op	12	37	12,238	1,228
Great Rivers Educ. Serv. Co-Op	10	34	12,934	995
Guy Fenter Education Service Cooperative	22	96	43,024	3,344
North Central Ark. Educ Co-Op	16	49	18,818	1,774
Northeast Ark. Educ. Co-Op	15	43	17,556	1,552
Northwest Ark. Education Co-Op	21	148	9,2391	6,244
Ozark Unlitd Resource Co-Op	16	48	14,771	1,568
Pulaski County Schools	20	122	53,759	3,885
South Central Service Co-Op	11	39	14,866	1,449
Southeast Arkansas Educational	15	47	16,362	1,705
Southwest Ark. Co-Op	9	31	11,174	1,023
Wilbur D. Mills Educ. Co-Op	17	66	31,437	2,522

The ESCs provide a host of services, with the most common being:

1. Career and Technical Education
2. Community Health Nurse
3. Early Childhood Services
4. Fingerprinting
5. Gifted and Talented Services
6. Behavior Specialists
7. Content Specialists
8. Novice Teacher Support
9. Special Education
10. Technology Support

In examining the services provided by the ESCs, the study team found that ESCs serving the largest number of students provide fewer services, which may reflect that the larger districts can cost-effectively serve their students without requesting additional support from ESCs. It also may reveal that ESCs dominated by a large district may not serve the small and rural school districts within its boundaries as well. In ESCs without a large urban district, the districts served may demand a wider range of services.

Small districts likely utilize ESCs to help offset areas of possible diseconomies of scale, relying on the expertise of ESC staff instead of trying to provide the service with the small district staff. This is likely a factor in small districts not facing significantly higher costs in operational areas that are often found in other states.

Addressing Operational Efficiency through Consolidation

Arkansas's Act 60 requires school districts to be consolidated if enrollment drops below 350 students for multiple years.[103] The state had 308 districts in 2003 and today the state has 237 districts (excluding charter LEAs). Districts are allowed to consolidate with another district or be annexed into another district.

As has been described in this chapter, smaller districts face challenges operating efficiently, and consolidation is one tool used to improve efficiency for the smallest settings. It is important to note that limited efficiency gains will be made only if district operations are consolidated. If no schools are shuttered, most of the operating inefficiencies will remain, including small class sizes and low student-staff ratios in other areas. Consolidation is disruptive for communities and tough politically, and, if not implemented well, can lead to small overall savings.

The study team believes that educational opportunity is a more important lens than efficiency to be considered when evaluating possible consolidation. Smaller settings may also struggle (especially at the secondary level) to provide a robust educational program. Examining the programming offered students and understanding if it could be improved through consolidation should be the main goals of any changes. This approach puts the educational outcomes of students first in the decision-making process.

Approaches to Addressing the Needs of Small, Rural, and Isolated Districts

As has been mentioned in this section, it is generally understood that smaller and isolated districts face increased cost pressures and diseconomies of scale. This is driven by the need for lower student-to-staff ratios, minimum staff needed to offer similar educational opportunities, the fixed costs of operations and administration, the difficulty in sharing staff due to the distances between schools, and higher transportation costs.

The study team looked at: (1) how other states adjust for these issues, (2) what is being done in Arkansas currently to address the needs of small and rural districts, and (3) how examples of other adjustments from other states could be applied in Arkansas to address the cost differences observed in Arkansas districts due to size.

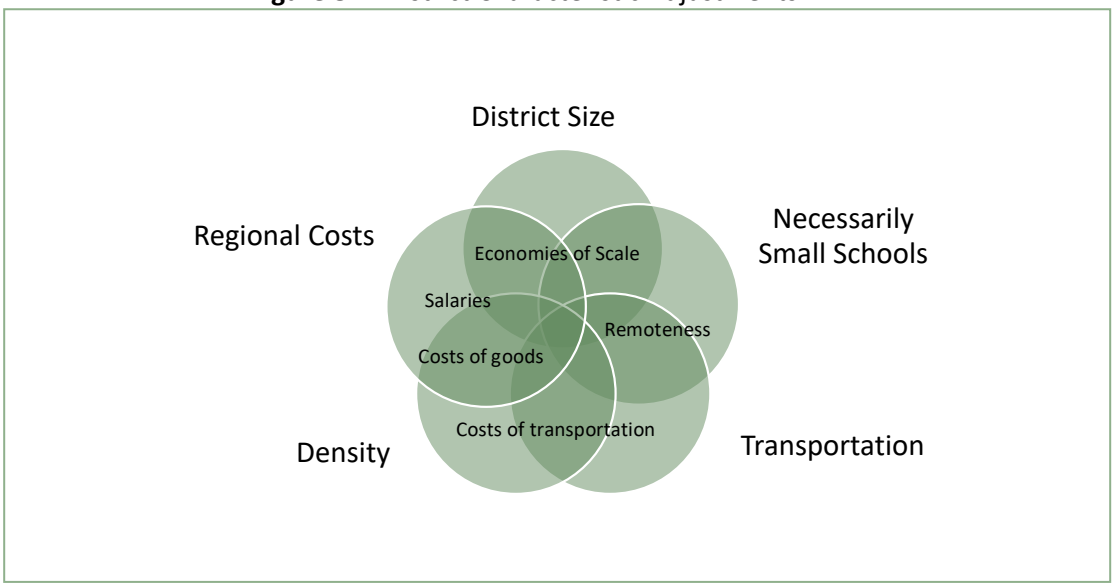
National Approaches

States use a number of formula adjustments to address the needs of small schools, small districts, and isolated settings. These adjustments are intended to address the differing needs of these settings in

[103] http://www.officeforeducationpolicy.org/downloads/2010/09/act-60-the-past-present-and-future-of-school-consolidation-in-arkansas.pdf

different areas, including economies of scale, remoteness, costs of goods, costs of transportation, and salary variations, as shown in Figure 8.1.

Figure 8.1: District Characteristic Adjustments



Also shown in Figure 8.1, states use a variety of adjustments or formulas to address these overlapping needs, such as district size, district density, necessarily small schools, regional costs, and transportation. Twenty states have a district size adjustment that increase per-student funding levels for smaller districts, often providing much higher funding for the smallest districts in a state. Twelve states have a district density/isolation adjustment often calculated based on the student per square mile in a district. These adjustments are usually in place of a district size adjustment. Twelve states adjust for necessarily small schools, generally related to geographic isolation and independent of district size. In addition to these adjustments, many states provide adjustments within transportation formulas for low density or isolated districts.

Focusing on the adjustments specifically related to size and isolation, Table 8.12 shows that five comparison states use a district size adjustment, and five also use a density/isolation adjustment, with Oklahoma and Texas utilizing both. No comparison states were identified as utilizing a necessarily small schools adjustment.

Table 8.12: Adjustments for Size and/or Isolation, Comparison States

	District Size	Density/Isolation	Necessarily Small Schools
Alabama			
Arkansas		**x**	
Delaware			
Florida		x	
Georgia	x		
Kentucky			
Louisiana	x		
Maryland			
Massachusetts			
Mississippi			
North Carolina		x	
Oklahoma	x	x	
South Carolina			
Tennessee			
Texas	x	x	
Virginia			
West Virginia	x		

Adjustments for density are typically based on students per square mile. In **North Carolina,** districts with fewer than 3,200 students are eligible to receive additional funding based on the number of students per square mile and total district enrollment. In **Oklahoma**, districts with above average square mileage and number of students per square mile that is less than or equal to one-fourth of the state average are defined as isolated (districts also must have fewer than 529 students). In Texas, districts with fewer than 130 students that are at least a 30-mile bus ride from the nearest high school district receive additional funding.

Arkansas Approach

Arkansas does not currently adjust for district size, but instead provides isolation funding and other adjustments (special needs isolated and special needs isolated – transportation). For the primary isolation funding, Arkansas defines an "isolated school district" for Isolation Funding as one that meets any four of the following five criteria:

- There is a distance of 12 miles or more by hard-surfaced highway from the high school of the district to the nearest adjacent high school in an adjoining district
- The density ratio of transported students is less than three students per square mile of area
- The total area of the district is 95 square miles or greater
- Less than 50 percent of bus route miles are on hard-surfaced roads
- There are geographic barriers, such as lakes, rivers, and mountain ranges, that would impede travel to schools that otherwise would be appropriate for consolidation, cooperative programs, and shared services

Districts must also have less than 350 students or be a consolidation district. There are only five districts with less than 350 students in Arkansas — none of which receive this funding. Sixteen districts do receive this funding. The criteria vary for the other isolation-related funding purposes: 25 received special needs isolated funding and 13 received special needs isolated – transportation funding.

Defining Additional Funding by Isolation vs. Size

This definition of isolation appears to be a robust definition compared to other states. However, very few districts qualify for this funding. Looking at the districts that currently qualify for isolation funding, they range in size from 386 students to 2,724 in 2018/19.

Table 8.13: Districts Receiving Isolation Funding

District	Enrollment
Cedar Ridge School District	719
Cleveland County School District	800
Cossatot River School District	987
Deer/Mt. Judea School District	386
Dewitt School District	1215
Harmony Grove School District (Ouachita)	922
Hillcrest School District	420
Huntsville School District	2215
Jackson Co. School District	866
Jasper School District	846
Magnolia School District	2724
Mountain View School District	1586
Mulberry/Pleasant View Bi-County Schools	388
Ouachita River School District	727
Ozark Mountain School District	606
Searcy County School District	781

The study team compared spending in isolated settings (defined as those districts that currently receive isolation funding in Arkansas) compared to the smallest two quintiles of school districts.

Table 8.14: Operational Efficiency Per-student Spending in Isolated Settings vs. Small Settings

	Regular Instruction	Student Support Services	School Administrative Services	General (District) Administration	Total District Level Support	Total Current Expenditures
District Size Quintile 1 (smallest)	$4,583	$554	$504	$499	$2,785	$11,680
District Size Quintile 2	$4,210	$505	$475	$348	$2,440	$10,544
Isolated Districts	$4,314	$538	$573	$346	$2,684	$11,228

Isolated districts have comparable spending in most areas to small districts, but with higher costs in school administration services. However, even with differences in specific areas, the overall level of spending is comparable between the smallest districts and isolated districts.

Given that isolated districts do face additional costs the study team believes funding should continue to be provided to address these purposes. The study team also recommends that the state consider a district size adjustment in order to address the cost pressures faced by districts due to size, as these cost pressures are at the same level as isolated settings, which do receive additional, targeted funding.

Applying Size Adjustments from Other States to Arkansas

As described earlier, 20 states use district size adjustments to account for the diseconomies of scales smaller districts face, including five comparison states (Georgia, Louisiana, Oklahoma, Texas, and West Virginia). Arkansas's funding matrix is designed to meet the needs of a district of 500 students, which nationally is a small district. The matrix generates a per-student foundation amount that is then provided to all districts regardless of size.

The 2014 study identified that Picus Odden and Associates (POA) was using a 3,900-student district size at the time and concluded that, "there is no material difference in the cost per student for central administration in smaller districts" and "…we have found this to be the case until district size is reduced to about 390 students…" Though the POA work may not have found a difference in cost by size through the EB approach, school finance research has concluded there is a relationship between costs and district size (expressed as a J-curve) and further, the expenditures per student shown in Table 8.9 highlight the differences in operational costs per student faced by smaller districts in Arkansas. Given these two different perspectives, the study team explored possible district adjustments both from the current 500-student district size point and also the larger 3,900-student district size point.

The study team modeled three state's district size formulas — Colorado, Kansas, and Oklahoma — to show the level of adjustment that would occur for districts below 500 students in these states. The three adjustments provide a good range to examine, with Oklahoma only providing funding for districts below 529 students, Kansas providing funding for districts below about 1,600 students, and Colorado adjusting for districts as large as 5,000 students. Oklahoma and Kansas use single line adjustments while Colorado uses a multi-line adjustment that more closely replicates the traditional J-curve. The study team ran all three approaches and benchmarked the adjustments at both 500 and 3,900 students.

First, the following table and chart model what the adjustment would be if the 500-student district was used as the baseline and adjustments for smaller districts were benchmarked to that adjustment level in Colorado, Kansas, and Oklahoma. Table 8.15 and Chart 8.5 shows the adjustment levels identified for districts below 500 using each state's approach.

Table 8.15: Examples of Size Adjustments with 500 Students as the Base

Enrollment	Colorado	Kansas	Oklahoma
100	1.79	1.15	1.15
200	1.49	1.11	1.11
300	1.22	1.07	1.07
400	1.04	1.04	1.04
500	1.00	1.00	1.00

Chart 8.6 shows that when benchmarked to 500 students, the Kansas and Oklahoma adjustments are almost identical, meaning the data overlaps on the chart, allowing only Oklahoma data points to show up on the chart. Kansas and Oklahoma each produce about seven percent additional funding at 300 students, 11 percent at 200 students, and 15 percent at 100 students. Colorado's adjustment produces higher additional funding at most sizes, including a 22 percent adjustment at 300 students, nearly 50 percent adjustment at 200 students, 80 percent adjustment at 100 students.

Chart 8.6: Examples of Size Adjustments with 500 Students as the Base

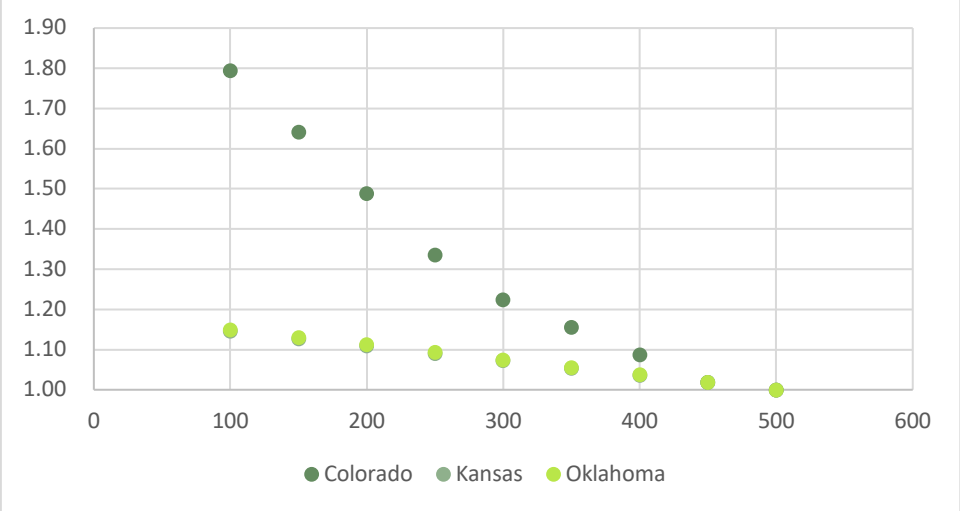


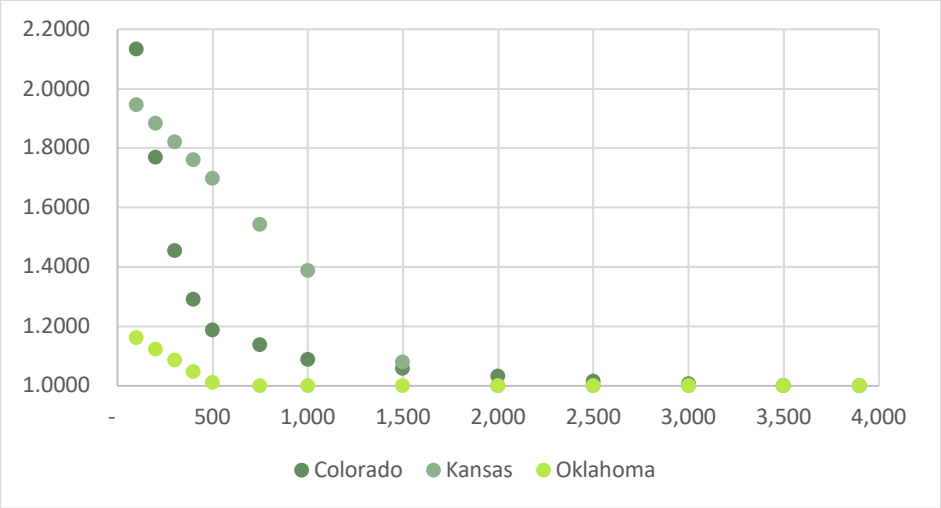
Table 8.16 and Chart 8.7 show the adjustments when benchmarked to 3,900 students.

Table 8.16: Example of Size Adjustments with 3,900 Students as the Base

Enrollment	Colorado	Kansas	Oklahoma
100	2.13	1.95	1.16
250	1.59	1.85	1.11
500	1.19	1.70	1.01
1,000	1.09	1.39	1.00
2,000	1.03	1.00	1.00
3,000	1.01	1.00	1.00
3,900	1.00	1.00	1.00

As shown, when the adjustments are benchmarked to 3,900 students, the differences in the designs of the three adjustments can be more clearly seen. Oklahoma provides adjustments only to the smallest districts and the level of adjustment is low — very similar to the 500-student benchmark adjustments. Kansas is a linear adjustment starting a 3 percent adjustment for 1,622 students and rising to nearly a 100 percent adjustment at 100 students. Colorado shows the more traditional J-curve shape, with adjustments below Kansas until the very smallest example of 100 students when it provides for a nearly 120 percent adjustment.

Chart 8.7: Examples of Size Adjustments with 3,900 Students as the Base



The size adjustments shown above are offered as examples of the types of district size adjustments that could be applied in Arkansas. These examples are consistent with school finance research that depicts the reverse "J-curve" of costs due to size, reflective of the spending differences seen in these districts, and could be beneficial to address the observed differences in salaries and teacher workforce.

Conclusions

Arkansas has a diverse set of districts and schools with the much of the student population attending school in districts in relatively low population areas. Districts tend to be small, with an average district size of 1,800. About a third of all the schools in the state enroll less than 500 students, with around 30 percent of schools having 300 or less students. The variation in district size and high concentration of smaller schools, makes it important that the state examines the differences in opportunities that smaller schools and districts face.

In examining the data for Arkansas, there are observable economies of scale for personnel, particularly teachers and district staff. There is less correlation between per-student costs and district size than one might expect, but this is likely due to tradeoffs that smaller districts are making, including having lower salaries to allow for the higher levels of staffing needed. Overall, smaller settings also appear to be able to provide a strong curriculum, but it is more weighted towards CTE than more traditional college

preparation courses, such as AP and foreign language. To overcome some of the diseconomies of scale faced by smaller districts, Arkansas districts appear to rely on ESCs.

There does not appear to be one “best” district or school size based on the research, especially in a state that has a wide variation of community sizes and population density. Instead, it is important to ensure that the funding system is accounting for the cost differences districts face due to size, something that many states do through a district size adjustment. A similar adjustment could be considered in Arkansas to provide the resources needed for the state’s smallest settings.

9. Attraction and Retention of Staff

The ability of districts to attract and retain qualified staff can have a direct impact on student outcomes. Further, districts face national systemic barriers and local barriers to securing staff.

This chapter details the study team's work on attraction and retention of staff, including examining the national research on attraction and retention of teachers, administrators, and nurses, comparing workforce data and policies in the comparison states; analysis of differences in qualifications of teachers across districts in Arkansas; and providing stakeholder feedback.

Key Takeaways

- The nation faces a teacher shortage. Arkansas has in place the types of programs states use to try and attract and retain teachers.
- Stakeholders indicated in both the educator panels and online survey that salaries are a large factor in teacher recruitment and retention.
- The data shows disparities in the teacher workforce when looking at district need and size. Districts with higher rates of free and reduced-price lunch (FRL) students and smaller districts employ teachers with lower years of experience and lower percentages of master's degrees.
- Nurses can provide savings to schools by reducing the workloads of other staff, but many schools are without full-time nurses.

Teachers

National Perspective and Arkansas Context

Multiple studies have confirmed that public schools face challenges having enough qualified teachers. The Economic Policy Institute estimated that at the beginning of the 2019/20 school year, public schools are facing a 307,000-teacher shortfall.[104] By 2028, US public school enrollment is projected to increase by 800,000 students. This two percent increase in students will require an additional 50,000 teachers.[105]

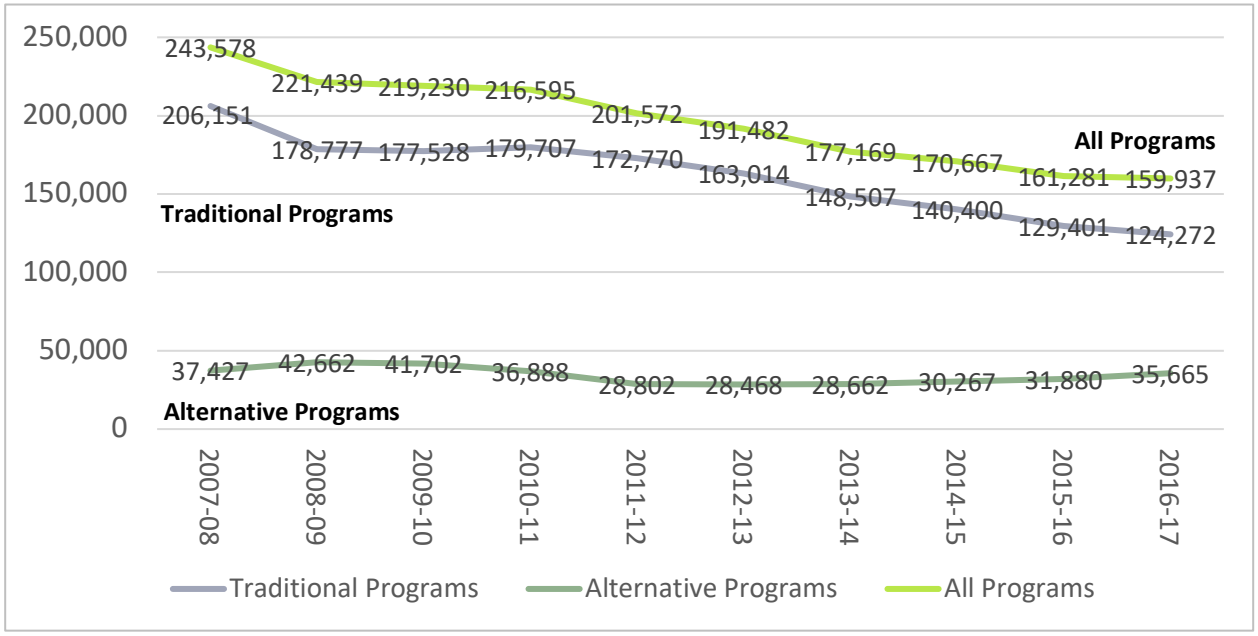
The teacher shortage is a simple issue of supply and demand. Public schools currently require more teachers than are being produced by teacher preparation programs. Four simple facts show why there is a teacher shortage in the United States:

- Student Population Growth: Between 2008 and 2020, public school enrollment grew by almost 1.6 million students.

[104] Gould, 2019
[105] NCES, 2019

- Decreasing number of teachers: At the same time that student populations were growing, the number of public-school teachers was shrinking. Between 2008 and 2020 the number of public-school teachers shrank by just under 8,000.
- High teacher turnover: It is estimated that nearly 7.7 percent of public-school teachers leave the field annually.[106] To put this into perspective, it is estimated that at the beginning of the 2020/21 school year there were 3.2 million public-school teachers in the United States, which means that approximately 246,000 teachers will leave the teaching field this spring.
- Decreasing number of new teachers: Chart 9.1 shows that between the 2007/08 and 2015/16 school years, the number of individuals who completed either a traditional or alternative teacher preparation program decreased by 83,000.

Chart 9.1: Teacher Preparation Program Completers in the United States



A number of factors impact districts' ability to retain teachers, either within the district or within the profession at all. A 2012 survey from the National Center for Education Statistics of former teachers found that dissatisfaction with the job was the most likely reason teachers left the field (55 percent of respondents).[107] The teachers most likely to leave the profession include beginning teachers, teachers in high-poverty schools or districts, teachers in high-minority schools or districts, and teachers of color.[108]

According to the U.S. Department of Education, at the end of each school year there are three distinct groups of teachers:[109]

[106] Sutcher, L. et al. 2016
[107] Carver-Thomas, D. et al. 2017
[108] Sutcher et al. 2016
[109] NCES 2016

- Stayers are those teachers who remained at the same school,
- Movers are those teachers who moved to a different school, and
- Leavers are those teachers who left the profession altogether.

Regarding Leavers, Arkansas has the second lowest rate of the comparison states that report this data and is well below the national average, as shown in Table 9.1.

Table 9.1: Percent of Teachers Leaving Profession ("Leavers")

State	Percentage of Teachers Leaving Teaching
Massachusetts	3.0%
Arkansas	**4.6%**
Georgia	5.5%
North Carolina	5.5%
Oklahoma	5.6%
Florida	6.6%
Alabama	6.8%
Virginia	8.0%
Louisiana	9.9%
South Carolina	13.9%
Kentucky	14.8%
Texas	14.9%
National Average	**7.7%**

States have designed a number of programs to try to attract and retain staff. Many states have implemented loan and scholarship programs. Table 9.2 shows that seven comparison states, including Arkansas, have loan programs, while eleven states, including Arkansas, have scholarship programs.

Table 9.2: Loan and Scholarship Programs

State	Loan Program	Scholarship Program	State	Loan Program	Scholarship Program
Arkansas	**Yes**	**Yes**			
Alabama	No	Yes	Mississippi	Yes	Yes
Delaware	Yes	No	North Carolina	Yes	No
Florida	No	Yes	Oklahoma	No	Yes
Georgia	No	No	South Carolina	Yes	No
Kentucky	Yes	Yes	Tennessee	No	Yes
Louisiana	Yes	No	Texas	No	No
Maryland	No	Yes	Virginia	No	Yes
Massachusetts	No	Yes	West Virginia	No	Yes

Arkansas's scholarship and loan programs include:

- The **Arkansas Geographical Critical Needs Minority Teacher Scholarship**, which seeks to attract qualified minority teachers to the Delta and other geographical areas where critical teacher shortages exist.

- The **Teacher Opportunity Program** (TOP) offers tuition reimbursement grants to Arkansas teachers and administrators. Teachers and administrators may apply for reimbursement of out-of-pocket expenses paid for up to six college credit hours completed for each academic year, not to exceed $3,000. There are a number of qualifications the candidate must meet.
- The **State Teacher Education Program** (STEP) provides teachers with $3,000 each year to repay federal student loans. The teacher must work in a public school that is located in a geographical area of the state designated as having a critical shortage of teachers or in a subject matter area designated as having a critical shortage of teachers. Teachers can qualify for an additional loan repayment of $1,000 per year for each year if they are a licensed minority teacher who works in a public school located in a geographical area of the state designated as having a critical shortage of teachers or in a subject matter area designated as having a critical shortage of teachers in Arkansas.

States also look to provide differentiated pay to attract teachers to teach in hard-to-staff schools or hard-to-staff positions. As Table 9.3 shows, 13 of the comparison states, including Arkansas, provide incentives for teachers filling positions in hard-to-staff schools. Eleven states, including Arkansas, provide incentives for teachers filling positions in hard-to-staff subjects.

Table 9.3: Differentiated Pay Programs

Comparison States					
State	**Hard-to-Staff Schools**	**Hard-to-Staff Subjects**	**State**	**Hard-to-Staff Schools**	**Hard-to-Staff Subjects**
Arkansas	**Yes**	**Yes**			
Alabama	No	No	Mississippi	Yes	No
Delaware	No	No	North Carolina	No	No
Florida	Yes	Yes	Oklahoma	Yes	Yes
Georgia	No	Yes	South Carolina	Yes	No
Kentucky	Yes	Yes	Tennessee	Yes	Yes
Louisiana	Yes	Yes	Texas	Yes	Yes
Maryland	Yes	No	Virginia	Yes	Yes
Massachusetts	Yes	Yes	West Virginia	Yes	Yes

Arkansas's incentives for hard-to-staff positions include:

- The **High-Priority District Teacher Recruitment and Retention** program, which provides annual bonuses to teachers who teach in school districts of 1,000 or fewer students of whom 80 percent or more are in poverty. In the 2019/20 school year, this program received $2.1 million in state funding.
- The state provided $18,738,000 to fund the **National Board for Professional Teaching Standards** (NBPTS) program in the 2019/20 school year. Teachers can receive reimbursements for their expenses to become a NBPTS certified teacher. NBPTS-certified teachers receive the following bonuses from the state:
    - Teachers in a non-high-poverty school receive $2,500 per year for up to five years.

- Teachers in a high-poverty school that is not in a high-poverty district receive $5,000 per year for up to five years.
- Teachers in a high-poverty school that is also in a high-poverty district receive $10,000 per year for up to 10 years.

Analysis of Teacher Workforce Data in Arkansas

The state collects information about the teacher workforce, including the percentages of novice teachers and completely certified teachers, average years of experience, percentage of teachers with a master's degree or higher, and average salary for classroom teachers. The study team first examined teacher workforce data at the district level by need, size, and locale.

Table 9.4: Teacher Workforce

	Novice Teachers	Completely Certified Teachers	Average Years of Experience	Teachers with a Master's or Higher	Average Salary for Classroom Teachers
By FRL					
FRL Q1 (lowest)	13%	99%	11.3	43%	$50,305
FRL Q2	13%	98%	10.3	43%	$46,306
FRL Q3	15%	99%	9.6	43%	$44,740
FRL Q4	16%	97%	10.2	41%	$45,217
FRL Q5 (highest)	18%	90%	9.6	38%	$43,860
By Size					
Size Q1 (smallest)	15%	94%	8.5	38%	$42,227
Size Q2	15%	98%	8.9	39%	$43,792
Size Q3	13%	98%	10.4	42%	$44,650
Size Q4	16%	96%	10.9	43%	$46,963
Size Q5 (largest)	16%	97%	11.8	44%	$51,395
By Locale					
Rural	15%	97%	10.0	41%	$44,992
Urban/Suburban	17%	97%	11.3	43%	$52,149

As shown in Table 9.4 above, the highest-need districts and smallest districts had: (1) a higher percentage of teachers new to the profession (novice teachers), (2) a lower percentage of teachers who were fully certified, (3) a lower percentage of teachers who had an advanced degree, and (4) fewer average years of teaching experience. Teacher salaries were also lower as need increased or size of district decreased. Comparing rural districts to urban/suburban districts, the education, certification, and experience of teachers were similar, but average salaries were very different, with an average teacher salary of $44,992 in rural districts compared to $52,149 in urban/suburban districts.

The next two tables, Table 9.5 and Table 9.6, present information about teacher education and certification at the school-level. Table 9.5 first looks at this information by school need, focused on more impoverished students who are directly certified or qualify for free lunch (13 percent of poverty vs. 185 percent of poverty).

Table 9.5: Teacher Education and Certification by Need Decile

Deciles: % Free Lunch/Direct Certification	% of Teachers with a Master's Degree	% of Teachers Fully Certified for their Positions
1st (lowest)	45%	98%
2nd	41%	98%
3rd	37%	98%
4th	39%	97%
5th	35%	98%
6th	37%	96%
7th	40%	97%
8th	38%	97%
9th	37%	93%
10th (highest)	32%	91%

This analysis of teacher workforce data indicates that teaching staff at schools serving larger low-income, and particularly more impoverished student populations are less qualified than teachers at more affluent schools. A similar difference in teacher education and certification is seen when looking by school size, as shown in Table 9.6.

Table 9.6: Teacher Education and Certification by School Size Decile

Deciles: School Enrollment	% of Teachers with a Master's Degree	% of Teachers Fully Certified for their Positions
1st (smallest)	28%	89%
2nd	29%	91%
3rd	34%	94%
4th	36%	97%
5th	33%	98%
6th	36%	98%
7th	38%	97%
8th	41%	97%
9th	40%	96%
10th (largest)	44%	98%

At present, there is a moderate negative correlation between teacher salaries and school enrollment size, and the same is true for teacher salaries in a given school and percentage of low-income students.

Feedback from Stakeholder Engagement

The study team received feedback from both the educator panels and the online stakeholder survey for educators regarding staff attraction and retention.

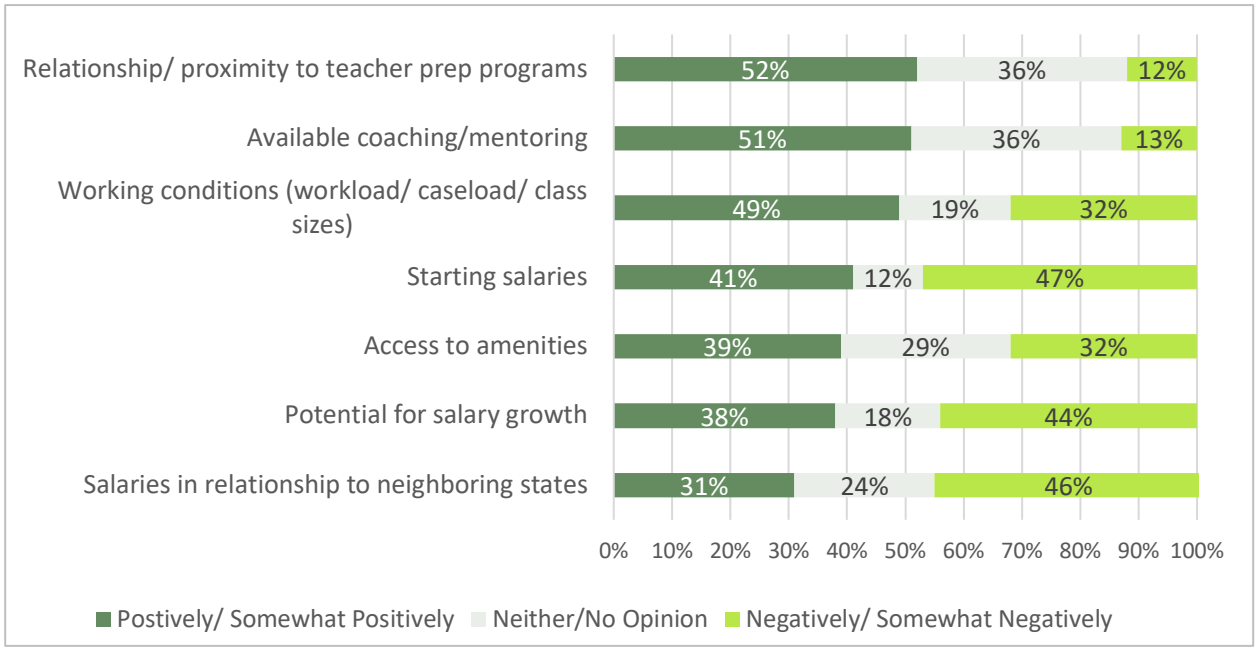
Educator Panels: Educators reported that salaries were the key attraction and retention issue in many districts and that large salary disparities exist across the state, particularly in small and rural districts. Educators added that districts often compete with districts in bordering states for teachers, so the salaries must be competitive not just within the state, but across states as well. There was also discussion of the recent minimum teacher salary increase; districts who received the state funding had

concerns about sustainability of increases over time and those who did not are no longer as competitive compared to other districts that received the funding. Other attraction and retention issues included access to amenities, jobs for spouses, housing availability, and teacher burnout/workload.

When asked which positions were hard-to-fill, educators responded with the following list: special education teachers, CTE teachers, secondary math and science teachers, bus drivers, custodians, and nurses. Reasons included competitiveness of salaries, the number of teachers going into specialty fields, and the burden of licensure requirements. Educators suggested solutions to resolve teacher shortage in hard-to-fill position areas, including: (1) "grow your own" efforts, as teachers from the community are more likely to stay, (2) support for existing teachers or paraprofessionals to pursue additional education and licensure, (3) revisiting licensure requirements, such as the reciprocity of teaching licenses from other states, and (4) considering loan forgiveness programs to encourage more students, particularly minority students, to go into teaching and into specialized and hard-to-staff areas.

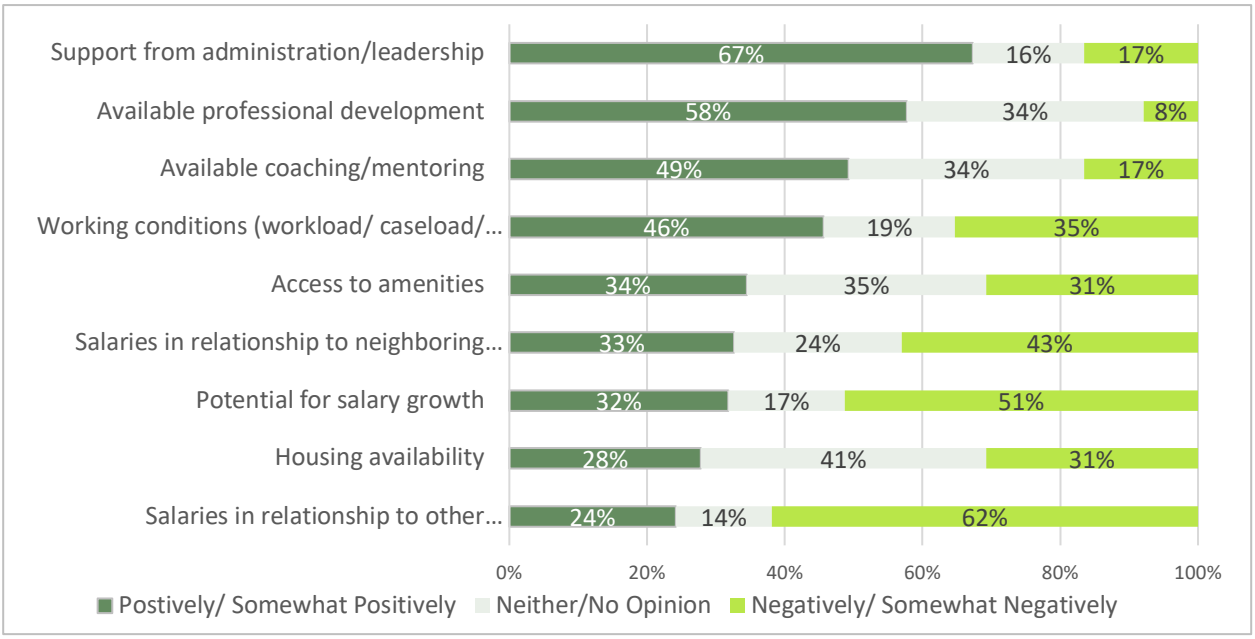
Online Stakeholder Survey: As part of the online stakeholder survey, educators were asked what factors they believe both positively and negatively affect staff attraction and retention. Chart 9.2 first presents the factors related to staff attraction, then Chart 9.3 addresses factors affecting staff retention.

Chart 9.2: Factors Affecting Staff Attraction



The factors that the highest percentage of educators said positively influenced attraction were relationship with/proximity to teacher preparation programs, available coaching/mentoring, and working conditions (workload/caseload/class sizes), while the factors that the highest percentage of educators said negatively influenced attraction were all salary-related: starting salaries, salaries in relationship to neighboring states, and potential for salary growth.

Chart 9.3: Factors Affecting Staff Retention



The factors that the highest percentage of educators said positively influenced retention were: support from administration/leadership, available professional development, available coaching/mentoring, and working conditions (workload/caseload/class sizes), while the factors that the highest percentage of educators said negatively influenced retention were similarly all salary related: salaries in relationship to other professions/industries, salaries in relationship to neighboring states, and potential for salary growth. Educators were also asked if there were any positions that they felt were particularly hard to fill. Table 9.7 presents their responses.

Table 9.7: Hard to Fill Positions

Answer	%
Special education teachers/staff	56%
Math teachers	39%
Science teachers	29%
Other	16%
Instructional support staff	13%
Nurses	9%
CTE teachers	8%
Other pupil support staff	8%
Administrators	7%
Counselors	6%

When educators were asked if there were any specific position areas for which it is difficult for their district or charter system to attract and retain staff, the highest rate of responses was for special education teachers, math teachers, and science teachers. Of the 160 “other” write-ins, frequently noted

other positions were: bus drivers, paraprofessionals, speech therapists, and other teachers (art, music, English, and foreign language).

Administrators

There is far less research available regarding policies concerning the attraction and retention of administrators, though states do face issues with administrators' movement. About one in five principals leave their school each year; in 2016/17 the national average tenure of principals was just four years. Research shows that principal turnover is associated with decreases in student achievement and increases in teacher turnover. Studies put the cost of recruiting, hiring, preparing, mentoring, and training a new principal between $36,850 and $303,000.

The study team did find a number of approaches states are taking to support and help administrators improve. States can use data to improve administrator performance. Delaware's Performance Appraisal System supports leaders by using data to identify areas of opportunity growth. The system uses data to help leaders to reflect on standards-aligned practices, set attainable goals, create plans to reach those goals, identify priorities for leadership development, work collaboratively with colleagues to improve student outcomes, and analyze student and school outcomes to evaluate programming and systems.

States also have developed various ways to train or prepare school leaders. Georgia has a two-tier leadership preparation program. Tier I is for administrators below the principal level and tier II provides training on the advanced leadership skills needed for principals and other district administrators who supervise principals. Alabama's Alabama Strong: Principals as Catalysts for School Improvement program provided targeted training to school leaders in a limited number of school districts over a three-year period. Massachusetts evaluates the readiness of school leadership candidates through its Performance Assessment for Leaders program. The program allows candidates to demonstrate skills based on actual experience and is comprised of four performance-based tasks.

States have also created systems to evaluate and support under-performing school leaders. Twelve of the comparison states require principal evaluations to include student growth data: Delaware, Florida, Georgia, Louisiana, Maryland, Massachusetts, Mississippi, South Carolina, Tennessee, Texas, Virginia, and West Virginia. Alabama, Delaware, Florida, Louisiana, Massachusetts, South Carolina, and West Virginia require principals with less-than-effective ratings to be placed on improvement plans.

Nurses

The study's RFP specifically identified nurses as an area of focus when examining attraction and retention. Like administrators, there is little national literature in this area, but the study team was able to identify current practices and state policies for nursing.

School nurses play an essential role in schools today. Often, school nurses are the only health care professional that students see regularly.[110] A student's ability to learn is directly tied to their mental and physical health. School nurses address "the physical, mental, emotional, and social health needs of students and supports their achievement in the learning process."[111] Nurses not only promote higher levels of health and safety in schools, they also can reduce costs. A full-time nurse reduces the time that principals, teachers, and administrative staff have to spend providing health services to students. A 2011 study found that having a full-time nurse in attendance at a school produces $133,175 in savings by reducing other staff's workloads.[112] A school nurse in the building saves principals almost an hour a day, teachers almost 20 minutes a day, and clerical staff over 45 minutes a day.[113]

Even though the research shows that school nurses can benefit student health and learning and reduce costs, there is still a shortage of nurses in schools. According to the National Center for Education Statistics, just under 50 percent (49.6 percent) of public schools have a full-time nurse, 32.6 percent have a part-time nurse on staff, and 20.7 percent do not have a nurse at all.[114]

The National Association of School Nurses (NASN) recommends a ratio of 1 school nurse to 750 healthy students; 1 to 225 for student populations requiring daily professional nursing services; 1 to 125 for student populations with complex health care needs; and 1 to 1 for individual students requiring daily, continuous professional nursing services.[115] The Academy of Pediatrics used to support the NASN-recommended ratios, but now they recommend that all school buildings have their own full-time professional school nurse.[116] Despite a recent policy statement from the American Academy of Pediatrics supporting a full-time nurse in every school, only about one third of districts nationwide require each school to have a full-time school nurse.[117] Delaware is the only state that currently requires a nurse in every school building.

Research has found that the number of districts with a school nurse has been decreasing over the years. Between 2000 and 2016, the percentage of school districts that employed a school nurse decreased from 93.7 percent to 79.7 percent.118 Table 9.8 shows the student-nurse ratio for the comparison states. Arkansas falls above the suggested national ratios but is in the middle of comparison states at 918 students per nurse.

[110] Maughan, 2016
[111] National Association of School Nurses
[112] Baisch, Mary J. et al. 2011
[113] National Association of School Nurses
[114] NCES
[115] National Association of School Nurses
[116] Pediatrics June 2016
[117] Ibid, 83.
[118] Centers for Disease Control and Prevention, 2015

Table 9.8: Students Per Nurse (2010)

Comparison States			
Arkansas	**918**		
Alabama	536	Mississippi	1,098
Delaware	472	North Carolina	1,185
Florida	2,537	Oklahoma	2,372
Georgia	2,318	South Carolina	789
Kentucky	1,114	Tennessee	1,774
Louisiana	784	Texas	826
Maryland	776	Virginia	837
Massachusetts	700	West Virginia	1,065

State School Funding Formulas and Nursing Policies

Six states (Alabama, Delaware, Idaho, North Carolina, Tennessee, and West Virginia) currently fund their schools through a "resource allocation" system. Resource allocation systems distribute funding to local education agencies (LEA) based on the resources that they need to educate students. In these systems, the state funds staff, including teachers, administrators, nurses, or other personnel, based on student-to-staff ratios. For example, the state of Delaware funds a nursing position for every 800 general education students.[119] Because resource allocation systems control district expenditures, it is more common for them to target funds to nursing programs. Of the six states that make use of a resource allocation system, five provide funding for nurses either directly or indirectly — Idaho is the only one of these states that does not provide any funding for nurses.

The majority of states provide LEAs with a set amount of funding per student and allow the LEAs to decide how to spend their funds. Some of these states may provide for a line item in their state budget for school nurses; for example, Maine does this. Or these states may mandate that districts provide a certain level of nursing services without directly funding these programs.

State nursing policies break down into three different categories. Five states recommend that schools or districts have a certain number of nurses per student. Ten states have policies that require a student-to-nurse ratio in schools or districts. In five states there is specific funding for nursing positions for LEAs. Some states make use of multiple policies. For example, Indiana recommends a student-to-nurse ratio of 750 to 1, but it also requires that each district have at least one full-time nurse on staff. A few states, like Arkansas, provide funding that could be used, but is not mandated to be used, for nursing. Funding in Arkansas is currently part of the counselor/nurse FTE funding at 2.5 FTE per 500 students.

The three states with the lowest student-to-nurse ratios (Vermont, Connecticut, and New Hampshire) do not target any state funds to LEAs for school nurses. LEAs in these states are either redirecting state funding to hire nurses or, more than likely, using local funding for these positions. A NASN study found

[119] Kelly, Christopher, et al 2016

that the majority of LEAs reported using local funding for nursing positions (76.7 percent), while only 17.2 percent of LEAs made use of state funds to employ school nurses.[120]

Nurses' Pay, Staffing Issues, and Turnover

School districts must compete directly with private and public health care providers to hire qualified nurses. Both registered nurses and licensed vocational nurses are in high demand in today's society. According to the United States Bureau of Labor Statistics, the average pay for a registered nurse in 2018 was $71,730.[121] In Arkansas, the average wage for a registered nurse (RN) is $60,780 — with 25,380 RNs in the state.[122] The average pay for a licensed vocational nurse in Arkansas is $39,480; the national average is $47,050.[123]

Several national studies have found that there is currently a nursing shortage in this country and that it is getting worse. A 2012 study found that by 2030 the United States will have a nursing shortage of just over 923,000.[124] This study also estimated that by 2030 Arkansas will have a shortage of 8,545 nurses. The number of individuals coming out of college nursing programs is increasing, but it is not keeping pace with population growth and retirements in the field. A report from the American Association of Colleges of Nursing found that "nursing schools turned away more than 75,000 qualified applicants from baccalaureate and graduate nursing programs in 2018 due to insufficient number of faculty, clinical sites, classroom space, and clinical preceptors, as well as budget constraints."[125] If these 75,000 potential students could find a place in a nursing program, it could essentially close the nursing shortage in just over a decade.

Having too high of a workload due to understaffing can result in a turnover of nurses. A 2005 survey found that 98 percent of nurses believed that a nursing shortage created stress on nurses, 93 percent thought that it lowered patient care quality, and 93 percent felt that it is causing nurses to leave the profession.[126] Lack of supplies and equipment can also put stress on nurses. A study from the New York University College of Nursing found that approximately 25 percent of nurses reported a shortage of supplies at least once during their workweek.[127]

Policies for Attracting and Retaining Nurses

A 2019 EdSource report mentions that incentives for nurses might include showcasing the school schedule, which generally provides more off time than a traditional nursing schedule; increasing salaries

[120] National Association of School Nurses
[121] United States Bureau of Labor Statistics, 2018
[122] Ibid.
[123] Ibid.
[124] Juraschek, Stephen P., et al 2016
[125] American Association of Colleges of Nursing
[126] Ibid.
[127] Kovner, Christine T, et al. 2007

to be more competitive with private providers; and increasing the supports and resources provided to school nurses. Two California school districts provide incentives for nurses. In Oakland School District, nurses are provided a $5,000 stipend paid in two parts over their first two years of service. San Jose Unified School District has set up a multiyear orientation program that includes mentors for newly hired nurses to ensure they feel supported. The program has reduced turnover.

Conclusions

The nation faces a teacher shortage with teacher preparation programs unable to produce the number of teachers needed to keep up with student growth and teacher attrition. Arkansas has enacted programs many states use to try to attract and retain teachers, including loan and scholarship programs for new teachers and hard-to-staff school and subject bonuses to attract teachers to specific settings.

Additionally, the data shows disparities in the teacher workforce when looking at district need and size. Districts with higher rates of FRL students employee teachers with lower years of experience and lower percentages of master's degrees. The same pattern holds for smaller districts. Stakeholders indicated in both the educator panels and online survey that salaries are a large factor in teacher recruitment and retention. Starting salaries, the potential for growth in salaries, and the competitiveness of Arkansas salaries to neighboring state salaries all impact districts' ability to attract and retain teachers. Strong support and PD help districts keep teachers. Special education, math and science teachers are hard to attract across the state, along with some classified staff such as bus drivers.

There is less research on attraction and retention for administrators though districts face high costs when replacing a principal with estimates ranging from $36,850 to $303,000 per principal. States are creating approaches to support and grow administrators. This includes direct support for new administrators and evaluation systems used to identify skills gaps of administrators.

Research shows nurses can provide savings to schools with one study estimating over $130,000 in savings through workload reductions of other school staff. Schools are directly competing with many other sectors for nurses, leaving many schools without full-time nurses. Arkansas's current student-to-nurse ratio is in the middle of the comparison states but higher than the recommended ratios from national organizations.

10. Other Requested Studies

The RFP requested the study team investigate a number of additional topic areas that do not fit into topic areas of any of the previous chapters. These topic areas include professional development, teacher collaboration/planning time and extra duty time; student mental health; impact of waivers in Act 1240 schools; impact of enrollment change; impact of vouchers; and capital needs, which are all addressed in this chapter.

Key Takeaways

- Research has identified a set of characteristics of effective **professional development (PD),** and the intended purposes of Arkansas's PD funding approach are well aligned with the research. Teachers have designated PD days, coaching, time for planning and collaboration within the school day and have limited extra duties outside of instruction. Districts historically spend more on PD and extra duty compensation than they receive.
- In the area of **student mental health**, Arkansas LEAs currently staff at lower (better) ratios than comparison states, but still fall short of professional association recommendations. Arkansas LEAs utilize a variety of strategies to serve student mental health needs, including district- or system-employed therapists, outside agencies, and ESCs. The funding matrix doesn't currently provide for any specific mental health positions beyond the resources provided for counselor/nurse.
- Nearly all districts have **waivers** for flexible schedules, followed by waivers related to teacher licensure, attendance and librarian/media specialist. Waivers appear to have minimal to little impact on expenditures and student outcomes, once student and district demographics and prior expenditure and performance levels are controlled for.
- Current approaches in Arkansas to address district **enrollment changes** (student growth and decline) fit within the accepted methods seen across the country. The study team does not see a reason to suggest changes to the current approaches.
- National research shows the impact of **vouchers** on student achievement is mixed, and less research has been conducted on the funding impact of waivers nationally. The comparison states vary in their use of voucher and tax credit scholarship programs. Programs are generally targeted to specific student groups and have variable impacts on state revenue and funding for traditional K–12 education based on the structure of the program.
- The Arkansas **capital funding** program is similar to those used throughout the country and in the comparison states. The system's design to increase capacity in lower property wealth districts seems to be working, as less wealthy districts report utilizing the program more frequently for major renovation, while wealthier districts report relying on local bonding capacity.

Professional Development, Teacher Collaboration/Planning Time, and Extra Duty Time

This section addresses the following areas: (1) key findings from a literature review of components of effective professional development (PD); (2) a review of the funding history of PD in Arkansas; (3) an analysis of current district PD funding and expenditures; and (4) a review of current PD, teacher collaboration/planning time, and extra duty time practices in Arkansas districts and charter systems, as reported by superintendents and charter system directors in the LEA survey.

Research on Effective Professional Development

Available research has shown effective PD:[128]

- Focuses on content and models effective practice to implement the content.
- Incorporates active learning, such as interactive activities, discussions, and demonstration lessons.
- Promotes collaboration, allowing teachers the opportunity to share ideas and cooperate in their learning.
- Allows for job-embedded practice of what they learned in their classrooms, as well as observing other teachers.
- Includes coaching to provide personalized support to teachers.
- Continues for a sufficient duration to allow teachers time to learn, practice, implement, and reflect.
- Aligns with school goals, state and district standards and assessments, and other professional learning activities, including formative teacher evaluations.

History of Funding for Professional Development in Arkansas

The state provided PD funding in 2004/05, based on the recommendations of the 2003 adequacy study. Funding was intended to allow districts to implement an effective PD program that would include: (1) time during the summer for intensive training institutes, (2) on-site coaching for all teachers, (3) collaborative work with teachers in their school during planning and preparation periods, and (4) funds for trainings. These intended purposes are well aligned with the research on effective practices, particularly in that it allows for training of a sufficient duration, includes coaching, and allows for collaboration and embedded learning.

The state provides funding for PD in three ways: (1) extending the teacher contract to allow for 10 days for PD, (2) instructional facilitators (coaches) in the matrix; and (3) additional funding for trainings through a PD categorical fund. The length of the teacher contract and number of instructional facilitators in the matrix has not changed since it was originally implemented, but the amount of funding provided through the PD categorical fund has fluctuated over time.

[128] Archibald, Coggshall, Croft, & Goe, 2011; Darling-Hammond, Hyler, & Gardner, 2017; Labone, & Long, 2016

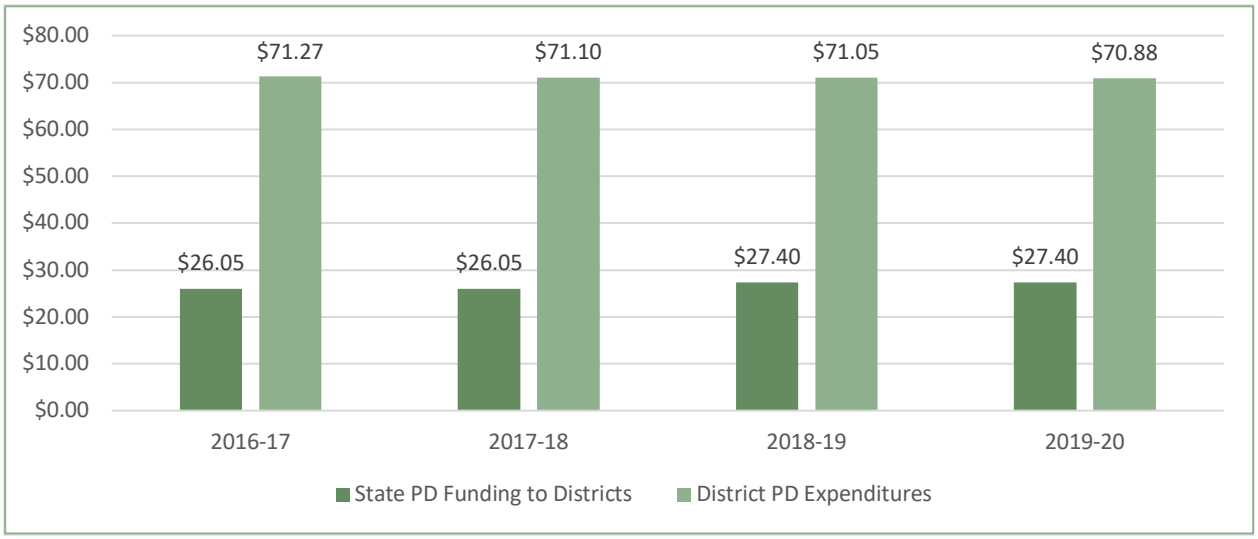
Initially, in FY05, the matrix provided $50 per student to districts for PD. Funding reached a high of $53 per student in FY14, before it was reduced to $32.40 per student for the next several years, then increasing to $40.80 for FY21.

Current Matrix Funding and District Expenditures

Professional Development: Between 2016 and 2020, Arkansas provided $32.50 per student for PD. Of this amount, a portion was provided directly to districts, and the remainder was used to fund the state's online PD system and professional learning communities (PLC) grant program. In FY20, the amount provided to districts was $27.40 per student.

In addition to state PD funding, LEAs also used other state and local funds, as well federal funding to pay for PD. Between 2016 and 2020, districts consistently spent more on PD (when considering all funding sources) than is provided through the state categorical fund, as shown in Table 10.1.

Table 10.1: State PD Funding Compared to District PD Expenditures



In FY20, 30 percent of district PD expenditures were from the state PD categorical fund, with another 9 percent from unrestricted state funds, and 13 percent transferred to PD from other categorical and restricted funds. The remaining 48 percent of district expenditures for PD came from federal funds. Once federal funds were excluded, districts were expending $38.68 per student in state and local funding compared to the $27.40 per student they were provided through the PD categorical fund. This difference was made up through transfers from the ESA categorical fund (44 percent), matrix funds (34 percent), and other sources (22 percent).

According to data reported by the BLR, the $27.40 per student provided by the state to districts was primarily used for purchased services (about two-thirds of expenditures), which includes consultants, speakers, course registration fees, travel, and substitutes, while the other 25 percent of PD expenditures was used for salaries and benefits.

Supervisory Aides and Extra Duty Funds: The matrix also provides funding in two areas that are intended to both reduce the amount of time that teachers spend on extra duties outside of instruction and to compensate teachers for the time that they do spend. The matrix provides $50 per student for supervisory aides and $66.20 for extra duty funds (such as for coaching and overseeing other extracurricular clubs and activities). According to BLR data, districts spend on average less for supervisory aides (about $18 per student), and much more on extra duties ($233 per student) — nearly all of which is spent on athletics, including athletic directors, as shown in Table 10.2.

Table 10.2: Funding and Expenditures for Supervisory Aides and Extra Duty Funds

	Matrix Funding	Current District Expenditures (FY20)
Supervisory Aides	$50 per student	$18 per student
Extra Duty Funds	$66.20 per student	$233 per student

Current Professional Development, Planning and Collaboration Time, and Extra Duty Time Practices in Arkansas Districts

In the LEA survey, superintendents and charter system directors, were asked about their current PD, planning and collaboration time for teachers, and extra duty time practices.

Professional Development: The majority of districts and charter systems (54 percent) have 10 days of PD each year, while another 32 percent have more than 10 days of PD annually. The remaining 14 percent have less than 10 days, with a minimum of five days.

On average, PD occurs primarily during the summer (62 percent of PD days), as well as through trainings or conferences during the school year (19 percent of PD days), during planning/collaboration periods during the school day (15 percent of PD days), and through early release/late start days (5 percent of PD days). PD days are most frequently led by school administrators (33 percent of PD days), Education Cooperative staff (22 percent of days), and district or charter system staff (19 percent of days). About 10 percent of PD days are led by teachers, and another 10 percent are led by outside consultants. PD days are used to address state/federal-determined topics (31 percent of PD days), district or charter system-determined topics (24 percent of PD days), school leader-determined topics (23 percent of PD days), and teacher-determined topics (22 percent of PD days).

When asked which PD topics were particularly helpful or effective, respondents frequently noted the PLC model and RISE (Reading Initiative for Student Excellence) Arkansas training, among others.

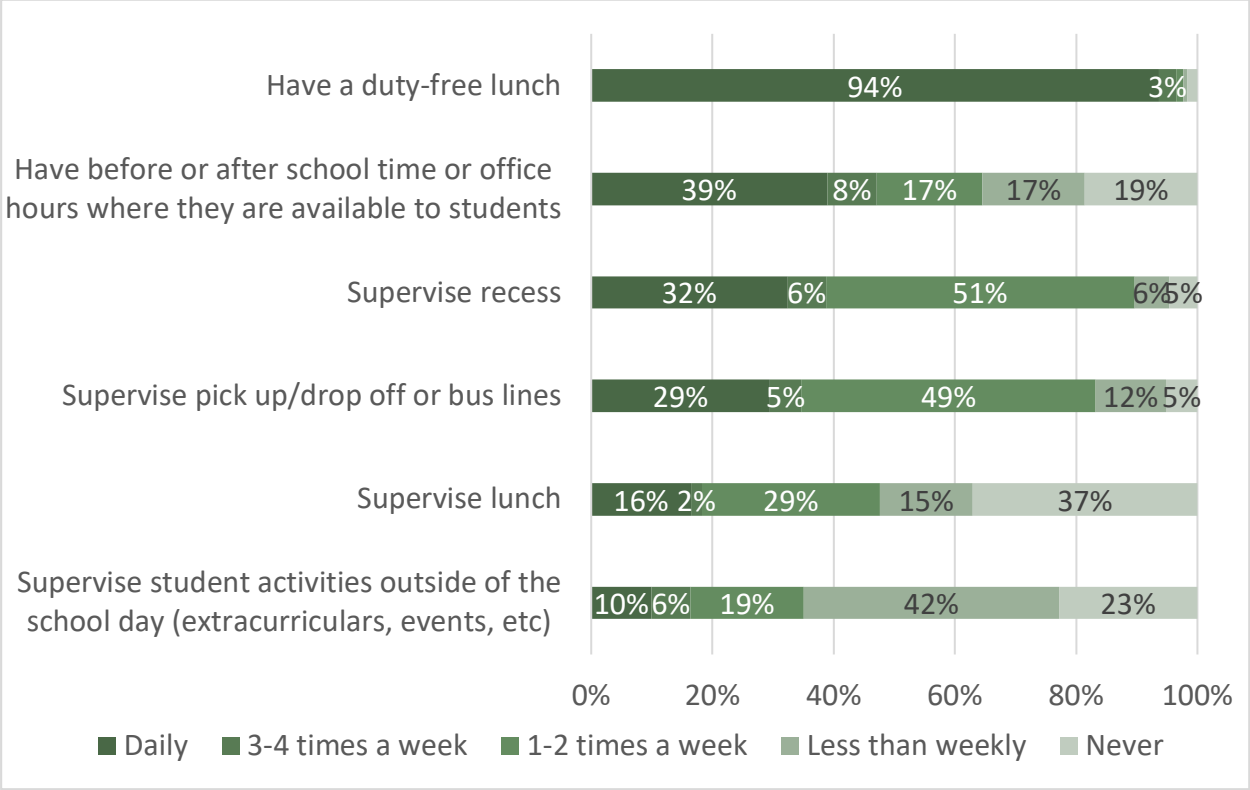
Planning and Collaboration Time: Respondents reported that in the majority of districts and charter systems (68 percent), teachers had 45 to 59 minutes of planning a day, with 1-2 periods for collaboration a week (51 percent of districts). Further detail is included in Table 10.3.

Table 10.3: Teacher Planning and Collaboration Time

Daily Planning Time	
45-59 mins	67.63%
30-44 minutes	21.97%
60-74 mins	7.51%
90 minutes or more	1.73%
Collaboration Periods Per Week	
Daily	27%
3-4 times a week	11%
1-2 times a week	51%
Less than weekly	12%

Extra Duty Time: As part of the LEA survey of current resource use and practices, respondents were asked a series of questions regarding the responsibilities that teachers fulfilled outside of classroom instruction to understand if the funding was allowing them to protect teacher time.

Table 10.4: Teacher Extra Duty Time



District superintendents and charter system directors reported that teachers had a duty-free lunch daily (94 percent of responses) but also occasionally supervise student lunch in some districts (over 80 percent reporting that this happened 1-2 times or less per week). The number of days teachers supervised recess or pick up/drop off also varied, with the majority of responses reporting that teachers had these duties less than weekly or never. Teachers had regular daily “office hours” where they were

available to students in about 40 percent of districts, while another 25 percent of districts said this ranged from 1-4 times per week.

Conclusions

Research has found that effective PD: (1) focuses on content and also models effective practice; (2) incorporates active learning; (3) promotes collaboration; (4) allows for job-embedded practice; (5) includes coaching to provide personalized support; (6) continues for a sufficient duration to allow teachers time to learn, practice, implement, and reflect; and (7) aligns with school goals, state and district standards and assessments, and professional learning activities.

The intended purposes of the state's PD funding approach are well aligned with the research on effective practices, including that it allows for training of a sufficient duration (10 days available), includes coaching (instructional facilitators in the matrix), and allows for collaboration and embedded learning (available planning and collaboration time). Teachers also had duty-free lunches and limited extra duties, due in part to the additional funding provided by the state for supervisory aides. However, districts historically spend more on PD and extra duty compensation than they receive.

Student Mental Health

This section will address the study team's research into student mental health services. The study team conducted a literature review on student mental health services, examined state policies and recent national legislative action on student mental health services, analyzed student support staffing in Arkansas and comparison states, and reviewed responses to questions on student mental health services contained in the LEA survey of district superintendents and charter system directors.

Currently, student mental health resources are addressed both in the Arkansas funding matrix and in the Arkansas Standards for School Accreditation. In the funding matrix, 2.5 counselor/nurse positions per 500 students are provided as a line item, while other student support personnel, such as social workers, psychologists and behavior specialists, are not specifically addressed in the matrix. The state's accreditation standards require a maximum district student/guidance counselor ratio of 450:1.

Literature Review on Student Mental Health Services

In its research, the study team examined: the need for student mental health support, national approaches and recommendations for staffing, approaches of other states to student mental health service, and recent state legislation addressing student mental health services.

According to the National Alliance on Mental Illness (NAMI), one in five youth have a mental health condition, with half of mental health conditions developing by age 14. NAMI also finds that less than half received treatment in the past year. Untreated mental illness interferes with a student's ability to learn and schools are uniquely positioned to identify warning signs and connect students with appropriate services and supports. The U.S. Centers for Disease Control and Prevention (CDC) reports that suicide is the third leading cause of death among people ages 10 to 19. Studies have documented existing stigma around mental health and low levels of mental health literacy,[129] particularly for adolescents.

As discussed in Chapter 5, effective social-emotional learning programs in schools have benefits for students, including improved academic performance, better classroom behavior, increased ability to manage stress and depression, and improved attitudes about themselves, others, and school. The study team identified several national approaches or models that have been developed to address student mental health and social-emotional needs, which focus on providing tiered, whole child support to students. Approaches included the Whole School, Whole Community, Whole Child model, developed jointly by the CDC and the Association for Supervision and Curriculum; Multi-Tier System of Supports (MTSS), which is an integration of Response to Intervention (RTI) and Positive Behavior Intervention Supports (PBIS) strategies; the American School Counselor Association National Model; and Advancing Wellness and Resiliency in Education (AWARE) programs, funded through the federal and Substance

[129] Mental health literacy includes the ability to recognize specific disorders; knowing how to seek mental health information; knowledge of risk factors and causes, of self-treatments, and of professional help available; and attitudes that promote recognition and appropriate help-seeking.

Abuse and Mental Health Services Administration. Arkansas, a recipient of this grant, developed the Arkansas AWARE program to enhance district capacity to serve students' mental health needs.[130]

Most of these models provide mental health services for all students, with additional service provided by highly trained specialists (social workers, psychologists, or behavior specialists) for higher need students. Table 10.5 shows recommended ratios from school mental health professional associations.

Table 10.5: Recommended Student Mental Health Staffing Ratios

Professional Association	Recommended Staffing Level
American School Counselor Association	250:1 student to school counselor ratio
National Association of School Psychologists	250:1 for school counselors, 500-700:1 for school psychologists, and 400:1 for school social workers
National Association of Social Workers	250:1 for school social workers, unless working with students with intensive needs, when a lower ratio is required

As previously noted, Arkansas currently resources counselors and nurses at a combined ratio of 250:1, which is at a lower resource level than staffing 250:1 for counselors and then separately staffing for other positions, such as nurses or the other student mental health personnel positions shown above.

State Policy Review on Student Mental Health Services

The study team also reviewed the current state policy landscape for student mental health services. Traditionally, school psychologists and social workers were considered more for special needs students, while school counselors were considered for the general education population. Counselor staffing has also historically been higher in secondary schools than in elementary schools, as high school counselors are also responsible for student scheduling and preparation for postsecondary careers and education. In recent years, some states are shifting to address the mental health needs of all students in a more holistic approach, such as those described in the national models identified in the previous section.

A review of recent state legislation found many states are enacting new policies related to mental health. Nationally, between 2017 and early in the 2020 legislative session (March), the study team identified 75 bills that were filed related to student mental and behavioral health and 51 bills specifically related to suicide prevention were filed in the same time period. Most of this legislation was related to:

- Establishing commissions/councils/committees on student mental health
- Requiring studies, data collection, or reporting around mental health
- Requiring or recommending that districts adopt curriculum, policies, or specific staffing
- Providing targeted resources or funding

In addition to reviewing recent legislation, the study team also reviewed current approaches in each state to mental health, including targeted funding approaches; staffing requirement or targets; specific

[130] Arkansas AWARE information can be found at the Arkansas Department of Education website at http://dese.ade.arkansas.gov/divisions/learning-services/school-health-services/aware

framework/model or curriculum; professional development; programming and resource banks in areas such as bullying, suicide prevention, and substance abuse; and partnerships with other agencies and community organizations.

Targeted Funding Approaches. At least 17 states include a specific staffing allocation for mental health personnel positions in their funding formulas. It is important to note that while staffing allocations may be used to generate the total funding to districts, the state may not require dollars to be expended on the specific resources, much like the Arkansas funding matrix. Examples of state approaches include:

- North Carolina – one instructional support position for every 218.55 ADM; instructional support allocations can be re-allocated to other position categories by the LEA
- West Virginia – counselors funded at a 250:1 ratio and school psychologists at 1,500:1; LEAs are required to maintain a minimum number of professional instructional personnel, which includes school psychologists, classroom teachers, librarians, and attendance directors
- Tennessee – counselors funded in kindergarten through grade five at 500:1, and in grades six through 12 at 350:1; social workers funded at 2,000:1; and psychologists funded at 2,500:1; LEAs are not required to staff at funded resource allocation formula levels, similar to Arkansas

Several states provide additional grants or categorical funds for mental health. Examples include Oregon's Student Success Act, which is being phased in and will include non-competitive grants to Oregon school districts and charter schools, a portion of which must support student mental health. Ohio has an initiative to help districts and schools support their students' academic achievement through mental health counseling, wraparound services, mentoring, and after-school programs.

Staffing Requirements or Targets. Separate from funding allocation ratios, states have also set required or targeted staffing levels, similar to the Arkansas Standards for Accreditation, which require that each school district has a student/guidance counselor ratio of no more than 450:1. Examples include an Iowa policy that states each school district shall work toward the goal of having one qualified professional school counselor for every 350 students enrolled in the district; Kentucky provides for one counselor in every school, with the goal of getting to a 250:1 ratio; and North Dakota requires each district to have a behavioral/mental health coordinator.

Specific Framework/Model or Curriculum. As previously noted, Arkansas is a recipient of AWARE grant funding and has created Arkansas AWARE to support district efforts to provide mental health care awareness and trauma informed practices. Colorado and Oklahoma are two other states that received AWARE grants. Other states use other types of curriculum or models: North Dakota is implementing a MTSS Social Emotional Learning Goals framework, and North Carolina is implementing Whole School, Whole Community, Whole Child model. New Mexico went one step further and is implementing its own coordinated school health approach, and multiple states have embedded social emotional learning into their curriculum or standards, including Illinois, Indiana, Iowa, New York, Oklahoma, and Washington.

Programming and Resource Banks and Partnerships with Other Organizations. Many states have identified specific programs or have created resource banks for use by schools and districts. For

example, the Illinois State Board of Education partners with Illinois Classrooms in Action to provide a variety of resources to schools. Michigan has identified opioid abuse prevention programs. Ohio has Olweus Bullying Prevention Program (OBPP), a comprehensive, school-wide anti-bulling program designed and evaluated for use in elementary, middle, junior high and high schools. States often report partnerships with organizations, such as other state departments, regional health services centers, community-based mental health treatment providers, nonprofit organizations, and hospitals.

Professional Development. States have also set requirements for PD in social emotional development, student mental health or specific topic areas, such as trauma-informed practices or suicide risk assessment and treatment. For example, the North Dakota Trauma Sensitive Schools training is provided over three, 2-hour PD sessions, while Ohio requires training on suicide prevention every two years. Virginia requires school counselors to complete training in the recognition of mental health disorders.

Student Support Staffing in Arkansas and Comparison States

The National Center for Education statistics (NCES) reports statewide average data on the number of student support staff generally and counselors specifically; it does not report specific data for social workers or school psychologists. The most recent available data (2017/18) for student support staff shows the national average ratio is 142:1, ranging from 43:1 (Maine) to 1,318:1 (Nevada). The Arkansas ratio is 67:1. For school counselors, the national average of students to counselors is 442:1, ranging from 196:1 (Vermont) to 924:1 (Arizona). The ratio in Arkansas is 385:1, which is lower than the average for the study comparison states (405:1). Table 10.6 shows ratios Arkansas and the comparison states.

Table 10.6: Students Per Student Support Staff Member and School Counselor, (2017/18, NCES data)

	Student Support	Counselor
Alabama	93	413
Arkansas	67	385
Delaware	162	396
Florida	235	478
Georgia	200	459
Kentucky	209	428
Louisiana	184	456
Maryland	136	370
Massachusetts	91	406
Mississippi	148	446
North Carolina	136	361
Oklahoma	146	433
South Carolina	266	353
Tennessee	241	329
Texas	208	431
Virginia	104	361
West Virginia	236	375
Average of Comparison States (Excluding Arkansas)	168	405

LEA Survey Responses on Student Mental Health Services

Finally, in the LEA survey, district superintendents and charter system directors were asked about how they currently address student mental health needs, using a series of questions on strategies employed for the following student groups: Low Need/Tier 1 (all students), Moderate Need/Tier 2, and High Need/Tier 3. For all questions, the study team examined responses for variation based on district size, need, or locale. Survey respondents were able to select multiple strategies for each student group. Table 10.7 shows least commonly identified mental health strategies utilized by districts and charter systems, and Table 10.8 shows the most commonly identified mental health strategies.

Table 10.7: Least Commonly Identified Strategies by Student Group

Strategy	Low Need/Tier 1 (All Students)	Moderate Need/Tier 2	High Need/ Tier 3
District- or system-employed therapists provide services on-site	18%	-	-
Specialists through Education Cooperatives	22%	28%	30%
Specific curriculum	18%	6%	4%
Specific framework/model	14%	6%	5%

Table 10.8: Most Commonly Identified Strategies by Student Group

Low Need/Tier 1 (all students)	Moderate Need/Tier 2	High Need/Tier 3
Counselor-led classroom sessions (76%)	One-on-one meetings with counselors (59%)	Outside agency provides therapy on-site (65%)
Addressed during instructional classes (69%)	Small group meetings with counselors (pull out), (54%)	Assessment of individual student mental health needs (39%)
Addressed during advisement/ mentoring periods (59%)	Small group/team that reviews student needs and develops plans to address (49%)	One-on-one meetings with counselors (39%)
Small group/team that reviews student needs and develops plans to address (41%)	Assessment of individual student mental health needs (47%)	District- or system-employed therapists provide services on site (38%)
Small group meetings with counselors (pull out) (41%)	Outside agency provides therapy on-site (44%)	-
-	District- or system-employed therapists provide services on-site (38%)	-

Differences identified based on LEA size, need (determined by FRL percentage), or locale include:

- LEAs with higher concentrations of poverty were more likely to **access specialists through education cooperatives** (26 percent) than lower-poverty LEAs (12 percent) to serve *Tier 1* students. Larger LEAs reported less use of specialists through the co-ops for *Tier 1* students (28 percent of the smallest LEAs, compared to 11 percent of the largest LEAs).
- The higher the need of the LEA, the fewer LEAs reported **counselor-led classroom sessions** for *all students*, from about 60 percent of LEAs in the two lowest-need quintiles, to 49 percent in the highest-need quintile. As overall LEAs need increased, more LEAs reported counselor-led

classroom sessions for *Tier 2* students, from 6 percent in the lowest to 25 percent in the highest quintile.

- LEAs with higher need reported utilizing **outside agencies to provide therapy on-site** for *Tier 3* students at higher rates, from 38-48 percent in the three lowest-need quintiles to rates of 59 percent and 60 percent of LEAs in the two highest-need quintiles.
- Larger LEAs were more likely to report the use of **district- or system-employed therapists to provide services on-site** than smaller LEAs. For *Tier 3* students, only 17 percent of the smallest districts reported services by district- or system-employed therapists, compared to 39 percent and 31 percent of the largest district quintiles.
- Common themes from **open-ended responses**: districts see an overall increased need for student mental health supports; partnerships with outside agencies are helpful, but billing/payment limitations, turnover in staff/therapists, and family willingness to allow participation can be a concern; and additional funding for in-district/system mental health professionals is needed.

Conclusions

The funding matrix currently provides a line item for counselor/nurse positions but does not otherwise specifically identify student mental health positions as a resource item. Based on the national data, Arkansas LEAs staff student mental health positions at lower (better) ratios than the comparison states, although still at higher levels than the professional associations recommend. Many states have adopted an overall state-level approach addressing student mental health services, including Arkansas which has implemented the Arkansas AWARE program.

LEAs vary in ways they serve student mental health needs: larger systems are more likely to use district- or system-employed therapists than smaller systems; and LEAs with higher concentrations of poverty were more likely to access specialists through ESCs than higher-wealth districts. Educator panelists identified the availability of mental health services for students as a key area of concern.

Impact of Waivers in Act 1240 Schools

This section will address the impact of waivers in Act 1240 schools on school performance and spending. After a review of the analysis plan, the study team examined the change in demographics, performance, and expenditures in Act 1240 schools between 2015/16 and 2018/19 for both schools (with and without waivers) will first be discussed. Results from the study team's regression analysis will then be presented to address the impacts of different types of waivers (instructional vs. resource use, and individual waivers used by at least 10 percent of schools).

Overview of Waivers and Act 1240 Schools

Since 1995, conversion charter LEAs have been allowed to apply for waivers, with open-enrollment charters receiving the same flexibility in 1999. With Act 1240 in 2015, districts could apply for any waiver that a charter within their district received. Further, Act 815 (2019) revised this to allow districts to apply for any waiver that a charter within the state has (not limited to own district). In 2015/16, only 32 schools had a waiver through Act 1240, increasing steady over the next few years. As of 2019/20, 988 schools, or 94 percent of all schools in the state, had a waiver through Act 1240.

The study team has chosen to focus its review and analysis on schools in district LEAs who received a waiver through Act 1240. Since waivers have only been granted for these schools since 2015, the study team can evaluate the impact of waivers over time, as it allows for comparison between a "treatment" and "control" group (with waivers vs. without waivers in specific areas and aggregated categories) with available performance and expenditure data for that period.

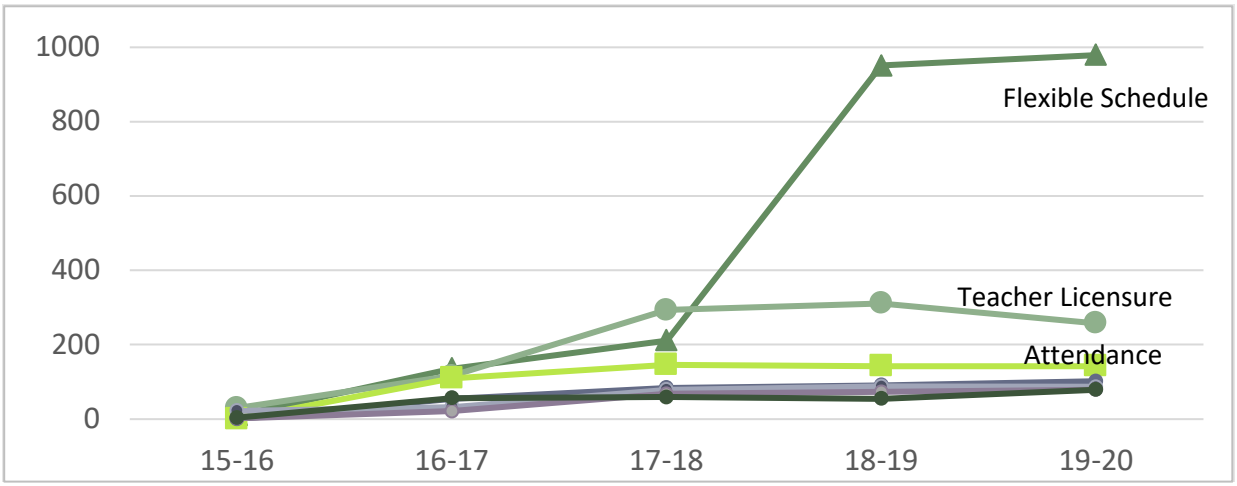
Schools can receive waivers for requirements under statute, ADE rule, or accreditation. Often to receive a waiver in a particular area, a school will need individual waivers for each relevant statute, rule and accreditation requirement. With that in mind, the study team considered the number of areas in which a school received a waiver versus the number of individual waivers. Appendix 10.A includes a table of each waiver area and the count of relevant statute, rule, and accreditation requirements. On average, Act 1240 schools had 5-10 individual waivers (decreasing in the average number of waivers from 2015/16 to 2019/20), but these waivers were only in 2-3 topic areas.

In 2019/20, at least 5 percent of schools with Act 1240 waivers had waivers in the following topic areas:

- Flexible schedule (99 percent)
- Teacher licensure (26 percent)
- Attendance (14 percent)
- Library media (10 percent)
- Credit hours (9 percent)
- Class size and teaching load (8 percent)
- Salaries/compensation/personnel policies (8 percent)

The following chart shows the number of schools with a waiver by topic area, highlighting the three topic areas (flexible schedule, teacher licensure, and attendance) that have the largest percentage of schools.

Chart 10.1: Number of Waivers by Area, 2015/16 to 2019/20



The largest increases in waivers have been related to flexible schedules, particularly since 2018/19, and a fairly stable number of schools have waivers in most other topic areas over past three years. Appendix 10.A includes a table of the number of Act 1240 schools with a waiver in each topic area since 2015.

Individual waivers within the three topic areas include:

- **Flexible schedule:** waivers related to having a different school calendar or schedule, such as for the start and end date for the school year; school day hours; or definitions, rules, and requirements for "planned instructional time."
- **Teacher licensure:** waivers in this area are primarily related to having a non-licensed teacher, and individual waivers include requirements to have a qualified or certified teacher, definition of "qualified teacher," licensure rules and requirements, certification to teach a subject or grade, requirement to have three credit hours of Arkansas history to be licensed, and parental notice of a non-licensed teacher.
- **Attendance:** waivers in this area are for attendance requirements in grades 9–12 and include individual waivers so that students do not have to attend a full school day schedule (no less than 350 minutes of planned instructional time each day to graduate), as well as attendance record and report requirements.

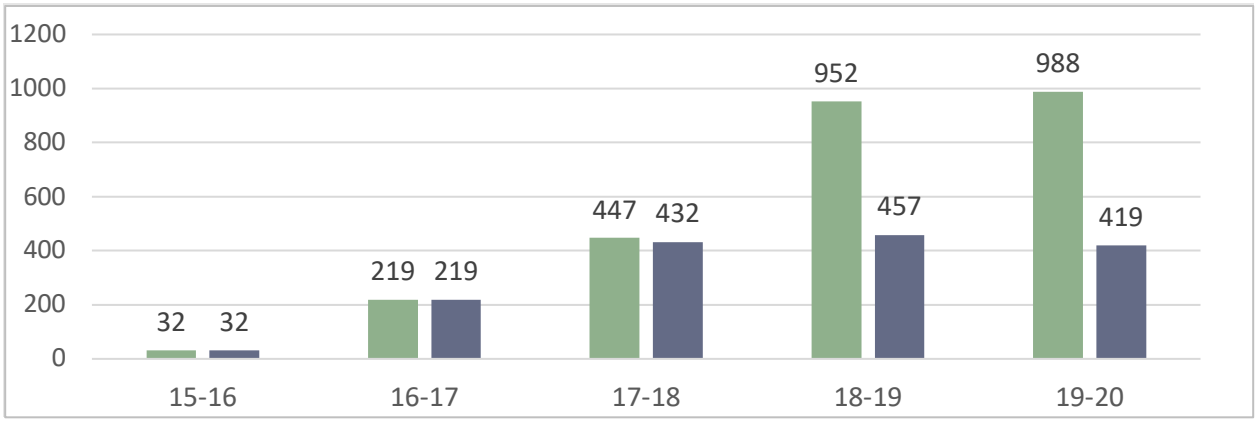
The next section will analyze the impact of waivers in these schools.

Analysis of the Impact of Waivers in Act 1240 Schools

As shown in Chart 10.2, nearly all Act 1240 schools (99 percent in 2019/20) have a waiver to allow for a flexible schedule. Specifically, schools had a waiver for Statute A.C.A. § 6-10-106, uniform dates for

beginning and end of school year (to adjust start date to align fall semester with winter break). Since it is nearly universal, the study team cannot compare the impact of those that have these waivers with those that do not. Further, the change in start date is unlikely to have instructional or resource use impact. As such, the impact analysis does not include schools that only have a flexible schedule waiver and focuses on schools that have at least one other waiver in another area. When schools with only flexible schedule waivers were excluded, the population of schools with waivers was reduced from 988 schools to 419 schools. The 419 schools were the schools used for the impact analysis.

Chart 10.2: Number of Act 1240 Schools with Waivers, Including and Excluding Flexible Schedule Waivers



To determine the impact of waivers in these 419 schools, the study team:

- Aggregated individual waiver topic areas into two categories: waivers with potential impact on instruction/student outcomes or potential impact on resource use/expenditures.
- Collected waiver data provided by the BLR, expenditure data from the Arkansas Statistical Report, and school performance and characteristics from ADE My School Info.
- Compared changes in demographics, performance, and expenditures between 2015/16 and 2018/19 for schools that had a waiver at some point during that period to schools that did not have any waivers.
- Used a linear regression model to compare the changes in performance outcomes and expenditure levels before (2015/16) and after (2018/19) the implementation of the waiver between schools that have a waiver and those that do not (by individual area or aggregated category). In this model, the study team controlled for available school characteristics such as: student need (percentage of students eligible for free and reduced lunch, in special education, or who are English Learners); school size; grade level; and performance or expenditure level prior to receiving the waiver.

Categorizing Waivers Topic Areas

Given that there were a smaller number of schools that had waivers in individual topics areas (most had less than 5 percent of schools with a waiver in that area), the study team grouped waiver topic areas by

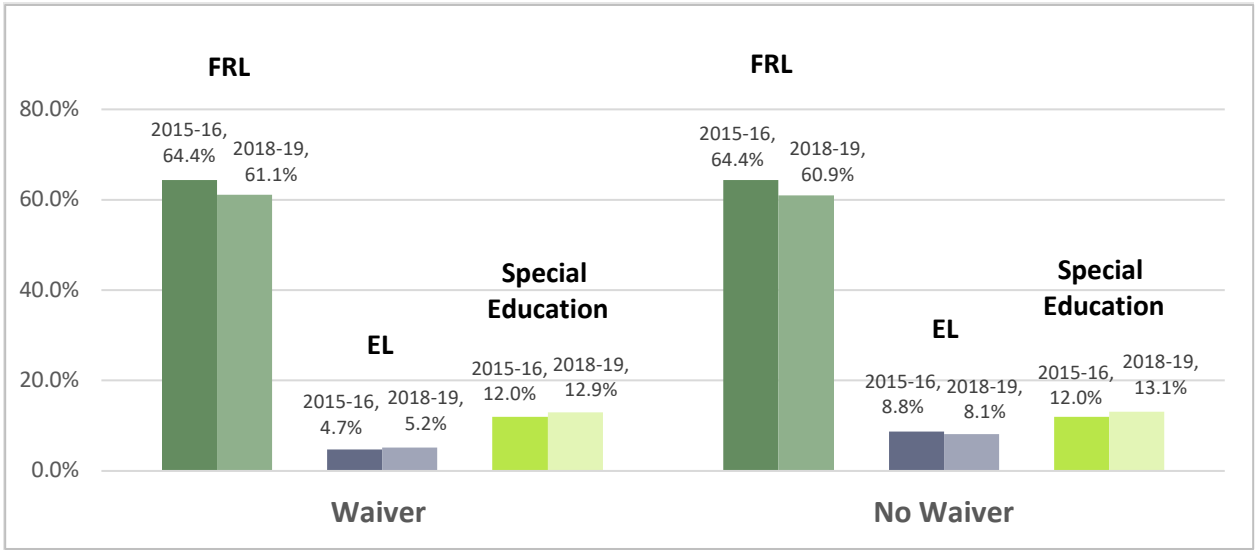
whether they had the potential to impact instruction/student outcomes or resource use/expenditures. Note these categories are not mutually exclusive, so some topic areas are included in both:

- **Waivers categorized as having a potential impact on instruction/student outcomes.** Includes waivers related to teacher licensure, attendance, library media, credit hours, class size and teaching load, salaries/compensation/personnel policies, principal, alternative learning environment, planning periods, guidance and counseling, curriculum, duty-free lunch, superintendent, achievement gap task force, student services, and advanced placement.
- **Waivers categorized as having a potential impact on resource use/expenditures.** Includes waivers related to teacher licensure, attendance, library media, credit hours, class size and teaching load, salaries/compensation/personnel policies, facilities, principal, alternative learning environment, planning periods, guidance and counseling, duty-free lunch, and superintendent and student services.

Comparison of Schools with and without Waivers, 2015/16 and 2018/19

The study team first did a descriptive analysis of changes in demographics, performance, and expenditures between 2015/16 and 2018/19, grouping schools that had a waiver at any point during that period to those that did not. Again, this does not take into account whether they had a flexible schedule since nearly all schools did.

Chart 10.3: Change in Demographics, Comparing 2015/16 to 2018/19



As shown in Chart 10.4, there were minimal changes in demographics over this time period, and where there were more noticeable differences, they tended to be consistent between groups. For example, both groups experienced a similar decline in the percentage of students that qualified for FRL.

Chart 10.4: Change in ACT Aspire Achievement, All Grades, Comparing 2015/16 to 2018/19

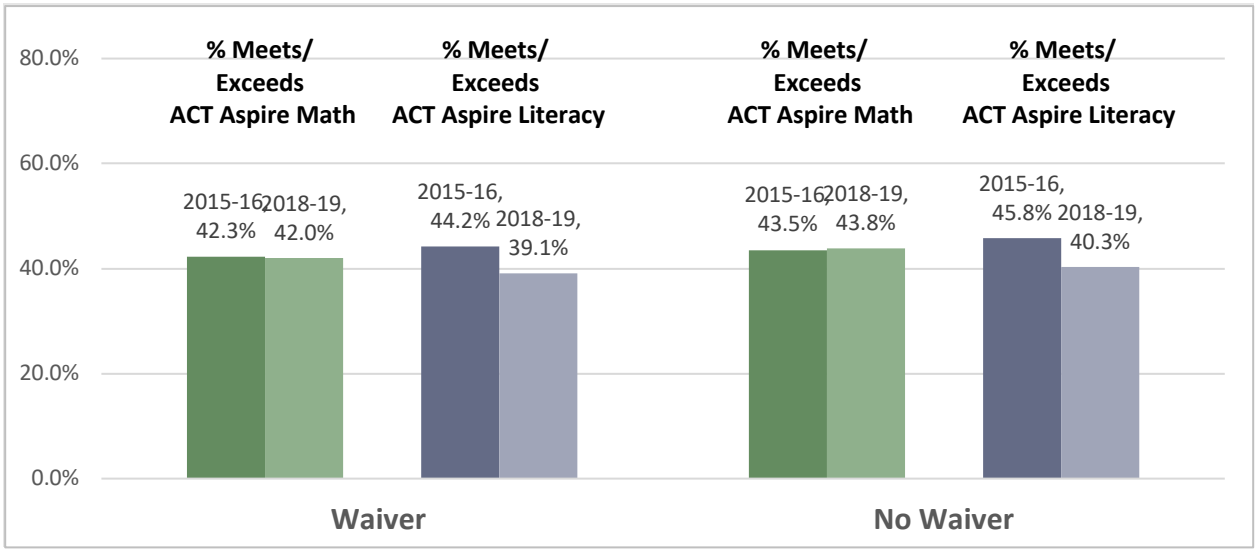
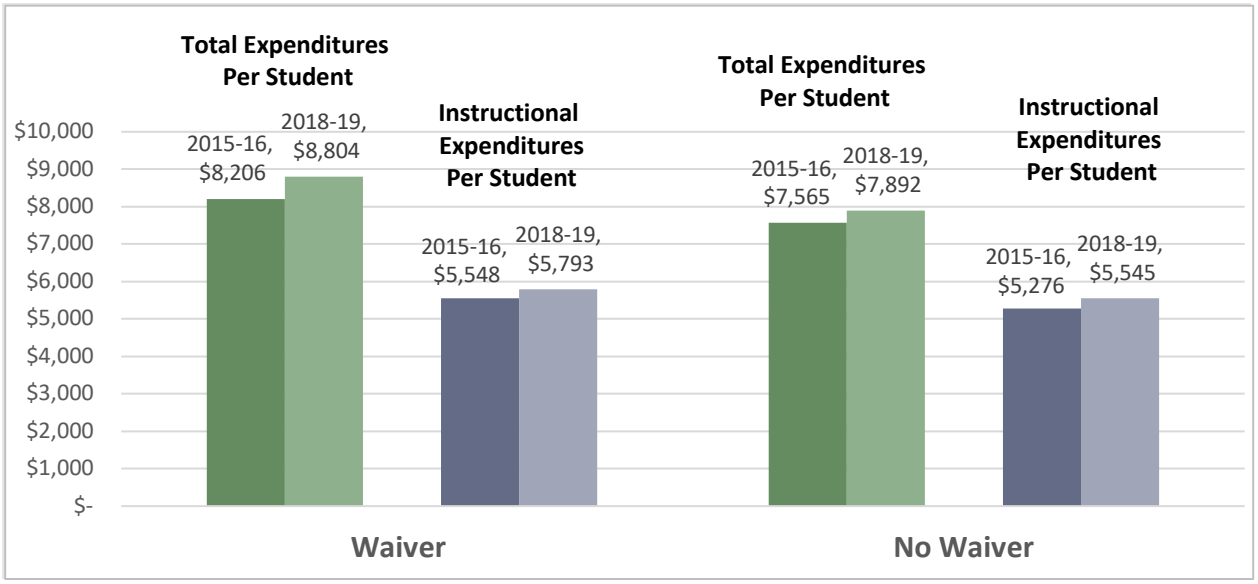


Chart 10.5 shows that while the group of schools without waivers had slightly higher performance in math, both groups had minimal changes in their overall proficiency percentages between 2015/16 and 2018/19. Additionally, both groups experienced a similar decline in literacy proficiency during this period.

Chart 10.5: Change in Expenditures, Comparing 2015/16 to 2018/19



Finally, the study team compared schools with and without waivers in terms of both total expenditures and instructional expenditures per student. Both groups increased total and instructional expenditures between 2015/16 and 2018/19. However, schools with waivers had higher expenditures than schools without waivers.

Linear Regression Analysis

The study team then used a linear regression model to determine if performance or expenditure differences for schools with and without waiver(s) were statistically significant after controlling for:

- Where they started from in 2015/16 (either expenditure or performance level)
- Student characteristics including enrollment, demographics, and grade level

Even with statistically a significant difference,[131] it is important to remember it suggests correlation and not causation, meaning that it does not indicate whether the waiver in and of itself caused the observed changes in outcomes.

Regression analysis was completed for the two aggregated categories of schools (those with instruction or resource waivers) and then individual waiver topic areas, if more than 10 percent of schools had a waiver in that area (teacher licensure, attendance, library media). Schools were considered to have a waiver if they held the waiver for at least one year during the analysis time period. The study team examined multiple outcomes including: (1) performance on ACT Aspire: achievement and growth for all grades in math and literacy for all students and separately for FRL students, and (2) expenditures per student, including total and instructional expenditures.

Appendix 10.A includes charts of all statistical significancy measurements in each area (change in math achievement, change in math growth, change in literacy achievement and change in English language arts, ELA, growth) for all students and for FRL students.

Overall, there was no clear result for the impact of waivers on student outcomes when looking at aggregated waiver categories of instructional or resource waivers. There was some indication that waivers may be associated with slightly better outcomes, but while the trend was positive the difference was not statistically significant. There was a statistically significant change in total expenditures for the group of districts with a resource waiver, but the data does not indicate why this difference occurred between 2015/16 and 2018/19.

When looking at the impact of the individual waiver topic areas of attendance, teacher licensure, and library media, there were more observable variations, with attendance waivers being associated with slightly better student outcomes on the ACT Aspire, and library and licensure waivers being somewhat associated with lower student outcomes (with statistically significant declines in math achievement for schools with teacher waivers Licensure and in math growth in schools with library media waivers). These results suggest a correlation between outcomes in certain areas and waivers, but not necessarily that the waivers caused these differences.

[131] Statistically significant was p-value of .05 or less.

Conclusions

Looking at schools in non-charter districts that are eligible to receive waivers under Act 1240, nearly all have waivers for flexible schedules, followed by waivers related to teacher licensure, attendance, and librarian/media specialists. The study team examined changes in student demographics, performance, and expenditure between schools that had at least one waiver other than a flexible schedule waiver and those that did not. The team found that schools with waivers had similar demographics and literacy outcomes to schools without waivers, but lower math outcomes. The schools with waivers also had higher expenditures per student.

Using a linear regression model, the study team examined the impacts of having waivers after controlling for student and district demographics, as well as prior expenditure and performance levels. The study team found minimal correlations between aggregate waiver categories and outcomes but did find some correlations when looking at individual waivers. However, even an observed correlation does not necessarily indicate that the waivers caused these differences. Overall, strong conclusions about the impact of waivers cannot be drawn.

Impact of Enrollment Change

The study team examined funding adjustments for schools or districts with growing enrollments and for those with declining enrollments by reviewing previous reports from BLR on the topic, examining how other states approach these adjustments, and modeling alternatives for Arkansas.

Funding for Declining Enrollment and Student Growth in Arkansas

Arkansas currently has two mechanisms to provide districts with additional funding for enrollment change – for those experiencing declining enrollment, and for those with growing student populations:

Declining Enrollment: Declining enrollment funding is equal to the three-quarter average daily membership (ADM) of the prior fiscal year, subtracted from the average of the three-quarter ADM of the prior fiscal year and the ADM of the fiscal year prior to the prior fiscal year, multiplied by the current foundation funding per-student amount.

Growth: Growth funding is based on growth in quarterly ADM beginning with prior fiscal year quarter four and ending with current fiscal year quarter three compared to each corresponding prior fiscal year three-quarter ADM of the school district.

It is important to note that pursuant to Ark. Code Ann. § 6-20-2305 (a)(3)(C), *no school district shall receive both declining enrollment funding and student growth funding*. Districts receive funding for the adjustment that would yield the highest funding for the given school year.

Every two years, BLR prepares a report, *Review of Declining Enrollment and Student Growth Funding and Expenditures*[132], for the Committees that examines the overall enrollment trends using average ADM, the number of districts and charters that receive growth funding and declining enrollment funding, and the change in funding totals over time. The report also examines how funding is being used.

National Review of Growth Funding Provisions

The study team conducted a national review of state funding policies for districts experiencing growing student enrollments. Growth funding is intended to provide funding to districts experiencing student enrollment growth. Particularly for districts experiencing rapid growth, significant increases in student enrollment throughout the school year can stress district budgets as districts provide services to students for whom they may not have received per-student funding.

Nationally, 17 states have some provision to provide funding to growing enrollment districts. States that have growth funding often fund on prior year student counts, meaning districts would not see funding for new students without this funding source. Many states that do not have growth funding provisions

[132] *Review of Declining Enrollment and Student Growth Funding and Expenditures,* February 11, 2020, Bureau of Legislative Research, available at: https://www.arkleg.state.ar.us/Bureau/Document?type=pdf&source=education/K12/AdequacyReports/2020/2020-02-11&filename=Handout+E2_DecliningEnrollmentAndStudentGrowthFundingAndExpenditures-Report_BLR_09

use current year student counts for funding. Beside Arkansas, six comparison states also have growth funding provisions: Alabama, Georgia, Kentucky, Mississippi, Tennessee, and West Virginia. Examples of those growth provisions include:

Tennessee – High growth districts are given additional funding based on percentage of growth in the current year. Growth funding is mandated for LEAs with ADM growth greater than two percent.
Mississippi – If a district has a consistent pattern of growth over the three-year period prior to the appropriation, the average percent of growth will be added to the ADA for the district.
Louisiana – There are two mid-year adjustments based on student membership count dates in October and February:

- Prior year February 1 student count compared to current year October 1 student count. LEAs receive an adjustment for the total state cost allocation per-student amount times the number of students gained or lost
- Current year October 1 student count compared to current year February 1 student count; LEAs receive an adjustment for one-half of the total state cost allocation per-student amount times the number of students gained or lost

Modeling an Alternative Growth Funding Approach in Arkansas

One theory around funding growing districts is to only fund growth beyond a certain level, assuming districts can absorb small numbers of new students within current resource levels. The study team modeled an alternative approach based on this theory, and used two percent ADM growth, as Tennessee does, as the minimum level of growth required to be eligible for growth funding. The study team ran the districts that would have been eligible for Arkansas growth funding during the 2016/17, 2017/18 and 2018/19 school years, with a two percent minimum growth threshold. Table 10.9 shows that far fewer Arkansas districts would qualify for growth funding under this model.

Table 10.9: Minimum 2% Growth Alternative Growth Funding

	2016/17	2017/18	2018/19
Current Funded Districts	109	124	116
Districts Funded at 2% Minimum	47	50	42
Current Funding	$33,661,859	$29,004,554	$24,053,412
Funding at 2% Minimum	$11,680,970	$9,503,116	$9,387,373

National Review of Growth Funding Provisions

Declining enrollment can cause significant challenges for schools and districts. The Rural School and Community Trust notes that, “when the enrollment decline is chronic, it generates serious financial distress because of the loss of per-student state revenue. This financial hemorrhage usually results in deeps cuts in programs, staff, and resources. Small rural schools are especially vulnerable to these problems, since they have proportionally less leeway in finding cost-saving areas.”[133] Declining

[133] Jimerson, 2016

enrollment provisions provide a level of funding designed to cushion the impact of decreased student enrollment. According to a 2014 report by the Temple University Center on Regional Politics:

- 22 states have declining enrollment provisions that cushion the level of funding a district receives based upon a drop in the number of students.
- 12 states have hold harmless provisions to guarantee a certain level of funding from year to year without consideration for enrollment.
- 16 states have no provisions.

The study team's review of comparison states found five Southern Regional Education Board states, in addition to Arkansas, have declining enrollment provisions: Florida, Louisiana, Maryland, Oklahoma, and Texas. Two of the most common approaches to declining enrollment funding provisions include:

- **Limiting reductions to the current year's enrollment**
    - One example is Florida, whose declining enrollment supplement is based on the difference of the current year's unweighted enrollment compared to the prior year. For a district with declining, unweighted enrollment, 25 percent of the difference in student count is multiplied by the prior-year base funding to act as a supplement to the current year's funding.
- **Using average enrollment levels to determine funding**
    - These can be specified calculations (e.g., ADM over the last two years) or "best of" averages (e.g., the highest ADM over the last three years, meaning the ADM that will justify the most funding); popular particularly among western states.

Modeling an Alternative Declining Enrollment Funding Approach in Arkansas

As noted in the beginning of this section, Arkansas currently uses the average 3rd Quarter ADM for the two prior years less the prior year's 3rd Quarter ADM to calculate declining enrollment. Districts are also funded on a prior year count, so effectively already have some adjustment for declining enrollment. The study team modeled two alternatives: Three-Year Average and Percentage per Year.

Three-Year Average Alternative

This alternative provides districts with funding based on the best of:

- ADM of current year,
- average of current/prior year, or
- average of last three years.

Some states implement this approach for all school funding, not just for declining enrollment. The study team applied this concept only to the districts receiving declining enrollment funding in 2016/17, 2017/18, and 2018/19 to understand the impacts. Table 10.10 shows that utilizing this approach would result in increased funded counts and therefore increased overall declining enrollment funding.

Table 10.10: Three-Year Average Alternative Declining Enrollment Funding

	2016/17	2017/18	2018/19
Increase/decrease in funded count	1,045	3,792	3,036
Increase/decrease funding	$6,944,829	$25,456,319	$20,589,452
Percentage increase/decrease	61%	195%	163%

Percentage per Year Alternative

The Percentage per Year declining enrollment funding alternative most heavily weights the most recent year's ADM in the formula, but still provides smoothing for declining student enrollment. For this model, the study team used weight of 50 percent of prior year ADM, 30 percent for two years prior, and 20 percent for three years prior. Two LEAs did not have all three years data and were excluded from this analysis. As Table 10.11 shows, using the Percentage per Year alternative provides more variability in the funding results than the Three-Year Average alternative did, with a decrease in funded count and funding in 2016/17 and an increase in 2017/18 and 2018/19. Overall funding levels in all three years were lower using the Percentage per Year than with the Three-Year Average alternative.

Table 10.11: Percentage per Year Alternative Declining Enrollment Funding

	2016/17	2017/18	2018/19
Increase/Decrease in Funded Count	(72)	2,064	1,402
Increase/Decrease Funding	-$476,302	$13,858,431	$9,505,018
Percentage Increase/Decrease	-4%	106%	75%

Conclusions

Current approaches in Arkansas to address student growth and decline fit within the accepted methods to address enrollment changes. The study team does not see a reason to suggest changes to the current approaches. Arkansas could consider funding only districts growing at a high rate, acknowledging that many districts can absorb smaller changes. Before changing, it should consider how well smaller growing districts can absorb these changes. The study team would not suggest a change in the state's declining enrollment funding since declining districts are being funded on prior year counts and are also seeing the benefit of declining enrollments in the current year.

Impact of Vouchers

This section summarizes the study team's research into vouchers. The study team identified what research says on the impact of voucher and tax credit scholarship programs on funding, examined the prevalence of voucher and tax credit scholarship programs nationally, and examined the types of voucher and tax credit scholarship programs that exist in the comparison states for this study. This research focused on voucher programs and tax credit scholarships, as they are more prevalent types of programs.

There are several key differences between vouchers and tax credit scholarship programs. **Vouchers** utilize state tax dollars and provide funds for students to attend nonpublic schools, or in some cases, out-of-district public schools. Vouchers are generally targeted to specific student groups (examples of student groups include low income and special education students, students zoned for attendance in underperforming schools, and students in specific cities or districts). **Tax credit scholarships** utilize privately donated funds, for which donors receive a state tax credit, which are then distributed as scholarships to eligible students/families. Tax credit scholarships are relatively new; many have been enacted within the past 10 years.

Research on Vouchers

The RFP asked the study team to review research on the impact of vouchers on funding. Research on vouchers is relatively limited, as prior to 2010 there were a small number of voucher programs across the country. Much of the existing research attempts to measure the impact of vouchers on student achievement, with mixed results. One of the most comprehensive studies of voucher programs is the University of Arkansas longitudinal study of the Milwaukee Parental Choice Program (MPCP). The study showed that academic performance of MPCP students was mixed, but students seemed to show improvement over time. During the first few years of the study, MPCP students in lower grades generally performed similar or worse in reading and science than their peers in the Milwaukee Public School District (MPS), but MPCP students in higher grades generally showed somewhat better performance than their MPS peers. Although researchers found a boost in achievement for MPCP students in the final year of the study, the gains seemed at least partly attributable to a new testing accountability policy implemented during that school year.

The University of Arkansas also recently completed a study of the Louisiana Scholarship Program (LSP) after four years of implementation (2019). It found participating in the LSP had a statistically significant negative impact on student ELA and math scores across most years of the evaluation, including the fourth year, and across most samples of students studied. The effects of the LSP on college enrollment rates were neutral. Students who participated in the LSP in grades 7-12 starting in the fall of 2012 enrolled in college by 2018 at a rate of 60.0 percent compared to a rate of 59.5 percent for members of the experimental control group. The difference of 0.5 percentage points between the two groups is not statistically significant; results were similar for students in two- or four-year colleges.

Finally, an evaluation of the Washington, D.C. Opportunity Scholarship Program (OSP) published by the U.S. Department of Education, Institute of Education Science in 2019 found that in the first two years after applying to the OSP, students offered and using scholarships performed worse in math than those not offered scholarships. But between years two and three, students offered and using scholarships had faster growth in math test scores, and those not offered scholarships experienced slower growth — so the two groups performed similarly by year three. While there were no differences in achievement at that point, students offered and using scholarships had lower rates of chronic absenteeism (22 and 20 percent, respectively) than did students not offered scholarships (29 percent).

In terms of the impact of voucher programs on education funding, it is important to note that each program's potential funding impact is dependent on the program's specific characteristics. While less research has been conducted on the funding impact than on student performance outcomes, two studies that evaluated the fiscal impact included:

- The Center for Evaluation & Education Policy found that in addition to the lost per-student revenue for students leaving public schools for private schools via the voucher program, 10 percent of ICP participants in 2011/12 and 23 percent in 2012/13 were not previously enrolled in public schools. Voucher funding for those students thus represents newly allocated public funds.[134]
- The previously mentioned Milwaukee Parental Choice Program study found a likely net positive impact in taxpayer savings, due to the voucher amount being smaller than per-student revenues, saving the state $37.2 million in FY09, $46.7 million in FY10 and $51.9 million in FY11. However, property taxpayers in Milwaukee paid an estimated $44.7 million more.[135]

Voucher Programs Nationally

According to the Education Commission of the States, 16 states and the District of Columbia have voucher programs. Many are designated for specific student groups, most commonly for students with disabilities, students from low-income families, or students zoned to attend schools determined to be underperforming or failing.[136] Three are town tuitioning programs (located in New Hampshire, Vermont, and Maine), that are used by towns that do not operate public schools to send their town's students to approved public or nonpublic schools. As such, they do not fit the traditional view of vouchers. Nine SREB states, including Arkansas, have voucher programs. A table of those states can be found in Appendix 10.

Arkansas's voucher program, the **Succeed Scholarship Program**, is open to students with disabilities who have attended public school for at least one full academic year (a military exemption and superintendent waiver to this requirement are available), and for students in foster care living in a group

[134] Moon, J. et al. 2016
[135] Costrell, R., 2010
[136] ECS http://ecs.force.com/mbdata/MBquestRT?Rep=V01 and https://b5.caspio.com/dp.asp?AppKey=b7f93000695b3d0d5abb4b68bd14&id=a0y70000000CbmMAAS

home or facility. The voucher provides the lesser of the state's per-student funding amount or the cost of private school tuition. Funding does not come from the Public Schools Fund, rather it has a separate state appropriation. BLR biennially conducts a study of the program, most recently in March 2020.[137]

Types of Voucher Programs. Eight of the comparison states have voucher programs: four states have two distinct voucher programs; the remaining four states each have a single voucher program. Each state's program has its own eligibility criteria and funding level. Six comparison states operate a total of seven voucher programs for students with disabilities (Florida, Georgia, Louisiana, Mississippi, North Carolina, and Oklahoma). Five comparison states have voucher programs for low-income students and/or students zoned to attend underperforming schools (Florida, Louisiana, Maryland, North Carolina, and Tennessee), although implementation of Tennessee's program, slated to begin in the 2020/21 school year, was delayed by a legal challenge at the time research was conducted. Brief descriptions of comparison state voucher programs can be found in Appendix 10.

Voucher Program Funding. Most states make an appropriation, separate from K–12 state aid program, to fund voucher programs. For example, Maryland appropriated $6.58 million from the general fund for the BOOST scholarship program in the 2019/20 school year. Some states fund voucher programs from state aid. An example is Oklahoma, where the state DOE calculates the total cost of scholarships for all eligible students in the state and retains that amount from the total amount appropriated for state aid purposes. Actual voucher amounts provided to families varies among the comparison states. For example:

- Florida's Family Empowerment Scholarship (for low-income families) provides 95 percent of unweighted base state aid, while its John M. McKay Scholarship for Students with Disabilities provides the same amount public schools would have spent on the participating child, not to exceed the cost of tuition and fees.
- The Louisiana Scholarship Program provides the lesser of 90 percent of the per-student amount the district receives from state and local sources or total school tuition and fees.
- North Carolina's Opportunity Scholarship Program provides a maximum of $4,200 per year for students from low-income families to attend a participating private school

Tax Credit Scholarship Programs

As previously noted, tax credit scholarships utilize privately donated funds, for which donors receive a state tax credit, which are then distributed as scholarships to eligible students/families. These are relatively new programs, and Arkansas does not currently offer a tax credit scholarship program. Nationally, 19 states have enacted tax credit scholarship programs, and similar to voucher programs,

[137] Bureau of Legislative Research, *Biennial Report on the Succeed Scholarship Program*, March 2020, available at: https://www.arkleg.state.ar.us/Bureau/Document?type=pdf&source=blr/Research/Publications/Other&filename=19-095_Act827Rept-SucceedScholarshipEval

eligibility tends to be targeted to specific student groups.[138] Seven comparison states have enacted tax credit scholarship programs (brief descriptions of these programs can be found in Appendix 10):

- In five states, Alabama, Florida, Louisiana, Oklahoma and Virginia, the programs are for low-income students and/or students zoned to attend underperforming schools
- South Carolina and Virginia's programs are for special needs students
- Only Florida has multiple programs – its second program is for victims of bullying or students who have been attacked at school
- Any student is eligible to participate in Georgia's program if they attended public school for at least six weeks immediately prior to receiving a scholarship. This attendance requirement is waived for students enrolling in kindergarten through grade two if they are slated to attend a low-performing school, as designated by the state.

Scholarships are funded using funds donated by individuals. In some states, corporations may also donate. Donations must be made to the program; they cannot be earmarked for individual schools or students. Public funds are not tapped to fund scholarships; however, overall state tax revenue is reduced by the amount of credits permitted for these programs. Most programs provide state income tax credits; however, Florida's programs also include credits on motor vehicle taxes, insurance premium tax, and credits against severance taxes on oil and gas production, among others.

Most states have a cap on the amount of tax credits that can be claimed each year. Of comparison states with established annual caps on tax credits given, caps range from $5 million per year in Oklahoma to over $873 million in Florida. Table 10.12 shows the annual cap on credits for comparison state tax credit programs.

Table 10.12: Annual Caps on Tax Credit Scholarship Programs in Comparison States (2020)

State	Annual Cap on Credits
Alabama	$30 million
Florida (TC Scholarship)	$873+ million
Florida (Hope)	$105 per vehicle
Georgia	$100 million
Louisiana	none
Oklahoma	$5 million
South Carolina	$12 million
Virginia	$25 million

Conclusions

Arkansas currently offers a single voucher program for students with disabilities and does not offer a tax credit scholarship program. Comparison states range in the programs offered – five states do not have

[138] Education Commission of the States http://ecs.force.com/mbdata/MBquestRT?Rep=V01 and https://b5.caspio.com/dp.asp?AppKey=b7f93000695b3d0d5abb4b68bd14&id=a0y70000000CbmMAAS

either type of program, four states offer both, while seven others offer one or the other. The impact voucher programs have on state funding are invariably tied to the structure of each program. Some state voucher programs pull from the general education fund and reduce the total dollars available to LEAs, while others (including the Arkansas program) are funded by separate state appropriations from general K–12 funding. Tax credit scholarships are funded entirely by private donations; however, the tax credits donors receive reduces a state's total revenue by the amount of credits provided in a given year.

Capital Needs

This chapter examines capital funding across the country and in Arkansas. First, the study team examined the general types of capital funding programs implemented by states and then looked specifically at the programs used by comparison states. Next, the study team looks at Arkansas's Academic Facilities Partnership Program (Program) and the district context through responses.

Types of Capital Funding Programs Nationally and Comparison State Programs

There is a wide variation in the type of programs states use to fund school capital projects. While most states provide support for a portion of the total cost of capital projects, a few states fully fund approved projects, and some provide no capital funding. The study team identified three factors that define most state systems. They include the type of support provided, how each state determines which projects to fund (district need), and the level of support provided for each project.

States have different approaches to how they provide support to district capital projects. Many states directly support qualified projects, sharing in the costs of the project. Some states do not directly support projects but instead support bonded indebtedness of districts after the districts determine to undertake a project. A few states simply provide a flat amount of funding per student within the school funding scheme to support capital funding, meaning funding is not related to any specific project or debt load. Many states use a combination of these supports.

If states fund qualified projects, they tend to have more oversight over the design of the projects. This often includes requiring facilities plans for the districts and only funding costs that align with specific state building standards, such as square feet per student per classroom. States that fund debt tend to have less direct oversight of projects, and generally are not participating in the building design process.

States have limited funding to support capital projects and have created various ways to prioritize which projects will be funded. Many states prioritize health and safety as one of the highest or one of the highest priorities for funding. Additionally, states often look to fund high growth communities or communities with low capacity to raise funds. Once priorities are set, many states rank order projects and then fund projects until resources are exhausted.

States also vary in the percentage of cost that they fund and how the level for each district is determined. Though a few states fully fund projects, most states calculate support based on a measure of capacity for the district, usually measured by tax capacity. Some states use the equalization calculations used in general funding formula. Some states use a power equalization approach, which guarantees each district can generate revenues at the same level as a district at a specific level of wealth. For example, a state may guarantee funding matching that of the district at the 70th percentile of wealth. Districts above the 70th percentile are ineligible for support. States have other calculations of need that include aspects beyond tax capacity. As Table 10.13 shows, comparison states often fund qualified projects, set health and safety and growth as top priorities, and include some measure of local capacity in determining state support.

Table 10.13: Comparison State Approaches to Capital Funding

State	Support for Districts	Determination of Need	State Level of Support
Alabama	Flat Amount	N/A	Distributed based on ADM, adjusted for wealth
Arkansas	Qualified Projects	Varies Based on Year	Wealth Equalized
Delaware	Qualified Projects	Top Priorities are Growth and Safety Needs	Wealth Equalized
Florida	Debt Support and Flat Amount	Square footage and building condition (maintenance), ADM and growth (new construction)	N/A
Georgia	Qualified Projects	Top Priorities are Growth, Damaged Buildings, and Safety Needs	Wealth Equalized
Kentucky	Debt Support and Flat Amount	Based on Unmet Needs of District	Based on need as percentage of available state funds
Louisiana	N/A	N/A	N/A
Maryland	Qualified Projects	Top Priority: New Construction	District Need, including FRPM percentage
Massachusetts	Qualified Projects	Top priorities include capacity and building condition	District need including Community Income, Property Wealth, and Poverty Factor
Mississippi	Flat Amount	School building projects and buses	Distributed based on ADM
North Carolina	Qualified Projects	New Buildings in High Need Districts	Project Based
Oklahoma	N/A	N/A	N/A
South Carolina	Qualified Projects	Consolidating districts; next priority is shared high school and career technical facilities	Consolidating District Status; and district need as indicated by a poverty index
Tennessee	Flat Funding	N/A	N/A
Texas	Debt Support	N/A	Power Equalized
Virginia	N/A	N/A	N/A
West Virginia	Qualified Projects	Varies by Funding Grant	Matching not Required

Arkansas's Academic Facilities Partnership Program

Arkansas funds major capital projects through the Academic Facilities Partnership Program (Partnership Program or Program). The General Assembly has provided facilities programs an average of about $91.8 million annually between FY05 and FY20. The Program pays for projects that are part of a district's facilities master plan. All projects that meet Program requirements are ranked and then available funding is considered to identify the projects that will be funded in any given cycle. Districts share in the cost of projects based on their facilities wealth index (FWI), which measures the value of one mill of effort for each district. FWI are not necessarily correlated with the income wealth of districts, a district may have high property wealth per student but low income wealth.

Historically, projects fell into four general categories: warm, safe, and dry (systems or space replacement); new facilities; add-ons and/or conversions; and consolidation/annexation projects. Approved projects were prioritized by area, and within each project category, projects were ranked based upon specific criteria unique to that category (FWI, ADM, age of buildings, enrollment growth). The highest-ranking projects were more likely to receive funding based upon available funds.

The state has changed the priorities across the four categories over time with warm, safe, and dry systems replacement the top priority in the 2015-17 and 2017-19 cycles, but new facilities, add-ons and conversions take top priority for 2019-21. Consolidation and annexation projects have always been the lowest priority and to this point no project in this area has been funded.

Recent Funding

The study team examined the most recent set of Program funding evaluating the relationship between funding and wealth, student need, setting, and size. When looking at the results it is important to remember that the capital project needs of districts might not be correlated with each of the characteristics the study team examines. Still, the design of the Program would suggest lower wealth and perhaps growing districts would be expected to see more funding.

Table 10.14 looks at funding by district wealth quintile. Since funding is in part based on the wealth of districts through their FWI, one would expect fewer dollars to go to wealthier communities. This assumption holds true as the wealthiest quintile districts receive just six percent of funding though they account for 12 percent of students. The relationship to wealth is less clear across the other four wealth quintiles with the middle wealth quintile receiving the highest level of funding and the highest percent of funding above their student population. The lowest wealth communities receive less funding then might be expected based on student population.

Table 10.14: Program Funding by District Wealth Quintile, 2019-21

Wealth Quintiles	Total Funding	Percent of Funding	Percent of Student Population
Wealth Q1 (lowest)	$26,402,539	18%	29%
Wealth Q2	$40,378,496	28%	20%
Wealth Q3	$44,337,294	31%	17%
Wealth Q4	$24,323,655	17%	22%
Wealth Q5 (highest)	$8,577,140	6%	12%

As mentioned previously, the student need of districts does not necessarily correlate with the wealth of district. Table 10.15 shows that even without this relationship, the two highest need quintiles of districts, measured by percentage of FRL students, received capital funding above their percentage of students, with the second highest quintile receiving over on-third of funding while accounting for a little less than a quarter of the student population.

Table 10.15: Program Funding by District Need Quintile 2019-21

FRL Quintiles	Total Funding	Percent of Funding	Percent of Student Population
FRL Q1 (lowest)	$40,118,920	28%	33%
FRL Q2	$14,253,992	10%	19%
FRL Q3	$19,442,771	14%	16%
FRL Q4	$51,358,564	36%	23%
FRL Q5 (highest)	$18,844,876	13%	9%

Rural and urban/suburban districts account for about an equal percentage of students in Arkansas and Table 10.16 shows that the split of capital funding is relative equal between the two settings with rural districts accounting for 45 percent of funding and urban/suburban 55 percent.

Table 10.16: Program Funding by District Locale 2019-21

Locale	Total Funding	Percent of Funding	Percent of Student Population
Rural	$65,477,168	45%	49%
Urban/Suburban	$78,541,956	55%	51%

Table 10.17 shows that the majority of funding, over 75 percent flows to the districts in the two largest district quintiles, though these districts account for nearly 80 percent of the population. The second smallest size quintile received 15 percent of Program funding though it represented only seven percent of students.

Table 10.17: Program Funding by District Size 2019-21

District Size Quintiles	Total Funding	Percent of Funding	Percent of Student Population
Size Q1 (smallest)	$3,280,780	2%	4%
Size Q2	$21,190,285	15%	7%
Size Q3	$8,602,914	6%	10%
Size Q4	$35,022,691	24%	17%
Size Q5 (largest)	$75,922,455	53%	62%

Overall, Program funding seems related to wealth and need and less related to setting or size.

LEA Survey

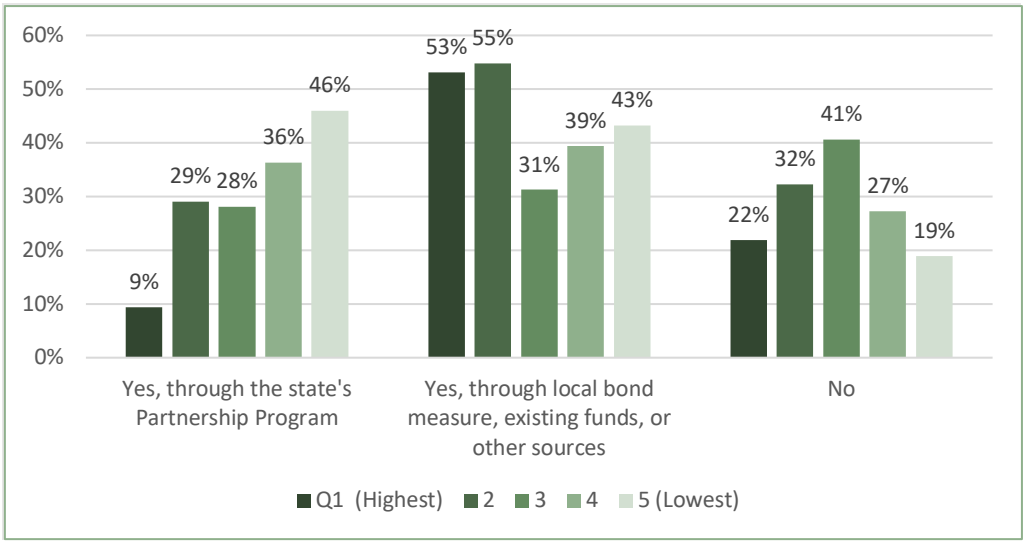
Table 10.18 shows that when asked about the capacity to meet capital needs, district superintendents and charter system directors are more likely to report that they have existing capacity to address maintenance (required and deferred) but are less likely to report having capacity to address major renovations or new construction.

Table 10.18: LEA Survey Results on Capital Capacity

	Required annual maintenance	Deferred maintenance	System replacement	Major renovations	New construction
Yes, through existing funds	79.01%	51.38%	45.86%	19.89%	11.05%
Yes, through the state's Partnership Program	9.39%	11.05%	25.97%	27.62%	32.60%
Yes, through local bond measure (passed or planned)	16.57%	10.50%	13.26%	25.41%	34.25%
Yes, through other sources	6.08%	6.63%	6.63%	4.42%	4.42%
No	2.76%	15.47%	19.89%	30.39%	28.18%
N/A	1.10%	8.29%	6.63%	6.08%	9.39%

When asked about ability to meet major renovation needs, Chart 10.6 shows lower wealth districts are more likely to report that they have capacity to address their major renovation capital needs through the state's Partnership Program, while wealthier districts were more likely to report they had capacity through a local bond measure, existing funds or other sources. Middle quartile wealth districts were the most likely to report that they did not have capacity to meet their major renovation capital needs.

Chart 10.6: Major Renovations, by District Wealth



In the open response section of the survey, districts detailed not being able to afford needed capital projects as their buildings age. Many districts noted how crucial Partnership Program funding was for their district's ability to address capital needs. However, some districts said they did not qualify for Partnership funding and others said their districts struggle to raise the required match. Others noted that the amount of available funding annually is not enough to address the capital needs of all districts.

Conclusions

Arkansas's capital funding Program is similar to those used throughout the country and in the comparison states. The state provides funding to qualified projects that meet the highest levels of need based on a given funding cycles priorities. The level of state funding is determined on the FWI of each receiving district.

Recent Program funding seems related to wealth and need and less related to setting or size. The systems design to increase capacity in lower property wealth districts seems to be working as less wealthy districts report turning to the Program more frequently for major renovation, while wealthier districts more reporting they rely on local bonding capacity. Middle wealth districts do report struggling to find support for major capital projects through Program funding or local bonded indebtedness.

11. Review of Resources in Matrix and Methods for Routinely Reviewing Adequacy

This chapter is intended to review all resource components in the matrix, first by comparing it against three prior Arkansas studies conducted by Picus Odden and Associates (POA), as well as against adequacy studies in other states. It will then summarize all information from the various study activities for each matrix component and provide a discussion of methods for routinely reviewing adequacy.

Key Takeaways

- There are a number of matrix areas where the evidence regarding resource levels from various study sources is the most consistent including: K–3 student ratios, non-core teacher staffing at the secondary level, secretary, library/media specialist, and instructional materials.
- There are also three resource areas not currently addressed in the matrix that the evidence suggests should be considered: assistant principal, student mental health, and school safety and security.
- The state is meeting its *Lake View* obligations by having "constant study, review, and adjustment" to the funding system, with constant study and review being addressed through three adequacy studies conducted by an outside firm and the adequacy work of BLR.
- While there have been a number of adjustments made to the matrix since implementation, the main staffing parameters of the matrix have changed little over time.

Funding Matrix (FY21)

First presented in Chapter 2, the funding matrix includes FTE resources and per student, school-level salaries and benefits, school-level resources, and district-level resources. The tables below are included as a reminder of all components of the funding matrix; Table 11.1 identifies FTEs and Table 11.2 presents the per-student amounts.

Table 11.1: Matrix Staffing for a Prototypical School

Matrix Item		FTEs per 500 students
Classroom Teachers	Kindergarten (20:1)	2.00
	Grades 1-3 (23:1)	5.00
	Grades 4-12 (25:1)	13.80
	Non-Core (20%)	4.14
Pupil Support Staff	Special Education	2.90
	Instructional Facilitators	2.50
	Library Media Specialist	0.85
	Counselors and Nurses	2.50
Administration	Principal	1.00
	Secretary	1.00
Total		**35.69**

Table 11.2: Per-Student Amounts for School-Level Salaries and Benefits, School-level Resources and District-Level Resources

Matrix Item		PER FTE	Per -student Amount
School-Level Salaries and Benefits	Classroom Teachers	$68,470.00	$3,415.28
	Pupil Support Staff	$68,470.00	$1,198.23
	Principal	$99.012.00	$198.10
	Secretary	$40,855.00	$81.70
School-Level Resources	Technology		$250.00
	Instructional Materials		$187.90
	Extra Duty Funds		$66.20
	Supervisory Aides		$50.00
	Substitutes		$71.80
District-Level Resources	Operations and Maintenance		$705.70
	Central Office		$438.80
	Transportation		$321.20
Total			**$6,975**

Comparison of Matrix to Prior Arkansas Study Recommendations

Recommendations from POA varied between the three prior studies. Below are the key differences between each study's recommendations and the matrix. Later in this chapter this information will be presented by component.

2003 Study. The funding matrix adopted by the General Assembly (enacted for FY 2004/05) mirrored POA's recommendations for increasing the length of the school year to provide five additional student-free professional development days for teachers; a significant pay increase for teachers; a prekindergarten program for low-income preschoolers; staffing levels for school administration, teachers, and instructional facilitators; programs for students with special needs (special education, EL, at-risk, and gifted and talented); funds for technology, instructional materials, and staff professional development; and district operations and student transportation funding.

Three key areas where the matrix differed from the consultants' recommendations were (1) class sizes, where POA recommended class sizes of 15:1 for grades K–3. The matrix funded class sizes of 20:1 for kindergarten and 23:1 for grades 1–3; (2) increasing funding for support staff in districts with higher concentrations of low-income students where POA recommended increasing staffing for student support and remediation staff above the base level at a rate of 1.0 FTE per 100 additional low-income students, while the matrix provided no additional funding beyond the base levels; and (3) the number of librarians/media specialists provided at each level of schooling (POA recommendations were higher at the middle and high school levels).

2006 Recalibration. The major changes in alignment between the consultants' recommendations and the funding matrix following the 2006 recalibration study included POA adopting the matrix's larger class sizes for grades K–3; the number of school secretaries in a prototypical school (2.0 FTE vs 1.0 FTE in the matrix); and lower funding in the matrix for instructional materials and technology. The matrix was

also still below the consultants' recommendations for pupil support, staff for at-risk programs, and librarians/media specialists.

2014 Desk Audit. The purpose of the desk audit was to assess how the matrix compared to the Evidence Based (EB) model that had evolved since 2006. However, POA did not provide cost data or make specific recommendations for changing the matrix. The key input areas in which the EB model exceeded inputs in the matrix included a return to K–3 class sizes of 15:1; an increase in non-core teachers to accommodate block scheduling at the high school level; additional FTE for special education teachers and special education aides; a significant increase in staffing for alternative learning environment programs; additional EL teacher FTE; higher funding for technology, instructional materials, and professional development; and continued higher staffing for librarian/media specialists and pupil support and at-risk program staff.

Review of Adequacy Studies in Other States

In order to compare Arkansas's matrix resource levels with other adequacy studies it is important to understand the available approaches to reviewing adequacy. Four approaches to examine adequacy have been created over the past 25 years. Each has been used in multiple states and have been held by courts to be acceptable means of defining adequacy (further detail on these approaches is available later in this chapter). These approaches are:

1. The **Professional Judgement (PJ)** approach requires educators to identify the resources needed at the school and district level to meet state standards.
2. The **Evidence-based (EB)** approach examines academic and school reform research to identify the resources needed at a school and district level to meet state standards. As noted above, this is the approach used by POA and serves as the basis of the funding matrix.
3. The **Successful Schools or Districts (SSD)** approach identifies schools or districts that are outperforming other schools or districts in the state on student growth or absolute performance.
4. The **Cost Function (CF)** approach utilizes statistical analysis to examine the relationship between outcomes and spending while controlling for differences in student and district characteristics.

Since 2003, there have been 49 studies conducted across 31 states, including in eight of comparison states first described in Chapter 1 (SREB states and Massachusetts). Twenty-one studies used the PJ approach, 18 studies used the EB approach, 17 used the SSD approach, and 8 studies used the CF. Forty-seven percent of the studies were contracted by state governments and 53 percent were contracted by advocacy groups. However, the recent studies have been more frequently contracted by state governments. Table 11.3 shows whether a comparison state conducted a study and the approaches used.

Table 11.3: Comparison State Studies and Types of Studies

	No Study/Other Study	Cost Function	Evidence Based	Professional Judgement	Successful Schools
Arkansas			**X**		
Alabama				X	X
Delaware				X	X
Florida	X				
Georgia	X				
Kentucky			X	X	
Louisiana	X				
Maryland			X	X	X
Massachusetts	X				
Mississippi	X				
North Carolina		X			
Oklahoma	X				
South Carolina	X				
Tennessee		X			
Texas			X		
Virginia	X				
West Virginia	X				

There were thirteen adequacy studies in eight of the comparison states. Four studies used the professional judgement approach, three used the successful schools' approach, four used the evidence-based approach, and two states used the cost function approach.

The study team identified the most recent adequacy study completed for each state that utilized the EB or PJ approach—as these approaches produce resource frameworks—and examined the resources for districts/schools closest to 500 students to best compare with the Arkansas matrix. The comparison states the utilized these studies included Alabama, Delaware, Kentucky, Maryland, and Texas. These states are referred to as the "comparison states" in the tables below. The study team looked at the national (all states, not just comparison states) highs, lows, and "modes" (meaning the most frequent study result) as well as the results for each of the comparison state studies. It should be noted that these represent study results, not actual funding levels in most states.

Instructional Personnel: The study team examined class size ratios for elementary schools in Table 11.4 and secondary schools in Table 11.5. As shown, Arkansas matrix class size ratios are higher than the national mode and most comparison state studies in kindergarten through second grade; however, in grades three through 12 the Arkansas matrix ratios are similar to the national mode and most comparison state studies.

Table 11.4: Instructional Resources (Core Teacher-Student Ratios) at Elementary Level

	K	1	2	3	4	5
Arkansas (Matrix)	20:1	23:1	23:1	23:1	25:1	25:1
All State Low	15:1	15:1	15:1	15:1	17:1	17:1
All State High	20:1	20:1	21:1	25:1	25:1	25:1
All State Mode	15:1	15:1	15:1	25:1	25:1	25:1
Alabama	18:1	18:1	21:1	21:1	25:1	25:1
Delaware	17:1	17:1	17:1	17:1	17:1	17:1
Kentucky	15:1	15:1	15:1	25:1	25:1	25:1
Maryland	15:1	15:1	15:1	25:1	25:1	25:1
Texas	15:1	15:1	15:1	25:1	25:1	25:1

Table 11.5: Instructional Resources (Core Teacher-Student Ratios) at Secondary Level

	6	7	8	9	10	11	12
Arkansas (Matrix)	25:1	25:1	25:1	25:1	25:1	25:1	25:1
All State Low	16:1	16:1	16:1	16:1	16:1	16:1	16:1
All State High	25:1	25:1	25:1	25:1	25:1	25:1	25:1
All State Mode	25:1	25:1	25:1	25:1	25:1	25:1	25:1
Alabama	25:1	25:1	25:1	25:1	25:1	25:1	25:1
Delaware	20:1	20:1	20:1	20:1	20:1	20:1	20:1
Kentucky	25:1	25:1	25:1	25:1	25:1	25:1	25:1
Maryland	25:1	25:1	25:1	25:1	25:1	25:1	25:1
Texas	25:1	25:1	25:1	25:1	25:1	25:1	25:1

The study team examined the instructional facilitator ratio, and library and media specialist ratio for both elementary and secondary grades in Table 11.6.

Table 11.6: Instructional Resources (Other) at Elementary and Secondary Levels

	Instructional Facilitators		Library Media Specialist	
	Elementary	**Secondary**	**Elementary**	**Secondary**
Arkansas (Matrix)	**1:200**	**1:200**	**1:588**	**1:588**
All State Low	1:80	1:80	1:200	1:184
All State High	1:540	1:600	1:450	1:1,025
All State Mode	1:200	1:200	1:450	1:525
Alabama	1:400	1:600	1:450	1:400
Delaware	1:540	1:120	1:425	1:470
Kentucky	1:200	1:200	1:450	1:525
Maryland	1:150	1:180	1:450	1:480
Texas	1:200	1:200	1:450	1:525

Instructional facilitator ratios vary, especially in the PJ approach. The Arkansas matrix ratio is in line with the national mode for both elementary and secondary. Library and media specialists are more consistent across studies. Arkansas matrix ratios are 30 percent higher than the national mode and comparison state studies.

Student Support Personnel: Student support personnel typically includes the total of counselors, psychologists, nurses, and social workers identified to serve all general education students. Data for this personnel category is displayed in Table 11.7.

Table 11.7: Student Support Services at Elementary and Secondary Levels

	Total Student Support	
	Elementary	**Secondary**
Arkansas (Matrix)	**1:200**	**1:200**
All State Low	1:100	1:81
All State High	1:500	1:500
All State Mode	1:150	1:180
Alabama	1:375	1:173
Delaware	1:101	1:122
Kentucky	1:281	1:182
Maryland	1:150	1:118
Texas	1:450	1:250

There is variation in this area across all studies. Even though the Arkansas matrix only provides for counselor and nurse FTE, the ratio is still higher than the mode and comparison state studies in secondary (by 10 percent) and elementary (by 33 percent).

Administration Services: The study team grouped administration services into two personnel types. Administrators consist of principals, assistant principals, and deans. Administrative support consists of secretaries, office staff, and bookkeepers. Ratios for each are displayed in Table 11.8.

Table 11.8: Administration Services at Elementary and Secondary Levels

	Administrators		Administrative Support	
	Elementary	**Secondary**	**Elementary**	**Secondary**
Arkansas (Matrix)	1:500	1:500	1:500	1:500
All State Low	1:150	1:170	1:100	1:110
All State High	1:500	1:525	1:360	1:263
All State Mode	1:450	1:300	1:225	1:203
Alabama	1:225	1:245	1:225	1:175
Delaware	1:400	1:170	1:210	1:190
Kentucky	1:450	1:375	1:225	1:213
Maryland	1:150	1:190	1:150	1:190
Texas	1:450	1:300	1:225	1:213

The Arkansas matrix ratios (1:500) are higher for administrators than the national modes and all comparison state studies. The same is true for administrator support.

Special Education: The study team analyzed the total student supports and the total administration for special education students. Student supports includes teachers and support personnel other than administrators. The Arkansas matrix assigns special education resources by total student counts.

Table 11.9: Special Education Resources at Elementary and Secondary Levels

	Total Student Support		Total Admin	
	Elementary	Secondary	Elementary	Secondary
Arkansas	1:22	1:22	N/A	N/A
All State Low	1:5	1:5	1:22	1:33
All State High	1:23	1:23	1:79	1:157
All State Mode	1:6	1:6	1:34	1:65
Alabama	1:6	1:6	1:46	1:145
Delaware	1:6	1:6	1:48	1:103
Maryland	1:9	1:20	1:34	1:75

The study team adjusted the matrix to align with the other adequacy studies by applying the Arkansas statewide average of 13 percent of students in special education for a total of 65 special education students in a 500-student school. The Arkansas ratio for total student supports (1:22) is higher than the national mode (1:6) and all comparison state studies.

School-level Resources: The study team examined instructional materials, technology, activities, and assessment costs in Table 11.10.

Table 11.10: Other Costs at the Elementary and Secondary Levels

	Technology		Instruction		Activities		Assessment	
	Elem.	Secondary	Elem.	Secondary	Elem.	Secondary	Elem.	Secondary
Arkansas (Matrix)	$250	$250	$188	$188	N/A	N/A	N/A	N/A
All State Low	$100	$100	$125	$160	$385	$145	$5	$5
All State High	$250	$250	$300	$385	$250	$630	$25	$25
All State Mode	$250	$250	$250	$250	$25	$250	$20	$20
Alabama	$100	$100	$150	$200	$25	$250	$15	$15
Kentucky	$250	$250	$140	$160	$250	$250	$25	$25
Maryland			$125	$140	$20	$145	$5	$5
Texas	$250	$250	$140	$160	$250	$250	$25	$25

Technology dollars per student in Arkansas are the same as the national mode ($250) and similar to other state studies. In the 2004/05 matrix, instructional materials per student was originally funded at $250 per student, consistent with the national mode ($250). The instructional materials per student was later reduced and is currently $187.90 per student; comparison state studies had mixed results in this area. The matrix does not currently provide funding for student activities or assessment, which were addressed in comparison state studies.

Matrix Review

This section reviews each funding matrix component by looking at all relevant data including: (1) current matrix resource level; (2) any historical variation; (3) changes recently recommended by the Committees for next biennium; (4) prior Arkansas studies from POA (2003, 2006, 2014); (5) adequacy studies in other states; (6) district data, including the LEA survey and available data from BLR/ADE; (7) educator panel and stakeholder survey feedback; (8) case studies; (9) a national policy scan/literature review; and (10) Arkansas rules or accreditation requirements (where applicable). Similarly, it provides all relevant data related to areas not currently addressed in the matrix that have been highlighted through multiple study areas as being needed.

Classroom Teachers, Kindergarten

The current matrix provides kindergarten staffing at a ratio of 20:1 with the figure remaining the same since the implementation of the matrix. Past Arkansas studies and other national adequacy studies suggest a 15:1 ratio. Stakeholder feedback suggested lower ratios which is in alignment with national literature reviews that suggest positive impacts for students occur with ratios between 13:1 to 17:1. State rules cap kindergarten classrooms at 20 students or 22 students with an aide. Stakeholders indicated that the funded ratio being too close to the state class size maximum requirements is an issue. For example, a school may have 45 kindergarteners, which would be funded at 2.0 FTE, but require three teachers to not go over state class size maximums. analysis found no relationship between lower class sizes and performance, though this data was not disaggregated by grade level. Though there was not a statistical relationship between class size and performance, research suggests impacts may not be seen above 17:1. Data sources consistently suggest a lower teacher-student ratio than in the matrix.

Table 11.11: Classroom Teachers, Kindergarten

FTEs per 500 students, Kindergarten	
FY21 Matrix	2.00 FTE, based upon 20:1
Historic Variation (if any)	No change
Changes for Next Biennium	No change
Prior Arkansas Studies	15:1 (2003); 20:1 (2006); 15:1 (2014)
Other State Adequacy Studies	15:1 (mode)
District Data	No statistically significant relationship between class sizes and performance
Educator Panels/Stakeholder Survey	Funded class size and accreditation maximum too close; should allow for more cushioning/rounding to allow for variation in number of students. Class sizes, particularly in lower grades should be smaller. Limited specific survey feedback recommended a range of 10-18:1, with 15:1 suggested most often
Case Studies	Generally smaller class sizes due to most being smaller schools. Using interventionists/aides and scheduling for intervention/enrichment time to allow for smaller group instruction in/out of the classroom
Literature Review/Policy Scan	Research indicates small class sizes in lower grades (15:1 K–3) improve student outcomes; range was 13:1 to 17:1, so class sizes above 17:1 unlikely to show the same education impact
Arkansas Rules or Accreditation Requirements	Kindergarten shall be no more than 20:1 in a classroom. However, kindergarten class maximum may be no more than 22 with a one-half time instructional aide.

Classroom Teachers, Grades 1–3

The current matrix provides grades 1–3 staffing at a ratio of 23:1 with the figure not having been changed since the implementation of the matrix.

Past Arkansas studies and other national adequacy studies suggest a 15:1 ratio. Stakeholder feedback suggested lower ratios which is in alignment with national literature reviews that suggest impacts for students occur with ratios between 13:1 to 17:1. State class size rules require average class sizes of 23:1 with a maximum of 25:1. The majority of the data sources consistently suggest a lower staffing ratio than the current matrix. Data analysis found no relationship between lower class sizes and performance, though this data was not disaggregated by grade level. Though there was not a statistical relationship between class size and performance, research suggests impacts may not be seen above 17:1.

Table 11.12: Classroom Teachers, Grades 1–3

FTEs per 500 students, grades 1–3	
FY21 Matrix	5.00 FTE, based upon 23:1
Historic Variation (if any)	No change
Changes for Next Biennium	No change
Prior Arkansas Studies	15:1 (2003); 20:1 (2006); 15:1 (2014)
Other State Adequacy Studies	15:1 for 1st-2nd grades, 25:1 in 3rd grade (mode)
District Data	No statistically significant relationship between class sizes and performance
Educator Panels/Stakeholder Survey	Class sizes, particularly in lower grades, should be smaller. Limited specific matrix feedback suggested a range of 15-20:1
Case Studies	Generally smaller class sizes due to most being smaller schools. Using interventionists/aides and scheduling for intervention/enrichment time to allow for smaller group instruction in/out of the classroom
Literature Review/Policy Scan	Research indicates small class sizes in lower grades (15:1 K–3) improve student outcomes; class sizes above 17:1 unlikely to show the same education impact
Arkansas Rules or Accreditation Requirements	The average student/teacher ratio for grades 1–3 shall be no more than 23:1 in a classroom. There shall be no more than 25:1 in any classroom.

Classroom Teachers, Grades 4-12

The current matrix provides grades 4–12 staffing at a ratio of 25:1 with the figure staying the same since the implementation of the matrix. Past Arkansas studies and other national adequacy studies suggest a 25:1 ratio. Stakeholder feedback suggested lower ratios for grades 4 and 5 would be preferred since current averages often go above 25:1. Data analysis found no relationship between lower class sizes and performance. State accreditation requires average class sizes of 25:1 with a maximum of 25:1 for 4th through 6th grades and a maximum class size of 30:1 for students in grades 7–12. The majority of data sources consistently suggest a 25:1 ratio, which is the same as the current matrix level.

Table 11.13: Classroom Teachers, Grades 4–12

FTEs per 500 students, grades 4-12	
FY21 Matrix	13.80 FTE, based upon 25:1
Historic Variation (if any)	No change
Changes for Next Biennium	No change
Prior Arkansas Studies	Same as matrix level
Other State Adequacy Studies	25:1 (mode)
District Data	No statistically significant relationship between class sizes and performance
Educator Panels/Stakeholder Survey	Limited specific matrix feedback suggested lower class sizes in grades 4–5 as class size maximums tend to be higher than the funding ratios
Case Studies	Generally smaller class sizes due to most being smaller schools. Using interventionists/aides and scheduling for intervention/enrichment time to allow for smaller group instruction in/out of the classroom
Literature Review/Policy Scan	Limited research above 3rd grade regarding the impact of class size on outcomes
Arkansas Rules or Accreditation Requirements	**For grades 4–6:** the average student/teacher ratio shall be no more than 25:1 and a maximum of no more than 28:1 in any classroom. **For grades 7–12:** a teacher shall not be assigned more than 150 students; and an individual academic class shall not exceed 30 students, unless in exceptional cases or for courses that lend themselves to large group instruction.

Classroom Teachers, Non-Core Teachers

The current matrix provides an additional 20 percent of teachers on top of grade K–12 teachers for specials/electives. Past Arkansas studies suggested the same percentage in 2003 and 2006 but a higher ratio, 33 percent, for grades 9–12 in 2014. National adequacy studies suggest similar ratios for K–8, but also suggest 33 percent for grades 9–12. Stakeholder feedback was limited but did identify the current secondary ratio as potentially low. Data sources appear consistent with the current percentage for grades K–8 and lean towards a higher percentage for grades 9–12.

Table 11.14: Classroom Teachers, Non-Core

FTEs per 500 students, Non-Core Teachers	
FY21 Matrix	4.14 FTE, based upon 20% of classroom teacher FTE
Historic Variation (if any)	No change
Changes for Next Biennium	No change
Prior Arkansas Studies	Same as matrix level in 2003 and 2006; 20% of K–8 classroom teachers and 33 1/3% of 9–12 classroom teachers (2014)
Other State Adequacy Studies	Tended to recommend a higher percentage in secondary schools; most frequently recommended 16% for elementary, 20% for middle and 33% for high school
District Data	No additional analysis
Educator Panels/Stakeholder Survey	Some feedback that the ratio was fine at elementary grades but not at secondary grades to provide the range of courses needed. Limited specific matrix feedback was inconsistent
Case Studies	No consistent theme across case study schools, but schools had common planning and collaboration time which non-core percentage allows for
Literature Review/Policy Scan	Not reviewed

Special Education Teachers

The current matrix provides 2.9 FTE for special education teachers and there have been no changes to the matrix over time. The 2003 and 2006 POA studies identified 2.9 FTE but the 2014 study identified 6.6 FTE. Other state adequacy studies have a wide range of figures, with most based on actual special education student counts. Data analysis shows the ESA funds are being used to cover special education costs. Stakeholder feedback identified that districts currently utilize other funding streams to cover special education costs, and that there is a need to account for differences in percentages of special education students between districts, with a suggested range of FTE from 3-8 for 500 students. The literature review identified that most states fund on actual special education student counts, providing funding through a number of different methods. Overall, data sources identify both higher resources and a different funding approach than the matrix.

Table 11.15: Special Education Teachers

FTEs per 500 students, Special Education Teachers	
FY21 Matrix	2.90 FTE
Historic Variation (if any)	No change
Changes for Next Biennium	No change
Prior Arkansas Studies	Same as matrix in 2003 and 2006; 1.0 FTE teacher and 1.0 FTE aide per 150 regular education students for a total of 6.6 FTE (2014)
Other State Adequacy Studies	Figures varied widely, tended to include teacher, instructional aide, and pupil support staff (such as therapists) with levels set by actual student counts
District Data	ESA funds are being used to cover special education costs
Educator Panels/Stakeholder Survey	Educators on panels said this is a key area they have to use other funds to cover costs (both special education in the matrix and high-cost students). Limited stakeholder feedback suggested that funding should be based upon identified students as populations vary from school to school; a total of 3-8 FTE was suggested
Case Studies	Not addressed
Literature Review/Policy Scan	Most states (36) fund special education based upon actual student counts, though 5 states cap funded special education student counts at a certain rate. 4 states, including Arkansas, provide special education resources as part of its base funding. The other states provide a single weight/dollar amount (10), multiple weights or dollar amounts by disability or need level (14), a resource allocation model (7), through reimbursement (6), or a hybrid approach (remaining states).

Instructional Facilitators

The current matrix provides 2.5 instructional facilitators, and that figure has not changed over time. Past adequacy studies and other state studies have identified the same level of FTE. On average, Arkansas districts currently employee 1.78 instructional facilitators per 500 students. There was limited feedback across the stakeholder engagement activities. The data sources are generally consistent with the current FTE allocation though districts do employ slightly fewer actual staff in this area.

Table 11.16: Instructional Facilitators

FTEs per 500 students, Instructional Facilitators	
FY21 Matrix	2.50 FTE, based upon 200:1
Historic Variation (if any)	No change
Changes for Next Biennium	No change
Prior Arkansas Studies	Same as matrix
Other State Adequacy Studies	200:1 (mode)
District Data	Districts on average have 1.78 FTE per 500 students (BLR 2020)
Educator Panels/Stakeholder Survey	Not addressed during educator panels, and limited specific matrix feedback focused less on the level of these positions and more on how they were used
Case Studies	No consistent theme across case study schools, some case studies use outside consultants or cooperative staff instead of in-house FTE
Literature Review/Policy Scan	Not reviewed
Arkansas Rules or Accreditation Requirements	Schools with an enrollment exceeding 500 students shall employ at least one full-time principal and a half-time assistant principal, instructional supervisor, or curriculum specialist

Library/Media Specialist

The current matrix provides .85 library/media specialist. This figure has increased from 0.7 in 2004/05 to 0.825 in 2007/08, and to the current level in 2015/16. Prior Arkansas studies and other state adequacy studies identify higher resource levels, often closer to 1.0 FTE. Arkansas districts currently employee .97 FTE per 500 students. Stakeholders identified the need for a 1.0 FTE to meet accreditation standards and most case study schools had a full-time librarian/media specialist. To meet accreditation requirements, schools need 0.5 FTE for schools under 300 students, 1.0 FTE for schools over 300, and 2.0 FTE for schools over 1,500 students. The data sources consistently identify higher resources for this area.

Table 11.17: Library/ Media Specialist

FTEs per 500 students, Library/ Media Specialist	
FY21 Matrix	0.85 FTE
Historic Variation (if any)	Has increased from 0.7 in 2004/05 to 0.825 in 2007/08, then to 0.85 in 2015/16
Changes for Next Biennium	No change
Prior Arkansas Studies	Elementary: 0.0 FTE, Middle: 1.0 FTE, High: 1.5 FTE (2003); 1.0 FTE all levels (2006); 1.0 FTE per 450 students K–8 1.0 FTE per 600 students 9–12 for a total FTE of 1.03 (2014)
Other State Adequacy Studies	450:1 for elementary, and 525:1 for secondary (mode)
District Data	Districts on average have 0.97 FTE per 500 students (BLR 2020)
Educator Panels/Stakeholder Survey	Should be funded at 1.0, as accreditation standards would require a full-time position at 500 students; specific matrix feedback was consistent of at least 1.0 FTE
Case Studies	Case study schools had a full-time librarian/media specialist
Literature Review/Policy Scan	Not reviewed
Arkansas Rules or Accreditation Requirements	Each school with less than 300 students enrolled shall employ at least a half-time certified library media specialist. A school with 300 or more students enrolled shall employ a full-time certified library media specialist. Schools enrolling 1,500 or more students shall employ two full-time certified library media specialists.

Guidance Counselor and Nurse

The current matrix provides 2.5 FTE for guidance counselor and nurse, this figure has not changed over time. Past Arkansas studies have identified various funding levels for all students, with additional resources identified for poverty students in 2003 and 2006 studies. Other state adequacy studies identified the need for student support personnel at a 150:1 ratio for elementary and 150:1 for high school. Arkansas districts currently have 1.37 counselors and .97 nurses for every 500 students. Stakeholders identified the need for a full-time nurse at each school and to separately identify resources for student mental health services. Arkansas's current counselor staffing is better than that for SREB states but below national membership organization recommendations (250:1). Arkansas districts need a 450:1 ratio for accreditation. The data sources identify resources close to or slightly higher than those in the current matrix.

Table 11.18: Guidance Counselors and Nurses

FTEs per 500 students, Guidance Counselors and Nurses	
FY21 Matrix	2.50 FTE
Historic Variation (if any)	No change
Changes for Next Biennium	No change
Prior Arkansas Studies	Minimum of 1.0 + 1.0 FTE per every 100 students in poverty. Elementary: 2.5 FTE, Middle: 3.5 FTE, High: 4.5 FTE (2003); 2.5 FTE all levels + additional 1.0 FTE for higher poverty levels (2006); specifies 1.0 nurse per 750 K–12 school for 0.7 FTE, for a total of 2.3 FTE (2014)
Other State Adequacy Studies	150:1 for elementary, 180:1 for secondary (mode), combined guidance counselor, nurse, psychologist, and social worker levels
District Data	Districts on average have 1.37 FTE counselors and 0.97 FTE nurse per 500 students (BLR 2020)
Educator Panels/Stakeholder Survey	Nurse should be 1.0 FTE; additional support for student mental health should be provided as most counselors are not trained in this area
Case Studies	Case study schools emphasize counseling and advisement, but current counselor staffing is only sufficient for guidance/scheduling and not addressing mental health
Literature Review/Policy Scan	2017/18 NCES data: the average counselor staffing ratio in Arkansas is 385:1, which is lower than the average of 407:1 for SREB states + Massachusetts; still higher than American School Counselor Association (ASCA) recommended 250:1
Arkansas Rules or Accreditation Requirements	Each school shall assign appropriate certified counselor staff with the district being required to maintain an overall ratio of 450:1

Principal

The current matrix provides 1.0 principals, this figure has not changed over time. The other data sources identify the same level of resource need.

Table 11.19: Principals

FTEs per 500 students, Principals	
FY21 Matrix	1.00 FTE
Historic Variation (if any)	No change
Changes for Next Biennium	No change
Prior Arkansas Studies	Same as matrix
Other State Adequacy Studies	Same as matrix
District Data	No additional analysis
Educator Panels/Stakeholder Survey	No feedback (feedback of the need for assistant principals will be discussed separately)
Case Studies	All case study schools had a full-time principal; having strong leadership was noted as a contributing factor to success
Literature Review/Policy Scan	Not addressed
Arkansas Rules or Accreditation Requirements	Each school shall employ at least a half-time principal. A full-time principal shall be employed when a school's enrollment reaches 300 students.

Secretary

The current matrix provides 1.0 secretaries. Originally, secretary costs were part of the carry forward funding, the 1.0 FTE was added in 2007/08, with the secretary funding removed from carry forward. In the 2003 POA study, the cost for secretary staff Arkansas study was identified the costs in carry forward; in subsequent studies POA recommended 2.0 FTE (2006) and 2.31 FTE (2014). Other state adequacy studies identify at least 2.0 FTE for schools of 500 students. Arkansas districts currently employee 2.58 secretaries per 500 students. Stakeholders identified the need for at least two school level staff to cover the duties required. Case study schools with over 400 students had at least two secretaries. The data sources identify higher resources than the current matrix.

Table 11.20: Secretary

FTEs per 500 students, Secretary	
FY21 Matrix	1.00 FTE
Historic Variation (if any)	Originally in carry forward, became 1.0 FTE in 2007/08 (removed from carry forward)
Changes for Next Biennium	No change
Prior Arkansas Studies	In carry forward (2003); 2.0 FTE, removed from carry forward (2006); 1.0 per 225 K–8 students, and 1.0 per 200 9–12 students for a total of 2.31 FTE (2014)
Other State Adequacy Studies	Varied by school size, but for schools of around 500 students or higher, there were at least 2.0 FTE recommended
District Data	Districts on average have 2.58 FTE per 500 students (BLR 2020)
Educator Panels/Stakeholder Survey	Should be at least 2.0 FTE in a school of 500, as most schools have at least two main office staff members
Case Studies	Schools over 400 had at least 2.0 FTE
Literature Review/Policy Scan	Not reviewed

Classroom Teachers and Support Staff Salaries

The current matrix applies a salary and benefit cost of $68,740 for classroom teachers and support staff, this salary has increased by 2.2 percent annually on average since the matrix was originally set. The Committees' recommended changes for the next biennium includes a FY22 salary of $70,010.60 and FY23 salary of $71,585.80. Funding in the matrix is higher than the average statewide salary (BLR 2020) but disparities in salaries exist by size, need, and locale. Smaller, rural, and higher need districts tend to have lower salaries. Stakeholders expressed that many districts struggle to stay competitive with larger and/or wealthier neighbor districts which impacts attraction and retention of staff. Arkansas has higher average salaries than three neighboring states but lower than two. The data sources show Arkansas has consistently increased funding in this area and that some concerns exist about salary competitiveness between districts.

Table 11.21: Classroom Teachers and Support Staff Salaries

Classroom Teachers and Support Staff Salaries	
FY21 Matrix	$68,470
Historic Variation (if any)	Original FY05 matrix was based upon a 26% increase and have increased by 2.2% annually on average, annually since FY05
Changes for Next Biennium	$70,010.60 (FY22), $71,585.80 (FY23)
Prior Arkansas Studies	POA recommended a 10% teacher salary increase and adoption of a performance pay system in their 2003 study.
Other State Adequacy Studies	Not reviewed
District Data	Funded base salary in matrix is higher than statewide average salary (BLR 2020). Average teacher salary disparities exist by size, need, and locale within the state, with salaries often lower in smaller districts, higher need districts, and rural districts.
Educator Panels/Stakeholder Survey	Teacher salaries not competitive (compared to other districts, certain neighboring states) which create issues with staff attraction and retention; there are salary disparities across the state. Limited specific matrix feedback said teacher salaries should be increased and noted that most teachers are not being paid at the funded level.
Case Studies	Not addressed
Literature Review/Policy Scan	Average salary in 2018/19 of $51,019 (NCES data), when compared to bordering states it is higher than Missouri, Mississippi and Oklahoma, but lower than Texas ($54,155) and Tennessee ($56,567). National average is $61,189.

Principals and Secretaries

The current matrix applies salaries and benefits of $99,012 for principals and $40,855 for secretaries. Principal salaries have increased at a similar rate to teachers, 2.2 percent, on average, annually since FY05; however, this includes a 12.9 percent increase in FY08, but no increases for six years (FY16-FY21). Secretaries, starting in FY08, increased 1.3 percent on average, annually; but no increases occurred in four of those years (including FY20 and FY21). Both salaries are recommended to increase for FY22 and FY23. Stakeholders' primary feedback was around the lack of recent increases for these salaries. The data sources show that the proposed changes to the matrix address the lack of increases to the salaries and benefits.

Table 11.22: Principal and Secretary Salaries

Principal and Secretary Salaries	
FY21 Matrix	**Principals:** $99,012 **Secretaries:** $40,855
Historic Variation (if any)	**Principals**: Similarly have increased by 2.2% annually, on average, annually since FY05; however, this includes a 12.9% increase in FY08, but no increases for six years (FY16-FY21); **Secretaries:** Starting in FY08, increased 1.3%, on average, annually; but no increases for four of those years (including FY20 and FY21)
Changes for Next Biennium	**Principals:** $101,487.00 (FY22), $104,024.20 (FY23) **Secretaries:** $41,876.40 (FY22), $42,923.30 (FY23)
Prior Arkansas Studies	Not reviewed
Other State Adequacy Studies	Not reviewed
District Data	No additional analysis
Educator Panels/Stakeholder Survey	Feedback primarily about the lack of increases in recent years
Case Studies	Not addressed
Literature Review/Policy Scan	Not reviewed

Technology

The matrix currently provides $250 per student for technology. This figure was originally $250, reduced to $185 in 2006/07 and then increased in most years until reaching $250 again. Prior Arkansas studies and other state adequacy studies recommended $250 per student for technology. Arkansas districts currently spend $278 per student (BLR 2020). Stakeholders communicated that districts are using other funding streams to cover technology and that funding may not be enough to cover one-to-one technology and broadband coverage is an issue. Data sources generally support current funding.

Table 11.23: Technology

Technology	
FY21 Matrix	$250 per student
Historic Variation (if any)	Was $250 per student in FY05 matrix, was reduced in FY07 to $185 per student and increased in most years until it was reset at $250 per student in FY17
Changes for Next Biennium	No change
Prior Arkansas Studies	Same as current matrix level
Other State Adequacy Studies	$250 per student (mode)
District Data	Districts spend $278 per student on average (BLR 2020)
Educator Panels/Stakeholder Survey	Underfunded; districts are using other funds to supplement. Limited specific matrix feedback said that the amount was not sufficient to address needed devices for one-to-one. Tech expenditures are particularly high this year w/ remote
Case Studies	Technology/broadband access was a noted issue, particularly this year
Literature Review/Policy Scan	Not reviewed

Instructional Materials

The matrix currently provides $187.90 per student for instructional materials. This figure was originally $250, reduced to $160 in 2007/08, and has increased since. The Committees' recommended changes include an increase to $192.60 for FY22 and to $197.40 for FY23. Prior Arkansas studies and other state

adequacy studies have identified $250 per student for instructional materials. Other state studies also include additional funding for assessments of $20 per student. Arkansas districts currently spend $227 per student (BLR 2020). Stakeholders did not generally highlight the area as a concern, although limited feedback did suggest the need for funding at a higher level, $250 to $300 per student. The data sources suggest higher funding for this area than current, but proposed changes make progress in the area.

Table 11.24: Instructional Materials

Instructional Materials	
FY21 Matrix	$187.90 per student
Historic Variation (if any)	$250 per student in FY05 matrix, reduced to $160 per student in FY08, has increased since then
Changes for Next Biennium	$192.60 per student (FY22), $197.40 per student (FY23)
Prior Arkansas Studies	$250 per student (2003, 2006, and 2014)
Other State Adequacy Studies	$250 per student (mode); $20 per student for assessment (mode); $20 per student for elementary and $250 per student for secondary for student activities (mode)
District Data	Districts spend $227 per student on average (BLR 2020)
Educator Panels/Stakeholder Survey	Not a primary concern in educator panels. Limited specific matrix feedback said that this amount did not cover the costs of textbooks or online materials, range of suggestions was $250-300 per student
Case Studies	Not addressed
Literature Review/Policy Scan	Not reviewed

Extra Duty Funds

The matrix currently provides $66.20 per student for extra duty funds. This figure started at $90, reduced to $50 in 2007/08, and has increased since. Recommended changes to the matrix include increases to $67.90 in FY22 and $69.60 in FY23. Prior Arkansas studies identified higher levels of funding in all cases including $200 per student for K–8 and $250 for 9–12 in 2014. Arkansas districts currently spend $233 per student (BLR 2020). Stakeholders mentioned that the funding for this area has been impacted by changes in minimum wage laws. The data sources suggest higher funding for this area than the current matrix level, but proposed changes for the next biennium make progress in the area.

Table 11.25: Extra Duty Funds

Technology	
FY21 Matrix	$66.20 per student
Historic Variation (if any)	$90 per student in FY05 matrix, $50 in FY08 matrix, gradually increased since then
Changes for Next Biennium	$67.90 per student (FY22), $69.60 per student (FY23)
Prior Arkansas Studies	Elementary: none, Middle: $60, High: $125 (2003); $100 all levels (2006); $200 for K–8 and $250 for 9–12 (2014)
Other State Adequacy Studies	Not addressed
District Data	Districts spend $233 per student on average (BLR 2020)
Educator Panels/Stakeholder Survey	Need to be revisited in light of minimum wage increases
Case Studies	Not addressed
Literature Review/Policy Scan	Not reviewed

Supervisory Aides

The matrix includes $50 per student for supervisory aides. In the original matrix, $35 per student was provided and this gradually increased before reaching a maximum of $56.70 per student in FY15. It was reduced to $50 per student in FY16 and the funding remained at this level through FY21. Increases were recommended by the Committees for the next biennium at a level of $51.30 per student in FY22 and $52.60 per student in FY23. The funded matrix level in 2004/05 was consistent with the 2003 study recommendations, but not the $98.70 per student recommended in 2006. While stakeholder feedback suggested the funding level needed to be revisited in light of minimum wage increases and prior studies recommend a higher amount, Arkansas districts spend $18 per student on average (BLR 2020) for supervisory aides. This is less than the funded amount.

Table 11.26: Supervisory Aides

Supervisory Aides	
FY21 Matrix	$50 per student
Historic Variation (if any)	$35 per student in FY05 matrix, gradually increased before reaching a maximum of $56.70 per student in FY15, reduced to $50 per student in FY16
Changes for Next Biennium	$51.30 per student (FY22), $52.60 per student (FY23)
Prior Arkansas Studies	$35 per student (2003); $98.70 per student to allow for 2.0 FTE (2006)
Other State Adequacy Studies	Not addressed
District Data	Districts spend $18 per student on average (BLR 2020)
Educator Panels/Stakeholder Survey	Need to be revisited in light of minimum wage increases
Case Studies	No common theme other than protecting teacher time
Literature Review/Policy Scan	Not reviewed

Substitutes

$71.80 per student is currently provided in the matrix. This is higher than the $66 per student in the first matrix which was reduced to $57 in FY06 and gradually increased to $71.80 in FY19. There were no changes in FY20 and FY21, but funding for substitutes is recommended by the Committees to be increased to $73.60 per student in FY22 and $75.40 per student in FY23. Funding has been similar to the recommendations from the prior Arkansas studies at $63 per student (2003) and $67.94 per student (2006). Districts spend $105 per student on average (BLR 2020) and stakeholders recommended that funding for substitutes be revisited in light of minimum wage increases.

Table 11.27: Substitutes

Substitutes	
FY21 Matrix	$71.80 per student
Historic Variation (if any)	$66 per student in FY05 matrix, reduced to $57 in FY06, then gradually increased to $71.80 in FY19, then no change in FY20 and FY21
Changes for Next Biennium	$73.60 per student (FY22), $75.40 per student (FY23)
Prior Arkansas Studies	$63 per student (2003) and $67.94 (2006)
Other State Adequacy Studies	Not addressed
District Data	Districts spend $105 per student on average (BLR 2020)
Educator Panels/Stakeholder Survey	Need to be revisited in light of minimum wage increases
Case Studies	Not addressed
Literature Review/Policy Scan	Not reviewed

Professional Development (Funded through Categorical Outside of Matrix)

The state provides $40.80 per student for professional development (PD), with about $27 per student going to school districts and the remainder used to provide a statewide online PD resource and a professional learning communities (PLC) grant program. Originally, $50 per student was provided in 2004/05 with all funding going to districts (consistent with the 2003 Arkansas study recommendation). It was reduced to $32.40 per student in FY15 and did not change between FY15-FY20. In FY21 it increased to $40.80 per student, with no changes for the next biennium. The 2006 Arkansas study recommended $50 per student with the full amount going to districts and the same in 2014. Adequacy studies in other states most frequently recommended $100 per student in addition to contract days for teachers. In 2020, districts spent $38.68 per student for PD (excluding federal funds). Stakeholder feedback and common themes from case studies and research were focused on effective professional development strategies—one of which is the PLC model that a portion of professional development funding is being used to fund. The various data sources suggest a higher level of resource than is in the matrix currently.

Table 11.28: Professional Development

Professional Development	
FY21 Matrix	$40.80 per student
Historic Variation (if any)	$50 per student in 2004/05, minimal change until it was reduced to $32.40 per student in FY15. No change between FY15-FY20, increased to $40.80 per student in FY21. Portion withheld for statewide PD purposes
Changes for Next Biennium	No change
Prior Arkansas Studies	$50 per student (2003), also $50 per student in 2006 but recommended that the full amount go to districts; same in 2014
Other State Adequacy Studies	$100 per student outside of days for teachers (mode)
District Data	In 2020, districts were expending $38.68 per student, on average, for PD after excluding federal funds
Educator Panels/Stakeholder Survey	Feedback focused on successful PD strategies vs costs
Case Studies	Case study themes were about successful PD strategies vs. costs
Literature Review/Policy Scan	Research is primarily regarding characteristics of effective PD

District-Level Resources

Currently, the matrix provides $705.70 per student for maintenance and operations (M&O), $438.80 per student for central office, and $321.20 per student for transportation. Originally, funding in these three areas was based upon carrying forward expenditures at that time and roughly similar to the $1,152 per student for all district level resources that was recommended by the 2003 study. In FY08, amounts were set separately for each area. For M&O, funding was set at $581 per student (the 2006 study had recommended $591) with gradual increases since then, including recommended increases for the next biennium ($723.30 for FY22 and $741.30 for FY23). Central office was set at $376 (less than the $594 recommended by the 2006 study) with gradual increases in most years, but no changes in the past five years. However, funding for central office is recommended to increase in the next biennium to $447.60 for FY22 and $456.50 for FY23. Transportation was set at $286 (same as 2006 study recommendation), with gradual increases through FY14 and then no increases through the next biennium. Limited stakeholder feedback said that M&O costs should be reviewed in light of increasing maintenance and equipment costs. Districts on average spend $1,059 on M&O, $528 on central office, and $418 on transportation – when considering all funding sources (BLR 2020) – which is higher than current funding provided in each area.

Table 11.29: District-Level Resources

Professional Development	
FY21 Matrix	**Maintenance and Operations (M&O)-** $705.70 per student; **Central Office-** $438.80 per student; **Transportation-** $321.20 per student
Historic Variation (if any)	In FY05, carried forward current expenditures for M&O, central office and transportation; in FY08, **M&O-** set at $581 per student with gradual increases since then; **Central Office** set at $376 with gradual increases in most years, but no changes in past 5 years; **Transportation s**et at $286, with gradual increases through FY14 then no increases
Changes for Next Biennium	**Maintenance and Operations (M&O)-** $723.30 (FY22), $741.30 (FY23); **Central Office-** $447.60 (FY22), $456.50 (FY23); **Transportation-** no change
Prior Arkansas Studies	In 2003, $1,152 per student for all district level resources (roughly the same as carry forward); in 2006, recommended to be $591/$594/$286 respectively
Other State Adequacy Studies	Not addressed
District Data	Districts on average spend $1,059 on M&O, $528 on central office, and $418 on transportation when considering all funding sources (BLR 2020)
Educator Panels/Stakeholder Survey	Limited stakeholder feedback said that M&O costs should be reviewed in light of increasing maintenance and equipment costs
Case Studies	Not addressed
Literature Review/Policy Scan	Not reviewed

Resources Not Currently Included in the Matrix

The following resource areas are not currently addressed in the matrix but were highlighted through multiple sources as being needed.

Student Mental Health

Other state adequacy studies have recommended student mental health support through a combination of guidance counselor, nurse, psychologist, and social workers at a level of 150:1 for elementary and 180:1 for secondary (mode). The matrix currently provides FTE for counselors and nurses at a level of 250:1. Stakeholder feedback strongly emphasized the need for mental health support for all students, including additional FTE for specialized staff, such as social workers, psychologists, or behavioral specialists. Many districts reported using ESA funds to offer mental health services not covered through the matrix. Case study schools also stressed how critical mental health support is for students. Most case study schools shared that they were leveraging outside community therapists, billed through Medicaid, but that this approach does not meet the need of all students.

Nationally, there are different models recommended to support student mental health. As far as staffing, the National Association of School Psychologists (NASP) recommends 250:1 for school counselors, 500-700:1 for school psychologists, and 400:1 for school social workers, and the National Association of Social Workers (NASW) recommends 250:1 for school social workers, unless working with students with intensive needs, when a lower ratio is recommended. While not currently addressed in the matrix or in prior Arkansas studies, the various other data sources suggest that this is an area of increasing need which should be considered for additional resources.

Table 11.30: Student Mental Health

Student Mental Health	
FY21 Matrix	Not currently in matrix
Historic Variation (if any)	Not currently in matrix
Changes for Next Biennium	No change
Prior Arkansas Studies	No recommendations
Other State Adequacy Studies	150:1 for elementary, 180:1 for secondary (mode), combined guidance counselor, nurse, psychologist, and social worker levels
District Data	Reviewed current district strategies for mental health in survey
Educator Panels/Stakeholder Survey	Need additional FTE additional for a combination of social worker, psychologist, and behavioral specialist
Case Studies	Mental health support is critical, and while case study schools are leveraging outside community therapists, billed through Medicaid, this does not meet the need of all students; many districts are using ESA funds to offer services
Literature Review/Policy Scan	National Association of School Psychologists (NASP) recommends 250:1 for school counselors, 500-700:1 for school psychologists, and 400:1 for school social workers; The National Association of Social Workers (NASW) recommends 250:1 for school social workers, unless working with students with intensive needs, when a lower ratio is recommended

School Resource Officer/School Security

Following student mental health, school safety was the area with the most stakeholder feedback regarding the need for additional school safety resources, such as school resource officers (SROs). This included data from the LEA survey, educator panels, and the online educator and community member

survey. Districts reported using matrix funds or categorical funds to provide SROs, and many suggested that there should be SRO staffing provided through the matrix.

Table 11.31: School Safety/Security

School Safety/Security	
FY21 Matrix	Not currently in matrix
Historic Variation (if any)	Not currently in matrix
Changes for Next Biennium	No change
Prior Arkansas Studies	No recommendations
Other State Adequacy Studies	Not reviewed
District Data	Districts are currently using matrix funds or categorical funds to provide SROs
Educator Panels/Stakeholder Survey	Many districts report having to use categorical or matrix funds to address, suggestion that there should be a 1.0 FTE in each school
Case Studies	Not addressed
Literature Review/Policy Scan	Not reviewed

Assistant Principal

According to Arkansas accreditation requirements "schools with an enrollment exceeding 500 students shall employ at least one full-time principal and a half-time assistant principal, instructional supervisor, or curriculum specialist." Prior discussion regarding assistant principals has been around assistant principals in relationship to the Instructional Facilitator FTE provided in the matrix, since the accreditation requirements treat the positions as interchangeable. This was the case for the 2003 and 2006 Arkansas studies, until the 2014 study recommended a 1.0 FTE Assistant Principal per 600 9–12 students, which would have added a total of 0.26 FTE to the matrix. Stakeholder feedback recommended that there needed to be an assistant principal (at least 0.5 FTE at 500) to meet all necessary administrative and instructional leadership duties. Case study schools over 400 had a full-time assistant principal, below that size some schools had a part-time position. The findings from adequacy studies in other states varied by school size, but for all school types (elementary, middle, and high school) of around 500 students a 1.0 FTE was recommended most often. Districts on average have a 0.84 FTE assistant principal per 500 students (BLR 2020). The various data sources are consistent about the need for assistant principals, so the determination of whether the matrix has addressed this fully should be made in conjunction with a discussion of instructional facilitator staffing. Districts deploy, on average, 1.78 FTE instructional facilitators, versus the 2.5 provided. However, districts are currently staffing 2.62 FTE between the two positions.

Table 11.32: Assistant Principal

Assistant Principal	
FY21 Matrix	Not currently separately addressed in matrix
Historic Variation (if any)	Not currently separately addressed in matrix
Changes for Next Biennium	No change
Prior Arkansas Studies	Not included in 2003 and 2006 outside of the Instructional Facilitator FTE (accreditation requirements treats as interchangeable), 2014 added a 1.0 FTE Assistant Principal per 600 9–12 students for a total of 0.26 FTE
Other State Adequacy Studies	Varied by school size, but for all school types (elementary, middle and high school) of around 500 students, 1.0 FTE recommended most often
District Data	Districts on average have 0.84 FTE per 500 students (BLR 2020)
Educator Panels/Stakeholder Survey	Need to have an assistant principal (at least 0.5 FTE at 500) to meet all necessary administrative and instructional leadership duties
Case Studies	Case study schools over 400 had a full time AP, below that level some schools had a part-time AP
Literature Review/Policy Scan	Not reviewed
Arkansas Rules or Accreditation Requirements	Schools with an enrollment exceeding 500 students shall employ at least one full-time principal and a half-time assistant principal, instructional supervisor, or curriculum specialist

Dyslexia Resources

State dyslexia rules require screening of all students in grades K–2, and students in grade 3 and above if teachers note deficiency in certain skills. If screening indicates need, then the student is provided RTI or intervention services. Also, no later than the 2015/16 academic year, each school district was required to have at least one individual to serve as a dyslexia interventionist. This is not addressed currently in the matrix and was not addressed in any prior studies, which occurred prior to the adoption of the state's dyslexia rules. There is minimal outside information in this area as dyslexia is not typically addressed separately from special education resources in adequacy studies. Stakeholder feedback suggests though that this area is an unfunded mandate and many districts report having to use categorical or matrix funds to address their needs.

Table 11.33: Dyslexia

Dyslexia	
FY21 Matrix	Not currently in matrix
Historic Variation (if any)	Not currently in matrix
Changes for Next Biennium	No changes
Prior Arkansas Studies	No recommendations
Other State Adequacy Studies	Not typically addressed separate from special education resources
District Data	No additional analysis
Educator Panels/Stakeholder Survey	Need support as this is currently an unfunded mandate
Case Studies	Many districts report having to use categorical or matrix funds to address
Literature Review/Policy Scan	Not reviewed

Method for Routinely Reviewing Adequacy

This section briefly reviews the history and approach used by Arkansas to review adequacy first discussed in Chapter 2; reviews the costing out methodologies used across the country and the positives and negatives of their use; and provides examples of other states' use of these methods to routinely review adequacy.

Arkansas Background and Approach

Arkansas's matrix funding is a product of the *Lake View* 1992 court decision and more specifically work done since 2003 under the Arkansas Supreme Court requirement that the state: define adequacy; assess, evaluate, and monitor the entire spectrum of public education; and know how state revenues are spent and whether true equality in education is being achieved. From the 2007 *Lake View* Review:

> *What is especially meaningful to this court is the Masters' finding that the General Assembly has expressly shown that constitutional compliance in the field of education is an ongoing task* ***requiring constant study, review, and adjustment****. In this court's view,* ***Act 57 of the Second Extraordinary Session of 2003, requiring annual adequacy review by legislative committees****, and Act 108 of the Second Extraordinary Session of 2003, establishing education as the State's first funding priority,* ***are the cornerstones for assuring future compliance****.*

Meeting the review requirements has included: (1) the legislature working with POA in 2003, 2006, and 2014 for development and review of the components of the matrix and (2) the BLR's adequacy reviews of each component of the system on a consistent cycle, including reviewing the matrix and non-matrix items in the funding model and examining the equity of the system. The Legislature sets the definition of adequacy and utilizes the reviews to create changes to the funding model. The current approach provides the state with the ability to clearly show constant and consistent review of adequacy. However, the review approach has led to few changes in the major components of the Matrix over time and provides little context of how the Matrix fits with other measurements of adequacy.

Review of Costing Methodologies

As mentioned earlier in the section, there have been four approaches developed to examine adequacy. The approaches can be grouped into resource focused approaches, including the evidence-based and professional judgment approaches, and data driven approaches which include successful schools and cost function. Each of the approaches can identify different aspects of funding and require various levels of effort to implement.

The **Evidence-based** approach identifies resources needed to meet standards by examining the national research on resources and how they impact student performance. Educators from the state review the identified resources and validate them for the context of the state. The approach is the current basis for the Arkansas Matrix. It does not generally measure differences in costs for different size districts, as

resources are generated for a prototype school and district. Updating is generally straightforward but a full update does require statewide educator engagement.

The **Professional Judgment** approach also identifies resources needed to meet state standards. The approach relies on educators to identify the resources needed for several representative schools and districts of different sizes, then provides figures for a base cost and adjustments for student characteristics and district characteristics. The approach provides similar resource detail as the evidence-based approach and provides more data points such as for different sizes of schools and districts and different levels of student need. Full implementation of the approach is a large-scale effort.

The **Successful Schools** approach examines the base spending of districts that are outperforming other districts. The approach uses readily available performance and expenditure data, examines actual expenditures of districts, and applies efficiency screens to the fiscal examination to produce a base cost. The approach provides is easy to implement on a frequent basis while allowing the state to look at different levels of performance which can include absolute performance or growth. It does not provide detailed resource information or adjustments for different student or district characteristics.

The **Cost Function** or statistical approach examines the relationship between spending, performance, and student/district demographics using high-level statistical analysis. The approach can examine the cost of different levels of student performance and provides a base cost and school/district characteristic adjustments. The approach requires the availability of detailed, school level data and complex analysis that takes time and resources. The approach allows the state to look at different levels of performance, including absolute performance or growth, and can be replicated across years. It does not provide detailed resource information.

As described earlier in this chapter, states often use more than one of these approaches to determine adequacy.

Other States with Routine Processes for Reviewing Adequacy

Few states, other than Arkansas, have set the components of the school finance system through an adequacy approach and have a routine process for regularly reviewing adequacy.

Maryland's original adequacy work was done in 2002 through the legislature. A per-student foundation amount was set using the successful schools approach, with weights based on the professional judgement approach. The state set a target of updating the cost study in 10 years but did not do so until a 2014 study using successful schools, professional judgment, and evidence-based approaches. The state has used an inflation factor to adjust the base across years with fixed weights.

Mississippi implemented the Mississippi Adequate Education Program (MAEP) in 1997. It relies on the successful schools approach to determine adequacy and identifies a base cost by regularly looking at costs in four expenditure categories - instructional, administrative, maintenance and operations, and

ancillary support - after applying efficiency screens to each. The base figure is updated every four years and adjusted by inflation in intervening years.

Wyoming has had a series of court decisions (starting in 1995) that required the legislature to: (1) determine and fund the cost of quality education; (2) review all cost-based factors every five years; and (3) make inflation adjustments at least every two years. The state implemented a cost-based resource allocation approach using an evidence-based model developed by POA. Required reviews primarily used the evidence-based approach. In 2018 a multi-approach study was conducted by APA using the professional judgment and successful schools approaches.

Conclusions

There are a number of matrix areas where the evidence regarding resource levels from various study sources is most consistent including:

- K–3 student ratios
- Non-core teacher staffing at the secondary level
- Secretary
- Library/ Media Specialist
- Assistant Principal
- Instructional materials
- Student mental health
- School safety and security

In the next chapter, the study team will make recommendations in these areas. The study team does not recommend adoption of a specific resource level, but instead recommends that the Committees reconsider these matrix items based on the convergence of the study's findings.

The study team also believes that the state meets its *Lake View* obligations by having "constant study, review, and adjustment" to the funding system, with constant study and review being addressed through the three adequacy studies conducted by an outside firm and the adequacy work of BLR. However, while there have been a number of adjustments made to the matrix since implementation, the main staffing parameters of the matrix have changed little over time. As such, the study team will offer a recommendation in the next chapter for a hybrid approach to reviewing adequacy that incorporates this existing review with a broader adequacy study using two or more adequacy approaches identified above.

12. Recommendations

This chapter provides a set of recommendations that reflect this study's body of work. The study team recognizes both that it is the legislature's role to determine adequacy and that the state does not have unlimited resources. Further, the study team has not been asked to establish adequacy levels. As such, the recommendations do not identify specific resource targets, although several are framed around resources levels, as related to the research that has been completed.

The recommendations are based on various analyses conducted by the study team including:

- Fiscal and performance data analysis using data from the Arkansas Department of Education (ADE) and the Bureau of Legislative Research (BLR)
- LEA survey of current resource use and practices
- Case studies
- Literature reviews
    - National research
    - Current practices and adequacy studies in other states
    - Previous Arkansas studies
- Stakeholder engagement
    - Educator panels
    - Stakeholder survey
- Additional quantitative and qualitative work

These recommendations were developed in areas where the body of evidence across all analyses identified the need for specific consideration of an item. For each recommendation, the study team identified the recommendation as well as the related context and supporting evidence.

The study team also identified several "best practice" consideration areas that did not meet the recommendation criteria described above but are important to note given their relevance to this work. These additional suggestions are often process or data related and could be addressed without significant changes to state systems. These best practice considerations are also included in the relevant chapters throughout the report.

Systems Recommendations

Recommendation 1: The state should consider adopting a hybrid approach to reviewing adequacy. In addition to the current two-year adequacy review cycle, a larger-scale study, utilizing multiple approaches to adequacy review, could be implemented at a regular interval set every six to 10 years with a focus on all aspects of funding, including (but not limited to) base resources, adjustments for student characteristics, and adjustments for district characteristics. Student characteristics include being low-income (using FRL as a proxy), an English Learner (EL), or in special education. District characteristics could include size or regional cost differences.

Several approaches could be implemented, and the study team suggests at least two approaches be used in conjunction with each other. The evidence-based approach can be used to examine the base cost and adjustments for student characteristics. The professional judgment and/or cost function approaches could be utilized to examine all aspects of the formula (base cost and adjustments for both student and district characteristics), and the successful schools approach could be utilized to examine the base cost amount.

The implementation of any of the approaches should be related to specific outcome goals for students. Various levels of student performance could be examined using either the cost function or successful schools approaches, allowing the Committees to understand the difference in resource needs for various outcome levels. The study team suggests that at least in the near term, a resource model, based on either the evidence-based or professional judgement approach, be kept in place, as the history for review has been based on the ability to examine an explicit resource base.

Context and supporting evidence: As discussed in Chapters 2 and 11, the state meets its *Lake View* obligations by having "constant study, review, and adjustment" to the funding system. Since the early 2000s, the state has implemented both constant study and review through three adequacy studies conducted by an outside firm and the adequacy work of BLR. The two-year cycle of studying all aspects of the matrix conducted by BLR allows the state to meet the Continuing Adequacy Evaluation Act of 2004. Though determining funding based on a specific resource allocation matrix does create some tension between the funding model and expectations for expenditures at the district level, it does provide a clear line of sight to the setting of adequacy by the legislature. Though there have been a number of adjustments made to the matrix since implementation, the main staffing parameters of the matrix have changed little over time.

The study team believes a larger scale, multi-mode review would benefit Arkansas by allowing the state to align resource allocation with performance and funding needs identified in this study related to both student and district characteristics in Chapters 4 and 8.

The detailed data analysis in Chapter 4 showed that student groups, such as low-income, EL, and special education, had lower outcomes than other students in the state. This was true when controlling for student and district characteristics, including student race and ethnicity, average teacher experience, average class size, millage rates, population density, and proximity to urbanized areas. Table 12.1 presents the proficiency rates of each student group versus the relevant comparison group, and the percentage point gap between them.

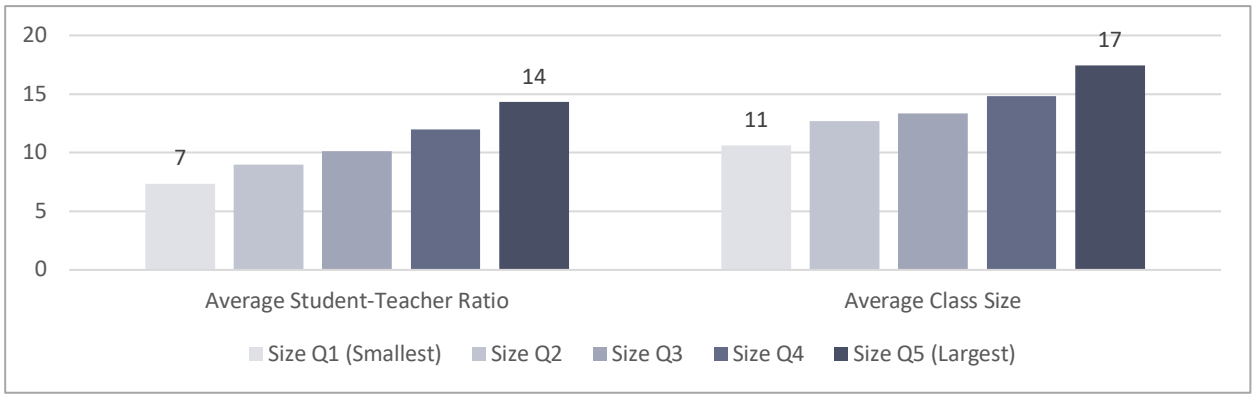
Table 12.1: Achievement Gaps by Student Group

Student Population	Proficiency Rate	Comparison Group Proficiency Rate	Gap
ELA			
Low-income Students	34.6%	63.1% (Non-Economically Disadvantaged Students)	28.5%
EL Students	13.8%	47.1% (Non-EL Students)	33.3%
Special Education Students	7.2%	49.8% (Non-SPED students)	42.6%
Under-Represented Minority (URM) Students	33.0%	55.4% (White & Asian Students)	22.4%
Math			
Low-income Students	38.2%	64.6% (Non-Economically Disadvantaged Students)	26.4%
EL Students	22.6%	49.6% (Non-EL Students)	27.0%
Special Education Students	12.2%	52.5% (Non-SPED students)	40.3%
URM Students	32.3%	54.3% (White & Asian Students)	22.0%

Stakeholder engagement and BLR data analysis also indicate that districts struggle to provide the resources needed for these student groups. Districts reported needing to use funds from other sources to cover the costs of special education and EL services. Often, Enhanced Student Achievement (ESA) dollars are utilized to cover the costs of both special education and EL services (and to address other areas that support all students), limiting the use of ESA resources for low-income students.

Further, districts reported that smaller districts often face difficulties resourcing schools at the current matrix level, often having to redirect resources to meet classroom staffing needs or to provide a minimum FTE level. The differences in economies of scale between larger and smaller districts is readily apparent when looking at average student-to-teacher ratios and average class sizes (note, these figures include all teachers in schools), as shown in Chart 12.1.

Chart 12.1: Average Student-to-Teacher Ratios by District Size Quintile



Differences in economies of scale for Arkansas districts are also seen in the total teaching FTEs in a school, and in other staff positions when expressed as FTE per 500 students (Table 12.2).

Table 12.2: Arkansas Personnel by District Size Quintile, Average FTE per 500 Students (2018/19 NCES)

Size Quintile	LEA Administrators	LEA Administrative Support Staff	School Administrators	School Administrative Support Staff	Full-Time Equivalent (FTE) Teachers	Total Guidance Counselors	Librarians/ Media Specialists
1 (smallest)	1.6	4.4	2.1	4.2	56.5	1.8	1.5
2	1.1	3.3	1.9	3.1	49.0	1.6	1.5
3	0.8	3.0	1.8	3.3	46.3	1.5	1.4
4	0.6	2.8	2.0	3.5	40.9	1.4	1.2
5 (largest)	0.3	2.5	1.9	2.9	35.4	1.3	0.9

As shown in Table 12.2, the size of the district has an impact on the number of personnel needed in the district and its schools. Many of the personnel categories show the need for more staff per 500 students in smaller districts. At the school level, teacher FTEs are nearly 60 percent higher in the smallest quintile districts compared to the largest quintile. While there are class size guidelines that drive the number of teachers needed, there are also minimums that must be met (such as having a 4th grade teacher even if a district only has 10 4th graders) that reduce average class sizes and increase the FTE needed.

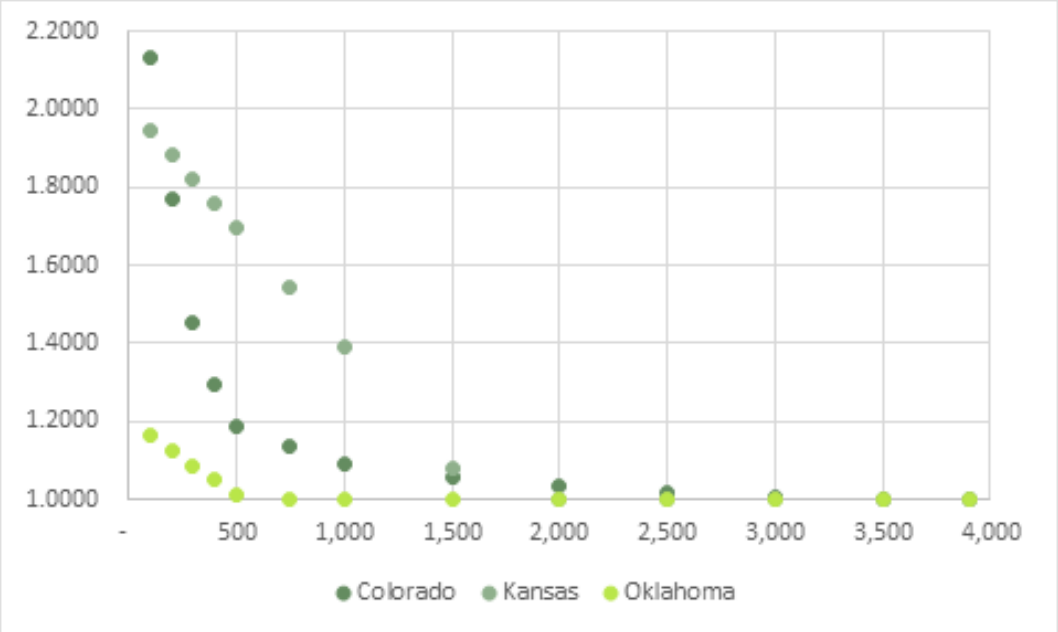
The staffing diseconomies of scale in smaller districts, which are often rural, can result in the inability to provide competitive wages to staff, impacting the ability of districts to attract and retain personnel, as seen in the salary differentials shown in Table 12.3 and discussed in Chapter 9.

Table 12.3: Average Salaries by District Size and Locale

By Size Quintile	Average Classroom Teachers Salaries
Size Q1 (smallest)	$42,227
Size Q2	$43,792
Size Q3	$44,650
Size Q4	$46,963
Size Q5 (largest)	$51,395
By Locale	
Rural	$44,992
Urban/Suburban	$52,149

The current matrix does not differentiate resources by district size, resulting in some districts being much more efficient than others and therefore better able to leverage their funding, while smaller districts lack this ability. An alternative approach, used by many states, would be to have an adjustment based on district size that provides higher levels of per-student funding to address the economies of scale issues in smaller district settings. This adjustment is not just for isolated settings but for all smaller districts. Chapter 8 models examples of size adjustments in other states, benchmarked to either 500 students as the base (lowest point) or 3,900 students. The example benchmarked against 3,900 students is shown below.

Chart 12.2: Examples of Size Adjustments with 3,900 Students as the Base



Adjustments like these examples are consistent with school finance research that indicates that per-student costs increase as size decreases, resulting in an observable "J-curve" relationship. The study would recommend that such an adjustment be reviewed as part of the larger study to ensure it in Arkansas specific.

Overall, a multi-approach study would address many of the areas highlighted in the study, including allowing the state to examine the costs for all students with an emphasis on special needs populations and differences in costs faced by districts due to size and locale.

Recommendation 2: Revisit current incentive structure to increase the number of highly qualified teachers serving students at high-need schools and small schools. Monitor and ensure teacher quality is equitable across schools.

Context and supporting evidence: As shown in Chapter 9, access to qualified educators varies across the state, including in districts with higher concentrations of low-income students and in smaller districts. An analysis of teacher workforce data indicates that teaching staff at schools serving larger low-income, and particularly more impoverished student populations, as defined by those that qualify for free lunch or that are identified through direct certification, are less qualified than teachers at more affluent schools. This presents a clear issue of equity and access to quality instruction. Table 12.4 below shows that as the percentage of students directly certified or who qualify for free lunch increases, the percentage of teachers: (1) with a master's degree, and (2) who are fully certified in the subject area they teach both decrease.

Table 12.4: Teacher Education and Certification by Need Decile

Deciles: % Free Lunch/Direct Certification	% of Teachers with a Master's Degree	% of Teachers Fully Certified for their Positions
1st (lowest)	45%	98%
2nd	41%	98%
3rd	37%	98%
4th	39%	97%
5th	35%	98%
6th	37%	96%
7th	40%	97%
8th	38%	97%
9th	37%	93%
10th (highest)	32%	91%

A similar difference in teacher education and certification is seen by school size, as shown in Table 12.5.

Table 12.5: Teacher Education and Certification by School Size Decile

Deciles: School Enrollment	% of Teachers with a Master's Degree	% of Teachers Fully Certified for their Positions
1st (smallest)	28%	89%
2nd	29%	91%
3rd	34%	94%
4th	36%	97%
5th	33%	98%
6th	36%	98%
7th	38%	97%
8th	41%	97%
9th	40%	96%
10th (largest)	44%	98%

At present, there is a moderate negative correlation between teacher salaries and school enrollment size, and the same is true for teacher salaries in a given school and that school's share of low-income students.

The state currently has programs that attempt to address some of the attraction and retention issues in smaller and higher needs districts including High-Priority District Teacher Recruitment and Retention program and aspects of the National Board for Professional Teaching standards programs. Ensuring that the incentives in these programs are driving the expected changes is important for addressing the disparities in teachers across settings.

Additionally, providing resources targeted to smaller and higher student need districts may allow districts to become more competitive in salary, attracting and/or retaining higher qualified staff members. The resources could also be used to improve working conditions, which has been shown to improve retention.

Recommendation 3: Develop a legislative task force to investigate and address the out-of-school factors that inhibit performance for high need students within the state.

Context and supporting evidence: As shown in Chapter 4, compared to schools with low concentrations of low-income students within the state, schools with the highest concentrations of low-income students are smaller and more remote, graduate fewer students, and have lower proficiency rates in English and math. In addition, they serve: (1) large percentages of at-risk students, and (2) significantly fewer white students, as compared to more affluent districts. It is also important to note that, based on 2019 data, students with the most needs also face the most challenges related to achievement gaps, as shown in Recommendation 1.

The differences in students' performance levels are not indicative of student abilities but rather suggest differences in instructional needs and required supports, as well as external factors, such as generational poverty and systemic issues like racism and classism. Much of the feedback that the study team heard suggested that low-income students come into schools with a variety of physical and emotional needs that must be addressed before their educational needs can be addressed. Given that many of these issues are not solely educational and likely represent a nexus of agencies and funding sources, the study team proposes that the legislature examine the ways educational disparities are systematically reinforced in the broader community.

This task force should be guided by the prevailing literature on the impacts of poverty and programs to address as outlined in Chapter 6, with a focus on the in- and out-of-school factors that can impact and/or inhibit student success. Specifically, the study team recommends convening a task force charged with developing legislative solutions to any issues that are identified, which might include: (1) access of low-income students to before- and after-school enrichment activities;[139] (2) availability of mental health services to students in high-need schools or those in remote locations;[140] (3) access to internet and technology in low-income communities;[141] and lastly, (4) availability of services offered to students' families, e.g., referrals, adult education, and health care services.[142] Taken together, these areas represent opportunities for the legislature to support the whole child, and to address the myriad factors that invariably impact student academic achievement.

The task force would be led by members of the Education Committees but also include other participants. This could include other legislators on relevant committees; teacher, administrative, and non-certified representatives; ADE staff; and stakeholders from organizations involved in providing wrap-around services for students and families.

[139] Hodges et al., 2017
[140] Swick & Powers, 2018
[141] Du et al., 2004; Slavin & Storey, 2020
[142] Starkey & Klein, 2000; Cosgrove et al., 2020

Career Readiness Definition

Recommendation 4: The state should adopt a career readiness definition that includes: (1) core academic knowledge and skills, (2) capabilities, (3) behavior skills and dispositions, and (4) postsecondary preparation and planning. The study team recommends that the definition be focused on career readiness for all students, as college is just one of several pathways to a career.

The study team recommends the following Career Readiness definition:

> *Upon high school graduation, Arkansas students should be prepared to take the next steps toward a career regardless of whether that is college (two- or four-year), a technical program, military service, or an entry-level career position.*
>
> *More specifically, an Arkansas student who is career ready will have:*
>
> - *Gained core academic knowledge in mathematics, science, and English language arts to enable them to successfully complete credit-bearing, first-year courses at a postsecondary institution.*
> - *Demonstrated capabilities such as communication, critical thinking, collaborative problem-solving, time management, and information and technology skills.*
> - *Developed behavioral skills and dispositions such as dependability, perseverance, working effectively with others, adapting, and managing stress.*
> - *Developed financial literacy.*
>
> *All Arkansas students should be guided in career exploration, planning, and decision-making throughout their K–12 education to enable them to successfully navigate their chosen career path. This includes knowledge of careers, industries, and postsecondary education and training opportunities, identification of individual interests and abilities, and development of a personalized postsecondary plan with the concrete steps that need to be taken to enter a specific career field after graduation. Further, students should have had opportunities to participate in advanced, concurrent enrollment, career and technical education (CTE) or other career-focused courses, internships, and apprenticeships to demonstrate that they are career ready.*

Adjustments to the funding matrix in upcoming recommendations 5b (non-core teacher allocation), 5f (student mental health to prioritize guidance in current counselor allocation), and 5g (instructional materials) would support school and district implementation of the Arkansas Career Readiness Definition.

Context and supporting evidence: Within the state's Comprehensive Testing Assessment Accountability Program statute, college and career readiness is defined in a limited manner and focused on students "successfully completing credit-bearing, first-year courses at a postsecondary institution; and embarking on a chosen career." This existing definition has been incorporated and expanded on in the recommended definition. An actionable definition like the one proposed that includes specific academic

knowledge, skills, and traits that students are expected to have in order to be college and career ready is well supported by national research and policy recommendations from organizations such as ACT and the federally funded College and Career Readiness and Success Center. Adopting this (or a similar) definition would also place Arkansas among the other roughly 15 states that include capabilities, behavior skills, and college and career preparation knowledge and skills in their definitions.

Educators and community members who participated in stakeholder engagement strongly supported a definition that included the above elements, with particularly strong support for the inclusion of "soft skills," like the noted capabilities and behavioral skills and dispositions and an increased focus on career readiness.

Funding Matrix Components

Recommendation 5: The Committees should reconsider current matrix resource levels in the areas where the body of evidence is most consistent.

The study team does not offer a specific recommendation for each area of the matrix but instead has included the matrix areas with the most consistent evidence regarding resource levels from various study sources. The study team does not recommend adoption of a specific resource level, but instead recommends that the Committees reconsider these matrix items based on the convergence of the study's findings as presented in Chapter 11.

> Recommendation 5a: The Committees should reconsider the current student-to-teacher funding ratios for students in kindergarten through third grade.
>
> *Context and supporting evidence:* The study team's examination of previous EB studies for the state, other national adequacy studies, stakeholder engagement feedback, and literature review findings all point to lower student-to-teacher funding ratios for kindergarten through third grade than currently provided for in the Arkansas matrix. The EB studies and other national adequacy studies suggest funding at a 15:1 ratio, while the study team's literature review identifies ratios of between 13 and 17:1.
>
> Though the data analysis did not provide evidence of improved performance at lower class size ratios, a number of factors must be considered when examining this finding. First, class size information used for the analysis was aggregated to the school level. Therefore, the study team was only able to analyze the effects of average class size on school-level outcomes. Optimally, an investigation of class-size effects would consist of a student-level analysis, with teachers and students randomly assigned into classrooms of different class sizes.[143] Secondly, differences in class size by core classrooms or grade level were not documented for analysis. Finally, the

[143] Hanushek, 1999

literature review suggests that until class sizes reach the levels indicated, below 17:1, impacts are not likely to be seen.

To better understand the impact of class size, the study team suggests that class-size data be collected by class type (e.g., core classes, pullout special education or EL classes, etc.) and grade level to support a more granular analysis.

Recommendation 5b: The Committees should reconsider the non-core staffing level for high schools.

Context and supporting evidence: The study team's examination of previous EB studies for the state, other adequacy studies, and stakeholder engagement shows evidence that more non-core staff are likely needed for high schools. The most recent EB study and national studies identify the need for 33 percent more staff above core teaching staff. Stakeholders expressed the need for a higher number of non-core teachers to provide for adequate planning time and to meet course offering needs, such as CTE and Advanced Placement. This ability to focus more on these types of career readiness courses would allow the matrix to be well aligned with the recommended career readiness definition that includes a focus on providing opportunities for students to take advanced course work and career-focused courses.

Recommendation 5c: The Committees should reconsider the secretary staffing level provided in the matrix.

Context and supporting evidence: The current funding of 1.0 secretary FTE is below recommendations and feedback from the EB studies for the state, other adequacy studies, and stakeholder engagement. The most recent EB studies and other adequacy studies all suggest resources of at least 2.0 secretary FTE. Stakeholders identified that at least two were needed to cover all the responsibilities of a school's front office, and similarly case study schools above 400 students generally had at least two secretarial staff members.

Recommendation 5d: The Committees should reconsider the library/media specialist staffing level funded in the matrix.

Context and supporting evidence: The current funding of .85 librarian/media specialist FTE is below recommendations and feedback from the EB studies for the state, other adequacy studies, and stakeholder engagement feedback. This level of funding is also below state rules/accreditation. The most recent EB studies and other adequacy studies all suggest resources of at least 1.0 library/media FTE. Stakeholders identified that the funding level is below what is required for a school of 500 students in the state's accreditation system.

Recommendation 5e: The Committees should consider identifying a separate line for assistant principal FTE in the matrix.

Context and supporting evidence: The current matrix does not separately provide resources for an assistant principal. Current Arkansas accreditation requirements state that "schools with an enrollment exceeding 500 students shall employ at least one full-time principal and a half-time assistant principal, instructional supervisor, or curriculum specialist." Past matrix review studies have identified the ability of districts to utilize part of funded instructional facilitator FTE to staff an assistant principal. Currently, districts have 1.78 instructional facilitators and 0.84 assistant principals per 500 students (a total of 2.64 FTE), while the matrix provides 2.5 FTE for instructional facilitators. Other adequacy studies all had at least one assistant principal for 500 students, with variation by grade level, and case study schools of similar size also had at least one assistant principal. Stakeholder feedback also suggested the need for an assistant principal (at least half-time) in a school of 500 students. The study team suggests separating out the resources for assistant principal from the instructional facilitator line item for greater transparency and to allow for consideration of the resources provided separately.

Recommendation 5f: The Committees should consider adding resources for mental health and school security/SROs to the matrix.

Context and supporting evidence: Two resource areas were most frequently mentioned during stakeholder engagement as being missing from the matrix: school safety/SROs and mental health resources. Though the matrix identifies resources for guidance counselors and nurses, stakeholders felt that growing student needs go beyond the expertise of guidance counselors and that specific student mental health resources need to be identified. Stakeholders also expressed that the reliance in many districts on outside/community agencies to provide specialized therapy beyond a school counselor's expertise can create barriers to access. Further, providing additional mental health resources would allow counselors to focus on guidance, including supporting students as they explore careers, develop postsecondary plans, and participate in internships or apprenticeships.

No resources are currently identified for school security/SROs in the matrix. Stakeholders identified this as an area that is being covered by other funding, including ESA funds. Community members in particular shared concerns in this area. There are growing concerns over security in schools and it is a high priority area for many districts without a direct source of funding.

These resources could also be funded separately as a categorical outside the matrix.

Recommendation 5g: The Committees should reconsider the funding for instructional materials in the matrix.

Context and supporting evidence: The Committees have increased funding for FY22 and FY23 to $192.60 and $197.40 per student, respectively. These figures still fall below the recommended funding from all three Arkansas EB studies and other adequacy studies, all of which recommend at least $250 per student. Districts currently spend $227 per student for instructional materials. Instructional materials allocations could also be used to address assessment needs, both for interim assessments to allow for data-driven instruction, or to meet any current or forthcoming needs, such as dyslexia screeners or measuring career readiness skills (for example: ACT WorkKeys).

Funding Outside of the Matrix

Recommendation 6: The state should smooth its ESA funding formula with a focus on providing higher resources per student at lower concentrations of students. Additionally, the formula should be created as a weight above the foundation amount, allowing ESA funding to rise at the same rate as foundation funding. All ESA funds should flow through this formula, including funding currently provided as a separate match grant.

Context and supporting evidence: This recommendation is intended to address three issues in the current approach to ESA funding: (1) funding cliffs, (2) the resource needs of students at lower concentration tiers, and (3) ESA funding historically increasing at a slower rate than foundation funding.

As the report mentioned in Chapter 5, Arkansas's current ESA funding formula provides funding based on three different funding tiers, which creates "cliffs" at each tier threshold. For example, a 1,000-student district with 69 percent of its students qualifying for free or reduced-price lunches (FRL) would currently receive $362,940 (1,000 x 0.69 x $526). If the districts added just one more FRL student, increasing funding would increase to $735,700 (1,000 x 0.70 x $1,051). A one percentage point change in concentration is effectively worth $372,760, more than the total amount of funding for the 690 students in the first example. These cliffs embed a high degree of uncertainty in funding and put undue pressure on districts to identify students close to the two cliff thresholds.

The data analysis in Chapter 4, indicates that a school's concentration of poverty, or the percentage of low-income students within a school, is not a statistically significant predictor of proficiency. In contrast, study findings indicated that an individual student being from a low-income background is in fact a strong and statistically significant predictor of academic performance. Compared to their wealthier peers, students who were low-income were more than seven percentage points less likely to achieve proficiency in math and English. These findings suggest it is more prudent to examine individual student economic status when analyzing student performance, as opposed to a focus on school-level poverty.

Further, foundation funding through the matrix has historically increased at a higher rate than ESA funding. As noted in Recommendation 1, feedback from districts and analysis of expenditures indicates that these funds are being used to support other student groups and provide resources for all students, further diluting the potential positive impact of funding for low-income students.

The study team suggests that a new ESA formula be implemented in light of the issues described above. First, the new ESA formula should focus on targeting a more similar level of resources for all eligible students to better align with the student performance research findings. The formula can then include a concentration of poverty adjustment that provides additional resources for districts with the highest concentration of low-income students, but the formula should be smooth, ensuring that there are no cliffs in the system. The study team also recommends that the new formula be a weighted adjustment linked to the matrix foundation amount (base). The creation of the adjustment can be based on a per-student amount but then expressed as a weight of the base. This will allow the ESA funding to rise over time in conjunction with changes to the foundation amount. The study team also recommends that all ESA funds be distributed through this formula mechanism instead of provided funding through two streams: the ESA funding categorical and an ESA grant match program.

Recommendation 7: The Committees should consider removing special education funding from the funding matrix and provide funding based on actual special education students served.

Context and supporting evidence: Special education is primarily funded through the 2.9 FTE per 500 students included in the funding matrix as discussed in Chapter 11. This is considered a census-based funding model and presumes that districts have similar percentages of special education students and that these students have similar levels of special education needs. However, as also noted in Chapter 11, most states (36) fund special education based upon actual student counts recognizing that the percentage of special education students can vary in districts. Table 12.6 shows how special education percentages and spending vary across LEAs in Arkansas.

Table 12.6: Percentage of Special Education Students and Spending Per Special Education Student

	2017/18	2018/19
Percentage of Special Education Students		
Min	2.66%	4.76%
Max	26.56%	33.90%
Mean	12.92%	13.61%
Standard Deviation	3.16%	3.25%
Spending per Special Education Student		
Min	$1,574	$1,364
Max	$18,669	$15,441
Mean	$5,032	$4,899
Standard Deviation[144]	$1,762	$1,513

[144] The standard deviation is a statistic that measures the dispersion of a dataset relative to its mean and is calculated as the square root of the variance.

In 2017/18, the minimum percentage of special education students in an LEA was just 2.66 percent and 4.76 percent in 2018/19. The maximum percentages were 26.56 and 33.90 percent, respectively. The average special education percentage was 12.92 percent in 2017/18 and 13.61 percent in 2018/19, with the majority of schools falling within three percentage points of the mean each year. Spending per special education student ranged from just under $1,600 to over $18,500 in 2017/18 and from just under $1,400 to just over $15,500 in 2018/19. Conversely, the average per-student spending for special education students was $5,032 in 2017/18 and $4,899 in 2018/19, with a standard deviation over $1,500 per special education student in each year.

Arkansas could use the results of the multi-approach adequacy update described in Recommendation 1 to first establish special education funding levels either through a single weight for all special education students or multiple weights based on student need. This weight(s) would then be applied to the special education student enrollment count and thus provide differentiated funding based on the distribution of students with special education needs across the state. In addition, a multi-weight system would also align resources to the levels of services students need in each district.

Arkansas School Finance Study Appendices

Contents

Appendix 1: Introduction

Current Resource Use and Practices LEA Survey

This survey is intended to supplement and provide context for available data currently collected by the state in the following areas:

1. School Enrollment Size, Class Size and Staffing Policies
2. Capital Needs
3. Use of Enhanced Student Achievement (ESA) Funds
4. Student Mental Health
5. Professional Development and Extra Duty Time
6. Educational Opportunities: Extended Learning Time, Career and Technical Education, Additional Opportunities
7. Services from Education Cooperatives

Please select your district or charter system from the drop-down list below:

[drop-down list with district names]

School Enrollment Size, Class Size and Staffing Policies

Has your district or charter system developed specific policies regarding the enrollment size of schools?

- Yes
- No

Has your district or charter system developed specific policies or guidelines regarding class sizes (teacher-to-student ratios) that differ from state requirements?

- Yes
- No

Does your district or charter system have staffing guidelines or caseloads for other staff positions (such as special education staff, instructional support or student support staff, administration or classified staff)?

- Yes
- No

Note the next set questions on the following page regarding school enrollment size policies, class size policies and guidelines, and staffing guidelines/caseloads will only be displayed if a respondent answered "yes" to the prior related questions.

What is your school district's or charter system's policy on school enrollment size for the following types of schools? *This list is not intended to be exhaustive of all possible grade configuration types in Arkansas.*

	Policy (Yes, No, N/A)	Minimum	Maximum	Optimal/ Ideal
Elementary School				
Middle/Junior High School				
High School				
7-12 School				
K-12 School				
K-8 School				

How does the public provide input on school enrollment size?

- ☐ The public does not provide input on school enrollment size decisions or policies
- ☐ Through testimony at public hearing, written or oral testimony
- ☐ Through survey(s)
- ☐ By participating on planning committee
- ☐ Other _____

When can the public provide input on school enrollment size?

- ☐ The public does not provide input on school enrollment size decisions or policies
- ☐ During the district's Master Planning process
- ☐ During school construction planning and decision making
- ☐ During construction contract approval
- ☐ Other _____

What are your school district's or charter system's policies or guidelines on class sizes (students per teacher) in different grades?

	Policy (Yes, No, N/A)	Minimum	Maximum	Optimal/ Ideal
Lower elementary grades (K-3)				
Upper elementary grades (4-5)				
Middle/junior high school grades				
High school grades				

How are these policies or guidelines set?

- State regulation
- School board policy
- Annual budget guidelines
- Facility Master Planning guidelines
- Collective bargaining agreements
- During secondary school scheduling process
- When making annual staffing and class assignment decisions
- Other _____

What are your school district's or charter system's staffing ratio (caseload) guidelines for the following positions?

	Set Guidelines? (Yes, No, N/A)	Maximum
Reading/ Math Specialists		
Special Education Teachers (Full day/ self-contained programs)		
Special Education Teachers (Partial day/ resource programs)		
Speech Therapists		
Occupational Therapists/ Physical Therapists		
Counselors		
Nurses		
Assistant Principals		
Classified/support staff		
Other instructional staff		

Is there anything (else) you would like to share about school size, class size and staffing policies in your district and how they are set?

[OPEN RESPONSE BOX]

Use of Enhanced Student Achievement (ESA) Funds

What do you think are the most effective uses of Enhanced Student Achievement (ESA) funding?

	Most Effective	Effective	Somewhat Effective	Not Effective	No opinion
Classroom teachers	○	○	○	○	○
Tutors	○	○	○	○	○
Teachers' aides	○	○	○	○	○
Counselors, social workers, or nurses	○	○	○	○	○
College and career coaches	○	○	○	○	○
Curriculum specialists, coaches and instructional facilitators	○	○	○	○	○
Before/after school academic programs	○	○	○	○	○
Pre-kindergarten programs	○	○	○	○	○
Summer programs	○	○	○	○	○
Early intervention programs	○	○	○	○	○
Parent education	○	○	○	○	○
Remediation programs	○	○	○	○	○
Professional development	○	○	○	○	○
Materials, supplies, and equipment	○	○	○	○	○
Teacher salary supplements	○	○	○	○	○
School improvement plan/ scholastic audit	○	○	○	○	○
Transfer to other categorical funds	○	○	○	○	○
Other allowable uses	○	○	○	○	○

Are there any specific resources, programs, or strategies that you think are the most effective use of these funds?

[OPEN RESPONSE BOX]

Capital Needs

Does your district or charter system have the capacity to meet your current capital needs?

	Yes, through existing funds	Yes, through the state's Partnership Program	Yes, through local bond measure (passed or planned)	Yes, through other sources	No	N/A
Annual required maintenance	☐	☐	☐	☐	☐	☐
Deferred maintenance	☐	☐	☐	☐	☐	☐
System replacement	☐	☐	☐	☐	☐	☐
Major renovations	☐	☐	☐	☐	☐	☐
New construction	☐	☐	☐	☐	☐	☐
Other	☐	☐	☐	☐	☐	☐

Is there anything else you would like to share about the capital needs of your district?

[OPEN RESPONSE BOX]

Student Mental Health

How does your district or charter system address student mental health needs?

	Low Need/ Tier 1 (All Students)	Moderate Need/ Tier 2	High Need/ Tier 3
One-on-one meetings with counselors			
Small group meetings with counselors (pull out)			
Counselor-led classroom sessions			
Addressed during advisement/mentoring periods			
Specific framework/ model _____			
Specific curriculum _____			
School group/team that review student needs and develop plans to address			
District- or system- employed therapist provides services on site			
Outside agency provides therapy on site			
Addressed during instructional classes			
Specialists through Education Cooperatives			
Assessment of individual student mental health needs			
Other _____			

On average, how often does a low need (Tier 1) student meet with a counselor:

	More than once a week	Once a week	Twice a month	Once a month	Once a quarter	Once a semester	Once a year
One-on-one							
In small groups (pull out)							
In the classroom							
Other _____							

On average, how often does a moderate need (Tier 2) student meet with a counselor:

	More than once a week	Once a week	Twice a month	Once a month	Once a quarter	Once a semester	Once a year
One-on-one							
In small groups (pull out)							
In the classroom							
Other _____							

On average, how often does a higher need (Tier 3) student meet with a counselor:

	More than once a week	Once a week	Twice a month	Once a month	Once a quarter	Once a semester	Once a year
One-on-one							
In small groups (pull out)							
In the classroom							
Other _____							

Anything else you would like to share about student mental health needs and supports in your district or charter system?

[OPEN RESPONSE BOX]

Professional Development and Extra Duty Time

On average, how many days in total do teachers in your district or charter system participate in professional development each year?

[drop-down list with options between 1 and 10+ days]

On average, what percentage of PD days are delivered in your district or charter system:

	Percentage of PD days
During the summer	
During planning/collaboration periods during the school day	
Though early release/late start days	
Through trainings or conferences during the school year	
Other	

On average, what percentage of PD days are used to address:

	Percentage of PD days
State/federal determined topics	
District or system determined topics	
School leader determined topics	
Teacher determined topics	
Other	

On average, what percentage of PD days are led by:

	Percentage of PD days
School administrators	
District or charter system staff	
Education Cooperative staff	
Department of Education staff	
Outside consultants	
Other teachers	
Other	

Does your district or charter system have a policy regarding the minimum time for planning and collaboration a teacher should have in a day?

O Yes
O No

On average, how many minutes do teachers in your district or charter system have for planning each day?

O Less than 30 minutes
O 30-44 minutes
O 45-59 mins
O 60-74 mins
O 75-89 mins
O 90 minutes or more

On average, how often do teachers in your district or charter system have a designated period of time for collaboration in a typical week?

O Daily
O 3-4 times a week
O 1-2 times a week
O Less than weekly

Does your district or charter system have a policy (or set of policies) regarding extra duty time (lunch, pick up/drop off, recess supervision, etc.)?

O Yes
O No

On average, in your district or charter system how often do teachers:

	Daily	3-4 times a week	1-2 times a week	Less than weekly	Never
Supervise pick up/drop off or bus lines	○	○	○	○	○
Supervise recess	○	○	○	○	○
Supervise lunch	○	○	○	○	○
Have a duty-free lunch	○	○	○	○	○
Have before or after school time or office hours where they are available to students	○	○	○	○	○
Supervise student activities outside of the school day (extracurriculars, events, etc.)	○	○	○	○	○
Receive additional compensation for extra duty during the day	○	○	○	○	○
Receive additional compensation for extra duty outside of the school day	○	○	○	○	○

Are there specific professional development topics or methods that have been most helpful or impactful in your district or charter system?

[OPEN RESPONSE BOX]

Educational Opportunities: Extended Learning Time

Prior to in-school learning ceasing due to the pandemic, how many schools in your district or charter system offered:

	All schools	Up to 75% of schools	Up to 50% of schools	Up to 25% of schools	No Schools
Before/after school- academic- focused					
Before/after school- enrichment- focused					
Summer school- academic- focused					
Summer school- enrichment					

Prior to in-school learning ceasing due to the pandemic, how many schools in your district or charter system provided transportation for:

	All schools	Up to 75% of schools	Up to 50% of schools	Up to 25% of schools	No Schools
Before/after school programs					
Summer school programs					

Educational Opportunities: Career and Technical Education

Are there any changes your district or charter system would like to make in the area of Career and Technical Education (CTE)?

- ▢ CTE is not offered in my district or charter system
- ▢ No changes needed in this area
- ▢ Offering additional courses in current industry areas
- ▢ Offering courses in other industry areas
- ▢ Increasing participation
- ▢ Increasing certifications
- ▢ Offering additional CTE courses at your district's school campuses
- ▢ Having additional CTE courses at secondary career centers
- ▢ Having additional CTE courses at postsecondary campuses
- ▢ Accessing additional CTE courses through remote instruction
- ▢ Providing CTE opportunities in earlier grades
- ▢ Other _____

What challenges, if any, does your district or charter system face in making these changes?

- ▢ No challenges in this area
- ▢ Finding staff certified to teach
- ▢ Having building capacity/ needed facilities
- ▢ Having specific equipment or materials
- ▢ Needing secondary center or postsecondary campus to offer additional courses and/or courses in other industry areas
- ▢ Needing additional funding
- ▢ Being able to provide transportation
- ▢ Having schedule limitations
- ▢ Other _____

Educational Opportunities: Additional Opportunities

Are there areas you would like to offer additional educational opportunities to your students (either expanding current opportunities or offering new opportunities)?

- ☐ Before/after school
- ☐ Summer school
- ☐ Advanced courses (such as AP/IB)
- ☐ Concurrent enrollment courses
- ☐ Foreign language courses
- ☐ Computer science courses
- ☐ Arts courses
- ☐ STEM courses
- ☐ Other electives
- ☐ Additional courses through remote instruction
- ☐ Other _____

What challenges, if any, does your district or charter system face to provide these additional opportunities?

	Having staff certified to teach	Having building capacity/ needed facilities	Needing additional funding	Needing specific technology, equipment or materials	Being able to provide transportation	Having schedule limitations	No challenges	Other
Before/after school	☐	☐	☐	☐	☐	☐	☐	☐
Summer school	☐	☐	☐	☐	☐	☐	☐	☐
Advanced courses (such as AP/IB)	☐	☐	☐	☐	☐	☐	☐	☐
Concurrent enrollment courses	☐	☐	☐	☐	☐	☐	☐	☐
Foreign language courses	☐	☐	☐	☐	☐	☐	☐	☐
Computer science courses	☐	☐	☐	☐	☐	☐	☐	☐
Arts courses	☐	☐	☐	☐	☐	☐	☐	☐
STEM courses	☐	☐	☐	☐	☐	☐	☐	☐
Other electives	☐	☐	☐	☐	☐	☐	☐	☐
Additional courses through remote instruction	☐	☐	☐	☐	☐	☐	☐	☐

If your district faces other challenges in offering additional education opportunities, please explain below:

[OPEN RESPONSE BOX]

Services from Education Cooperatives

Please indicate whether your district or charter system uses any of the following services offered by Education Cooperatives:

	Services Used to Meet Entire Need	Services Used to Partially Meet Need	Services Not Used
Academic Attainment			
Career and Technology Education			
Community Health Nurse			
Computer Science			
Digital Education			
Dyslexia Specialist			
Early Childhood			
Electronic Fingerprinting			
ESOL Specialist			
Gifted and Talented Specialist			
K-12 Behavior Support Service			
K-12 Special Education Services			
Literacy Specialist			
Math Specialist			
Mentoring Program			
Novice Teacher Program			
Preschool Special Services			
Print Shop			
Professional Development			
Science Specialist			
Science/STEM Specialist			
SLP Support Personnel Program			
Special Education			
Staff Development			
Technology			
The HUB/ALE			
Vision Specialist			
Other			
Other			

Case Study Protocol

Background and School Culture

1. Introductions: How long have you worked at this school? In your current role?
2. Can you tell me a little about the community in which your school is located? Who are your students? Their parents? Major industries or employers?
3. Since we cannot visit you yet in person, please tell us more about your school. Is it on a shared campus, in town, near other schools or post-secondary institutions, etc.?
    a. Has your school changed in recent years? Declining enrollment? Increased enrollment? Changes in demographic (SES, race/ethnicity, ELL)?
    b. What is student mobility and attendance like?
    c. What are average class sizes? Do these vary by grade?
4. How would you describe the culture at your school? What's it like to work here? What do you think it's like to be a student here?
5. How would you describe the leadership structure of the school?
6. What do you believe has been most important to your school's success with students? Any specific strategies, programs or resources?

Instruction and Interventions

1. How is the school day structured? How are students assigned to classes?
   Probe for flexible groups (groups that change based on student need) vs. static groups (groups that stay the same over long time periods).
2. What specific instructional strategies are in place for struggling students?
    a. What kinds of extra help do you have in your school? When is extra help provided, for how long, and by whom?
    b. Probes: Does the school provide an after school/extended day? Summer School?
    c. How are students who are struggling identified and monitored?
3. What specific instructional strategies are in place for ELL students?
   Probes: pull out/push in strategies, sheltered instruction, co-teaching
4. Are there specific student or school improvement goals that contributed to these achievement gains in the school? *OR:* Which school or improvement goals were most helpful in advancing student learning?
    a. How are these goals set (e.g., district, school administrators, or school personnel)?

Staffing and Professional Development

1. What is teacher turnover like in this school?
2. Do you share any staff positions with other schools?
3. How are <u>teachers organized for instruction</u>? How are teachers assigned to classrooms? In high school, to courses? *Probes: Are teachers assigned to their own classrooms or in collaborative teams? What kinds of collaborative teams are there? How are new teachers assigned and mentored?*

4. How is professional development delivered in your school? How are topics for PD determined? *Probes: is delivery school based? ongoing versus one shot; what kinds of follow-up is provided?*

Type	Time Allocated	Notes
Individual planning		
Collaborative Work with other teachers		
Pupil-free days for PD		

   a. What kinds of professional development topics have been particularly helpful for improving student learning? *Probes: professional development that focuses on instructional strategies; on extra help for ELL/struggling poverty kids; curriculum reforms; on using data; etc. Anything linked to their overall curriculum and instructional strategies and focused on ELL and poverty kids*
5. How is extra duty time handled (lunch, pick up/drop off, bus)? What staff members are responsible?

Student Support Services

1. What additional student support services do you offer students? *(Probes: counseling, social worker/therapist support, advising/mentoring, health services)*
   a. Are these resources paid for by the school, district, or community partnership?
   b. Any specific student mental health strategies or initiatives that you believe have been beneficial to students?

Assessments and Data Use

Elementary schools:

1. What assessment(s) do you use with students in grades K-2? *(Possibilities: ISIP, NWEA/MAP, Star, i-Ready)* How often do you assess these students?
2. In addition to using the ACT Aspire for grades 3 and up as your summative assessment, do you also use it as an interim assessment? How often is it administered?
   a. Do you use any additional interim or formative assessments in grades 3 and up?
3. How do staff use the data from these assessments? Do you have a data specialist or similar position?

Secondary schools:

1. In addition to using the ACT Aspire up to grade 10, do you also use it as an interim assessment? How often is it administered?
   a. Do you use any additional interim or formative assessments?
2. How do staff use the data from these assessments? Do you have a data specialist or similar position?

Additional Monetary and Non-Monetary Support

1. Does your school have access to additional grants, corporate contributions, or PTA support?

2. Do you have any community partnerships?
3. Does the school receive non-monetary support from the community, such as volunteer hours?
   a. Are volunteers mostly parents or others from the community?
4. Are their specific characteristics of the community that you believe impact the success of the school?

Wrap Up

1. What do you see as current or potential challenges to continued improvements in student achievement? *Beyond COVID, what challenges have you faced to continue performance*
2. Is there anything else you think is important for us to know in terms of understanding how your school achieves learning gains?

Educator Panel Questions

1. College and Career Readiness
    a. What does it mean to be college and career ready in Arkansas?
    b. What should be included in the state's definition of college and career readiness?
        i. *For example: academic core knowledge, coursework, performance outcomes, behavioral skills and/or capabilities?*
    c. Do you believe the state's curriculum and graduation requirements are well aligned with this definition? If not, what changes are needed to make them better aligned?
2. Staff Attraction and Retention
    a. Does your district or school face any challenges recruiting and retaining staff?
        i. Are there any staffing positions/areas that are particularly difficult to attract and retain qualified staff? (Teachers, administrative staff, nurses, etc.)
    b. What factors (positive or negative) impact your school or district's ability to attract and retain staff?
    c. What could the state do to support staff attraction and retention?
3. Addressing the Needs of Economically Disadvantaged Students
    a. On average, does a student being economically disadvantaged have an impact on the student's ability to be academically prepared and/or succeed? If so, in what ways does this manifest?
    b. What supports and services are the most effective in serving economically disadvantaged students? Does this vary based upon the concentration of poverty in the school?
4. Resources in the Funding Matrix
    a. Are there any resource areas that are not currently addressed in the resource matrix that should be?
    b. Are there any resource areas in the matrix that should be modified in some way (such as to decrease or increase the level of resource)?

Stakeholder Surveys
Parents, Students, Community Members and Business Leaders

I am a(n)....

- ☐ Educator (including all school and district/charter system staff and school board members)
- ☐ Parent
- ☐ Student
- ☐ Community Member
- ☐ Business Leader
- ☐ Other _____

Following this question the survey branched into two versions, one for educators and one for parents, students, community members, and business leaders (general public). The questions that follow are for the general public.

For parents:
What school district or charter system does your child(ren) attend?

▼ Academics Plus Public Charter Schools ... Other

For students:
What school district or charter system do you attend school in?

▼ Academics Plus Public Charter Schools ... Other

For community members and business leaders:
What county do you live in?

▼ Arkansas ... Yell

After the initial identifying questions, there was a page with the following language:

The study team understands the major impact that COVID is having on students, teachers, schools, and districts this year. However, this survey is part of a study to address ongoing education funding in Arkansas and will be used for legislative considerations in future years. As best you can, please share your responses to questions outside of any concerns that you have specifically related to COVID and the unique circumstances of education in the state this year.

The survey specifically will:

- Gather your opinion on the equity, responsiveness, transparency and flexibility of education funding system in the state.
- Provide an opportunity for you to share feedback on available education resources and funding.
- Ask for your input on what it means for Arkansas students to be college and career ready when they graduate and what elements should be included in a definition.

Thank you in advance for sharing your feedback.

Education Resources and Funding in Arkansas

Please indicate whether you believe the education funding system in Arkansas:

	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Unsure
Equitably distributes funding to school districts	○	○	○	○	○
Ensures similar education opportunities for all students	○	○	○	○	○
Responds to the different needs of students (such as low income, special education and English Learners)	○	○	○	○	○
Responds to the different needs of school districts (size, location, enrollment changes)	○	○	○	○	○
Responds to the different needs of charter systems	○	○	○	○	○
Allocates funding in a manner that is clear and understandable	○	○	○	○	○

Please indicate the degree to which you agree or disagree with the following statements:

	Strongly disagree	Disagree	Agree	Strongly agree	Unsure
Similar districts are funded fairly in relationship to one another.	○	○	○	○	○
Taxpayers are treated equally across the state.	○	○	○	○	○
Where a student lives does NOT determine the quality of their education.	○	○	○	○	○
It is easy to understand how funding is determined and allocated.	○	○	○	○	○
The current funding system is flexible enough to allow schools and districts to decide how resources should be used to serve students.	○	○	○	○	○
Schools spend resources efficiently.	○	○	○	○	○
Districts spend resources efficiently.	○	○	○	○	○

Outside of COVID-related issues for the current school year, what education resources and funding topics would you like to provide feedback on? *On the next page you will be able to share feedback on each topic area that you select below.*

- ☐ No feedback
- ☐ Capital needs (construction, maintenance, etc.)
- ☐ Class sizes
- ☐ Educational opportunities (advanced courses, career and technical education, extracurriculars)
- ☐ Educator salaries or experience
- ☐ Efficiency of funding/resource use
- ☐ Equity
- ☐ Funding (overall or for certain student groups, schools, or districts/charter systems)
- ☐ Instructional resources (teachers, instructional coaches, tutors/interventionists, etc.)
- ☐ School safety
- ☐ Student support resources (student mental health, counseling, nursing, etc.)
- ☐ Supports and services for specific student groups (special education, low-income students, English learners, gifted students, career and technical education students)
- ☐ Tax burden
- ☐ Other areas

Please share your feedback on each education resource and funding topic area you selected below: ***Note, only responses selected in prior question were displayed.***

	Please describe below:
Capital needs (construction, maintenance, etc.)	
Class sizes	
Educational opportunities (advanced courses, career and technical education, extracurriculars)	
Educator salaries or experience	
Efficiency of funding/resource use	
Equity	
Funding (overall or for certain student groups, schools, or districts/charter systems)	
Instructional resources (teachers, instructional coaches, tutors/interventionists, etc.)	
School safety	
Student support resources (student mental health, counseling, nursing, etc.)	
Supports and services for specific student groups (special education, low-income students, English learners, gifted students, career and technical education students)	
Tax burden	
Other	

College and Career Readiness

In your opinion, what does it mean for a student in Arkansas to be college and career ready when they graduate? [open response text box]

Please indicate whether you believe the following components should be included in how the state defines college and career readiness:

	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Unsure
Learning academic content knowledge	○	○	○	○	○
Participating in career exploration and planning	○	○	○	○	○
Developing behavioral skills such as dependability, perseverance, working effectively with others, adapting, and managing stress	○	○	○	○	○
Receiving college and career advisement	○	○	○	○	○
Meeting assessment benchmarks, such as those measured by the ACT	○	○	○	○	○
Participating in career and technical education (CTE)/ career-focused courses	○	○	○	○	○
Being prepared to enter a postsecondary institution without needing remediation	○	○	○	○	○
Learning capabilities such as critical thinking, collaborative problem solving, as well as information and technology skills	○	○	○	○	○
Developing financial literacy	○	○	○	○	○
Other [text box]	○	○	○	○	○

Any other comments or suggestions regarding college and career readiness in Arkansas? [open response text box]

Any other feedback you would like to share? [open response text box]

You have reached the end of the survey, please proceed to submit your responses. Note after doing so, you will not be able to re-enter the survey. Thank you!

Educators

I am a(n)....

- ☐ Educator (including all school and district/charter system staff and school board members)
- ☐ Parent
- ☐ Student
- ☐ Community Member
- ☐ Business Leader
- ☐ Other _____

Following this question the survey branched to two versions, one for educators and one for parents, students, community members, and business leaders (general public). The questions that follow are for educators.

What school district or charter system does you work for or serve on the board of?

▼ Academics Plus Public Charter Schools ... Other

What is your role?

- ○ Teacher or Instructional Staff Member
- ○ Student Support (Counselor, Psychologist, Social Worker, Nurse, Therapist, etc.)
- ○ School-level Administrator
- ○ Other School-level Staff Member
- ○ District-level or Charter System Administrator
- ○ Other _____

Following these introductory questions, there is a page with the following language:

The study team understands the major impact that COVID is having on students, teachers, schools, and districts this year. However, this survey is part of a study to address ongoing education funding in Arkansas and will be used for legislative considerations in future years. As best you can, please share your responses to questions outside of any concerns that you have specifically related to COVID and the unique circumstances of education in the state this year.

The survey specifically will address:

- College and career readiness
- Educator attraction and retention
- Your opinion on the equity, responsiveness, transparency and flexibility of the education funding system
- Any feedback that you would like to share about available education resources and funding
- Additional feedback on individual resource "matrix" areas (optional)

Thank you in advance for sharing your feedback.

College and Career Readiness

In your opinion, what does it mean for a student in Arkansas to be college and career ready when they graduate? [open response text box]

Please indicate whether you believe the following components should be included in how the state defines college and career readiness:

	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Unsure
Learning academic content knowledge	○	○	○	○	○
Participating in career exploration and planning	○	○	○	○	○
Developing behavioral skills such as dependability, perseverance, working effectively with others, adapting, and managing stress	○	○	○	○	○
Receiving college and career advisement	○	○	○	○	○
Meeting assessment benchmarks, such as those measured by the ACT	○	○	○	○	○
Participating in career and technical education (CTE)/ career-focused courses	○	○	○	○	○
Being prepared to enter a postsecondary institution without needing remediation	○	○	○	○	○
Learning capabilities such as critical thinking, collaborative problem solving, as well as information and technology skills	○	○	○	○	○
Developing financial literacy	○	○	○	○	○
Other [text box]	○	○	○	○	○

Any other comments or suggestions regarding college and career readiness in Arkansas? [open response text box]

Education Staff Attraction and Retention

In your opinion, to what degree do the following factors positively or negatively impact your district or charter system's ability to **attract** staff?

	Positively impact	Somewhat positively impact	Neither	Somewhat negatively impact	Negatively impact	Unsure/ no opinion
Starting salaries	○	○	○	○	○	○
Salaries in relationship to neighboring states	○	○	○	○	○	○
Potential for salary growth	○	○	○	○	○	○
Access to amenities	○	○	○	○	○	○
Working conditions (workload/ caseload/ class sizes)	○	○	○	○	○	○
Relationship/ proximity to teacher preparation programs	○	○	○	○	○	○
Available coaching/mentoring	○	○	○	○	○	○

In your opinion, to what degree do the following factors positively or negatively impact your district or charter system's ability to **retain** staff?

	Positively impact	Somewhat positively impact	Neither	Somewhat negatively impact	Negatively impact	Unsure/ no opinion
Salaries in relationship to neighboring states	○	○	○	○	○	○
Salaries in relationship to other professions/ industries	○	○	○	○	○	○
Potential for salary growth	○	○	○	○	○	○
Housing availability	○	○	○	○	○	○
Access to amenities	○	○	○	○	○	○
Working conditions (workload/ caseload/ class sizes)	○	○	○	○	○	○
Available coaching/mentoring	○	○	○	○	○	○
Available professional development	○	○	○	○	○	○
Support from administration/leadership	○	○	○	○	○	○

What other factors (positive and negative) do you believe impact your district or charter system's ability to attract and retain staff?

[open text response]

Are there any specific position areas that are difficult for your district or charter system to attract and retain staff?

- ○ Science teachers
- ○ Math teachers
- ○ CTE teachers
- ○ Special education teachers/staff
- ○ Instructional support staff
- ○ Nurses
- ○ Counselors
- ○ Other pupil support staff
- ○ Administrators
- ○ Other _____

Education Resources and Funding in Arkansas

Please indicate whether you believe the education funding system in Arkansas:

	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Unsure
Equitably distributes funding to school districts	○	○	○	○	○
Ensures similar education opportunities for all students	○	○	○	○	○
Responds to the different needs of students (such as low income, special education and English Learners)	○	○	○	○	○
Responds to the different needs of school districts (size, location, enrollment changes)	○	○	○	○	○
Responds to the different needs of charter systems	○	○	○	○	○
Allocates funding in a manner that is clear and understandable	○	○	○	○	○

Please indicate the degree to which you agree or disagree with the following statements:

	Strongly disagree	Disagree	Agree	Strongly agree	Unsure
Similar districts are funded fairly in relationship to one another.	○	○	○	○	○
Taxpayers are treated equally across the state.	○	○	○	○	○
Where a student lives does NOT determine the quality of their education.	○	○	○	○	○
It is easy to understand how funding is determined and allocated.	○	○	○	○	○
The current funding system is flexible enough to allow schools and districts to decide how resources should be used to serve students.	○	○	○	○	○
Schools spend resources efficiently.	○	○	○	○	○
Districts spend resources efficiently.	○	○	○	○	○

Outside of COVID-related issues for the current school year, what education resources and funding topics would you like to provide feedback on? *On the next page you will be able to share feedback on each topic area that you select below.*

- ☐ No feedback
- ☐ Capital needs (construction, maintenance, etc.)
- ☐ Class sizes
- ☐ Educational opportunities (advanced courses, career and technical education, extracurriculars)
- ☐ Educator salaries or experience
- ☐ Efficiency of funding/resource use
- ☐ Equity
- ☐ Funding (overall or for certain student groups, schools, or districts/charter systems)
- ☐ Instructional resources (teachers, instructional coaches, tutors/interventionists, etc.)
- ☐ School safety
- ☐ Student support resources (student mental health, counseling, nursing, etc.)
- ☐ Supports and services for specific student groups (special education, low-income students, English learners, gifted students, career and technical education students)
- ☐ Tax burden
- ☐ Other area

Please share your feedback on each education resource and funding topic area you selected below: *Note, only responses selected in prior question were displayed.*

	Please describe below:
Capital needs (construction, maintenance, etc.)	
Class sizes	
Educational opportunities (advanced courses, career and technical education, extracurriculars)	
Educator salaries or experience	
Efficiency of funding/resource use	
Equity	
Funding (overall or for certain student groups, schools, or districts/charter systems)	
Instructional resources (teachers, instructional coaches, tutors/interventionists, etc.)	
School safety	
Student support resources (student mental health, counseling, nursing, etc.)	
Supports and services for specific student groups (special education, low-income students, English learners, gifted students, career and technical education students)	
Tax burden	
Other	

The following two questions allowed respondents to choose if they would like to also provide specific feedback on each element of the matrix. If none of the choices are selected, no additional questions were asked.

Would you like to share any specific feedback on the following components of the state's funding matrix?

- ☐ Staffing: Classroom teachers (including class sizes by grade)
- ☐ Staffing: Pupil Support Staff (special education, instructional coaches, counselors, library media specialists, nurses, etc.)
- ☐ Staffing: Principal and Secretary
- ☐ School Level Salaries
- ☐ School Level Resources (technology, extra duty funds, instructional materials, supervisory aides, substitutes)
- ☐ District Level Resources (maintenance and operations, central office and transportation)

Would you like to share any specific feedback on additional funding provided outside of the matrix for:

- ☐ Low-income students
- ☐ English Learners
- ☐ Students in Alternative Learning Environments (ALE)
- ☐ High-cost special education students
- ☐ Professional development

If any options were selected, each relevant block of questions were displayed. Those optional question blocks are included on the following pages. All respondents saw the following three items at the end of the survey.

Are there any resource areas that are not currently addressed in the matrix that you believe should be? [open response text box]

Any other feedback to share? [open response text box]

You have reached the end of the survey, please proceed to submit your responses. Note after doing so, you will not be able to re-enter the survey. Thank you!

Optional Question Blocks

Classroom Staff

Please answer any questions that you would like to provide feedback on. Otherwise, leave blank.

Classroom staff are resourced in the matrix at the following levels. Do you believe the resource level is sufficient? If not, how do you believe it should be charged?

	Resource level in matrix is sufficient?				If you disagree, how do you believe it should be changed?		Specific change you would recommend?
	Strongly disagree	Disagree	Agree	Strongly Agree	Increase resource level	Decrease resource level	
Kindergarten teachers resourced at 20:1	○	○	○	○	○	○	
Teachers in grades 1-3 resourced at 23:1	○	○	○	○	○	○	
Teachers in grades 4-12: resourced at 25:1	○	○	○	○	○	○	
Non-core teachers resourced at 20% of classroom teachers	○	○	○	○	○	○	

Any other comments or suggestions regarding how classroom staff resources are provided in the matrix? [open response text box]

Pupil Support Staff

Please answer any questions that you would like to provide feedback on. Otherwise, leave blank.

	Resource level in matrix is sufficient?				If you disagree, how do you believe it should be changed?		Specific change you would recommend?
	Strongly disagree	Disagree	Agree	Strongly Agree	Increase resource level	Decrease resource level	
Special education staff resourced at 2.9 FTE (full-time equivalent positions) per prototype school of 500 students	○	○	○	○	○	○	
Library media specialist resourced at 0.85 FTE per prototype school of 500 students	○	○	○	○	○	○	
Instructional facilitators resourced at 1.0 FTE per 200 students	○	○	○	○	○	○	
Counselors and nurses (combined category) resourced at 1.0 FTE per 200 students	○	○	○	○	○	○	

Any other comments or suggestions regarding how pupil support staff resources are provided in the matrix? [open response text box]

Administration Staff

Please answer any questions that you would like to provide feedback on. Otherwise, leave blank.

	Resource level in matrix is sufficient?				If you disagree, how do you believe it should be changed?		Specific change you would recommend?
	Strongly disagree	Disagree	Agree	Strongly Agree	Increase resource level	Decrease resource level	
Principal resourced at 1.0 FTE per prototype school of 500 students	○	○	○	○	○	○	
Secretary resourced at 1.0 FTE per prototype school of 500 students	○	○	○	○	○	○	

Any other comments or suggestions, regarding how administration staff resources are provided in the matrix? [open response text box]

School-level Salaries and Benefits (FY21)

Please answer any questions that you would like to provide feedback on. Otherwise, leave blank.

	Resource level in matrix is sufficient?				If you disagree, how do you believe it should be changed?		Specific change you would recommend?
	Strongly disagree	Disagree	Agree	Strongly Agree	Increase resource level	Decrease resource level	
Classroom teacher salaries and benefits resourced at $68,470 per FTE	○	○	○	○	○	○	
Pupil support staff salaries and benefits resourced at $68,470 per FTE	○	○	○	○	○	○	
Principal salaries and benefits resourced at $99,012 per FTE	○	○	○	○	○	○	
Secretary salaries and benefits resourced at $40,031 per FTE	○	○	○	○	○	○	

Any other comments or suggestions regarding how school-level staff salaries and benefits are resourced in the matrix? [open response text box]

School-level Resources (FY21)

Please answer any questions that you would like to provide feedback on. Otherwise, leave blank.

	Resource level in matrix is sufficient?				If you disagree, how do you believe it should be changed?		Specific change you would recommend?
	Strongly disagree	Disagree	Agree	Strongly Agree	Increase resource level	Decrease resource level	
Technology resourced at $250 per student	○	○	○	○	○	○	
Instructional materials resourced at $187.90 per student	○	○	○	○	○	○	
Extra duty funds resourced at $66.20 per student	○	○	○	○	○	○	
Supervisory aides resourced at $50 per student	○	○	○	○	○	○	
Substitutes resourced at $71.80 per student	○	○	○	○	○	○	

Any other comments or suggestions regarding how school-level resources are provided in the matrix? [open response text box]

District-level Resources (FY21)

Please answer any questions that you would like to provide feedback on. Otherwise, leave blank.

	Resource level in matrix is sufficient?				If you disagree, how do you believe it should be changed?		Specific change you would recommend?
	Strongly disagree	Disagree	Agree	Strongly Agree	Increase resource level	Decrease resource level	
Operations and maintenance resourced at $705.70 per student	○	○	○	○	○	○	
Central office resourced at $438.80 per student	○	○	○	○	○	○	
Transportation resourced at $321.20 per student	○	○	○	○	○	○	

Any other comments or suggestions regarding how district-level resources are provided in the matrix? [open response text box]

Additional Funding for Student Groups

Please answer any questions that you would like to provide feedback on. Otherwise, leave blank.

	Resource level in matrix is sufficient?				If you disagree, how do you believe it should be changed?		Specific change you would recommend?
	Strongly disagree	Disagree	Agree	Strongly Agree	Increase resource level	Decrease resource level	
For students in a school with less than 70% of students qualifying as low income, funded at $526 per low-income student	○	○	○	○	○	○	
For students in a school with 70%-90% of students qualifying as low income, funded at $1,051 per low-income student	○	○	○	○	○	○	
For students in a school with over 90% of students qualifying as low income, funded at $1,576 per low-income student	○	○	○	○	○	○	
English Learners (EL) funded at $352 per EL student	○	○	○	○	○	○	
Alternative Learning Environments (ALE) funded at $4,700 per ALE student	○	○	○	○	○	○	
Funding for high-cost special education students through a catastrophic grant program	○	○	○	○	○	○	

Any other comments or suggestions regarding how additional categorical funding is provided for specific student groups outside of the matrix? [open response text box]

Additional Funding for Professional Development

Please answer any questions that you would like to provide feedback on. Otherwise, leave blank.

	Resource level in matrix is sufficient?				If you disagree, how do you believe it should be changed?		Specific change you would recommend?
	Strongly disagree	Disagree	Agree	Strongly Agree	Increase resource level	Decrease resource level	
Professional development funded at $40.80 student	○	○	○	○	○	○	

Any other comments or suggestions regarding how additional categorical funding is provided for professional development outside of the matrix? [open response text box]

Appendix 2: Background

Matrix Funding (FY04-FY21)

(see next page)

Updated August 30, 2019	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21
Matrix Calculations				Recalibrated													
School Size	500	500	**500**	**500**	**500**	**500**	**500**	**500**	**500**	**500**	**500**	**500**	**500**	**500**	**500**	**500**	**500**
K = 8% of students	40	40	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**
Grades 1-3 = 23% of students	115	115	**115**	**115**	**115**	**115**	**115**	**115**	**115**	**115**	**115**	**115**	**115**	**115**	**115**	**115**	**115**
Grades 4-12 = 69% of students	345	345	**345**	**345**	**345**	**345**	**345**	**345**	**345**	**345**	**345**	**345**	**345**	**345**	**345**	**345**	**345**
Staffing Ratios																	
K P:T ratio = 20:1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Grades 1-3 P:T ratio = 23:1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Grades 4-12 P:T ratio = 25:1	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
PAM = 20% of classroom	4.2	4.2	4.2	4.14	4.14	4.14	4.14	4.14	4.14	4.14	4.14	4.14	4.14	4.14	4.14	4.14	4.14
Total Classroom Teachers	25.0	25.0	25.0	24.94	24.94	24.94	24.94	24.94	24.94	24.94	24.94	24.94	24.94	24.94	24.94	24.94	24.94
Special Ed Teachers	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Instructional Facilitators	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Librarian / Media Specialist	0.7	0.7	0.7	0.825	0.825	0.825	0.825	0.825	0.825	0.825	0.825	0.85	0.85	0.85	0.85	0.85	0.85
Guidance Counselor & Nurse	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Total Pupil Support Personnel	8.6	8.6	8.6	8.725	8.725	8.725	8.725	8.725	8.725	8.725	8.725	8.75	8.75	8.75	8.75	8.75	8.75
Subtotal	33.6	33.6	33.6	33.665	33.665	33.665	33.665	33.665	33.665	33.665	33.665	33.69	33.69	33.69	33.69	33.69	33.69
Principal	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Secretary	0	0	0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
TOTAL School-Level Personnel	**34.6**	**34.6**	**34.6**	**35.665**	**35.665**	**35.665**	**35.665**	**35.665**	**35.665**	**35.665**	**35.665**	**35.69**	**35.69**	**35.69**	**35.69**	**35.69**	**35.69**
School-Level Salaries																	
Teacher Salary + Benefits	48,750	50,581	52,321	54,888	55,954	57,073	58,214	59,378	60,566	61,839	63,130	63,663	64,196	64,998	65,811	67,127	68,470
Per Student Matrix Expenditure	3,271.0	3,399.0	3,516	3,695.6	3,767.4	3,842.7	3,919.6	3,998.0	4,077.9	4,163.6	4,250.7	4,289.6	4,325.6	4,379.6	4,434.4	4,523.0	4,613.5
Principal Salary + Benefits	72,000	73,500	76,335	86,168	87,860	89,617	91,409	93,237	95,102	96,986	99,012	99,012	99,012	99,012	99,012	99,012	99,012
Per Student Matrix Expenditure	144.0	147.0	153.0	172.3	175.7	179.2	182.8	186.5	190.2	194.0	198.1	198.1	198.1	198.1	198.1	198.1	198.1
School-level secretary	0	0	0	34,751	35,415	36,123	36,845	37,582	38,334	39,213	40,031	40,031	40,031	40,451	40,855	40,855	40,855
Per Student Matrix Expenditure	0	0	0	69.5	70.8	72.3	73.7	75.2	76.7	78.5	80.1	80.1	80.1	80.9	81.7	81.7	81.7
School-Level Salaries Per Student	**3,415**	**3,551**	**3,669**	**3,937**	**4,014**	**4,094.2**	**4,176.1**	**4,259.7**	**4,344.8**	**4,436.1**	**4,528.9**	**4,567.8**	**4,603.8**	**4,658.6**	**4,714.2**	**4,802.8**	**4,893.3**
School-Level Resources																	
Technology	250	216	185	220	201	205	209.1	213.3	217.6	221.5	225.6	237.8	250.0	250.0	250.0	250.0	250.0
Instructional Materials	250	259	268	160	163.2	166.5	169.8	173.2	176.7	179.9	183.1	183.1	183.1	183.1	183.1	184.2	187.9
Extra Duty Funds	90	94	97	50.0	51.0	52.0	53.0	54.1	55.2	56.2	57.2	61.05	64.9	65.5	66.2	66.2	66.2
Supervisory Aides	35	36	37	49.35	50.35	51.4	52.5	53.6	54.7	55.7	56.7	50.0	50.0	50.0	50.0	50.0	50.0
Substitutes	63	57	59	59.0	59.0	60.2	61.4	62.7	64.0	65.2	66.3	67.7	69.0	70.4	71.8	71.8	71.8
Teacher Continuing Ed Pay (5 days)	101	93	96														
School-Level Resources Per Student	**789**	**755**	**742.0**	**538.4**	**524.6**	**535.1**	**545.8**	**556.9**	**568.2**	**578.5**	**588.9**	**599.65**	**617.0**	**619.0**	**621.1**	**622.2**	**625.9**
District-Level Resources																	
Operations & Maintenance			n/a	581	581	592.6	604.5	616.6	629.0	640.3	651.8	664.9	664.9	674.9	685.0	697.5	705.7
Central Office			n/a	376	383.5	391.2	399.0	407.0	415.1	422.6	430.2	430.2	438.8	438.8	438.8	438.8	438.8
Transportation			n/a	286	286	291.7	297.5	303.8	309.9	315.5	321.2	321.2	321.2	321.2	321.2	321.2	321.2
District-Level Resources Per Student	**1,152**	**1,180**	**1,206**	**1,243.0**	**1,250.5**	**1,275.5**	**1,301.0**	**1,327.4**	**1,354.0**	**1,378.4**	**1,403.2**	**1,416.3**	**1,424.9**	**1,434.9**	**1,445.0**	**1,457.5**	**1,465.7**
Foundation Per Pupil Expenditures	**5,356**	**5,486**	**5,620**	**5,719**	**5,789**	**5,905**	**6,023**	**6,144**	**6,267**	**6,393**	**6,521**	**6,584**	**6,646**	**6,713**	**6,781**	**6,883**	**6,985**
Adjustments (Cushion/Retirement)	44	42	42	0	0	0	0	0	0	0	0	0	0	0	0	16	33
Matrix Foundation Per Student	**5,400**	**5,528**	**5,662**	**5,719**	**5,789**	**5,905**	**6,023**	**6,144**	**6,267**	**6,393**	**6,521**	**6,584**	**6,646**	**6,713**	**6,781**	**6,899**	**7,018**
Increase per ADM	$	128	134	57	70	116	118	121	123	126	128	63	62	67	68	118	119
	%	2.37%	2.42%	1.0%	1.2%	2.0%	2.0%	2.01%	2.0%	2.0%	2.0%	0.97%	0.94%	1.01%	1.01%	1.74%	1.72%
Enhanced Funding Per Student				**51.0**	**87.0**	**35.0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total Foundation Funding	**5,400**	**5,528**	**5,662**	**5,770**	**5,876**	**5,940**	**6,023**	**6,144**	**6,267**	**6,393**	**6,521**	**6,584**	**6,646**	**6,713**	**6,781**	**6,899**	**7,018**
Categorical Rates	**FY05**	**FY06**	**FY07**	**FY08**	**FY09**	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**	**FY20**	**FY21**
ELL	$195	$195	$195	$293	$293	$293	$293	$299	$305	$311	$317	$324	$331	$338	$338	$345	$352
ALE	$3,250	$3,250	$3,250	$4,063	$4,063	$4,063	$4,063	$4,145	$4,228	$4,305	$4,383	$4,471	$4,560	$4,640	$4,640	$4,700	$4,700
NSL <70%	$480	$480	$480	$496	$496	$496	$496	$506	$517	$517	$517	$522	$526	$526	$526	$526	$526
NSL 70-<90%	$960	$960	$960	$992	$992	$992	$992	$1,012	$1,033	$1,033	$1,033	$1,042	$1,051	$1,051	$1,051	$1,051	$1,051
NSL 90+%	$1,440	$1,440	$1,440	$1,488	$1,488	$1,488	$1,488	$1,518	$1,549	$1,549	$1,549	$1,562	$1,576	$1,576	$1,576	$1,576	$1,576
PD	$50	$50	$50	$50	$50	$50	$50	$51	$52	$53	$32.4	$32.4	$32.4	$32.4	$32.4	$32.4	$40.8

The funding rates above do not include any supplemental funding the General Assembly provided in the areas of NSL, PD, and transportation.

Appendix 3: Analyses of the Uniform Rate of Tax and School Finance Equity

References

Berne, R. & Stiefel, L. (1984). *The Measurement of Equity in School Finance: Conceptual, Methodological, and Empirical Dimensions*. Baltimore, MD: Johns Hopkins University Press.

Bureau of Legislative Research (2017). *Equity of Revenues and Expenditures in Arkansas School Districts*. Little Rock, AR: Author.

Odden, A. R. & Picus, L. O. (2014). *School Finance: A Policy Perspective* (5th ed.). New York, NY: McGraw-Hill.

Appendix 4: Indicators Impacting Student Performance

Data Definitions and Key Terms

Table 4.A.1.1. *Data Inventory*

Disadvantaged Student Categories

• **EL Students**: Students who are deemed to have Limited English Proficiency.
• **Low-Income Students**: Students who receive free or reduced-price lunch; students that are directly certified.
  ○ **FRL**: A count or percentage of students who receive free or reduced-price lunch, either through an income application or through direct certification.
  ○ **Direct certification**: A count or percentage of students who are directly certified to receive free meals based on documentation of benefit receipt or categorical eligibility (e.g., Supplemental Nutrition Assistance Program (SNAP), Head Start, and Even Start).
• **SPED Students**: Students who receive special education services.
• **Students of Color**: American Indian, Black/African American, Hawaiian/Pacific Islander, Hispanic/Latinx, and multi-racial students

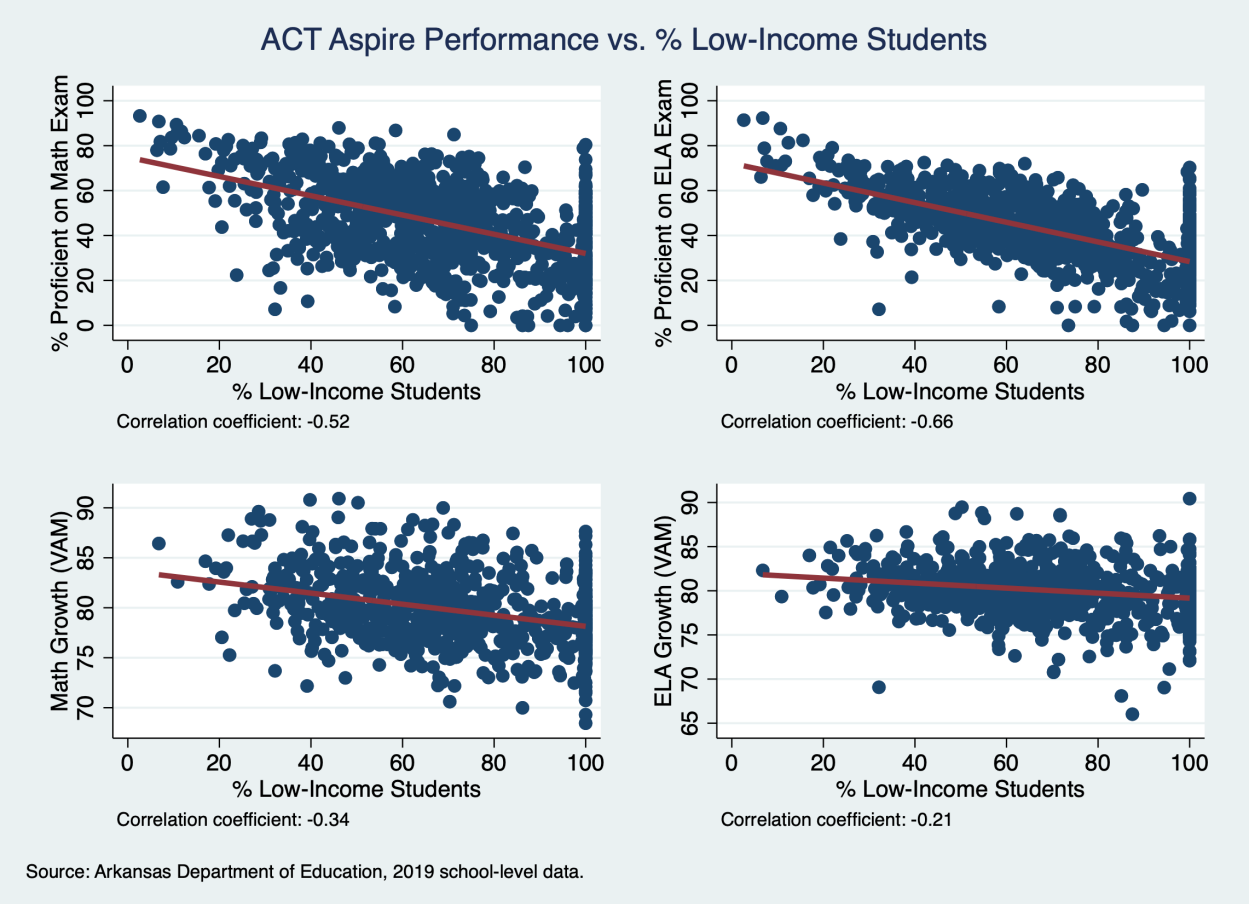
Assessment Data

• **ACT Aspire**
  ○ Scaled Scores: ACT Aspire reports test scores through a single scale that summarizes the achievement of students from multiple grades. These scores are vertically scaled to allow for apples-to-apples comparisons across districts, schools, and grade levels.
  ○ Proficiency Level: Corresponds to one of four levels of proficiency on an ACT Aspire exam. Proficiency levels of one and two are not considered proficient, while proficiency levels of three and four are considered proficient.
  ○ Growth: A Value-Added Measure (VAM) expressing whether a student exceeded, met, or did not meet expected expectations of academic growth, taking into account how the student had performed in prior years.

Expenditures and Revenues
• **Per-Pupil Expenditures:** School level instructional, support, operations, facilities, and "other" costs divided by school enrollment. District costs are also apportioned to be included in the numerator. • **Instructional Expenditures:** Expenditures that are associated with assisting the instructional staff in planning, developing, and evaluating the process of providing learning experiences for children. • **Total Mills:** The number of dollars taxed per $1,000 of property value. For example, if a district's total mills equal 50, a homeowner in that area is taxed 5000 dollars if their property is worth $100,000.
Class Size Measures
• **Student to teacher ratio:** The number of students per teacher at a school or district. • **Class size:** The average number of students per class at a school or district.
District-level Factors
• **Total Full-Time Equivalent staff (FTE):** Total number of staff working full-time at a given district. • **Locale:** Locale as determined by the Education Demographic and Geographic Estimates (EDGE) program at the National Center for Education Statistics (NCES). The program classifies a locale's size and proximity to urbanized areas, ranging from distant rural areas (sparsely populated and geographically isolated), to large cities (densely populated and within an urban area).
Year Span of the Data
• **Student-level demographic and assessment data:** 2015–16 to 2018–19 • **School-level demographic and assessment data:** 2015–16 to 2018–19 • **District-level financial data:** 2015–16 to 2017–18

Concentrations of Poverty

Figure 4.A.2.1: Correlations Between ACT Aspire Performance & Concentrations of Poverty



Performance and Funding

The box plots (below) represent the distribution of ACT Aspire test scores, by funding decile (or funding level). The deciles span from 1- 10 and represent successively higher levels of per-pupil funding. The middle bars within the blue boxes represent the median test score for students funded at that level. The shaded blue boxes represent the range at which 50% of all test scores lie. The whiskers, or lines above and below the shaded boxes, represent the bottom and top quartiles of tests scores. Lastly, the dots represent outliers, or student test scores outside of the range in which most test scores lie.

Figure 4.A.3.1: 2018 ACT Aspire, 3rd Grade Scaled Score Distribution by Spending Decile

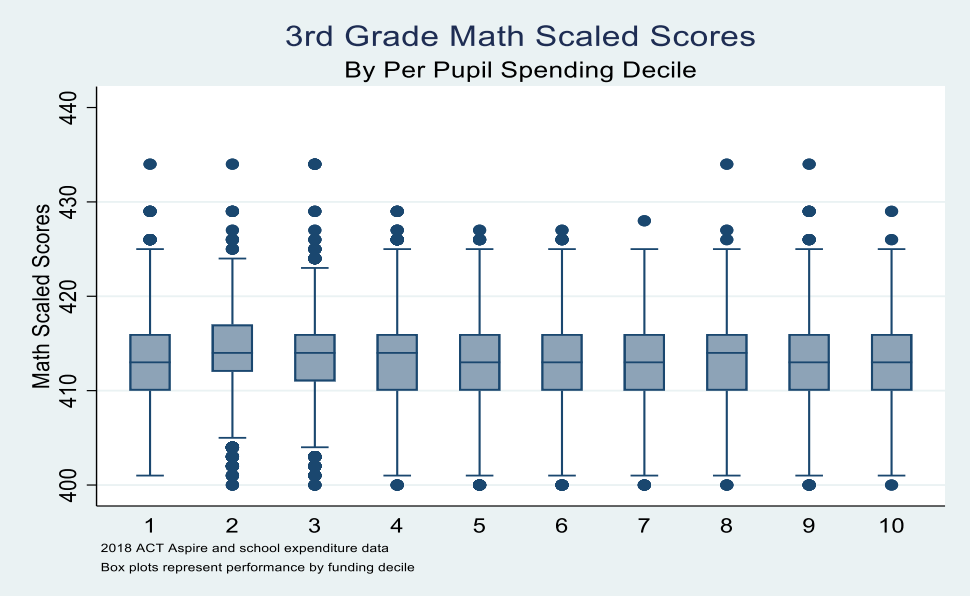


Figure 4.A.3.2: 2018 ACT Aspire, 3rd Grade ELA Scaled Scores

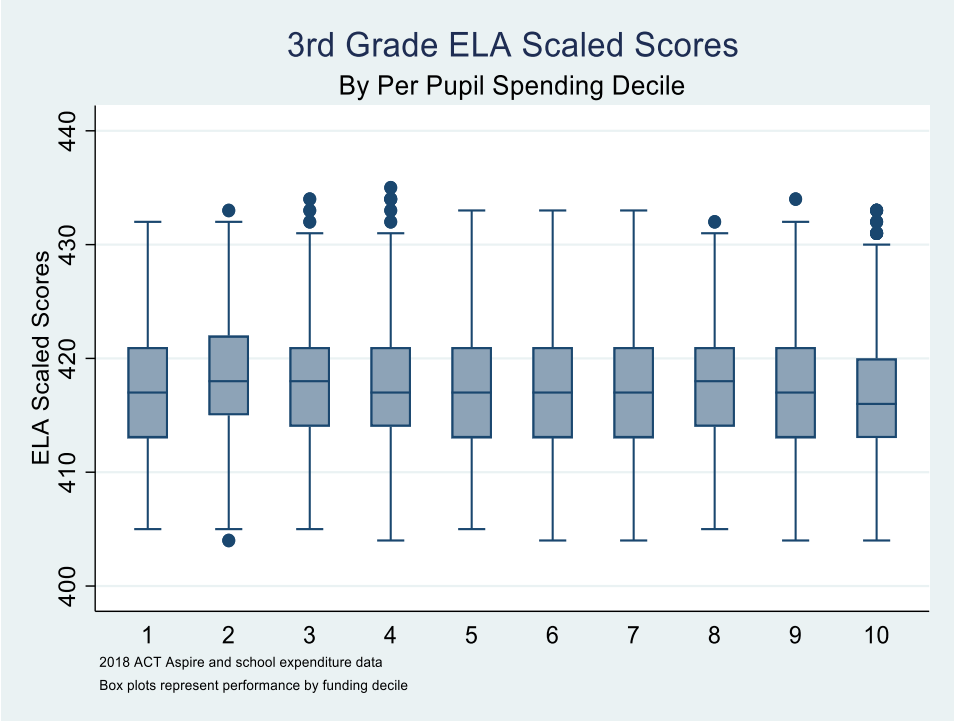


Figure 4.A.3.3: 2018 ACT Aspire, 8th Grade Math Performance by Spending Level

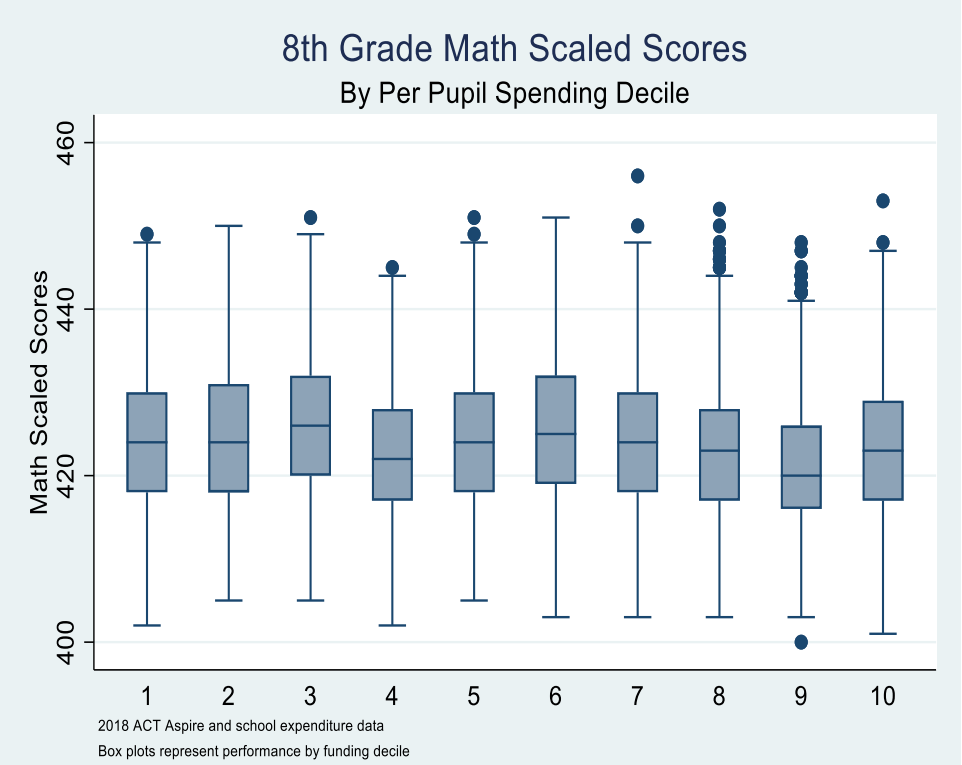


Figure 4.A.3.4: *2018 ACT Aspire, 8th Grade ELA Performance by Spending Level*

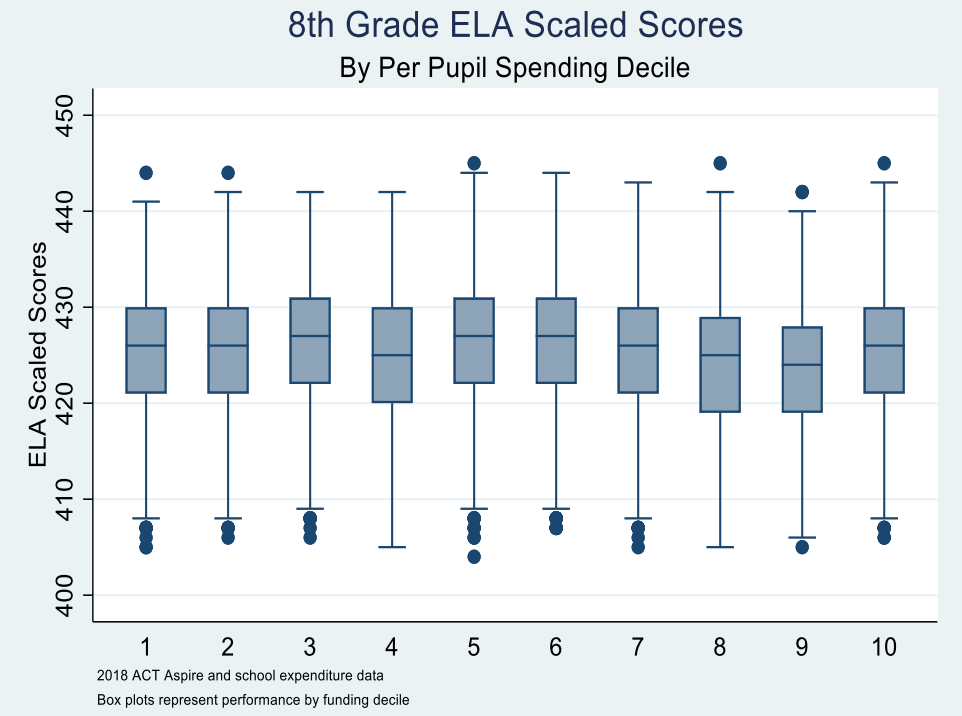


Figure 4.A.3.5: *2018 ACT Aspire, 10th Grade Math Scaled Scores*

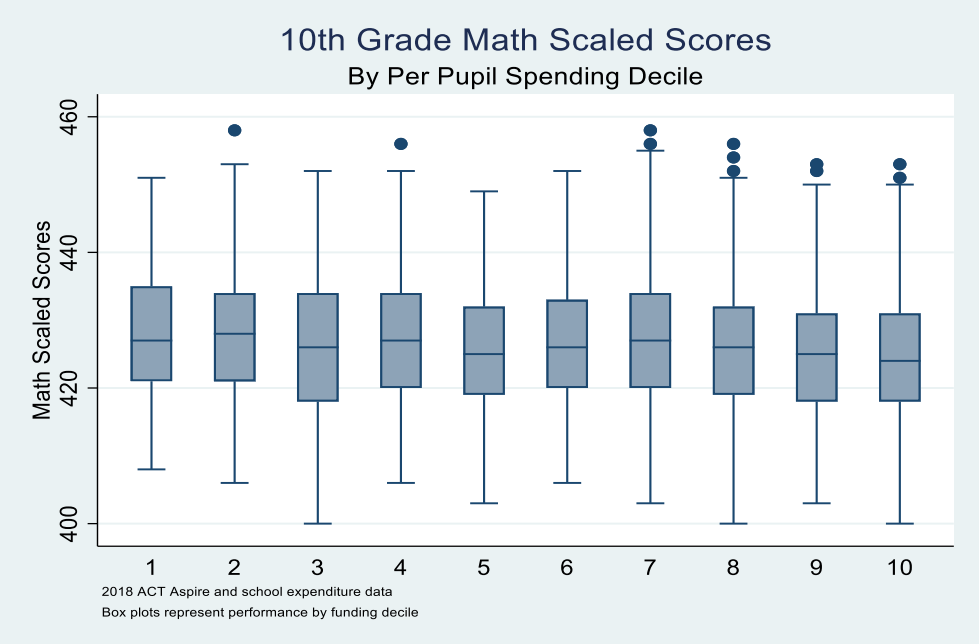
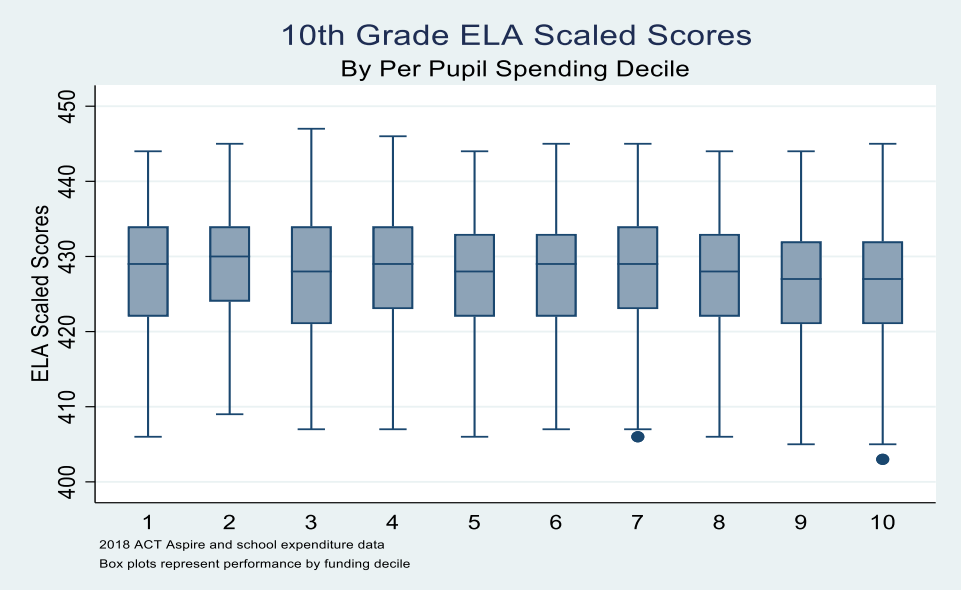


Figure 4.A.3.6: 2018 ACT Aspire, 10th Grade ELA Scaled Scores



Class Size

The two visualizations below display histograms (Distribution of Average Class Sizes) and scatterplots (4A 3.2). The histograms illustrate the mean and variance of class sizes by school type. The scatterplots are illustrations of the correlation between student demographics within schools, and average class sizes. The lines in the scatter plot show whether or not the correlation was negative or positive.

Figure 4.A.4.1: Arkansas Average Class Sizes

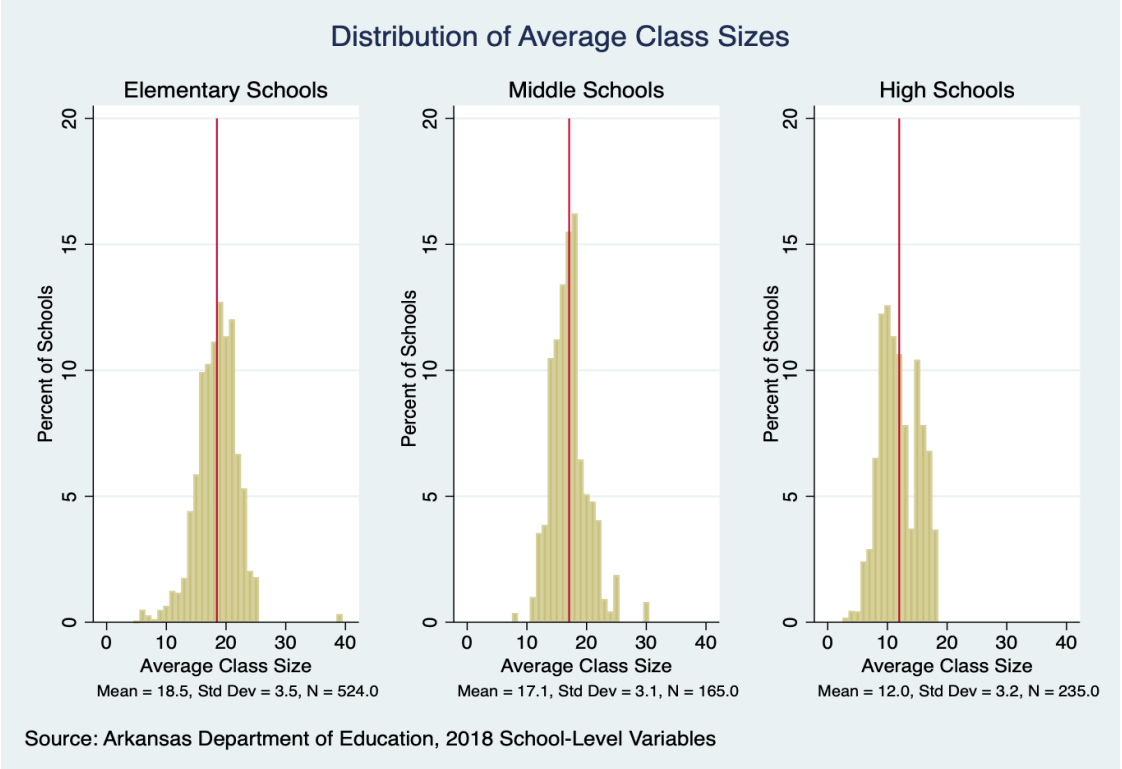
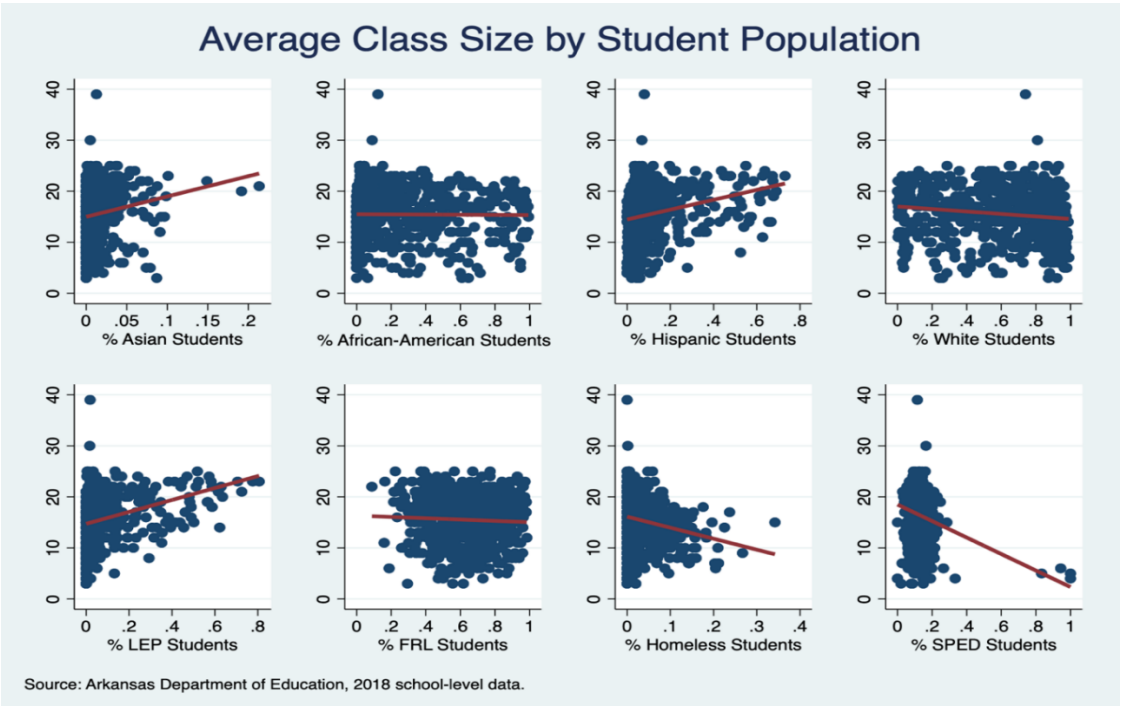


Figure 4.A.4.2: Arkansas Average Class Size by Student Population



Identification of Gaps and Programs to Address

Figure 4.A.5.1: 2019 ACT Aspire, 3rd Grade ELA Scaled Scores

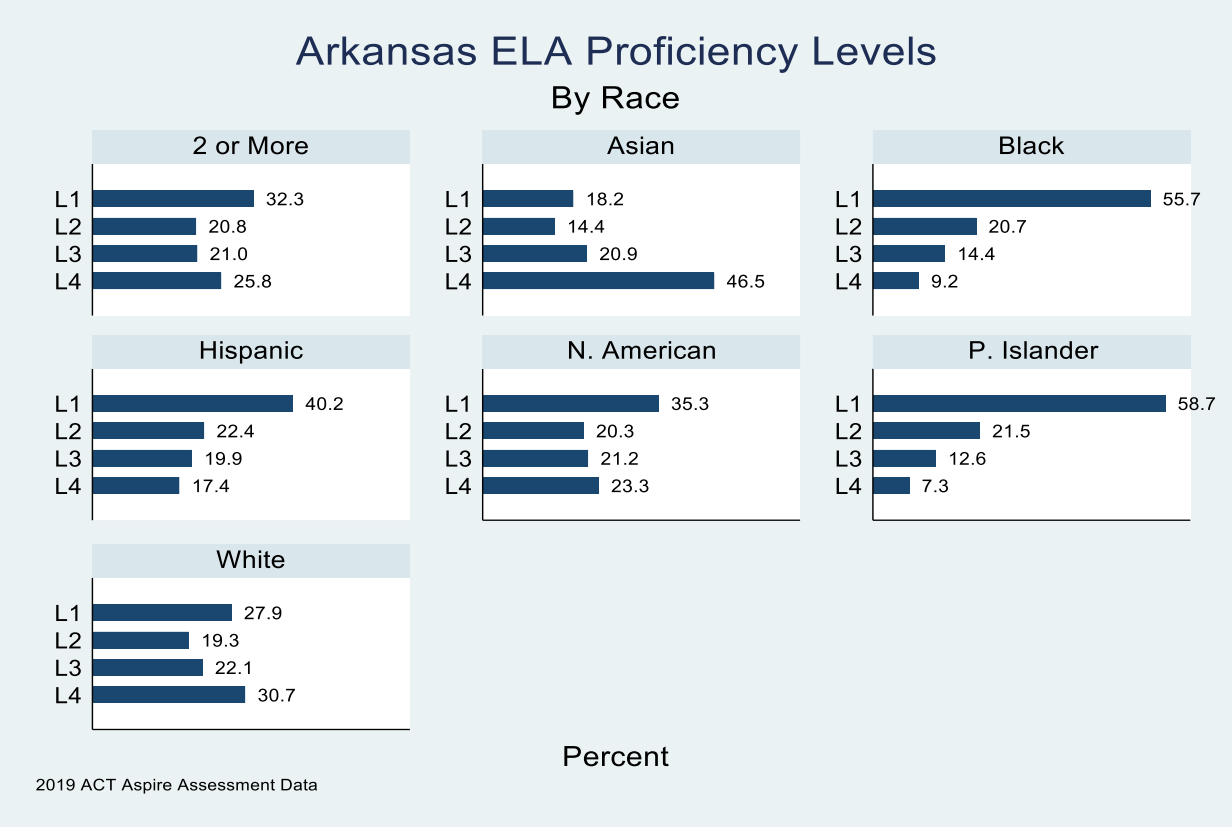


Figure 4.A.5.2: 2019 ACT Aspire, Math Proficiency Level by Race

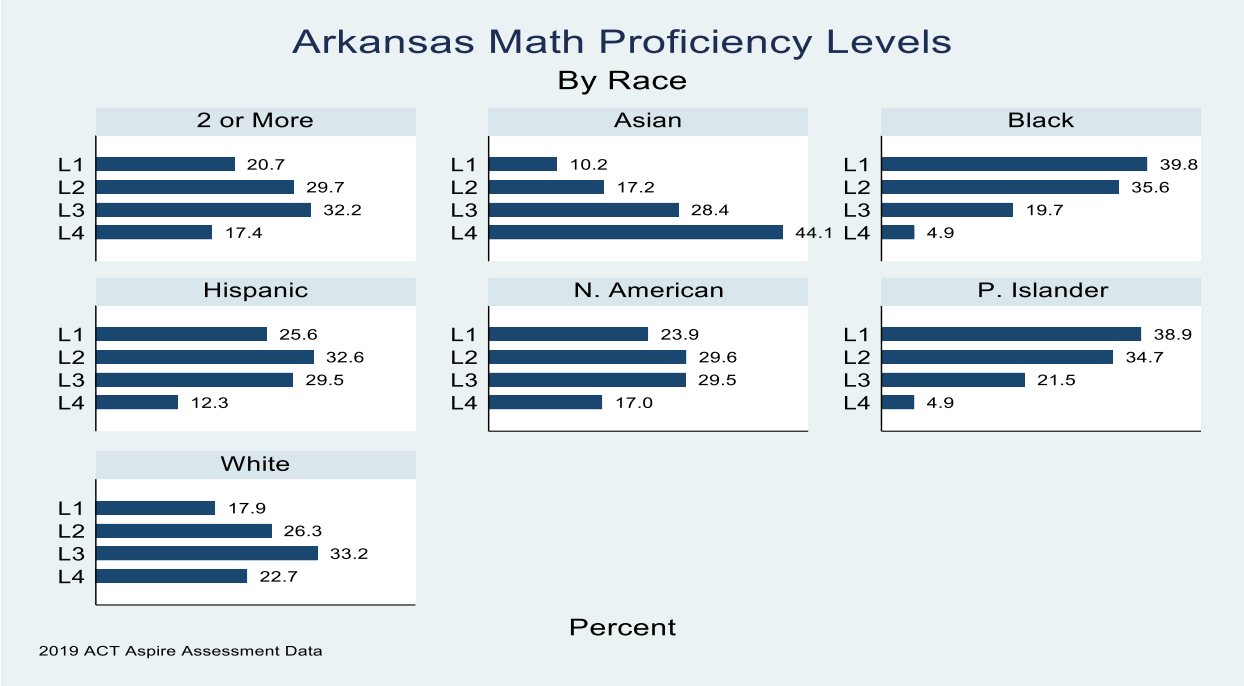


Figure 4.A.5.3 2019 ACT Aspire, Math Proficiency Level by Income

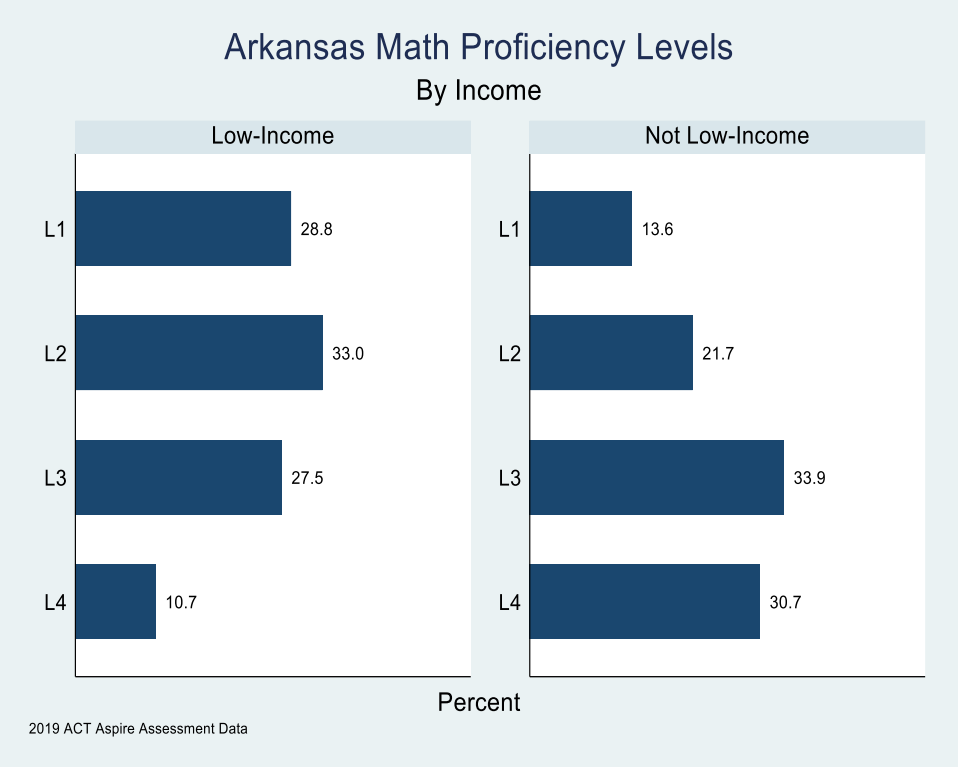


Figure 4.A.5.4: *2019 ACT Aspire, ELA Proficiency Level by Income*

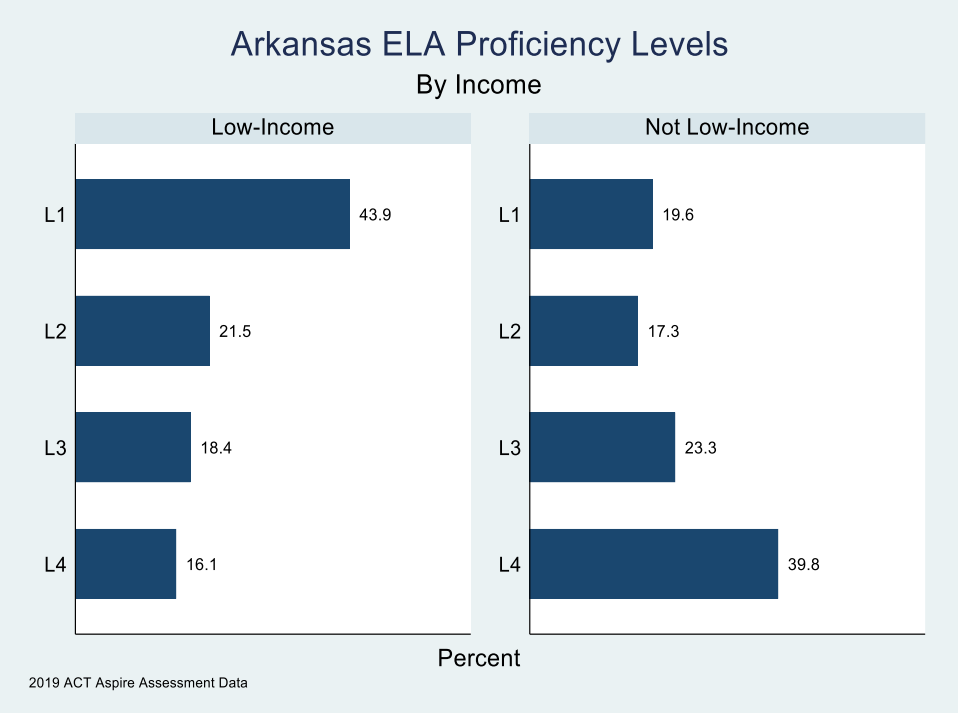


Figure 4.A.5.5: 2019 ACT Aspire, Math Proficiency Level by LEP[1]

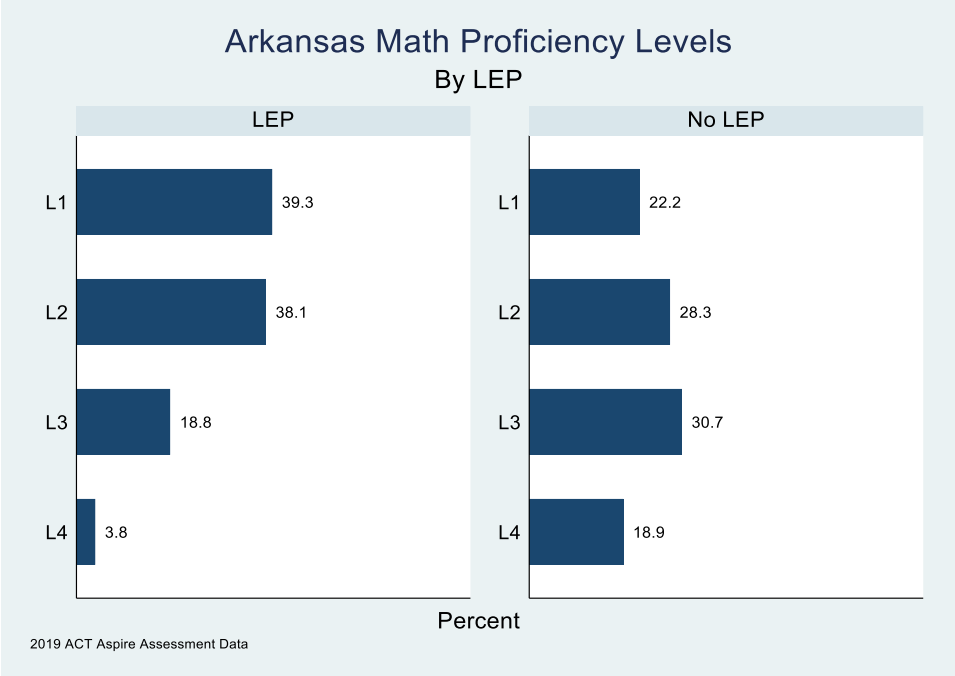
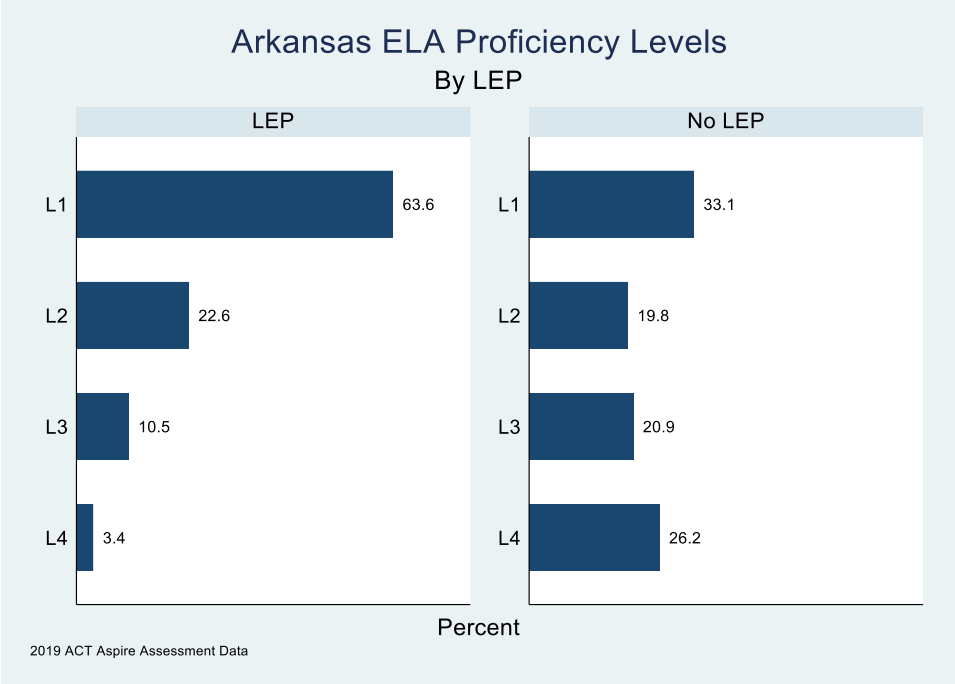


Figure 4.A.5.6: 2019 ACT Aspire, ELA Proficiency Level by LEP



[1] ADE provided data for limited English proficient (LEP) students. These students are English learners (EL) identified at the school or district level to receive additional language support services. See http://dese.ade.arkansas.gov/divisions/learning-services/english-learners.

Figure 4.A.5.7: 2019 ACT Aspire, Math Growth by % Students of Color

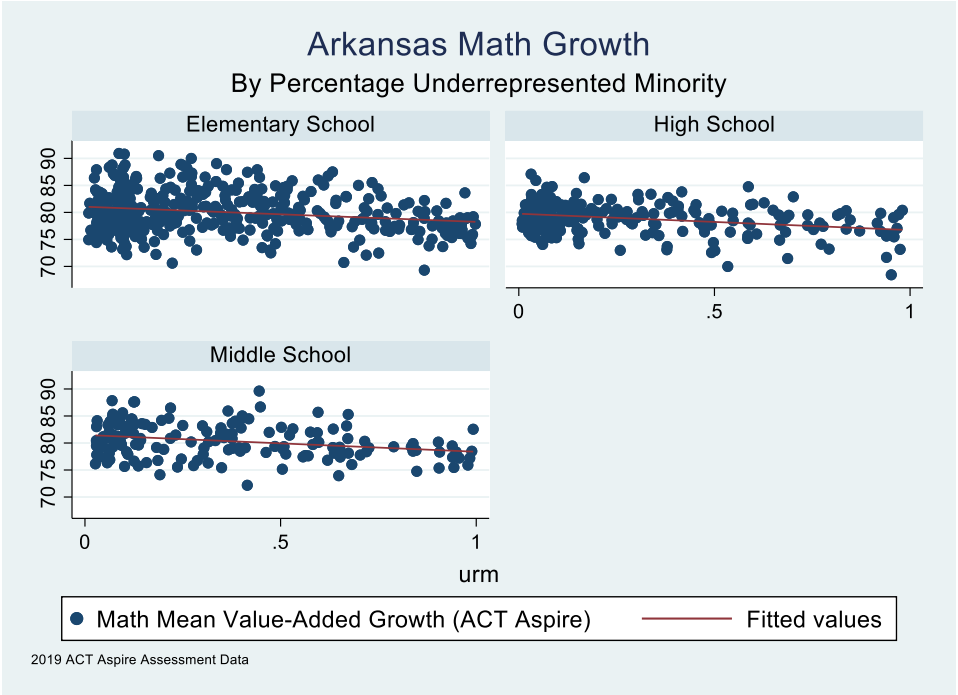


Figure 4.A.5.8: 2019 ACT Aspire, ELA Growth by % Students of Color

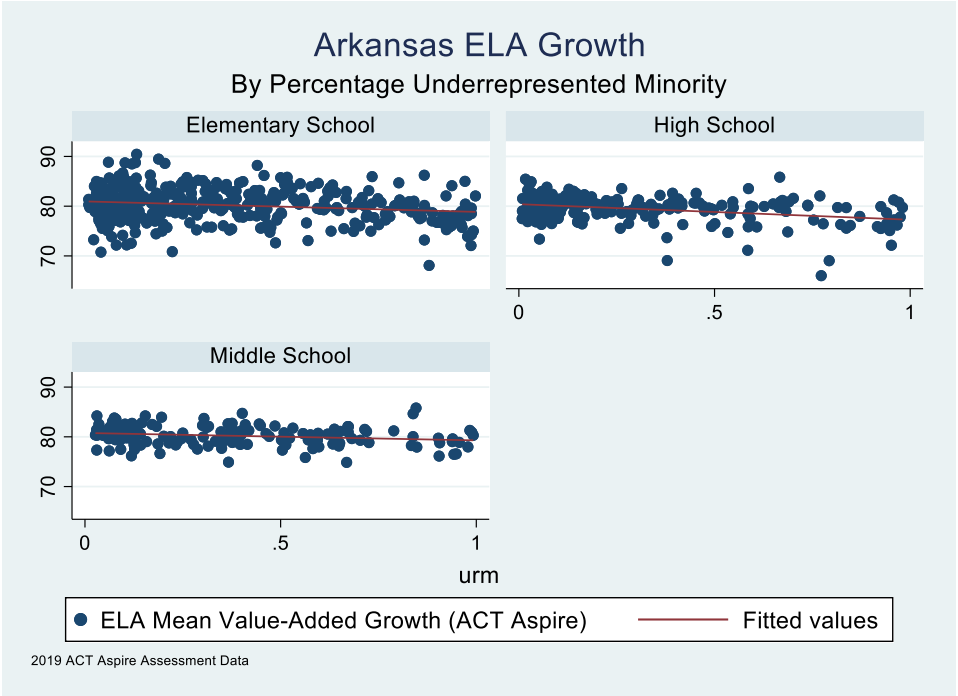
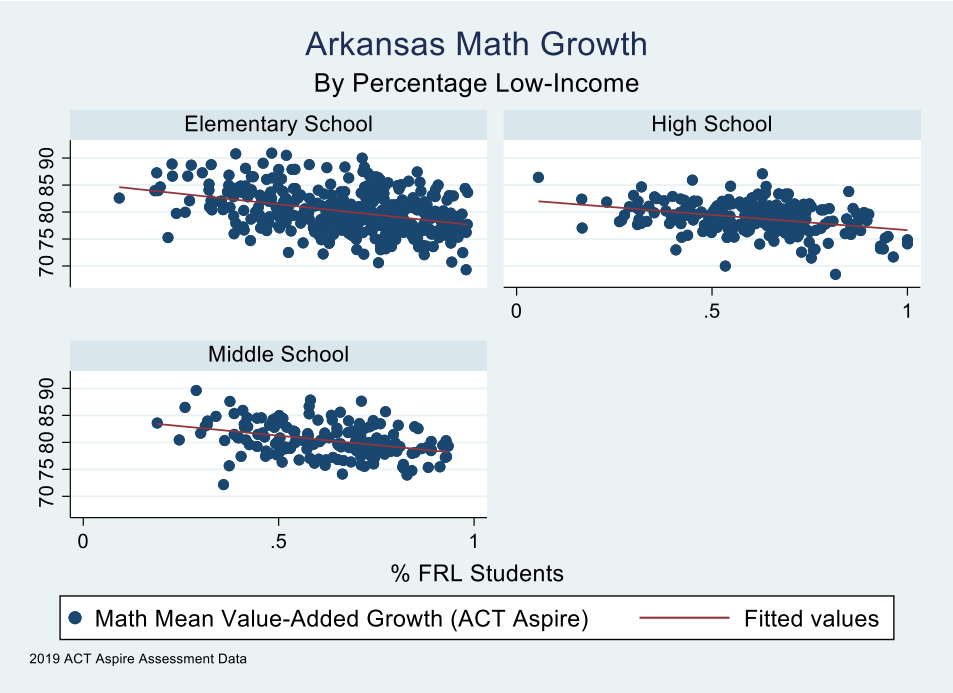
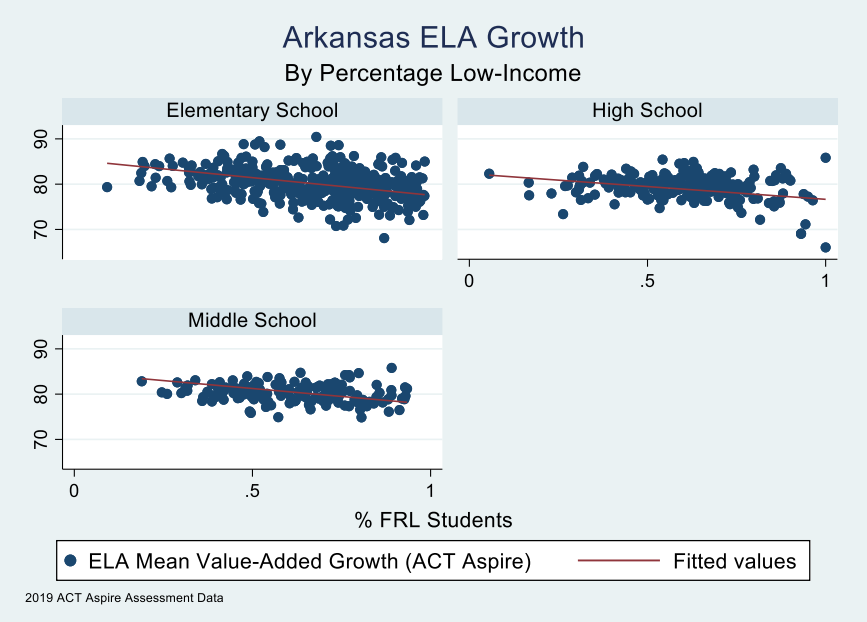


Figure 4.A.5.9: 2019 ACT Aspire, Math Growth by % Low-Income



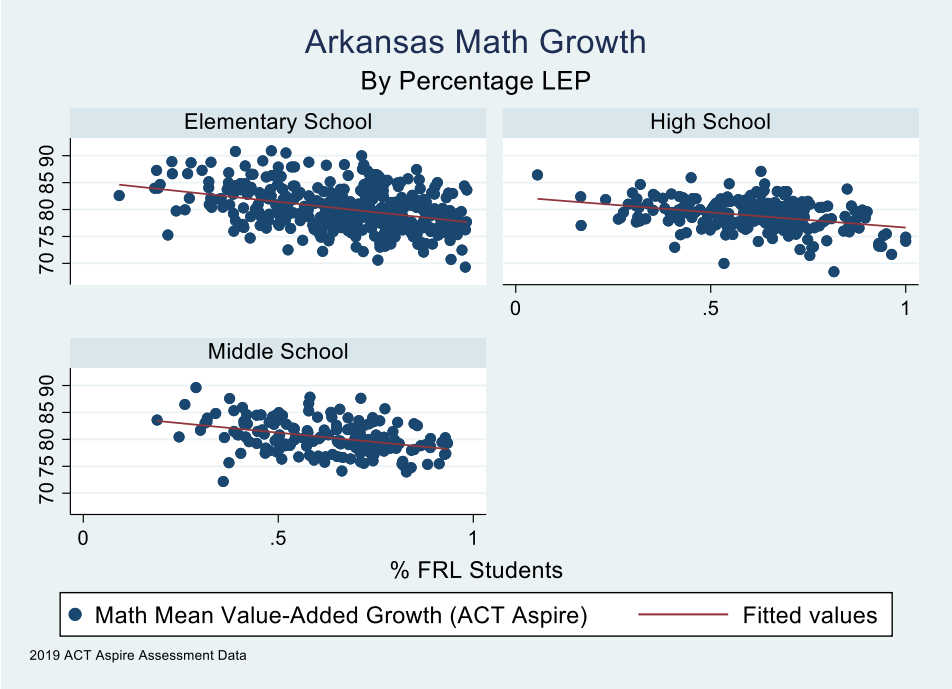
The correlation between % FRL and % proficient in math was-.3868. The correlation between % FRL and math mean VAM growth was -.2802. This demonstrates that proficiency has a higher correlation with income level than it does with math growth.

Figure 4.A.5.10: 2019 *ACT Aspire, ELA Growth by % Low-Income*



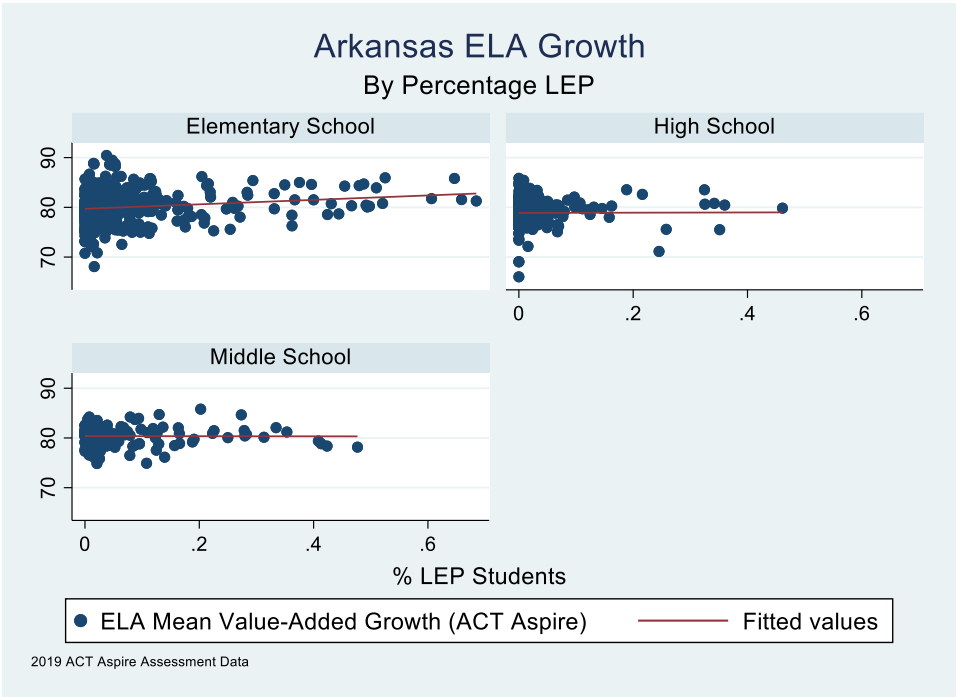
The correlation between % FRL and % proficient in ELA was -.6492. The correlation between % FRL and ELA mean VAM growth was -.197. This demonstrates that proficiency has a higher correlation with income level than it does with ELA growth.

Figure 4.A.5.11: 2019 *ACT Aspire, Math Growth by % LEP*



The correlation between % LEP and % proficient in math was -.0314. The correlation between % LEP and math mean VAM growth was .1994. This demonstrates that proficiency has a lower correlation with LEP than it does with math growth; and that math growth and % LEP have a positive correlation.

Figure 4.A.5.12: 2019 *ACT Aspire ELA Growth by % LEP*



The correlation between % LEP and % proficient in ELA was -.0893. The correlation between % LEP and ELA mean VAM growth was -.2226. This demonstrates that proficiency has a lower correlation with LEP than it does with ELA growth.

Figure 4.A.5.13: *2019 ACT Aspire, Math Growth by % Students with Disabilities*

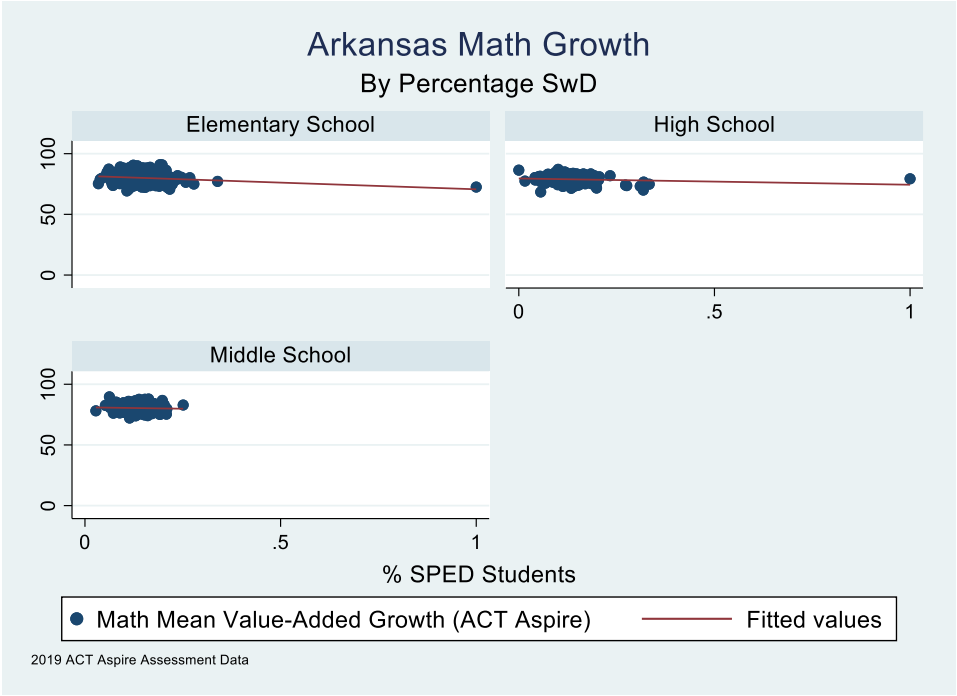
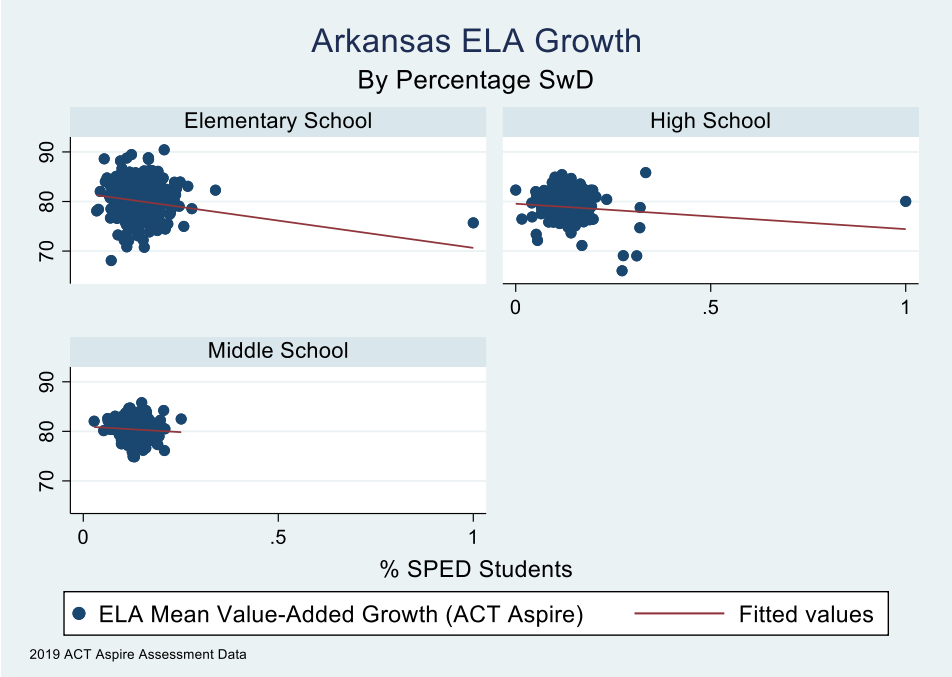


Figure 4.A.5.14: *2019 ACT Aspire ELA Growth by % Students with Disabilities*



The correlation between % SPED and % proficient in ELA was -.1847. The correlation between % SPED and ELA mean VAM growth was -.0833. This demonstrates that proficiency has a higher correlation with % SPED than it does with ELA growth.

Figure 4.A.5.15: *2019 ACT Aspire, ELA Proficiency Level by Students with Disabilities*

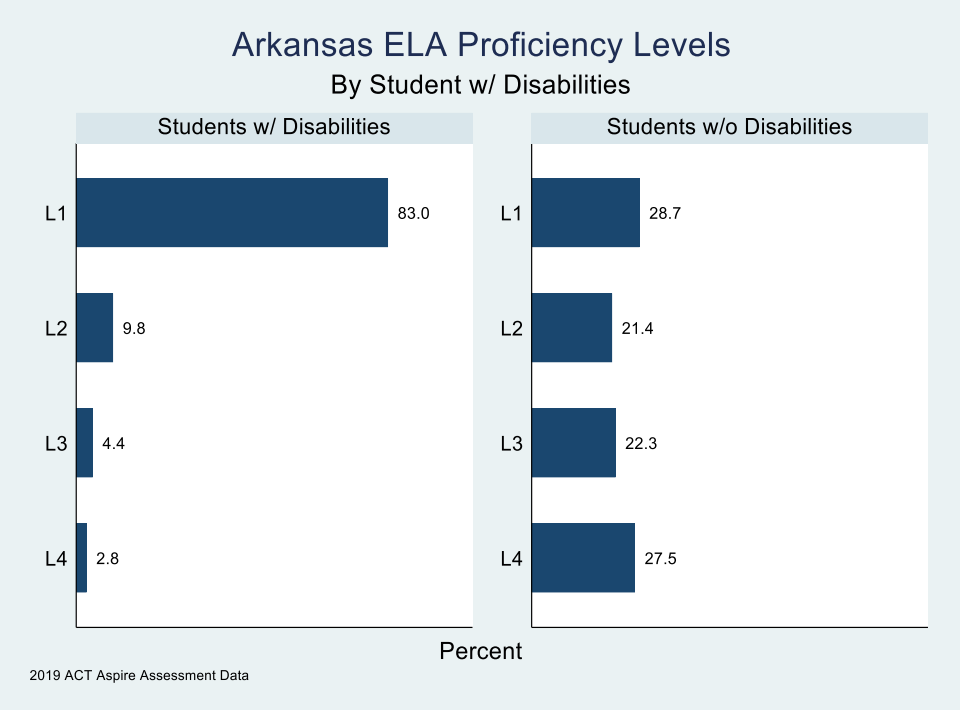
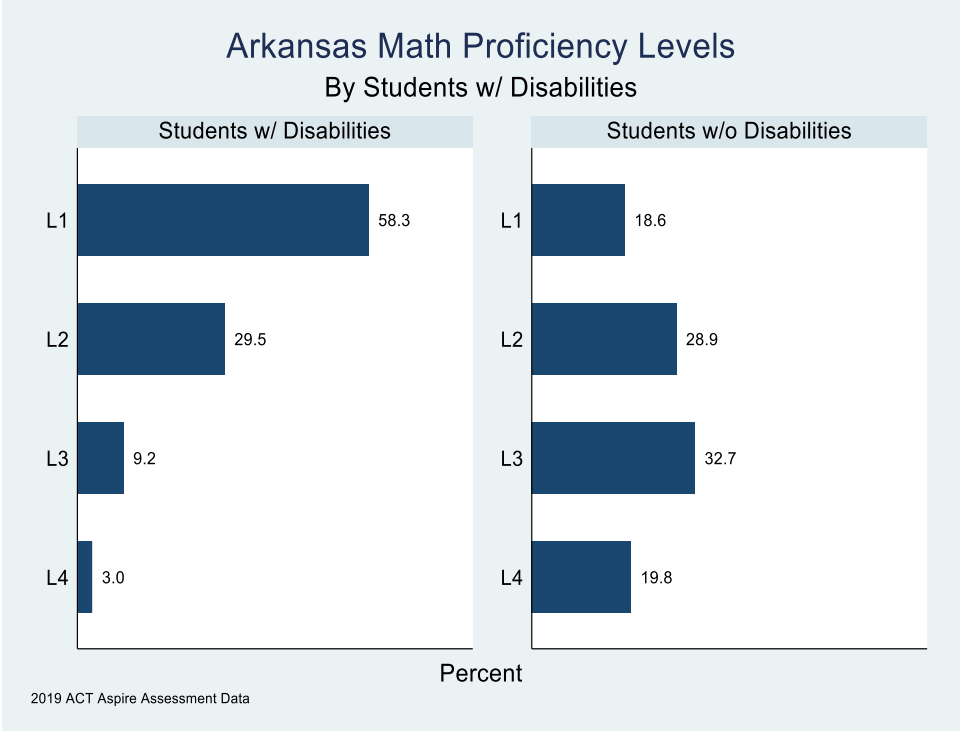


Figure 4.A.5.16: *2019 ACT Aspire Math Proficiency Level by Students with Disabilities*



References

Ballou, D. (2009). Test scaling and value-added measurement. Education finance and Policy, 4(4), 351-383.

Ho, A. D. (2008). The problem with “proficiency”: Limitations of statistics and policy under No Child Left Behind. Educational researcher, 37(6), 351-360.

Appendix 5. Addressing Poverty and Achievement Gaps: Funding Approaches

Impact of CEP on FRL counts in Comparison States

Under CEP, schools may qualify all students for free meals if 40% or more of the students are directly certified as FRL eligible in prior years. Once a school is designated CEP, the eligibility is for four years during which time all students receive free meals. Additionally, during this time schools districts may not use a federal application to determine FRL eligibility. A school can re-qualify for CEP at the end of the fourth year through direct certification.

Arkansas Calculation

Arkansas funds free and reduced-price lunch students in three tiers:

1. School districts with 90% or more FRL students.
2. School districts between 70% and 89% FRL students.
3. School districts with less than 70% FRL students

If the school district is a CEP district it takes the percentage of national school lunch students submitted the year prior to being CEP multiplied by the number of students enrolled in the immediately preceding school year. If a district grows by 1% in enrollment for the three previous years they receive growth funding.

Other States Use of CEP

The study team examined the percentage of schools in each SREB state plus Massachusetts that use CEP in Table 5.A.1.

Table 5.A.1: CEP Use in Other States

State (SREB & MA)	Percentage of Schools Utilizing CEP	FRL Percentage
West Virginia	75%	49.00%
Kentucky	64%	61.46%
Louisiana	59%	68.91%
Delaware	52%	16.72%
South Carolina	39%	62.11%
Tennessee	37%	36.10%
Mississippi	37%	69.00%
Georgia	35%	60.58%
North Carolina	33%	52.00%
Alabama	30%	53.23%
Texas	30%	58.70%
Massachusetts	26%	32.00%
Oklahoma	24%	61.28%
Florida	22%	61.40%
Arkansas	**19%**	**60.15%**
Maryland	17%	41.00%
Virginia	16%	33.77%

Virginia has the lowest parentage of schools that use CEP (16%). Arkansas has 19% of schools that use CEP and West Virginia has the highest percentage of schools that use CEP (75%).

The study team analyzed the impact of CEP on FRL counts and funding for five SREB states:

1. Alabama
2. Maryland
3. Kentucky
4. Louisiana
5. South Carolina

Additionally, the study team researched the policies around FRL counts for states with higher percentage of CEP schools than Arkansas.

Alabama provides funding for at-risk students base on the number of free and reduced-price lunch students. Students generate additional allotments in the state's formula. Forty-five of the 135 districts were identified as having CEP schools. During the years 2013-14 to 2017-18, CEP districts actually saw a larger average decline in FRL percentage. CEP districts saw a decline in FRL percentage of 7.8% while non-CEP districts saw a decline of 1.7%.

Maryland uses free and reduced-price lunch to provide an additional 0.97 funding for each at-risk student. When CEP was implemented, Maryland began to use the last full years of data collection as the percentage to apply to a school's population to calculate funding for at-risk. Half of Maryland's 24 districts were identified as having CEP schools. The change in FRL percentage from 2013-14 to 2017-18 was similar between the CEP and non-CEP districts. CEP districts saw an increase in FRL percentage of 1.2% while non-CEP districts saw a decline of 1.6%.

Kentucky uses free and reduced-price lunch to provide an additional 0.15 funding for each at-risk student. Ninety percent of Kentucky's 170 districts were identified as having CEP schools. The change in FRL percentage between 2013-14 to 2017-18 was higher in CEP districts compared to non-CEP districts. CEP districts saw an increase in FRL percentage of 25% while non-CEP districts saw a decline of 7%.

Louisiana uses free and reduced-price lunch to provide an additional 0.22 funding for each at-risk students. Ninety-five percent of Louisiana's 62 districts were identified as having CEP schools. The change in FRL percentage between 2013-14 to 2017-18 was slightly lower in CEP districts compared to non-CEP districts. CEP districts did not see an increase while non-CEP districts saw increase in FRL percentage of 4%.

South Carolina uses free and reduced-price lunch to provide and additional 0.20 funding for each at-risk student. Sixty-five percent of South Carolina's 82 districts were identified as having CEP schools. The change in FRL percentage between 2013-14 to 2017-18 was lower in CEP districts compared to non-CEP districts. CEP districts saw an increase of 6.9% while non-CEP districts saw an increase of 10%.

Other State Policies on FRL Counts in Districts with CEP Schools

Some states do no provide extra funding based on FRL counts. West Virginia and Florida do not provide additional funding for at-risk or FRL students. Delaware uses a grant application that is applied to districts based on project plan, school supports, and evaluation methods. Additionally, Texas assigns one of five weights on economically disadvantaged metrics based on census block groups.

Other states in the country have other policies on FRL counts in districts with CEP schools. California requires CEP schools to count all students every four years, this is then the baseline data for state funding formula. Tennessee increased the per pupil funding by about $300 per pupil to address the decrease of FRL count due to CEP and Massachusetts changed identification method to look at 133% poverty and a higher assigned rate for at risk students.

Impact of CEP on FRL counts in Arkansas

The study team was asked to evaluate the impact of the CEP program on FRL counts over time as well as the resulting impact on the Enhanced Student Achievement program (ESA, formerly known as the National School Lunch program). In this section we analyze how FRL counts have changed over time in schools participating in CEP and the estimated impact on ESA funding.

To analyze changes in FRL counts over time the study team used school level data for the FRL counts used in ESA aid calculations. These counts use both direct certification and FRL applications for free lunch counts and FRL applications for reduced lunch. According to Arkansas State Code (6-20-2303), the FRL percentage for schools participating in CEP is the FRL percentage from the school year prior to enrollment in CEP. This base year percentage is used for the duration of the four-year CEP participation window. Changes in the FRL counts were calculated separately for CEP schools, schools not participating in CEP, and schools that were CEP eligible but not participating and schools nearing eligibility. First, the percentage point difference in the FRL concentration percentage was calculated between the 2018-19 school year FRL percentage and the earliest year data were available for each school (for example, for a school operating during the entire period the difference would be between the school's FRL concentration percentages in 2018-19 and 2013-14. For a school only operating for two years, the difference would be between 2018-19 and 2017-18). The difference in concentration percentages was used to control for changes in FRL counts due to enrollment changes in schools. We then compared the change in FRL percentages between CEP and non-CEP schools and districts.

This analysis was subject to certain limitations. First, the study team analysis of trends in FRL counts for schools and districts was limited to the years 2013-14 through 2018-19. School year 2013-14 was the earliest data readily available on the My School data portal. This year also corresponds with the last pre-CEP year of FRL count data. We also did not have data on when individual schools and districts enrolled in the CEP program, limiting our ability to compare pre- and post- CEP participation FRL counts and rates. As a result, our analysis examined the change in RFPM percentages in all schools over all years in the 2013-14 to 2018-19 range during which schools were operational. We also had no way of collecting actual FRL eligibility data in CEP schools because these counts do not exist. Finally, our analysis was limited to traditional schools operated by school districts due to limited and inconsistent data on charter schools over this time period. Only schools operating in 2018-19 with at least two years of FRL data were

included in the analysis. Because eligibility is determined at the school level, the FRL count change calculations were made at the school level and then aggregated to the district level. As a result, our analyses and finding are limited to the inferences we can make from the FRL estimates made by the state for establishing district FRL percentages for calculating ESA aid amounts.

On average for all districts in the state, the FRL percentage decreased over this time period from an average FRL of 60.31 percent to 59.44 percent, a decrease of 0.87 percentage points. The average FRL percentage in districts with no CEP schools decreased significantly more – by a total of 1.64 percentage points, falling from 58.15 percent to 56.53 percent. Conversely, districts with schools participating in CEP saw their FRL percentage increase by an average of 1.58 percentage points, increasing from 75.16 percent to 76.74 percent. The FRL percentage in districts with non-CEP schools with higher FRL concentrations - those designated as eligible for CEP but not participating or near eligible by the state, increased from 69.12 percent to 69.91 percent, an average increase of 0.79 percentage points, about half the increase of districts with schools participating in CEP.

While it is difficult to interpret what these numbers mean with certainty given the available data, these data suggest that the level of poverty in higher poverty schools in the state continued to increase even while rates in much of the rest of the state declined or increased at a slower rate. To confirm this, we examined the change in direct certification percentages for individual schools between 2013-14 and 2018-19. Table X below presents these data. Among all schools the average FRL percentage increased from 63.5 percent in 2013-14 to 68.0 percent in 2018-19. However, among schools not participating in CEP the percentage changed slightly from 60.5 percent in 2013-14 to 61.6 percent in 2018-19. Among schools eligible but not participating or nearing eligibility the percentage increased from 72.7 percent to 80.5 percent and among participating schools it increased from 80.0 percent to 98.9 percent. These data show that overall, the percentage of students in poverty increased by about 4.5 percentage points, but the increase was greater in the poorest schools (those participating in or eligible but not participating or near eligibility for CEP). Table X also shows that the percentage of students qualifying for free lunch using direct certification fell by 1.48 percentage points over this time period across all schools, but increased by 1.32 percentage points in CEP schools.

Table 5.A.2: FRL Percentage and Percentage Point Change by School CEP Participation: 2013-14 to 2018-19

Schools	Total FRL % 2013-14	Total FRL % 2018-19	Change in Direct Cert. %
All	63.5	68.0	-1.48
Not Participating in CEP	60.5	61.6	-2.04
Eligible or Near Eligible	72.7	80.5	-0.45
Participating in CEP	80.0	98.9	1.32

These data seem to confirm that the state's students have become poorer over time, but that rate of increase of low-income students was greater in schools with higher concentrations of poverty. The districts with schools participating in CEP had the largest increase in the percentage of students eligible

for FRL, about double that of districts with schools eligible but not participating in CEP or nearing eligibility for CEP.

Change in FRL Counts Over Time in CEP Districts and Impact on ESA Costs

To estimate the potential impact of CEP participation on ESA student counts over time the study team assumed that the average FRL change of +0.79 percentage points for districts with schools eligible but not participating or near eligible was the most valid indicator of the expected average FRL change in districts with CEP participating schools had they not been in CEP. Both sets of schools had the highest average FRL concentrations, although in 2018-19 CEP schools had a higher average FRL percentage than the eligible but not participating and near eligible schools. However, there is also some overlap in the districts in which these schools and CEP participating schools are located. Using this assumption, we adjusted the FRL change in districts with CEP schools to reflect the lower average change found in districts with eligible but not participating or near eligible schools. This change resulted in a statewide decrease of 1,091 FRL students in 2018-19. If we apply the adjusted FRL counts to the ESA funding formula the amount of ESA state aid decreases by an estimated $2.85 million.

We made the opposite adjustment to FRL counts to estimate the impact of future growth in CEP participation on ESA aid costs. To make this estimate the study team adjusted the change in FRL percentages for districts with eligible-not participating and near eligible schools (169 districts) to reflect the higher average change for districts with CEP participating schools (from an average increase of +0.79 to + 1.58 percentage points). This adjustment resulted in a statewide increase of 7,495 FRL students if all of the eligible-not participating or near eligible schools in these 169 districts participated in CEP. The additional ESA aid cost would total $10.7 million. Table X shows the annual impact of increasing CEP participation assuming 10 percent of these schools enrolled in CEP each year for the next 10 years (holding FRL counts constant and assuming no changes to the ESA aid formula).

Table 5.A.3: Estimated Impact of Increasing CEP Participation on ESA Aid Costs

Increase in CEP Participation	Additional ESA Aid Cost
10%	$1.1 million
20%	$2.1 million
30%	$3.2 million
40%	$4.3 million
50%	$5.4 million
60%	$6.4 million
70%	$7.5 million
80%	$8.6 million
90%	$9.6 million
100%	$10.7 million

The study team cautions that due to the limitations of the data these are best available estimates with potentially large margins of error. Because data showing when schools enrolled in CEP were unavailable, we were unable to determine trends for how CEP enrollment has changed annually since 2014-15 and

no approach was available for making reliable estimates of actual FRL counts in CEP schools. However, there is a strong correlation between FRL and direct certification counts (0.954) which adds confidence to our estimates of the direction of changes in FRL counts and percentages over time and differences between groups of schools and districts (e.g. CEP participants, non-participants, and eligible but not participating/near eligible).

Impact of Alternative Indicators in Arkansas

The study team was also asked to analyze the impact of alternative proxies for identifying economically disadvantaged students. In response the study team examined five alternative proxies. All of these make use current data collection, alleviating the need for the state to implement a potentially costly new data collection process. The five alternatives are:

1. Direct certification;
2. Direct certification increased by the federal multiplier of 1.6;
3. Direct certification increased by a 2.1 multiplier;
4. U.S. Census count of children ages 5-17 living in poverty; and
5. Title I counts.

As noted above, the current direct certification count is of students eligible for the Supplemental Nutrition Assistance Program (SNAP), which identifies students from families at 130 percent of the poverty level or below. Direct certification used with a 1.6 multiplier is the count used by the federal government for determining FRL reimbursements in CEP schools. This count is currently used by the State of Texas for estimating the number of low-income students in schools and districts. The direct certification used with a 2.1 multiplier option was included because it results in statewide count that is most similar to the current FRL count. The Census count identifies children ages 5 to 17 from families at or below the federal poverty level, while Title I counts use the Census count plus counts of students who are neglected, delinquent, in foster homes, or eligible for the TANF program.

While all of these options are part of current data collections, each presents certain disadvantages as a proxy for economically disadvantaged children. Direct certification, as currently configured, only counts the equivalent of free-lunch students, excluding those students eligible for reduced-price lunches between 130 percent and 180 percent of poverty. These counts may be increased by a multiplier but then the connection to individual students is lost. Use of a different count may be necessary for categorizing students by income status for state assessment and accountability purposes. Census numbers are only available at the district level, not by school and would also exclude any students currently counted as FRL eligible who are above the federal poverty level.

The study team's approach to examining the impact of alternative counts is to look at how each district's share of the current FRL statewide count changes using an alternative count. The change in share data presented below indicate whether the district's share of eligible students will increase or decrease, which ultimately impacts districts' ESA funding levels. The following set of charts show the results of our analysis of how districts' shares of the statewide count of economically disadvantaged students differ between the current FRL count and each of the alternative counts. Figure X shows the number of districts whose share of statewide economically disadvantaged students changes by differing percentage

ranges when comparing the direct certification options to current FRL. These options were analyzed together because they are all multiples of the direct certification count, thus their share changes across districts are the same. Eighty-nine districts would see their counts change within a range of plus/minus 10 percent. Thirty-two districts would experience changes in their share of economically disadvantaged students of nearly a third or more. Fifteen districts would experience changes of 40 percent or more.

Figure 5.A.4: Direct Certification, Direct Cert. 1.6, Direct Cert. 2.1
Change in Share of Economically Disadvantaged Students

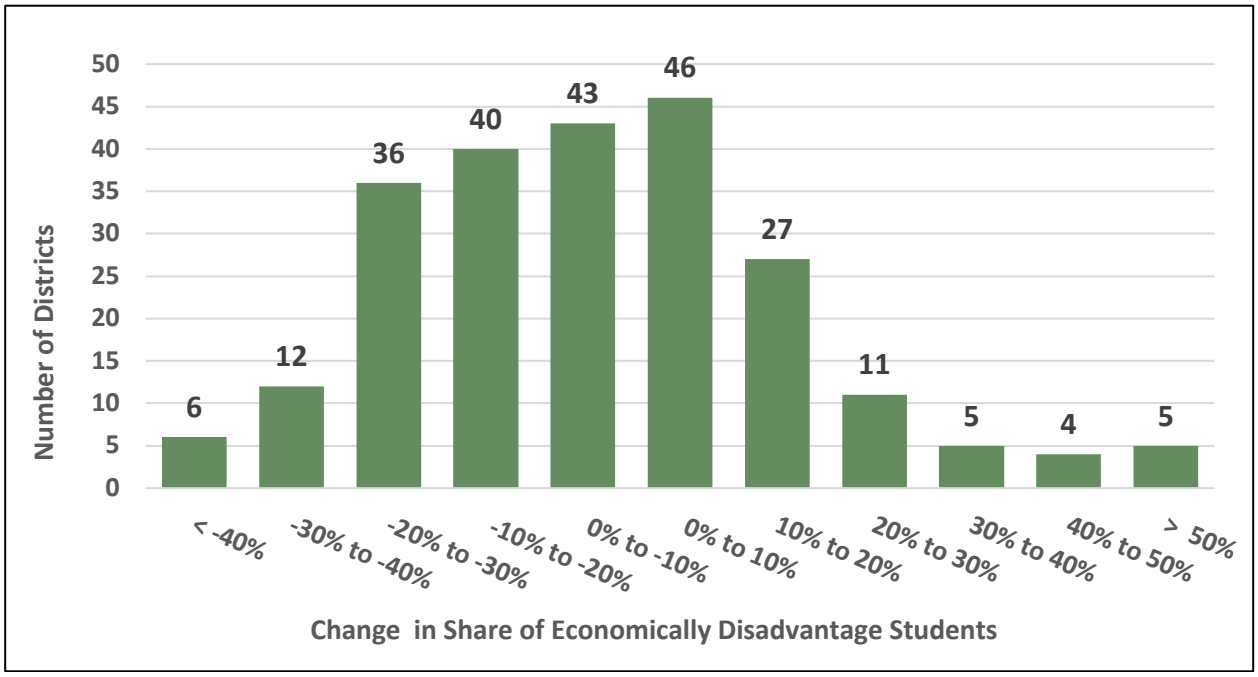
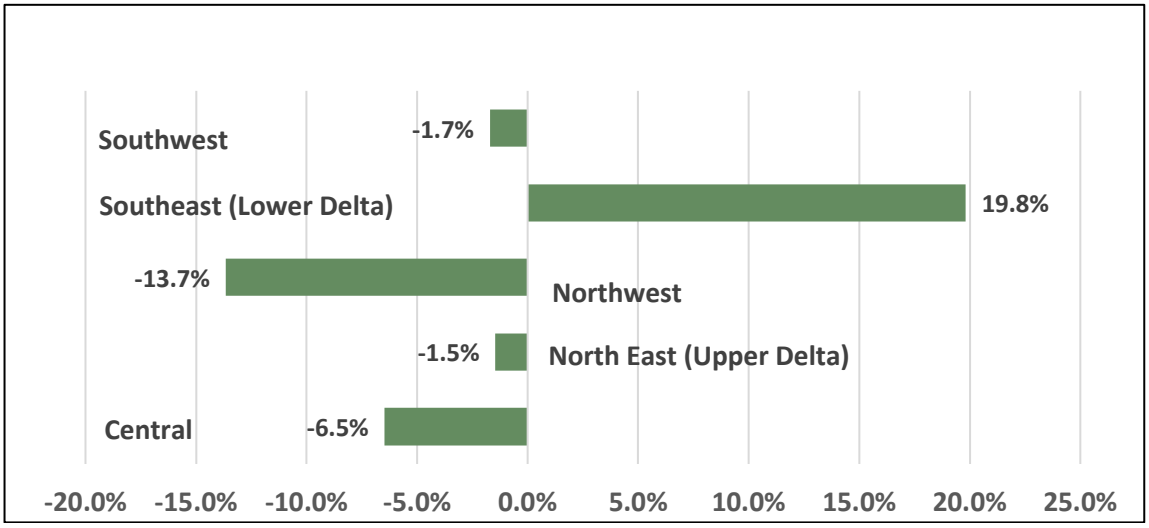


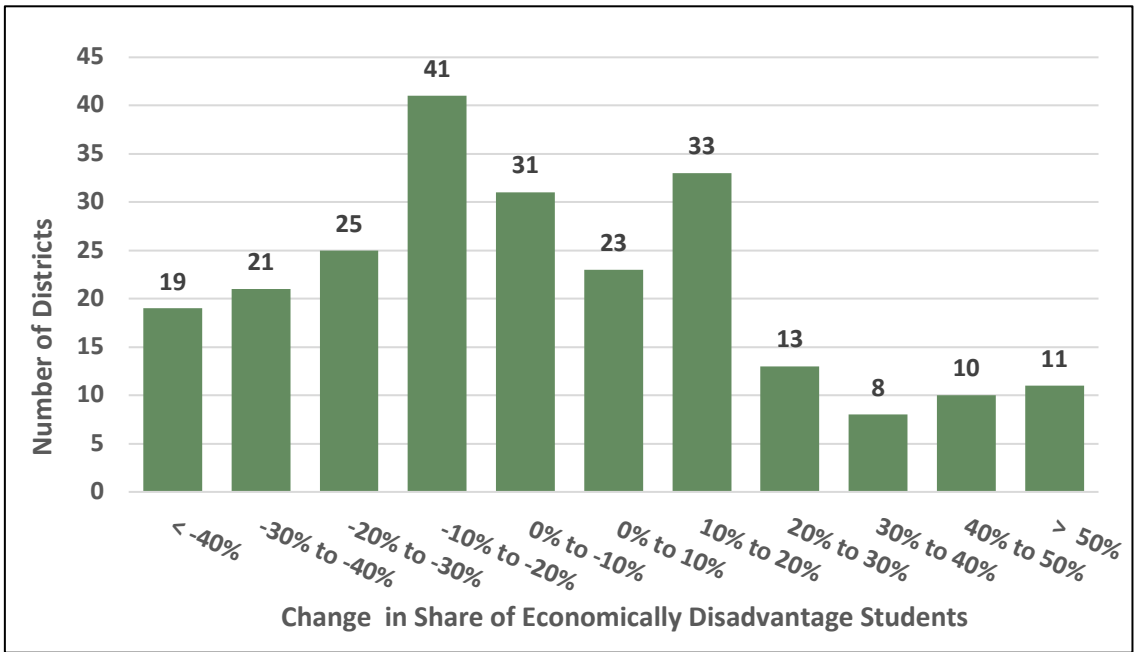
Figure X shows the same information disaggregated by region. Same change in poverty share data only aggregated by region. The table shows that the largest average change in the statewide share of economically disadvantaged students would occur in the Southeast (Lower Delta) region, which would experience a nearly 20 percent increase in state share. Conversely, the Northwest region would experience the largest decrease in state share of nearly 14 percent. The remaining regions would all experience more modest decreases in their state shares, ranging from -1.5 percent in the Northeast to -6.5 percent in the Central region.

Figure 5.A.5: Direct Certification, Direct Cert. 1.6, Direct Cert. 2.1
Change in Share of Economically Disadvantaged Students by Region



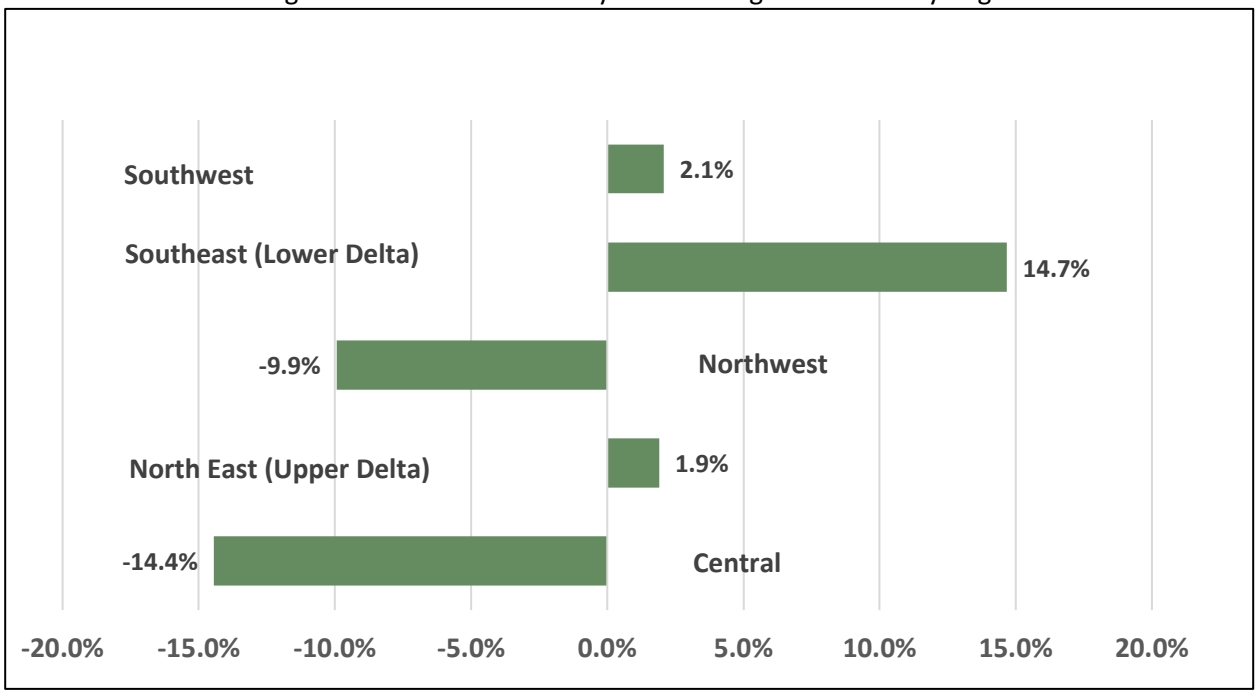
Figures X and X present the same summary data for the comparison between Census counts of children between the ages and 5 and 17 in poverty and FRL. Because the poverty threshold is lower than that of direct certification, more districts will experience decreasing state shares of economically disadvantaged children. Fifty-four districts would experience a change in share of plus or minus 10 percent or less. Most districts, a total of 137, would see their shares decrease, with 40 having a reduction of 30 percent or more. Twenty-one districts would experience an increase in their share of 40 percent or more.

Figure 5.A.6: U.S. Census Counts Children Ages 5-17
Change in Share of Economically Disadvantaged Students



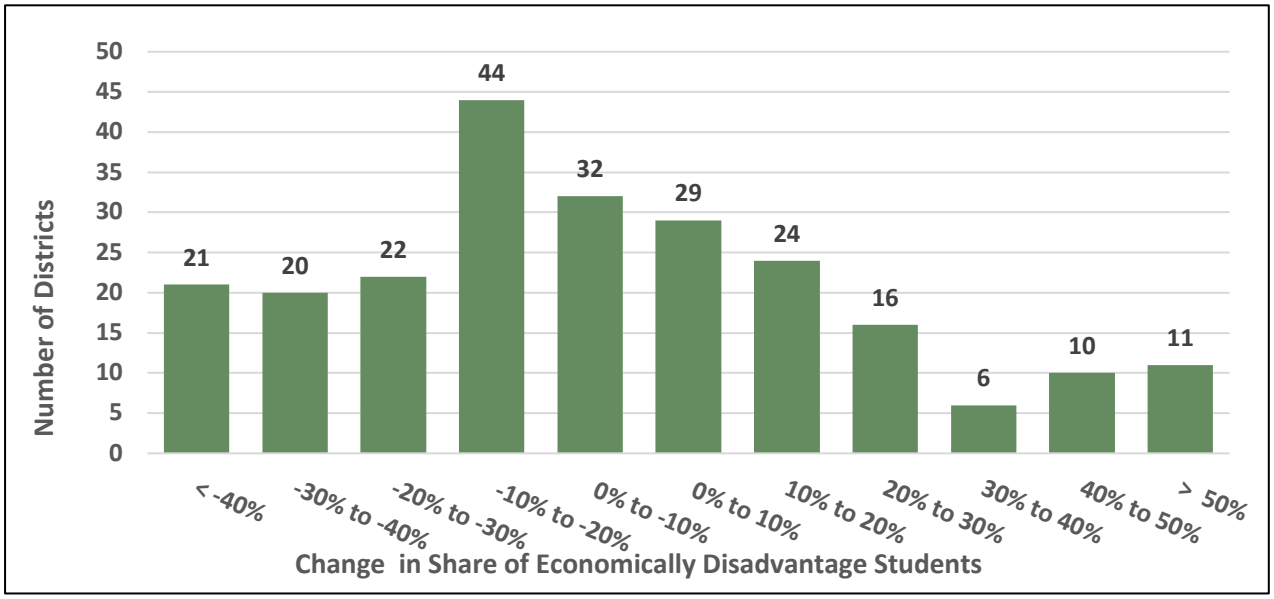
Examining the impact by regions, the Southeast region would again experience the largest average increase in share of economically disadvantaged students. The share in districts in this region would increase by an average of nearly 15 percent. Districts in the Central region would experience an average decrease in share of 14.5 percent. The Northeast and Southwest and North East regions would both see small positive share increases on average, while the Northwest region's share would decrease by nearly 10 percent.

Figure 5.A.7: U.S. Census Counts Children Ages 5-17
Change in Share of Economically Disadvantaged Students by Region



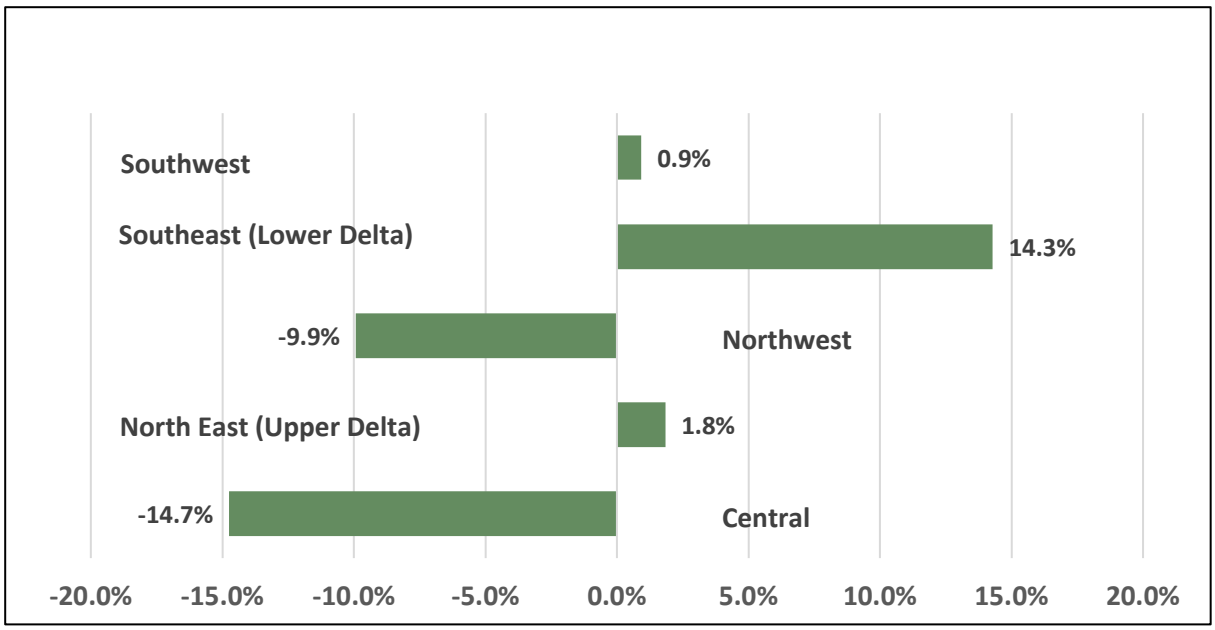
Figures X and X present the final comparison for Title I counts. Title I counts use the Census data from above plus counts of students eligible for certain programs or in special circumstances. As Figure X shows, the distribution of districts by change in share is very similar to the Census data presented above. Sixty-one districts would experience a change in share of plus or minus 10 percent or less. Most districts, a total of 139, would experience a decrease in their share, with 41 having a reduction of 30 percent or more. Twenty-one districts would experience an increase in their share of 40 percent or more.

Figure 5.A.8: Title I Counts, Change in Share of Economically Disadvantaged Students



Comparing across regions shows that again the Southeast region would experience the largest average increase in share of economically disadvantaged students. Districts in this region would experience an average share increase 14.3 percent. Districts in the Central region would experience an average decrease in share of nearly 15 percent. The Northeast and Southwest and North East regions would both see small positive share increases on average, while the Northwest region's share would decrease by nearly 10 percent.

Figure 5.A.9: Title I Counts,
Change in Share of Economically Disadvantaged Students by Region



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Appendix 6. Addressing Poverty and Achievement Gaps: Strategies

Case Study School Summary: Crossett Middle School

Background

Crossett Middle School is a school of 520 students (grades 5-8) in the Crossett School District. The school is located ten miles from the Mississippi boarder in the town of Crossett (Southeast region). The largest employer is a paper plant, and the town is looking to bring in another plant for storage containers.

Crossett Middle School Demographics (19/20)	
Enrollment	520
FRL %	68%
English Learner %	2%
Special Education %	11%

Sixty-eight percent of students are eligible for free and reduced priced lunch (FRL), two percent are English Learner (EL) students and 11 percent are special education students. Sixty-one percent of students are White, 34 percent are Black, and three percent are Latino.

Average class sizes in the school are about 25 students, ranging from 16 to 28 students. The school has a 95 percent attendance rate.

School Culture and Leadership

Crossett Middle School has a strong school student-focused culture; the staff puts the students' needs first. The school is led by a confident school leader willing to listen to the advice and suggestions from staff. The principal says the school lives by the belief that students come first. The principal starts every morning with a positive message through announcements. The faculty feels bought in and supportive through the principal's willingness to listen to them when they identify an issue, and the principal looks to staff to be solution oriented and the experts. Staff feel that the yearly goals are well mapped out and created with the whole team's input. The school has been able to replace retired teachers with staff that is bought in and focused on the needs of the students.

The students feel supported as well by the school. Each student is assigned a teacher as a mentor who track both social emotional needs and academic needs. These teachers act as an advocate for the kids in the school and use advisory time to meet with students.

Instruction, Interventions, and Assessment/Data Use

The school uses Eureka math for 5th and 6th grade and Lexia for literacy. In 7th and 8th grade the school uses Summit for literacy and math. Summit is an online curriculum-based structure supported with self-directive learning. The school has training with Summit in the fall and spring and new teacher orientation in the summer. All students have their own devices to enable a blended learning classroom. Additionally, the principal said they had made some adjustments to the curriculum to fit the needs of the community. The school deems a lot of its success on its strong emphasis on English and math and faculty buy-in. For the school's EL students, a facilitator to meet with families as well as to help integrate the students into the community. For the school's Special education students, the school has a resource room and a co-teaching model.

Regular assessment and progress monitoring are an integral part of Crossett Middle School. The NWEA MAP test is administered three times a year: the beginning of the school year, right before winter break, and spring. The ACT Aspire test is administered as required. The staff uses MAP data for quadrant reports. The students are placed in quadrants based on performance. The advisory teacher will talk to each student one-on-one to inform them where they scored, how they did, where their growth areas are. The leadership team then comes together to develop a plan for the students. Additionally, the Summit learning system also produces detailed data about where each student is, and all teachers can see where each student falls in any core subject area.

For the school's struggling students in ELA, the school uses Barton and paraprofessionals for small group work for phonics. The school has a math facilitator to assist the students in need of math remediation. For 7th and 8th graders there is after-school tutoring. Students must finish their Summit curriculum during school hours or after-school; otherwise, they come to summer to school finish. Additionally, there is Saturday school for struggling students in Summit who do not have internet at home. There is no transportation provided for these programs. After-school is held for an hour on Tuesdays and Thursdays. The first twenty minutes is spent working on skill development such as note taking or study skills, the remaining forty minutes is spent working on assignments.

EL students meet with the district coordinator who will meet with the teachers to inform them of the deficits that the students face. Each student gets a shoulder partner in class to assist them with some language barrier issues.

Staffing and Professional Development

The school is led by a principal, a dean of students, and a counselor. A large number of the teachers grew-up in Crossett and have come back to teach and they know the area and the community well. The principal believes a key to their success is the team meetings that occur amongst teachers. Teachers work in grade-level teams and each grade-level has a planning period. Each day the teams meet for 40 minutes to discuss which students are struggling and what action steps need to be taken to support those students. Each teacher has an additional 45 minutes of planning time each day. Additionally, teachers have one day per week of extra duty time for about 15-20 minutes in the morning and 15-20 minutes in the afternoon.

This year there was higher than average turnover for the school. In order to integrate new staff, the school provides a buddy teacher for the first few days to integrate new staff to the school and the community. The Arkansas universities send a list of graduates and the school starts reaching out to them. It is hard to appeal to married staff since there are no jobs in town to offer the spouse. Crossett Middle School has the highest waivers for teacher licensure in the district, most years the school only receives three to four applicants.

As with most of Arkansas professional development is provided by the state or their education services cooperative. Two to three days at the beginning of the school year are Arkansas state specific PD. The other days are spent going over ethics and procedure as well as a school specific PD. This year the school

will focus on Capturing Kids Hearts to provide social emotional learning (described further below). Each year the school looks at its needs and finds appropriate PD to address this need.

Student Support Services

The school developed a new curriculum called Capturing Kid's Hearts to support social emotional learning within the classrooms schoolwide. Capturing Kid's Hearts works with staff to model desired behaviors and ensure accountability. Teachers then integrate the curriculum into their classroom norms and day-to-day lessons. Additionally, the school has a school counselor to meet with small groups to address social emotional issues as well. There is no school psychologist in the school, so if a student has a behavioral health crisis, the school will contact outside help. They have a district-level social worker that works withs students on an as needed basis.

Case Study School Summary: Des Arc Elementary School

Background

Des Arc Elementary is a prek-6 school with 316 students in 2019/20. There are 550 students in total in the district which is located on the northeast edge of the Central region in Arkansas. The school is in a small, rural community with the primary industry being farming. The community is very involved and tight knit. Staff reported having close connections with their students and families as a result of seeing them out and about or at church. The school has been increasing in enrollment due to drawing students from outlying communities due to its reputation.

Des Arc Elementary School Demographics (19/20)	
Enrollment	316
FRL %	72%
English Learner %	0%
Special Education %	17%

There is little student mobility and the demographics of the school have been fairly stable (87 percent of students are White, 11 percent are Black, and 2 percent are Latino). In 2019/20, 72 percent of students received free and reduced-price lunch and 17 percent received special education services; the school's English Learner percentage was 0 percent. The school also has few attendance issues, with an attendance average around 98 percent.

School Leadership and Culture

Des Arc Elementary staff believe that the school's culture is the key piece of their success. They described their staff as very close, connected, and "like a family." Being a family means that teachers are more likely to stay at the school, teachers can work through any issues and find help when they need it, and students feel fully supported and loved. Further, there is supportive leadership at all levels, including the superintendent, the school board and the school principal. Teachers reported that they felt that the principal always backed them up and that they had the opportunity to be leaders in the school. The school principal stressed that they have a "building full of leaders." The staff, as well as the community, are a part of decisions which leads to a high level of buy in and investment. Leadership reported that teachers are always willing to jump in, take on new initiatives and opportunities, and put in the time; teachers "have no quit in them" and this dedication has been essential to the school's

success. Students feel it and know how much staff care about them and their education. Teachers have high expectations for their students and challenge them to rise to meet their standards.

There is also constant communication with families, who are made to feel involved and aware of issues even when they cannot be at the school. The community as a whole is very invested in supporting the school. One teacher shared that if the expression is it "takes village to raise a child," their school is an example of what happens when the village comes together.

Instruction, Intervention, and Assessment/Data Use

The school day is structured with core blocks and time for enrichment/intervention daily. Further, it allows for common planning periods by grade level for 45 minutes a day using a rotation of daily specials (library, PE, art, music, computer). Teachers time is protected, with leadership using non-classroom staff for duty (for example, the principal, SRO, PE teacher and librarian do bus duty, while the SRO, dyslexia specialist and art teacher do pick up). K-2 classrooms are self-contained with paras, and 3rd and 4th grade are split between math/science and literacy/language arts. 5th and 6th grade are compartmentalized with rotation through four teachers. Administration lets teachers select their own curriculum and pull from several different resources, so they can find the best fit for their students.

Overall, the school reports having very data-driven instruction. During the summer, teachers use PD to review/ disaggregate ACT Aspire data to plan curriculum and instruction for the year. The school also uses MAP and interim ACT Aspire assessments, plus DIBELs literacy screeners. During the year, teachers regularly review data during their professional learning community (PLC) time. Staff set strategic goals based upon data, and then mini lessons and bell ringers are incorporated into class time to target gaps. They also use awards and recognition to motivate students.

Targeted interventions for students are also offered in several ways. Paras in grades K-2 allow for small group and individual pull out, and in grades 3-6 there is daily time for enrichment and intervention within the schedule. The school's speech teacher goes into kindergarten classrooms to lead phonemics awareness for an hour per week, and the special education teacher provides push in support for special education students. After school tutoring is offered for one hour after school to students with highest need Identified based upon classroom performance and assessment data.

Des Arc Elementary also has a RTI committee to review student data to determine who needs Tier 1, 2, or 3 support. Committee monitors progress to add/remove students as needed. Classroom teachers first do Tier 1 interventions, if not working fill out packet with family and student history, performance, assessment, behavior to give to the RTI committee. The committee then reviews the materials to determine what issues could be and strategies for Tier 2 intervention (via classroom teachers and interventionists) to address. These strategies will be applied for 6 weeks; if the student is improving, they will continue with the strategies, if not, the student with move to Tier 3 intervention. The school also has a dyslexia program if that is idented as an issue.

Staff feel that their smaller class sizes allow them to provide personalized support to students. They also hold students accountable for their education, and overall, are implementing a student-centered

education model. They know their students and adjust strategies as needed to meet their needs. This includes both providing intervention and acceleration when needed.

Staffing and Professional Development

Des Arc Elementary is led by a principal and supported by one clerical staff member. There are 15 core teachers, 3 electives teachers, 2 tutors/interventionists, and 2 special education teachers. Additional support is provided by a librarian, a counselor, a nurse, a school resource officer (SRO) and a speech teacher. The counselor also is the gifted teacher, and the PE teacher and librarian also used for interventions. There is very little turnover at the school.

There are also six paraprofessionals, who support both K-2 classrooms and special education. There are about two classes per grade in most grades. Kindergarten has three classes around 14 students, 1st grade has average class sizes around 22-23, and the school was looking for a third teacher to reduce those class sizes. Second grade has an average of 19-20 students and 3rd grade has higher average class sizes of 25-26 students, but the school is also looking for a third teacher for the grade to reduce the class sizes. Fourth through sixth grade have an average class size of 20-22 students.

As noted previously, teachers have common planning time by grade and also meet in PLCs 1-2 times a month to review data and adjust curriculum. Teachers meet twice a week with grades during their planning periods and have cross grade meetings during shared lunch times.

PD is otherwise primarily offered during the summer. Of the 60 hours of PD, 24 hours are set by the state. There are 2-3 days of district led PD and the remained provided by their education services cooperative. Teachers and principal discuss their individual PD needs. Teachers really appreciated this time for self-reflection and freedom to determine what they needed in particular to improve their practice. Teachers reported that the RISE, Wilson Fundations Phonics, Cognitively Guided instruction for Math, AR Math Quest, and dyslexia trainings have been very helpful.

Student Support Services

The school has a counselor works with all students, then an outside company comes in to provide mental health services when needed. They bill insurance so there is no cost to the school and no out-of-pocket costs for their families.

Case Study School Summary: Helen Tyson Middle School

Background

Helen Tyson Middle School is a school of 735 students (grades 6-7) in the Springdale School District. The school is located in Springdale in Northwest Arkansas. The largest employers are Tyson meats, Walmart, JB Hunt, and Cargill.

Helen Tyson Middle School Demographics (19/20)	
Enrollment	735
FRL %	79%
English Learner %	29%
Special Education %	11%

The school is high need, with 79 percent of students being eligible for free and reduced priced lunch and 29 percent EL. Northwest Arkansas tends to be wealthier and more predominately white than the rest of the state; however, Springdale has two schools that are 99 percent FRL. While the area is wealthy, there

are also many low-income families working as line workers at Tyson and other companies. The district is rapidly growing due to industry and jobs.

The school's enrollment has remained consistent over the past years. There are four elementary schools that feed into Helen Tyson Middle School, one of which is very high FRL. There is high mobility at that school. Low-income families must move often to find affordable housing; this is a common issue in the district, the instructional facilitators at each middle school meet to keep track of students.

Helen Tyson Middle School is working on ways to incentivize attendance through various rewards. The school will contact families if a student is frequently absent. This can be difficult because families will change phone numbers often for cheaper plans.

School Culture and Leadership

Helen Tyson Middle School has a strong focus on relationships. The staff wants the students to know that they care about them. The school has Primetime period where staff can check in with students and help them personally and academically. These advisory periods are used to help build relationships with students and to direct students to appropriate supports.

Helen Tyson Middle School is led by a confident school leader who was mentored by the prior principal. The principal has members of her leadership team and staff lead meetings, as well as invites students, parents, and community members to meetings. The faculty feels bought in and supportive through the principal's willingness to listen to them when they identify an issue, and the principal looks to staff to be solution oriented and the experts. The principal believes that flexibility is the key to the school's success. The school is always changing programs and schedules to best meet the school's changing demographics and needs. If something does not work, they will try something else. Additionally, the principal believes that everyone is responsible for all kids. They do not categorize kids as EL, SPED or at-risk.

Instruction, Interventions, and Assessment/Data Use

Regular assessment and progress monitoring are an integral part of Helen Tyson Middle School. The schools look at ASPIRE and other assessment results to identify and target weak areas. The student will then receive differentiated and individualized instruction.

Helen Tyson Middle School structures the week to provide supports for struggling students. On Monday and Tuesday mornings the students have advisory periods where their teacher meets with them on their status in each of their classes. On Wednesday and Thursday mornings the students can attend primetime or enrichment. Primetime is a time for students to work on areas where they may have deficiencies. Friday mornings the students have "home base" where they meet with core teachers. Additionally, the school rotates priority classes, for example one week would be focused on math and the next would be focused on reading. The school also provides after school four days a week where transportation, dinner, snack, tutoring, and enrichment are offered.

Special education students receive grade-level content as much as possible. The teachers provide supports to help students access and understand the content. In order to serve EL students, Springdale

School District partners with ESL Achieve. ESL Achieve pulls out levels 1 and 2 (based upon the WIDA ACCESS assessment) and focuses on language development rather than content. For students in the intermediate level, ESL Achieve works on content and then moves to more challenging critical thinking. During PLCs classroom and ESL teachers work together to make sure content and approaches are similar.

Staffing and Professional Development

The school is led by a principal and two assistant principals. There are two counselors, one for each grade, a nurse, a library/media specialist and additional instructional staff, including instructional facilitators and interventionists. There is little turnover amongst staff. In 2020 they had one teacher who was retiring, one who was moving and one who was going to another school in the district. The school shares a band teacher, some coaching staff, a social worker, and an SRO.

Teachers have time each day for individual planning and PLC or team planning. The art, PE, and music teachers have PLC time on Fridays. The principal feels it is very important from a funding perspective to provide staffing resources to allow for collaboration time. The school district provides a lot of professional development. The district has a strong vision for professional development and will train teachers or send them to their education services cooperative. The teacher will then come back to the school and train all the other teachers. All of the professional development in the building is led by the instructional facilitators or individual teachers depending on the topic.

Student Support Services

Helen Tyson provides multiple support services for students. There is a social worker in the school two times a week. There is also therapy offered through Ozark Guidance which is paid for through parent's insurance and can be facilitated at the school. There is a full-time school-based counselor who coordinates services for homeless families. Additionally, the admin team provides a lot of counseling and support for students. The school does have in-school suspension. The principal targets those students for extra support and to keep things from escalating.

The school has a school base health center with a full-time nurse. The health center has been a great way to keep students in school and in class. There is also a sensory area where students can go that includes a stationary bike and manipulatives. It provides an opportunity for students to calm and recenter.

Case Study School Summary: Jasper High School

Background

Jasper High School is a small 7-12 innovation school in Northwest Arkansas. The town of Jasper has less than 500 residents, most are retirees on a fixed income. The major industry is tourism, and the largest employer is the school district. About 60 percent of the land is federally owned.

Jasper High School Demographics (19/20)	
Enrollment	226
FRL %	71%
English Learner %	0%
Special Education %	19%

As an innovation school, Jasper High has developed an innovative flex schedule model that allows students to (1) take ownership and have agency over their education, (2) receive personalized instruction, (3) develop the skills needed for life after high school, (4) pursue internship opportunities, (5) take CTE and concurrent enrollment courses, and have time for to participate in student activities during school day. This approach also allows teachers to engage with their students one-on-one more meaningfully and in small groups, as well participate in schoolwide professional learning communities (PLCs) to create a deeply collaborative school culture.

Jasper High is predominately white (96 percent) with a higher-than-average percentage of students qualifying for free and reduced-price lunch (71 percent) as well as for special education services (19 percent). With 226 students across six grades, classes are small with an average class size of 12-15 students. Student mobility can be an issue with student moving in and out of the school throughout the year to attend neighboring districts where they have family. It is fairly common within their education services cooperative to have similar course offerings by grade to make these transitions easier.

School Culture and Leadership

Staff stressed that the culture of their school, with its collaborative community and close relationships with students, was the biggest factor of their success. Staff are welcoming to students, engaged in their lives and aware of what is going on with them. Each teacher is an advisor who meets with kids twice a week, so that those students always have someone to go to and know that they are cared about. The counselor is also there to reach out to the kids that need a little extra care or push. Teachers shared that students are willing to work harder when they know that they are cared for and a part of the school community. Teachers also work well together and are engaged in decision-making. Finally, as an innovation school, teachers are encouraged to think creatively and have a high degree of buy in and voice in the school.

Students are also very welcoming to each other and there are many different activities for students to get involved in to find their place in the school community.

Instruction, Interventions, and Assessment/Data Use

Jasper High's flex schedule is unique and is reported as a key factor to their success. The schedule is structured with three protected days of traditional instruction time, then up to two "flex days" (two days in high school grades, less in the middle school grades). This allows every student's schedule to be customized, allowing for both acceleration and support. On a flex day, a student will go to their advisor first to review attendance, grades, missing work, and time on task for the week. If the student does not have any issues in these areas, they select how they would like to use the time (for example: spend time in band, work on projects). If a student has an issue in these areas, they will have to attend specific class periods to address to meet with teachers individually or in small groups. Flex days are also used for concurrent enrollment courses, internships, labs, assemblies, student activities and events; further, all holidays and snow days are counted as flex days so that instructional days are protected. Advisory is held the first hour of every flex day and teachers will have the same group of students from grades 7-12; this period is both used for monitoring and scheduling, as well as developing student success plans. Teachers reported that in addition to the benefits reported above (under Introduction) the peer

influence that this approach allows is incredibly impactful: students share their schedules, see other students that have more flexibility and fun in their schedule, so it encourages them to work harder to get the same flexibility and fun opportunities.

Jasper High has a strong RTI model in place to identify, monitor and support struggling students. The flex schedule allows small group intervention support to occur during flex days, so there is no need for after school programs that can be difficult to have due to transportation issues. Leadership reported how beneficial it is to have certified staff during flex days provide that intervention to students and the increased comfort that students have sharing that they are struggling or have questions when it is in a small group setting compared to the regular classroom. The flex schedule allows each student's education to be customized to their needs- it is not "one size fits all."

The use of data and monitoring is a critical element of determining the student's needs and how to use the flex schedule to meet those needs. Progress monitoring occurs weekly and the school has set criteria in the areas of attendance, grades, missing work, needing to retake a quiz or test, and time on task for deciding when a student needs to receive additional intervention and support on flex schedule days.

Staffing and Professional Development

As a small school, Jasper Hugh shares a number of positions with the nearby elementary school including shared music, art and gifted teachers and a shared nurse position. The school's counselor and administration staff are not shared. The school does not have the staffing to offer language or AP courses, which they offer through Virtual Arkansas. Jasper High leadership is also exploring sharing teachers in the future with another small high school to do virtual courses. Leadership also shared that have some extra staff positions paid out of Title I and ESA than what would be found in a school without access to those funds. This extra staffing has allowed certified staff to do interventions on flex days, which leadership has been invaluable. Compared to the matrix, the leadership said they had more positions, but that is due to salaries being low. The minimum salary going up makes this tradeoff difficult to manage.

The school has been implementing the Solution Tree PLC model. Further, Jasper High tries to embed as much PD as possible within the school schedule. Flex says allow for collaboration and any needed grouping of teachers (by grade, by subject). In this school year, there were two PD days during the school year that all teachers attended at their request, then 4 days for PD that teachers could use for self-directed PD. The principal surveys teachers regarding their needs, then sits down with them to discuss what their PD should be. Other PD days occur during the summer and leadership has tried to send each teacher to model school conference at least once (not all at once) as teachers get to learn, have some fun, and bring back information and ideas to share with others.

Student Support Services

The school currently has access to on licensed therapist and one assistant, which they have found to be a huge help to address student mental health. The therapist and assistant's time is paid for by billing Medicaid, but the district provides them space. Staff indicated that if there is any area that needs additional financial support, its student mental health. They have found that if you do not address

student mental health needs, you cannot teach them. Also, if they had their own mental health staff, then the school would not need to rely on parental referral.

Case Study School Summary: Lafayette County High School

Background

Lafayette County High School Demographics (19/20)	
Enrollment	235
FRL %	87%
English Learner %	0%
Special Education %	11%

Lafayette County High School is a school of about 235 students, grades 7-12, in Lafayette County School District in southwest Arkansas, near the Texas and Louisiana borders. The district and school are experiencing declining enrollment, administrators estimate that since a district consolidation in 2004, student enrollment has declined 60-70 students per year. Lafayette County is one of the least populated counties in the state, with a total population between 7,000 and 8,000 residents, and is made up of mostly poor communities. The high school is located in Stamps, while the district's elementary school serving preschool through sixth grade is located about eight miles away in Lewisville.

There is a lack of industry in the area, and many residents travel out of the county for work. School administrators anticipate this declining enrollment trend will continue, as families continue to leave this area in search of jobs and opportunities elsewhere. The school is high need, with approximately 85 percent of students being eligible for free and reduced priced lunch. The school does not typically have many English Learner students and eleven percent of students are in special education. Approximately 60 percent of students are Black, 35 percent are White, and three percent of students are Latino.

Average class sizes typically range from 18-20 students, with a maximum class size around 25 students. The school's graduation rate is 90 percent.

School Culture and Leadership

Lafayette County High School has a strong school culture, led by a confident school leader with a clear vision. The principal has established a Guiding Coalition as the leadership team within the school. The Guiding Coalition typically attends a 3- to 4- day summit each summer, which helps to build relationships and camaraderie among the coalition. Staff described the school environment as a family-oriented atmosphere. The staff as a whole works well together and support each other throughout the school year. Equally important, and in the forefront of the staff's mind, is the importance of building relationships with students. The Guiding Coalition noted that students perform better in the classroom when students and teachers have a good relationship, and when students know the teachers and staff genuinely care for them and their well-being. Staff noted that being such a small district, where all of the staff lives within the district, helps relationship building immensely. So many staff members know students' families personally, giving them insight into any potential issues outside of school that may be impacting students in school.

Instruction, Intervention, and Assessment/Data Use

The school day includes eight instructional periods; teachers teach seven of the eight periods. Each teacher has a daily planning period, and administration tries to schedule common planning periods for

departments, but with such a small school (three math teachers and two English teachers), the schedule cannot always accommodate it. On early release Wednesdays, the teachers participate in PLCs.

The school offers a diverse high school curriculum. While each teacher utilizes appropriate course-specific curriculum, schoolwide a number of curricular resources are available, including Edcite, Edgenuity, and Tools for Learning. In the core content areas, the school is very focused on college and career readiness. It has partnerships with the local community college where students can participate in concurrent enrollment to begin earning college credits while still in high school, and through the district's Career Center, students are able to take courses and earn certificates in certain industries. Thanks to a grant program through the University of Arkansas at Hope, students are able to take career and technical education courses at no cost to the students. Every eighth grader completes a Student Success Plan, which looks at each student's strengths, weaknesses, college plans and career interests. The school counselor reviews the plan, and each year reviews transcripts, grades, student interests and their course request form to ensure each student is on track to complete their required 24 units for graduations, and to enroll them in the appropriate courses. The first priority in scheduling is to ensure graduation requirements are met, then courses are selected based on student interest/availability.

The staff recognizes that low-income students in general have tremendous academic gaps. Given the high number of low-income students in Lafayette County, the school is committed to the fact that those gaps must be addressed during the school day. They have set the foundation to show students that the staff cares about them, and their success in the classroom. While the school believes absolute academic performance is important, that to be successful, it takes a focus on the whole child – mental, physical and academic. The school follows the RTI model, and through the master schedule there are opportunities, particularly in math and science, for teachers to pull some students out for additional help. The school utilizes the data from the War Room during PLC time and early release Wednesdays to identify students that could benefit from additional help and determine how to best serve them. The school did offer summer school last year, in the form of a 15-day program, providing students the opportunity to make up one credit. While the school has tried to offer afterschool tutoring in the past, it is difficult to coordinate, especially without being able to provide transportation for students.

Regular assessment and progress monitoring are an important part of Lafayette County's student success. Lafayette County uses the ACT Aspire for interim assessments, which gives a good assessment of where students are at a given time, and if there might be a need to back up and review some previously covered content to get students to mastery. The staff evaluates all the information from the assessments and identifies ways to help students improve. For example, in an effort to focus on increasing literacy skills, every student completed a reading scholastic inventory test to determine reading levels, and students each had to read at least one book within their lexile range. The school made a friendly grade level reading competition, and in the following round of assessments, found that reading comprehension had increased. The high school has what is affectionately known as the "war room," which is the school's data center. The data center contains every student's assessment results. School staff regularly reviews the student-level data to monitor the number of students performing below the average marker, and to identify students that could use extra support. The school has seen a high level of growth among its special education students, and the special education teacher points to

use of data through regular assessment, identification of gaps or weaknesses, and targeted support in those specific areas, and establishing high expectations

The school's enrollment does not often include many EL students; During the 2019-20 school year, the school had one EL student. Whenever EL students are present in the school, the teacher who serves as EL Coordinator coordinates whatever support the students need.

Staffing and Professional Development

The teaching staff at Lafayette County High School is relatively stable, without high rates of teacher turnover. The school sees this minimal turnover as a big factor in its success. When the school does hire new staff, it has difficulty retaining staff from outside the region. Particularly for teachers newer to the profession, they may come seeking teaching experience, but the county make be lacking in amenities and other experiences, so they often move on to Texarkana or other districts after gaining initial teaching experience in Lafayette County. Through a Cadet program with the local university, the district is focusing on a "grow your own" approach to recruiting teacher candidates. They have seen success with the program so far and believe they will have better results in terms of retention through this program – as those individuals who currently live in the area, or are returning to the area, have ties to the community and are more likely to stay longer term.

The staffing configuration of the school includes a principal, assistant principal, and counselor, ten core teachers, elective teachers for music, PE, technology, business, agriculture CTE and gifted, and aides. This year, the business and art teacher were shared with the other district school, each were included in the above table at a 0.5 rate. The principal expects that next year only the art position might still be shared. The school also has instructional facilitators and special education staff. As a small school spanning six grade levels, many staff members hold multiple roles. For example, the AP also serves as athletic director, the guidance counselor also serves as the ESL coordinator, the library media specialist also serves as test coordinator; the PE teacher also serves as Health Assistant and football coach. Nearly every teacher in the school also serves as sponsor of a club or afterschool activity, and/or coaches a high school sport in some capacity, including the principal, who is also the E-sports sponsor. The involvement of most adults in the building in extracurricular activities contributes to the family feeling described by the staff and contributes to relationship-building between students and staff in the building.

The Lafayette County School District this year received a flexible schedule waiver, which is utilized for districtwide professional learning communities (PLC) on Wednesday afternoons. Lafayette County High School has been implementing Solution Tree's PLC model and sent a team to the PLC Summit. The PLC model is set up to ensure success of the PLC is not dependent on any specific individuals being present. Every core subject, including CTE and special education, is represented through PLCs. The school's Guiding Coalition content leads facilitate the content area PLCs. During the summer prior to this school year, the school conducted a training with a university partner focused on engagement, which staff described as a pivotal professional development opportunity. The training was for teachers only – the principal was not in attendance – and the school's teachers defined what engagement should look like from the teacher and student perspective. This opportunity resulted in buy-in across the teaching staff around shared expectations for teacher and student engagement. The principal noted that they value

the partnerships with universities, as they provide a number of professional development sessions for the school and include opportunities for reflection and growth among the staff.

Student Support Services

In addition to instructional resources, the school also provides social-emotional to Lafayette County High School students. Lafayette County High School's counselor provides the typical guidance and counseling services of any high school. In recent years, with the implementation of the Arkansas G.U.I.D.E. for Life program, a need for additional counseling opportunities for some students was identified. Utilizing supports provided by the program, the counselor is able to conduct small group sessions with students, with parental approval. The school also partners with Therapeutic Family Services, whose therapists come on campus to meet with students in need of therapy individually during the school day. Referrals to Therapeutic Family Services also require parental consent, and costs are not borne by the school – most are billed to Medicaid, otherwise costs are billed to private insurance. The school also partners with local rehabilitation facilities and provides referrals for a small number of students with higher need; again, any costs associated with those services would be billed to Medicaid or insurance as appropriate.

Case Study School Summary: Lakeside High School

Background

Lakeside High School Demographics (19/20)	
Enrollment	257
FRL %	78%
English Learner %	6%
Special Education %	13%

Lakeside High School is a school 257 students, grades 9-12, in Lakeside School District (Chicot) in Southeast Arkansas, near the Mississippi and Louisiana borders. A small community of less than 3,000 residents, it is largely a farming community. The hospital, school districts and one factory are the largest non-farming employers. Nearly fifteen years ago neighboring Eudora School District was annexed into the Lakeside School District. The school is experiencing declining enrollment, while the last several years enrollment has been around 260 students, as recently as 2013-14 the school's enrollment was 319 students, with a decline in enrollment nearly every year since. School administrators expect this trend will continue, as families leave this more rural area to find job opportunities elsewhere.

The school has 78 percent of students being FRL eligible, a higher-than-average rate that has remained steady even with the school's declining enrollment. Approximately six percent of students are EL and 13 percent are in special education. The school' does not struggle with high mobility during the school year. Seventy-three percent of students are Black, 13 percent are Latino, and the 13 percent of students are White.

Average class sizes vary across the grade levels, with 20-23 students per ninth grade class and 15-17 students per class in twelfth grade. The school's graduation rate is 94.2 percent.

School Culture and Leadership

Lakeside High School is led by a confident school leader with a clear vision. The principal strongly values teacher and student voice, and that inclusion is evident in formal school structures, namely the school's leadership team comprised of staff members across the school, and the Principal's Advisory Committee,

where the principal meets with students periodically at lunch to hear directly from students on issues that impact them. As a small school, it is clear that school staff deeply values the importance of relationships – both among adults in the building and between adults and students. Leadership and staff alike declared that the students in the school are "our" students, that they know and care about all students. Further, teachers in the school know and trust each other, and each has the best interest of the students at heart. Most of the school's staff lives in the community, the school staff generally knows the students' families and have a deeper understanding of issues outside the school that may impact performance in school. This insight into out of school factors helps the school's staff provide additional support as needed to students during the school day. Teachers reported feeling highly valued and feel their input is valued. Ultimately, they understand the final decision is the principal's decision, but believe their input is heard and considered.

Instruction, Intervention, and Assessment/Data Use

The day includes eight instructional periods and a lunch period. The school is physically located on a shared campus with the elementary and middle school; the middle and high school operate on a synched schedule. The schedule is developed so departmental teams have common planning time, whenever possible. Several positions are shared among the schools, since the school buildings are on a shared site, it's relatively easy to facilitate transitions for those teachers.

The school has a varied high school curriculum, offering programs of study for college- and career-bound students. The teaching staff at Lakeside High School have worked to create commonalities across courses, and jointly decide if there are specific areas of focus each teacher should bring to their classroom. For example, one year they saw that students were struggling with paraphrasing, so they focused on identifying main idea through the work of each class. The school believes strongly in bell-to-bell teaching and utilizes "bell ringers" at the start of periods for strengthening skills. Doing these exercises every day adds up and helps better prepare students.

All teachers follow the Arkansas standards in their content areas, but the school has a focus on cross-curricular instruction and keeping content relevant. Teachers accomplish this relevancy by incorporating "real world" implications in the classroom. Additionally, the high school believes for students to be prepared for college and careers, it's essential to teach soft skills – things like making eye contact, working collaboratively with others, etc. In addition to the courses offered through in person teachers, the school makes use of the Virtual Arkansas courses to enable their students to take courses the school is unable to offer.

Regular assessment and progress monitoring are an integral part Lakeside's educational approach. The school utilizes the ACT Aspire in 9 and 10th grades, three times a year for interim assessment and then fourth time for summative assessment. All 11th graders take the ACT. Additionally, the school utilizes STAR for reading program assessment and certification assessments are offered for students in CTE courses. Fetterman Associates, an outside agency the school contracts with, provides assistance to teachers in evaluating the data and determining appropriate follow-up areas of focus based on the data. This can range from providing embedded professional development to teachers to providing direct support to students through boot camps, or targeted workshops addressing areas of weakness

identified in the data. The school's data room serves as the meeting for teams of teachers to review data with data specialists, identify and address any concerns. Lakeside also believes it is important to include students in the review and understanding of their own data. Periodically, students review their own data, and during weekly mentoring in small groups will review their performance, discuss goals, and determine areas of focus. Every Wednesday, the school has a 22-minute period, the Power Hour. In this, a few minutes are reduced from each other class during the day. During the Power Hour, mentors go over the data – including current grades and assignments – with each individual student, give help or refer to help in areas they are struggling.

Struggling students are identified to participate in boot camps to focus intently on areas of weakness. For any ELs that are struggling, the school makes sure to have someone in class with them to provide additional assistance throughout the day. The school also focuses on student athletes and provides targeted help to athletes who are struggling academically. The school offers summer school for credit recovery purposes, to help students stay on track for graduation. Credit recovery is also offered afterschool, and occasionally during the school day. The pull-out boot camp instruction is provided with the assistance of the consulting group. Teachers identify the students who should receive support, and consultants work with students to address areas of weaknesses on the ACT Aspire. Outside of school hours, teachers will sometimes host study sessions in neighboring towns to provide assistance in a more relaxed atmosphere.

Staffing and Professional Development

When asked how the school produced its student performance results, the first thing the principal highlighted was the fantastic teachers employed in the school, and everyone's willingness to embrace the students as their own and work to provide supports so each student has the opportunity to succeed.

Lakeside High is led by a principal and dean of students. There are 12 core teachers and 8 elective teachers who teach business, art, band, music, agricultural, family and consumer science courses. The school's three aides (paraprofessionals) have specific duties - one assigned to In School Suspension, while the other two are primarily Virtual Arkansas Facilitators. The school runs an Alternative Learning Environment (ALE) program, which includes four teachers, although not all are fully dedicated to ALE, i.e., some also teacher traditional courses.

The school makes extensive use of the Virtual Arkansas platform, to provide students with educational opportunities and courses it otherwise would not be able to offer students, due to size. The school also participates in concurrent enrollment and career and technical education opportunities. Concurrent enrollment courses are provided through Arkansas Technical University and the school district pays all fees, so there is no out of pocket cost to students. The school's counselor and teachers work to identify students who are good candidates for concurrent enrollment and set up meetings with students and parents to explain the benefit of concurrent enrollment and assist with the process. CTE are offered at a nearby college campus; currently these opportunities (12 slots for medical program and 12 slots of automotive program) are provided to seniors, as they have the flexibility in their schedules to take the courses. Students are bussed from the high school to the technical school and back.

All teachers must complete their required 60 hours of professional development. Lakeside has four student release days that are spread throughout the school year and used for professional development. The school generally also uses its faculty meetings – in whole or part – for professional development. Topics to be covered are chosen based on the needs of the school, with teacher input through both the school's leadership team and through a survey of staff. Many opportunities are led by whomever in the school has the expertise in a given area, and the school looks to the state department of education for guidance on any required topics. The school does bring in outside people for professional development as need. This group has included the Fetterman and Associates consulting group, the AR State Education Association, or others. Topics of professional development this year have included 504 plans; Technology; Science of Reading (multiple sessions); active shooter; suicide awareness; Code of ethics (annually); Google Classroom (that really helped with the pandemic this year); classroom management; and confidentiality. Finally, the school's departmental groups are very strong. The principal schedules common planning time in core content areas to allow the teams additional time to work collaboratively and consult with each other.

Student Support Services

In addition to instructional resources, the school also provides social-emotional support through its guidance counselor and through the culture of the school, where students know the teachers in the building all care about them and their success. Students feel comfortable with teachers and will reach out to them with issues, as they know teachers will look to support them.

A health clinic is also housed on the school campus; it is funded outside of the school budget. School staff believe having the clinic onsite has helped with attendance. Students who are feeling ill can come in and be seen by the clinic staff. Likewise, if students have a health issue arise during the school day, rather than being immediately sent home, they are sent to the clinic to be evaluated. Often the clinic medical staff can address the issue and then students are able to return to class. In addition, a certified therapist is on campus and students are able to get the help they need from the therapist during the school day.

Case Study School Summary: Lamar Elementary School

Background

At the time of the interview, Lamar Elementary School was a K-3 school of 395 students in Northwest Arkansas.[2] The school is a part of Lamar School District which has roughly 1,300 students in three schools. The school community is close knit, with a collaborative staff and a data-driven approach to instruction and addressing student skill gaps. The community is also very involved in the school with parents always willing to come in and help.

Lamar Elementary School Demographics (19/20)	
Enrollment	395
FRL %	72%
English Learner %	3%
Special Education %	16%

[2] As of 2020/21, the district has reconfigured its school grade bands and buildings, so the elementary school shifted to serving K-5 and increased its enrollment to over 600 students (20/21).

Seventy-two percent of students are FRL eligible, with 3 percent of students being English Learners and 16 percent qualifying for special education. Class sizes average between 20-22 students.

School Leadership and Culture

School leadership and teachers describe their school as a place where people want to be and that they are like a family. Everyone is working hard toward a common goal, and while they take their jobs seriously, they still like to have fun and "don't sweat the small stuff." The administration is very involved and visible, from the school administrators doing drop off time every morning and the superintendent being highly seen by students and staff. Teachers also reported having autonomy over their classrooms as leadership trusts that they know what is best for their students. Additionally, teachers are involved in decision making by voicing their opinion, then decisions are made by school leadership carefully considering everyone's feedback. There is minimal teacher turnover and teachers are very supportive of new teachers, both having an assigned mentor teacher and other teachers regularly checking in with new teachers about how they can help. It is a very supportive and collaborative culture.

Staff stressed that students love coming to school, love being together, and love learning together. Students feel like part of the family too. The school emphasizes character building, referred to as the "Warrior Way." Each week staff focus on particular area (each letter represents a character trait) and align class guidance to it, with staff nominating star students and celebrating positive behavior and successes. Staff also said there is good communication with parents to incorporate them into the school community.

Instruction, Intervention, and Assessment/Data Use

Lamar Elementary School emphasizes data-driven instruction and relies on routinely reviewing data and intervening from there. This includes identifying not just student knowledge gaps but skills gaps, then concentrating their efforts and targeting professional development in these areas. Adding interim assessments really helped them identify deficits and teach to them. Leadership described this shift as when the schools' scores really took off. For example, when they looked at their scores and found that only half their students were on track in kindergarten, they focused in this area and now have 100 percent of kindergarteners on track and closing the achievement gaps that they came to school with. Instructional strategies include incorporating drills to address gaps, pairing students with similar gaps, and targeting specific skills for intervention. Paraprofessionals that work with students on interventions particularly noted how helpful it has been to have targeted data so they know exactly what they need to do to help students and can see the impact. Further, giving staff better tools to teach with helps them feel they are making a difference, and be more decisive and intentional in their practice. Their education cooperative has also been a valuable resource in understanding assessment data.

Lamar Elementary has a strong RTI system to support students identified through data as in need of intervention. First, the school's schedule is structured so content areas are staggered so instructional interventionists can work with all classes. All teachers also have blocks of time for Tier 2 interventions within classroom for 30 minutes a day. Tier 2 students are also pulled out for 30 minutes of intervention twice a week. For Tier 3, this increased to 5 times a week. Progress monitoring occurs every three weeks. The school also provides afterschool tutoring for Tier 2 and 3 students twice a week. Summer

school, including transportation, is provided and required for Tier 3 students. Overall, the school described an “all hands on deck” approach to leveraging all staff in their schools, including certified teachers and paraprofessionals, to help provide intervention to students.

The school does not have a high percentage of EL students but does have a district EL teacher who comes to the school twice a week to work with EL students. Leadership reports that teachers are exceptionally good at supporting these students within the regular classroom.

Staffing and Professional Development

In addition to its teaching and paraprofessional staff, Lamar Elementary has a principal, a library/ media specialist, and a counselor. As the district is relatively small, they employee a number of shared positions with the other two schools in the district, including for art, music, PE and gifted. The school’s education services cooperative (ESC) also provides important support including a novice teacher program, professional development, and content specialists.

As previously described, there is minimal teacher turnover in the school and the staff is both experienced and highly collaborative. This collaboration is not just between teachers, but between all school staff, leadership, and education cooperative staff. Once a month there are grade level meetings with an ESC specialist and teachers reported feeling very comfortable reaching out to ESC staff whenever they had a question or needed support. Professional development is mostly during the summer through the ESC. Each teacher receives at least 60 hours of PD (10 days) and PD is related to individual teacher growth plans. Teachers set three goals within plan from personal reflection and then meet with administration to review. Teachers reported that the RISE training has been particularly helpful. Facilitators also help support teachers and are in every classroom at least once every 9 weeks.

Student Support Services

Lamar Elementary has a counselor on staff who regularly visits classrooms, convenes 2-3 small groups of students a week, and provides individual meetings twice a week for students that need targeted support, such as to address interpersonal relations, anger management, controlling/labeling emotions, emotional regulation and dealing with trauma. There are also counseling groups that come into school and the school refers students to outside counseling groups near them who will then come to the school to provide services. This can be challenging as parents have to be on board, a doctor’s referral can be required, and it must either be billed to insurance, Medicaid or Arkansas Kids. The school does provide a list of mental health resources to parents as well. There is also a behavior specialist in their education services cooperative that provides support to the school. The school has set intentional targets related to student support, including decreasing behavior referrals and focusing on bullying awareness.

Case Study School Summary: LISA Academy North Middle-High School

Background

LISA Academy Middle-High School serves grades 6-12 and is a part of the LISA Academy charter school network in Little Rock (Central region of the state). In 2019-20 the school served 529 students. Assessment, demographic and other data is reported by the state for each school separately.

LISA Academy North Middle Demographics (19/20)	
Enrollment	294
FRL %	62%
English Learner %	9%
Special Education %	12%

LISA Academy North High Demographics (19/20)	
Enrollment	235
FRL %	59%
English Learner %	7%
Special Education %	13%

The student population includes a little under 30 percent White students, nearly 40 percent Black students, and a little over 20 percent Latino students. About 60 percent of students were eligible for FRL, about 8 percent of students were EL, and 12 percent were in special education.

The school recently transitioned from a K-12 school to the 6-12 setting but still shares a campus with the lower grade school. The school expects to continue growing with the ability to hold around 700 students. All students chose to come to the school and no busing is provided, so families transport students to the school.

School Leadership and Culture

LISA Academy North is very diverse with students coming from many backgrounds. The mission of LISA Academy is to provide "an academically rigorous college preparatory program, in partnership with students, families, and the community, and guide all students in gaining knowledge, skills, and the attitude necessary to direct their lives, improve a diverse society, and excel in a changing world." The school ensures student and staff feel welcome regardless of background and the community is very supportive. Staff enjoy the small school setting and the collaborative approach needed to run the school. Almost everyone in the school is expected to be responsible for something outside of their primary role. This allows the staff to feel more connected and develop new skill sets.

The leadership team includes the principal, assistant principal for academics, dean of students, math and ELA leads, and the controller. The administration is very supportive and collaborative. Many of the administrators were teachers in the school before moving into their current roles, so they understand the job of the teachers. The school also has the support of the larger charter district with district level content experts and other support staff.

Instruction, Interventions and Assessment/Data Use

Academics are the school's first priority. The longer students stay with the school the better the do academically. In grades 6-10, the school provides 10 hours of instructional time in for both ELA and math each week. Seven of these hours are core teaching and with three of the hours for lab. Lab time provides both enrichment and opportunities for pullout for students to address specific skills gaps.

Tier 2 and Tier 3 interventions are provided within the classroom with Tier 3 delivered through intensive pullout interventions. Tier 2 is provided through small group instruction. All students are on the ALEKS program for math, which is leveled for each student. The program helps identify groups of students that are struggling in the same area. ALEKS is aligned to the school's curriculum.

ELA is broken up into reading, writing, and English with the labs also broken up into the three areas. The school uses Newsela which allows for differentiation and the development of background knowledge. Teachers are expected to be working in small groups and interventionists support the teacher.

LISA Academy North uses both the ACT Aspire and NWEA to track student progress. Teachers have individual conversation with students to about their progress. The data allows staff to identify specific interventions for students.

LISA Academy provides extended day with the first semester focused on what kids want to dig into. The second semester is more tailored for students that are struggling with specific areas. The school also has robust extension opportunities including STEM courses, advanced robotics, the science Olympiad, the STEM festival, and the schoolwide science fairs. These extensions are an important piece of the academic culture at the school.

Staffing and Professional Development

LISA Academy North has low staff turnover with the expectation that about 90 percent of staff will return in the coming year. The network has focused on providing a more competitive compensation system and now pays more than many schools in the region. LISA Academy North also feels they have a strong evaluation system that supports staff.

The school has collaboration time set every Friday for either departments or grade levels. These are supported by the subject coordinators in the building and additional support can come through district-wide coordinators. The school is working towards implementing a professional learning community model.

Broader professional development is in collaboration with the district. This begins with a back-to-school week that includes all faculty. There is team building and then focused meetings on content and teacher needs. The district surveys teachers twice a year to gauge needs. Each school also gets two school level professional development days. Beyond the back-to-school professional development, each teacher is provided 18 hours of personalized content with many gaining for more hours each year.

Student Support Services

LISA Academy North has a mental health counselor that can provide one-on-one counseling for students. In addition, the school has services available to students in conjunction with the University of Arkansas Medical school. These are generally billed through Medicaid.

Case Study School Summary: Mena Middle School

Background

Mena Middle School Demographics (19/20)	
Enrollment	403
FRL %	69%
English Learner %	1%
Special Education %	11%

Mena Middle School is a school of about 400 students serving grades six through eight in the Mena School District, in Southwest Arkansas. Approximately 20,000 people reside in the county, and Mena's population is around 5,000. Mena is a rural area, approximately 80 miles to the interstate. Several machining companies operate in town, and the area's largest employers are Walmart, the school system and the hospital. Mena is known as a retiree community, which can present challenges raising local funds for education, as a smaller proportion of residents has students in the school system. In the early 2000s, Mena consolidated with a smaller district to the south, and while consolidation brought an initial increase in student population, the district's student enrollment has been in fairly steady decline for the last several years. Mena School District's four campuses are adjacent to one another.

Approximately 70 percent of students were eligible for FRL. A very small percentage (usually around 1%) are English Learners. The school is approximately 90 percent White, seven percent of students are Latino, and just over one percent of students Black and Native American each. Student mobility can be a struggle at times, as families often come to Mena because they know people who live here, then find there is little opportunity for employment once they arrive and often end up moving out.

School Culture and Leadership

The school operates with a distributive leadership style- the principal tries to solicit input, get opinions from others before making decisions, especially in an area that he perceive as a strength. The core leadership team is the principal, the assistant principal, who handles student discipline, and the counselor, who serves as a liaison for teachers and students, to help give them a voice. As the middle school, Mena's leadership believes it's important to have strong connections to both the elementary and high school, which requires being aware of the leadership of the school's principals and ensuring there is vertical alignment so transitions for students are smooth as they move throughout the system.

A key component of the school's culture is the community. Teachers feel a great sense of pride and community within the school; the teachers love being together inside and out of school. As a small community, the students feel very connected to their teachers, as their teachers are also their neighbors. Teachers have the opportunity to build strong relationships with students outside of the school setting. Knowing families in town also provides insight into the lives of students – the teachers are aware of family struggles and are able to provide appropriate support to students within the school.

Instruction, Intervention, and Assessment/Data Use

The school day is comprised of seven instructional periods of 50 minutes each, a lunch period, and a 30-minute Achieve period between first and second periods. The Achieve period is essentially a homeroom period, it gives students the opportunity to have more time to get their work done and to consult with teachers. The school has been trying to incorporate more social-emotional elements into the Achieve

block, but it's a difficult balance, as the school tries to create as much time to get support from teachers during the school day as possible. The school follows a typical middle school curriculum, with core subjects in English, mathematics, science and social studies. The school utilizes Eureka Math as its primary math curriculum, and this year the literacy department used IXL more frequently this year. A number of electives are available for students to participate in, including band, art, business. Teachers at Mena collaborate and sometimes team teach across content areas, to provide more engaging content for students.

A unique feature of Mena Middle School's schedule is its use of Flex Fridays. Flex Fridays are flexible schedule days, where if students are missing assignments or otherwise behind in an area, they report to the teacher(s) to complete the missing work or to receive additional support (RTI or other direct instructional support) in specific areas. For students who have completed all assignments and are on track with coursework, they have choices of where to go and what to work on during Flex Fridays. Some might choose to go to their electives teacher's room to work on a project, others may choose to work on virtual courses or get ahead on classwork. The students enjoy Fridays and work hard during the week to ensure they get to choose what to do on Flex Fridays, rather than being directed to go to a certain teacher's class to catch up on work. Teachers are able to use Flex Friday to provide targeted support to students who need it.

Another key highlight of Mena's approach is the Zeros Aren't Permitted (ZAP) program. Mena adapted programs from other schools to one that works for their school – the program is intended to increase expectations for academic completion and performance. The program provides students an opportunity for a second chance to turn in missing work, and receive up to 80% credit, rather than a zero. When students do not turn in assignments on time, teachers enter that information into a google form. Students are then referred to a supervised ZAP period, during which they complete the work missed. ZAP periods can be during study halls or electives and encourage students to complete their work.

Regular assessment and progress monitoring are a key part of Mena Middle School's strategy. The school utilizes the ACT Aspire exams. Additionally, teachers utilize STAR assessments in reading and math and the Renaissance program to identify areas of focus. The school is equipped with chromebooks, which is especially helpful for diagnostic testing. The school changed the timing of their parent teacher conferences, so that rather than occurring toward the end of the grading period, they occur at the mid-point of the grading period. By doing so, teachers are able to share all relevant data with parents, evaluate student progress, and jointly establish goals for the remainder of the term. This shift enabled the school to better partner with parents on their children's education and happens early enough in the grading cycle that there is sufficient time for students to improve their grades.

Mena Middle School utilizes a strong RTI process. Teachers and the school counselor work together to identify students requiring extra support. The Achieve period is often utilized to group students for RTI intervention. In this, teachers will group students based on particular skills they were struggling to master. Mena teachers have seen real improvement in closing gaps and acquisition of skills by utilizing that 25-minute period to work in small groups. The school is focused on using every minute of the school day to address student needs, due to transportation limits, many students are unable to stay

afterschool for tutoring or additional help. The school does offer before- and after-school tutoring two days per week, which is open to all students. Further, due to the rural nature of the area, many areas have limited or no internet connectivity, so teachers are aware that student may not have the access needed to complete online assignments outside of school hours. The school provides an Alternative Education Program for students that need additional support.

The school has a very low English Learner population. One staff member in the building is responsible for supports for EL students. Most English Learner students in the district were identified in kindergarten or early elementary school, so have fairly high language skills by middle school and require only modest support.

Staffing and Professional Development

The principal noted that for most teachers, middle school is the "you love it or you hate it" grade span, and the principal is proud to have a staff that loves it. Much of the school's teaching staff is from the area, and number of staff attended Mena schools themselves. The focus of the staff is to help students understand that middle school is a time of transition, they aim to help students explore the nature of becoming young adults –through opportunities, choices, and responsibilities – to help prepare them to be ready for high school. Mena Middle School shares some staff members with other schools: eight staff members also spend some of their day at the high school, and four staff members are shared with the grade 3-5 school.

The staffing configuration of the school shows that that the school has about 14 core teachers and about 13 elective teachers to provide instruction in subjects including art, music, physical education, health, business and technology. The school also has two paraprofessionals throughout the school serving all students, and an additional three paraprofessionals dedicated to serving special education students. It's important to note that eleven staff members – teacher and paraprofessionals – are shared among campuses in the district. These staff members split time with the middles school, high school and/or elementary school. The school's administrative team is comprised of the principal, an assistant principal, and the school counselor.

The school is currently in a transition phase with its professional development approach. Traditionally, PD occurs for several days prior to the start of the school year, along with some district professional development days, and building-level professional development, most often led by administrators or counseling staff. The school would sometimes utilize trainings offered through the local education services cooperative, and offer opportunities for department/content based professional development. This summer, the school is transitioning to having all professional development embedded in the calendar. Professional development will occur on 4-5 different days throughout the year, on nonstudent contact days. The school is beginning with workshops on the art and science of teaching.

Teacher planning and collaboration time is valued at Mena Middle, with each teach having one 50-minute planning period per day. Whenever possible, the tested content areas have a common planning period, allowing those departments to work collaboratively as needed.

Student Support Services

Mena Middle School believes social-emotional (SEL) support is an important facet of the school day. SEL support services are primarily provided through the school counselor and a behavior specialist. The behavior specialist spends most time with higher need students. Currently, services to sixth graders are generally pull-out, meeting in a space outside the classroom. The seventh-grade family and consumer science course, which all students have for one semester, focuses heavily on SEL. In 8th grade, more time is spent on career development and exploration.

As mentioned previously, some social-emotional support is provided during the Achieve period and the school is currently exploring whole child models to integrate into the school day, as Mena sees SEL as an area of potential growth to better address whole child needs. A SEL committee, made up of the counselor and a couple teachers, is working to make SEL more intentional this year and exploring potential models. As with the ZAP program, school leadership believes it's vital to take the time to explore the options and make sure whatever program is implemented is not implemented in an off-the-shelf fashion, rather that it is designed and customized to the unique needs of the school's population.

Case Study School Summary: Oscar Hamilton Elementary School

Background

Oscar Hamilton Elementary School Demographics (19/20)	
Enrollment	261
FRL %	74%
English Learner %	4%
Special Education %	16%

Oscar Hamilton Elementary School is a school of 261 students, in kindergarten through sixth grade, in the Forman School District. Located in Southwest Arkansas, the town of Foreman is near the Oklahoma and Texas borders. Foreman is a small town of approximately 1,000 residents; the school serves Foreman and students from surrounding towns. The local cement plant is the only major industry in the community and many residents work in Texarkana or neighboring towns, primarily in paper mills, chicken farms or the logging industry.

Seventy-four percent of students are FRL. Approximately four percent of students are ELs, which is a significant increase from ten years ago, when the school had no or very few ELs. Many of the school's EL students come from families who come to work in the cement plant, which was built about 10 years ago. The school's special education population have increased rather consistently year to year, and currently is around 13.5 percent.

Approximately seventy percent of students are White, 15 percent are Black, and nine percent are Latino. The school's enrollment is somewhat steady, while some families move and in out, overall, the school does not struggle with high mobility during the school year. The school boasts a 95 percent attendance rate. Average class sizes vary across the grade levels but tend to fall in the range of 15 to 20 students per class. The school was designated a 2019 "Beating the Odds" school by the University of Arkansas, Office of Education Policy in Math, ELA and Overall.

School Leadership and Culture

Oscar Hamilton Elementary is a school where students feel safe and welcome. A benefit of being in a small community is that school staff know the parents and extended families of students at the school, and there is a belief that the community and school are working together toward a common goal. Oscar Hamilton staff believe the key to the school's success is its belief in high-expectations and excellence for learning – for both students and teachers – but believe it is critical to build relationships and rapport with students first, before holding them accountable to the expectations.

Oscar Hamilton's administrative team strongly believes that their teachers are the number one resource that impacts student success. The principal is well respected and highly regarded by staff in the building. Teachers have autonomy within their classrooms – they have the freedom to teach as they believe best suits student needs, while knowing that the principal is supportive and a great sounding board to work collaboratively with to problem solve as needed. The school utilizes a growth mindset and is constantly seeking to improve instruction and practice for student success. This growth mindset extends beyond the staff and includes regular celebrations of student growth such as extra recess, popsicle parties, recognition on the wall, and receiving charms from the principal for meeting learning goals.

Instruction, Intervention, and Assessment/Data Use

A key feature of Oscar Hamilton's schedule is a daily morning RTI period, where students receive instruction in small groups based upon analysis of student-level data. Students are organized for instruction differently, based upon grade level. Students in kindergarten through second grade are in self-contained classrooms with their designated teacher. The school is departmentalized in grades three through six, where students see different teachers in different content areas, with 90-minute blocks for literacy and math. In the upper elementary grades, student data is used to determine class placements to ensure an appropriate mix of students so teachers are able to focus on the needs of students and differentiate instruction appropriately.

Oscar Hamilton teachers know and teach to the state standards – those serve as the foundation – and teachers build on them with curricular and other resources. School administration and teachers believe that more important than the specific curriculum offered, the key to Oscar Hamilton's success is its belief in high-expectations and excellence for learning – for both students and teachers. Several computer-based programs are used at the school, including IXL, DIBELS, Moby Max and Study Island. Oscar Hamilton has adopted the Wonders reading curriculum, Eureka Math and Pearson Interactive Science program. Additionally, the school places a high value on phonics, and uses the Phonics First program to build phonemic awareness. It also utilizes the Haggerty and Science of Reading programs, and the Sunday program especially for its dyslexic and EL students.

Regular assessment and progress monitoring are an integral part of Oscar Hamilton's approach to student achievement. When asked how teachers use data to inform instruction, the response was, "How do we not use data?" Teachers follow an approach of progress monitor; reteach; progress monitor. They also create individual plans to better track student growth and need areas. Teachers noted that it is a difficult process, but worth it to achieve student growth and success. For assessments, Oscar Hamilton uses the NWEA Maps K-2 assessments three times per year and the ACT Aspire interim and

summative assessments. It also utilizes the DIBELS assessment, which was noted to be especially helpful for developing RTI student groups. A school-wide improvement plan goal to increase reading scores last year provided a clear focus on using available data to inform instruction and educational strategies. Teachers regularly review data and collaboratively decide which students need interventions, how to best group students, and when to move students in and out of various groups. A shared leadership system exists among all teachers for evaluating student data, and following each administration of the interim assessments, the school has a "data day" where all teachers discuss the data, which drives the school's RTI process. Teachers also look at their students' data during weekly collaboration time.

Oscar Hamilton has a strong RTI process in place, with daily dedicated RTI sessions, during the first period of the school day. Students who have been identified for RTI meet in small groups with certified teachers to work on whatever skills they may need additional work on. Students not requiring RTI are able to receive assistance with their work from the activity/elective teachers and aides. The RTI grouping are very fluid, students are monitored and can move in and out of RTI groups throughout the school year. English Learners typically stay with their classes most of the day; the school prefers to push-in additional supports to EL, rather than pulling them out of class. For those EL students that require additional supports, they will take them out of class 3 times per week for 30 minutes, and typically use the Sunday program for additional language acquisition opportunities.

Staffing and Professional Development

As previously noted, Oscar Hamilton highly values its staff. Teacher turnover at the school is low; occasionally teachers will leave for a Texas district just over the border, but they often seek to return. The majority of the staff is full time at Oscar Hamilton; three positions are shared with the high school: art, physical education, and one special education teacher. Every grade level has a common planning period, and in the departmentalized upper elementary grades, content-area teachers have a common planning time at least once per month. Professional learning communities meet weekly.

Professional development topics are based on the school's needs assessment, teacher growth plans and the district growth plan. Oscar Hamilton sees its own teachers as experts and will often use its own teachers for professional development sessions, to share their areas of strength and expertise with others in the school. The school will often utilize their education services cooperative to provide professional development on specific topics of interest to the staff. Three professional development topics the staff pointed to as particularly helpful for improving student learning were on formative assessment and the importance of using it daily to improve instruction; the RISE training; and a study on the growth mindset, which had a big impact on how teachers approached students and their learning.

Student Support Services

In addition to instructional resources, the school also provides social-emotional support through counselors and character education. Beyond the school's intentional efforts to create a positive culture and build relationships between school staff and students, additional student support services are available at Oscar Hamilton. The school's full-time counselor is available to anyone in the school community (students, parents, teachers and school staff). A mental health counselor also comes to the

school three days per week. Students can be referred for counseling services, however they are provided outside of the school budget, so services must be billed to Medicaid or to private insurance. School staff believes these additional support services are helping students be successful in the classroom.

Case Study School Summary: Paragould Junior High School

Background

Paragould Junior High Demographics	
Enrollment	485
FRL %	71%
English Learner %	6%
Special Education %	16%

Paragould Junior High School is a school of about 485 students in 7th and 8th grade in Paragould School District in the older area of Paragould. The school is located eleven miles from the Missouri boarder and 70 miles from the Tennessee boarder (Northeast region of the state). Paragould is a large manufacturing town where majority of the student's families work in the factories. Most of the families are not your traditional two-parent families. Students will live with grandparents, older siblings, or with one parent. Additionally, many families rent and move quite often leading to a higher rate of student mobility.

Seventy-one percent of students are FRL, 6 percent are EL, and 68 percent are special education students. Eighty-one percent of students are White, 6 percent are Black, and 6 percent are Latino. The demographics of the school has changed over the years. The school used to mainly be Latino students making up the EL population, now the school is seeing an increase in Middle Eastern students. Additionally, the school is seeing an increase in Black students. The school has a 93 percent attendance rate. Average class sizes in the school are about 17 students.

School Culture and Leadership

The administrators and teachers work as a team. The administrators trust the staff and hold them accountable. The principal believes the key to success is to hire qualified and caring teachers. Every teacher in the school goes above and beyond. The school has four leadership committees that will have multiple meetings throughout the year to address school climate, curriculum, safety, and parent engagement. There are six to eight teachers on each committee as well as certified and classified staff.

The school also believes in holding students accountable. Paragould Junior High has a schoolwide discipline plan that has led to more instructional time by decreasing the number of office referrals, suspensions, and providing a safe and orderly learning environment. There are four schoolwide rules:

1. Be on time and be prepared for class.
2. Keep hands, feet, and objects to yourself.
3. Follow directions the first time they are given.
4. Be respectful to yourself, your classmates, and your teacher at all times.

Additionally, the school has a rewards system where if a student only receives one detention and no office referrals in nine weeks the student gets an event such as dodgeball, karaoke, or pizza party.

Staff intentionally work to create a feeling of trust with their students and to develop meaningful relationships with them. This provides a safe place for students to share any issues they experience

outside of the school walls and to get needed support. The staff also works closely with parents to make sure students are receiving the resources they need.

Instruction, Interventions and Assessment/Data Use

Paragould has a number of different instructional approaches and interventions to meet the different needs of its students. Schoolwide, a Zeros Aren't Permitted (ZAP) program is employed. If a child does not turn in their homework for the first time, they can turn it in the next day. If a child does not turn in their homework for the second time, they go to lunch detention where they work on their homework and cannot use their cellphone. Staff believe that this program has really enhanced the students grades and understanding of fundamental skills.

The school started has also started a reading lab class for students that are at the 5th and 6th grade reading level. A classified staff member will read a novel with comprehensive questions and work through solving them with the students.

Imagine Math and USA test prep are used to help students who need remediation in certain areas. There are after school and lunch tutoring offered to students. Students can attend an hour after school two days a week or attend lunch tutoring during the school day. Additionally, parent involvement is very important. The school will reach out to parents if the students is struggling to schedule an in-person meeting.

For special education students, the school provides a resource room with three teachers and one self-contained teachers. The resource teachers use Imagine Learning for levels K-6 and have found it helpful because it gives the students a feeling of success and a desire to keep learning.

Regular assessment and progress monitoring are also an integral part of Paragould Junior High. The teachers and leadership team look at ACT Aspire scores for focused remediation. Remediation is usually provided during first period. Additionally, the school uses Edulastics for common assessments in English and math four times a year to identify areas of weakness and improvement. Aspire data is used for science data. The data is also used to update the pacing guide and allows the school to see where students are struggling.

Staffing and Professional Development

Teachers work in subject-level teams and each subject-level has a planning period. Each day the teams have the option to meet for 50 minutes to discuss curriculum and student achievement. The content teams are not required to meet because the school relies heavily on PLC teams instead of content teams. The PLC teams meet a few times a week to look at data and see the percent of students that are meeting benchmarks. Districtwide the junior high school has the lowest turnover. The area with the highest turnover is special education and the school similar to its counterparts in Arkansas has a hard time recruiting special education teachers.

Paragould Junior High School provides a variety of avenues for its staff to receive professional development. The staff receives 24 hours over the summer and 12 throughout the school year. A portion of those hours are from the state. The state requires so many hours in cores content areas, for

those hours the school will use their education services cooperative or the state. The additional hours the teachers can chose amongst a group of topics. The school first asks the district if it will cover the cost of the selected PD opportunity, otherwise the school uses will use discretionary funds from its budget.

Case Study School Summary: Riverview High School

Background

Riverview High School Demographics (19/20)	
Enrollment	375
FRL %	69%
English Learner %	10%
Special Education %	10%

Riverview High School is a 9-12 school of 375 students located in the town of Searcy, Arkansas in the Northeast region of the state. While the high school is in the town of Searcy, is not in Searcy School District. Instead, the high school is a part of Riverview School District, which is a consolidated district of about 1,200 students covering 1,900 square miles. About 10 percent of students do not live in the district. Compared to the town, many of the communities that the school supports have few businesses or industries.

Riverview High School is diverse school for the area with a growing Latino population. In 2019/20, 68 percent of students were white, 16 percent were Latino, 10 percent were Black, and 6 percent were two or more races. Nearly 70 percent of students were FRL and 10 percent were EL students. Ten percent of students received special education services.

Average class sizes are about 25 students.

School Leadership and Culture

School leadership described their work to shift the school culture to becoming a student-centric school and indicated that it is an ongoing process that they are still engaged in. Being student- centric means making every decision about what is best for students. Leadership said teachers are really good at reaching out to the kids, parents, and leaders of the district. Leadership strongly believes in equity for all students and that all students can learn and be successful. The school has experienced challenges with turnover at the district level, with four different superintendents in 8 years, and a fifth superintendent coming on during the summer of 2020. While there is low volunteer support, there is a lot of support for athletics and clubs in the community. The school also has community partnerships with the local food bank, churches and a university to provide meals and resources to students.

Instruction, Intervention, and Assessment/Data Use

The high school used to be structured to offer a full eight- period day every day but has moved to a modified flex schedule with eight periods three days a week, then two days of the week having only five periods. This allows time for built in remediation. Further, the school tries to ensure that a student can take everything they want to take, which is very difficult in a small school. AP and concurrent enrollment can be particularly challenging to offer. However, the school allows all students to AP/honors courses so that students can challenge themselves.

The school has started using NWEA MAP three times a year in core subjects grades 9-11 and are working on how best to leverage this data. Staff utilize a data wall with MAP results for each student, then meet

every nine weeks on student performance, attendance, and goals. The staff then use this data to identify instructional gaps to address. For example, after reviewing their data staff found that students tended to have lower reading achievement, so they embedded literacy across all classes and every department now has a common literacy assessment.

Leadership emphasizes that poverty is not an excuse for poor student performance, but there are realities to poverty that must be addressed first for students to be successful. This includes addressing their physical and emotional needs, such as through their second chance breakfast program, providing mental health therapy on campus, and providing one-to-one technology that they can take home. The school also focuses on teaching life skills and self-sufficiency. Additional support is offered outside of the school day through a 21st century after school tutoring program which provides academic support, food, and transportation home. There is also credit recovery summer school for students that need it.

To serve English Learners, the school has an ESL teacher to support higher need (Levels 1 and 2 on the ACCESS assessment) ELs through pullout intervention. There is also an ESL paraprofessional who helps during remediation time and 21st century after school tutoring. Staff believe that strength in home language makes for better ESL learning, so they have books in home languages.

Staffing and Professional Development

The junior high school is connected to the high school, so there are a number of shared staff positions. Coaches, in particular, are often shared. Staff at the school are fully certified with an average of seven years of teaching experience. There are over 30 certified staff members at the high school, with an average of about 5 teachers leaving a year, mostly due to retirement.

The school started PLCs three years ago with PLC teams meeting once a week. Teachers are grouped by grade level cores with common planning time so they can talk about the same group of students. Fine arts staff are also grouped together, and CTE staff are grouped together for PLCs. Once a month, cross-grade core content areas also meet together. Teachers receive other PD during the summer (a total of 10 days), with about half of PD used to address state requirements. About 1-2 days are led by school staff and the rest are through the district and state. Often at least half a day of school-led PD is just building culture.

Student Support Services

Riverview School District has an RN for the district, who is housed at the high school. There are two counselors specifically for the high school, with the 11th-12th grade counselor focusing on college and career preparation, and the 9th-10th dealing more and more with student mental health. The school has identified and uses a specific social emotional curriculum developed by another state. Leadership said they might turn back to outside agencies to provide mental health support, but the issue has been that those outside agencies will not serve students who cannot pay so students who do not have Medicaid are left out of receiving services. In the 2019/20 school year, the school was able to provide service to 12-15 students, compared to the 20-40 students that received support in the prior year. The school is exploring telehealth options.

Case Study School Summary: Theodore Jones Elementary School

Background

Theodore Jones Elementary Demographics (19/20)	
Enrollment	461
FRL %	68%
English Learner %	8%
Special Education %	16%

Theodore Jones Elementary School is a kindergarten through fourth grade school in the Conway School District in the Central region of the state. The school is predominately minority with 35 percent Black, and 12 percent Latino, and 46 percent White students. Sixty-eight percent of students are eligible for FRL, while 8 percent are EL, and 16 percent are special education students.

The school serves students from the largest geographic area in the district. Theodore Jones students come from a large geographic footprint with families working in multiple industries including at the University of Central Arkansas (UCA). The school has a very transient population with shifts in enrollment by grade happening frequently. Recently, the school lost two full classrooms of students between kindergarten and first grade. The school is also seeing growth in its EL population over the last decade with most EL students coming from the Hispanic community.

School Culture and Leadership

The school leadership and staff ensure that all students are known. Families are often multi-generational with parents and even grandparents having gone to the school. Knowing students includes not only what they need to learn, but *how* they learn. Days start with community circles to allow for a check in with each student. Teachers are always collaborating on the best ways to help students. Teachers reach out to one another when faced with a challenge, including reaching across grade levels.

The leadership team includes the principal, assistant principal, and two instructional coaches. This team sets the tone to make things fun in the school including dance party Fridays, popcorn, and cotton candy. They celebrate staff in a number of ways including the Marigold Teacher of the Month, which is presented publicly every month. Leadership understands that relationships are the number one priority in the school, and they facilitate this in any way possible.

In addition to the leadership team, there is a building advisory committee which includes a representative from each grade level. This group helps with the yearly planning for the school.

Instruction, Interventions and Assessment/Data Use

The school prioritizes class creation as part of ensuring success with students. This process begins with class list day where teachers collaborate to set each classroom roster. Current teachers help to build these class lists which allows them to front load information on each student for the upcoming teacher. Classrooms are then created in a balanced manner considering gender, skill levels, and learning styles.

Every classroom has Tier 2 interventions within its regular schedule. All teaching staff are part of working with these small groups including specials teachers. There is even a group of dads, the Watch Dog Dads, who come in and work with students in the lower grades some years. The goal is to pull a small group of students with a similar skill gap. Groups are very flexible with students moving between

groups as the data shows progress on a skill. The school has embraced the state's RISE work and is ahead of the curve with the program. The RISE work was implemented a year early and has changed how the school does small groups.

The school uses NWEA, DIBELS, ACT Aspire, and Acadience for assessment data. Interim assessments are given twice a year for K-4. Progress monitoring is done every two weeks utilizing DIBELS and classroom assessments. Tier 2 intervention groups are guided by the data produced through the assessment system, allowing for the movement in and out of groups.

Theodore Jones provides additional interventions for struggling and EL students. The school has both before and after school programming for students identified as needing additional help. Students are matched with teachers to work on skill development. Since many students arrive early for breakfast this time is used for intervention, with other students served before buses arrive in the afternoon. About 30-35 percent of students participate in the additional programming.

Theodore Jones pushes support into classroom for new EL students to ensure they are comfortable in the classroom. The school uses methods that will be advantageous to all students, with a focus on oral language. This is part of the morning circle for each classroom. The school also tries to ensure EL students are grouped with a bilingual student so they have someone to help them in their native language in the classroom.

Staffing and Professional Development

Theodore Jones has low teacher turnover and shares a few staff positions with other schools including the EL teacher, speech pathologist, resource teacher, and interventionist. Grades K-3 are set up in a traditional elementary model with teachers teaching all core subjects, while fourth grade is subject area based. Teachers have a planning time and meet in grade level teams at least weekly.

One week a month includes more intensive work on students. Each grade meets three times, with a meeting to prepare for work with a member of the leadership team, a meeting with that leader, and then an additional planning meeting. The focus is on the students in the grade and how to best serve them.

Student Support Services

Theodore Jones has a fulltime counselor whose goal is to spend 90 percent of their time with students, and a fulltime nurse to serve students. The school is able to provide dental care through the local children's hospital. In addition, the district health clinic is available to students. The school has access to two mental health providers, though they mentioned that staff could use more training in good mental health strategies.

Case Study School Summary: Weiner Elementary School

Background

Weiner Elementary Demographics (19/20)	
Enrollment	108
FRL %	69%
English Learner %	2%
Special Education %	23%

Weiner Elementary School is a very small K-6 school in the Harrisburg School District in the Northeast region of Arkansas. In 2019/20 the school served 108 students. The school has 87 percent White students, 3.7 percent Black, and 6.5 percent Latino. Nearly 70 percent of students are FRL, 2 percent are EL and 23 percent are special education – a much higher than average percentage. Weiner is the only school in the community with the high school closing a few years ago.

The school is part of a farming community that has seen shifting demographics as farming changes. School enrollment has declined over time as less families work the farms and the number of students from economically disadvantaged backgrounds has grown.

The school is an Innovation School and was one of just 12 schools to receive this designation in the year they applied. The school was a 2016 Blue Ribbon School and has won several awards in 2019 from the University of Arkansas for growth and "beating the odds."

Weiner Elementary School's average class size is around 16 students.

School Culture and Leadership

Staff repeatedly mentioned the family feel of the school. The small size of the school is important and allows for a focus on the whole child. Staff are able to build strong relationships with each other, students, and families. Members of the staff live in the community and are sure to be seen, helping grow the connection between the school and the community. Staff rely on one another for support and know they can go to anyone in the school for help. Teachers work with each other to ensure they can best support students.

The principal is the leader of the school but believes in shared leadership. This includes working with the GT coordinator and digital learning facilitator. Teachers are trusted and administration supports them. Staff are encouraged to highlight what isn't working and administration will get them what they need.

Instruction, Interventions and Assessment/Data Use

The school has very high standards for all students. When the staff were applying for innovation status, the developed a model in the image of their dream school. The school utilizes a number of waivers to implement the program in such a small setting. This includes providing Spanish without a licensed teacher, the Spanish offerings include some for high school credit. The school does not technically have a library and provides art and music instruction in the classrooms.

Teachers use co-teaching for math instruction, with up to three teachers in the classroom at one time. This allows students to work with teacher on specific skill needs. Weiner also utilizes peer tutoring, matching students with needs to students that have mastered the skill. The small setting allows for lots

of small group instruction. The staff knows each child and holds them to the school's very high standards.

The school uses iReady and DIBELS to monitor students and identify skill gaps for kids. Weiner uses a data wall, and each teacher owns their students' data. The success of students is owned by all staff members.

Weiner provides after-school programming three days a week for 40 minutes. This time includes homework and tutoring help. In addition, teachers will find time, often during specials classes, to pull a student who needs extra help. Morning programming is more focused on extensions and peer mentoring.

Staffing and Professional Development

Weiner has very low teacher turnover, with the school having the same staff the past five years. They do not share any staff with other schools. The school uses platooning, with one teacher focused on math and one on literacy. There is just one teacher teaching each subject per grade level, teachers are expected to be masters of their craft.

Teachers have common planning time at least twice a week. Grades 3 through 6 teachers meet to ensure vertical alignment across grades and then grade level teachers also meet together. In house professional development has focused on student data, with all staff helping identify what is needed for students. The school focuses outside professional development on the needs of teachers, with the school paying for opportunities teachers identify. Weiner also relies on the education service cooperative to deliver some professional development.

Student Support Services

Weiner is able to provide group counseling one a day week for kids. Counseling focuses on the growth mindset in grades 4-6, utilizing both online and in-person programming. Character development is the focus for the lower grades. The school also has access to school based mental health services that are available to all students regardless of the ability to pay. The small setting allows the school to address the needs of students.

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Appendix 7: College and Career Readiness

Examples of Actionable CCR Definitions from Other States

Maryland

In Maryland, college- and career-readiness includes mastery of rigorous content knowledge and the abilities to apply that knowledge through higher-order skills to demonstrate success in college and careers. This includes the ability to think critically and solve problems, communicate effectively, work collaboratively, and be self-directed in the learning process.

More specifically, a student who is college- and career-ready should:

- Be prepared to succeed in credit-bearing postsecondary introductory general education courses or in industry certification programs without needing remediation.
- Be competent in the Skills for Success (SFS), including learning, thinking, communication, technology, and interpersonal skills.
- Have identified potential career goal(s) and understand the steps to achieve them
- Be skilled enough in communication to seek assistance as needed, including student financial assistance.

Ohio

Ohio's college- and career-ready definition is to ensure all students 'Start Ready and Graduate Ready' from their PreK–12 learning environment, qualified for success in a degree or credential-granting postsecondary education program, without remediation, and advanced training for a career of choice. Student readiness for college and careers includes:

- Content Knowledge: A deep core-content knowledge in academic and applicable technical content;
- 21st Century Skills: The effective use of academic and technical skills (e.g., research, problem-solving, systems thinking);
- Readiness Behaviors: The acquisition of readiness behaviors such as goal-setting, persistence, and resourcefulness;
- College and Career Survival Skills: The acquisition of knowledge and skills needed to navigate successfully within the world of higher education and world of work.

Massachusetts

Massachusetts students who are college and career ready will demonstrate the knowledge, skills and abilities that are necessary to successfully complete entry-level, credit-bearing college courses, participate in certificate or workplace training programs, and enter economically viable career pathways.

In order to meet this goal, the Commonwealth has defined a set of learning competencies, intellectual capacities and experiences essential for all students to become lifelong learners; positive contributors to their families, workplaces and communities; and successfully engaged citizens of a global 21st century.

Beyond achieving college and career ready levels of competence in English Language Arts / Literacy and Mathematics, all high school students should:

- Develop a foundation in the academic disciplines identified in the MassCore course of study,
- Build competencies for workplace readiness as articulated in the Integrating College and Career Task Force Report, and
- Focus on applying academic strategies to problem solving in diverse professional and life contexts, appropriate to individual student goals.

Massachusetts has developed specific curriculum frameworks and essential learning items in each area.

College and Career Readiness Indicators, Early Childhood Education through 12th Grade

The following tables from the College & Career Readiness & Success Center at American Institutes for Research's (AIR) November 2013 report *Predictors of Postsecondary Success* identify indicators, predictors, and other potential factors of future success at grade spans ranging from early childhood education through high school.

Table 1. Early Childhood Correlates of School Readiness and Elementary Performance

Early Childhood		
Indicator	**Predictor**	**Other Potential Factor**
	■ Participation in child care and early education[a] ■ Early approaches to learning[b] ■ Positive "school readiness risk profile"[c]	■ Cognitive understanding and cognitive control[d] ■ Positive play interaction behaviors at home and school[e] ■ Emergent literacy[f] ■ Working memory skills[g] ■ Social-emotional learning[h] ■ Attention span persistence[i]

[a]Magnuson, Meyers, Rhum, & Waldfogel, 2004; [b]Li-Grining et al., 2010; [c]Hair et al., 2006; [d]Leerkes, Paradise, O'Brien, Calkins, & Lange, 2008; [e]Coolahan et al., 2000; Dilalla et al., 2004; Fantuzzo & McWayne, 2002; [f]Doctoroff, Greer, & Arnold, 2006; [g]Gathercole et al., 2003; [h]Denham & Brown, 2010; [i]McClelland et al., 2012

Table 2. Elementary School Correlates of Elementary and Middle Grades Success and Secondary Readiness

Elementary School		
Indicator	**Predictor**	**Other Potential Factor**
■ Reading by the third grade[a] ■ < 10 percent absenteeism in elementary school[b]	■ Being rated highly by teachers on attention span and classroom participation[c] ■ High scores on the Social Skills Rating System[d]	■ Social competence[e]

[a]The Annie E. Casey Foundation, 2010; Hernandez, 2012; [b]Chang & Mariajose, 2008; [c]Alexander, Entwisle, & Dauber, 1993; [d]Malecki & Elliot, 2002; [e]Welsh, Parke, Widaman, & O'Neil, 2001

Table 3. Middle Grades Correlates of Secondary Success and Postsecondary Readiness

Middle Grades		
Indicator	**Predictor**	**Other Potential Factor**
■ < 20 percent absenteeism in the middle grades[a] ■ Remaining at the same school through the middle grades[b] ■ Receiving no unsatisfactory behavior grades in sixth grade[c] ■ Passing all ELA and mathematics courses and meeting benchmarks on state exams[d] ■ Passing Algebra I in the eighth grade[e] ■ NAEP mathematics score of > 292 in eighth grade[f] ■ Meeting the following benchmarks on college preparatory exams: ACT EXPLORE test scores of English 13, mathematics 17, science 20 and reading 15[g]; SAT-9 score > 50th percentile[h]	■ Taking rigorous coursework in the middle grades[i] ■ High scores on the Grit-S and Grit-O scales[j]	■ Social-emotional and decision-making skills[k]

[a]Balfanz, 2009; Balfanz, Herzog, & Mac Iver, 2007; Rumberger, 1995; Rumberger & Larson, 1998; [b]Mac Iver, Durham, Plank, Farley-Ripple, & Balfanz, 2008; Rumberger & Larson, 1998; [c]Balfanz et al., 2007; [d]Balfanz et al., 2007; Cumpton, Schexnayder, & King, (2012); [e]Kurlaender, Reardon, & Jackson, 2008; Wimberly & Noeth, 2005; [f]Lee, 2013; [g]ACT, 2008; [h]Silver & Saunders, 2008; [i]Atanda, 1999; Wimberly & Noeth, 2005; [j]Duckworth & Quinn, 2009; [k]Fleming et al., 2005

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Appendix 8: District, School and Class Size

This appendix for Chapter 8 provides additional details on four areas: 1) class size policies, impacts these policies have on school sizes, and facilities master planning in Arkansas and comparison states, 2) consolidation of districts and alternatives to consolidation, and 3) Educational Service Cooperatives (ESCs) in Arkansas and best practices for ESCs nationally.

Class Size Policies, Impacts on School Sizes, and Facilities Master Planning

Over many decades, public education decision-makers have decided to reduce the number of school districts and schools to meet the objective of improving the quality of educational programs. States vary in organizational structures for public education—some states have countywide systems, while others have over 1,000 school districts. Geography and land settlement practices have resulted in states facing different circumstances.

Only a few states have addressed school size by adopting specific laws, regulations, or guidelines. Many more have master planning and school construction approval processes that advise and control school design decisions and influence school size in both new construction and renovations of existing buildings. These processes establish the types of spaces needed in a school, the student capacity of each, and the recommended size of each space in square feet. Although these are often recommendations rather than requirements, the funding share provided by states is generally set on the overall student capacity of the school, as calculated by these size and space requirements. State funding mechanisms differ.

As in other states, practical and legal considerations drive decisions in Arkansas on school size. Additions and renovations to maintain and update existing school buildings are subject to district-wide enrollment projections, when sometimes enrollments are changing at the neighborhood level within a district. As enrollments change, it is difficult to assign students to rooms or courses and achieve the maximum class size, as set by state processes. Educational standards change with state and federal laws in areas such as special education, thus imposing restrictions on building capacity and utilization and frequently requiring extensive construction and renovation to meet the needs of a modern educational system.

State-to-state comparisons and other data in this section can help Arkansas's public policymakers determine if they need to make changes to the guidelines that help determine the learning environment experienced by students, their teachers, and the many other people working in public education.

Relationship between Enrollment Projections, Class Size, and School Capacity (Enrollment Size)

While few states have specific laws or regulations on school size, many states influence school size decisions through a combination of guidelines, programs, and processes. Most states have an educational facility master planning process and professional staff at the state level who guide school districts through the process. A separate school construction planning process is followed when the master plan and enrollment projections justify a school construction project. Most school construction design and approval processes start with educational specifications that set the design requirements to

meet the desired educational program. The school construction planning process implements the educational specifications by determining the number of spaces needed of various types ranging from regular classrooms to chemistry labs and gymnasiums. State school construction review and approval processes establish the student capacity of classrooms and other spaces as well as the recommended square footage of each type of space.

The projected enrollment is the primary factor used to determine the number and types of spaces a school will need. For example, an elementary school for 400 students in Arkansas would need 16 regular education classrooms, each with a maximum capacity of 25 students and a minimum of 850 square feet per classroom. Many states reduce the classroom capacity if the room is less than the standard size. Other instructional spaces, such as those for special education or tutoring spaces, would have a capacity of 10 or 15 students and size requirements ranging from 400 to 1,000 square feet. These standards and approval processes apply to new school construction as well as additions to existing schools. When designing an addition and renovation of an existing school to meet enrollment projections, a capacity is assigned for each space, meeting square footage requirements in the existing school. Then the proposed capacity of the new spaces is combined with the existing space capacities to accommodate projected enrollments.

A distinction is made in several states between requiring and recommending class sizes that determine the size and enrollment capacity of a school building. In some states, the state share of funding for a school construction project is set by the required class size. States offer other types of school design guidance, including educational design standards and specifications. In Arkansas, this guidance is in the form of a series of “space plates,” which are graphical representations of the size, layout, fixtures, and equipment recommended for selected spaces as well as their location in relationship to other spaces. Most states employ school architectural experts to review and advise on school construction plans. A few states provide prototype or model school designs.

School size can also be restricted by laws and regulations of local government and other state agencies. Local zoning and land development regulations may limit the school capacity due to requirements for maximum lot coverage, parking, traffic circulation, playgrounds and athletic fields, and other site design features. State, county, and municipal water and sewer regulations may limit the size or prohibit expansion of a school if the utilities cannot expand service to accommodate increasing capacity in a school. Stormwater management requirements may also limit school size and capacity. Compliance with zoning and municipal, county, and state planning approvals that establish site size, school size, community use spaces, and other factors can preclude renovation and additions to older schools.

Class Size Requirements Impact on School Size

In Arkansas, as in many other states, class size is governed by school district policies, budget development guidelines, collective bargaining agreements, state and federal requirements for special needs programs, and other mandates. When these class size standards are applied to an existing school building with various types of classrooms and other spaces, the total capacity of the school can be determined. But enrollment at a grade level can change from one year to the next. For example if a class size is set at 25 and 50 students are enrolled, two classrooms are required. Three classrooms would be

required if the following year's enrollment at that same grade level changed to 55. That occurs only if the class size guidelines are seen as set maximums, however, and are not overriden by assignment of instructional aides or other measures. As educational program requirements change, particularly in special education, space previously designed and used for regular education classrooms at 25 or more students per classroom are often converted for use by programs that require fewer students in each room. For these reasons, school capacity can change over time and even annually based on fluctuating enrollments. In schools with declining enrollments, districts often use classrooms below their original design capacity.

Class size guidelines in Arkansas have been established for different purposes, including both school construction planning and state funding. The variations are minimal between the class size guidelines that establish capacity and enrollment size in the Program of Requirements used in facilities planning and the matrix funding levels, as shown in Table 8.A.1 below.

Table 8.A.1: Comparison of Class Size, Student-Teacher Ratio, and Maximum Class Size for Facilities Planning in Arkansas

	Class Size	Student-Teacher Ratio for Matrix Funded Ratios	Facilities Planning Manual-Program of Requirements (maximum class size)	Standard Size (Square Feet)
Kindergarten	20	20:1	20	1,000
Grades 1-3	Average of 22, Maximum of 25	23:1	25	850
Grades 4-6	Average of 25, Maximum of 28	25:1	28	850
Grades 7-8	Maximum of 30	25:1	30	850
High School Classroom	Maximum of 30	25:1	30	850
Specialty Classrooms			Minimum of 1, plus 1 for each 500 to 1,000 students	900 to 1,400
Special Education, Self-contained Classroom			Two rooms required for 1,000 students and above	850
Special Education, Resource Room				450
Speech Therapy				350

Educational Facility Master Planning in Arkansas

In Arkansas, school districts are required to maintain an Educational Facility Master Plan (EFMP), which is a six-year plan that must be updated every two years in accordance with the Arkansas Public School Academic Facility Manual. The EFMP includes several key components, including anticipated enrollment. Enrollment projections are updated annually by the Arkansas Department of Education through a contracted service. According to state officials, these projections have proven relatively accurate in the past. The projections are based on county-level birth rates. Construction can be approved to the maximum capacity needed for the 10-year enrollment projections. Exceptions can be granted if a school board believes that projections are too high and will result in overbuilding and unnecessary expense.

The state shares the cost with the school district for approved projects through partnership funding. The state calculates its share using a complex formula, increased periodically through a facility cost index.

The components of the school construction planning process are contained in written and online materials, including an online template to calculate room and size requirements. The program is described in the Public Schools Facility Manual, which is updated regularly. The contents of the manual and the purpose of each section are summarized below (**bold font** provides emphasis on size issues):

- Purpose: Provide clear guidance to school districts and design professionals; provide uniform parameters for school construction balancing quality, cost, and time (construction schedule)
- Chapter 1: How to Use
- Chapter 2: Educational Facility Planning Concepts
    - School facilities must be responsive to a school district's educational program, meeting current and future needs
- Chapter 3: Education Framework
    - **Broad principles** associated with organizational, facility, program, and service issues, including grade configuration, **school size, and class size**
    - Design principles for high performance learning environments, special education, career education
- Chapter 4: Site Selection and Design
    - Site access and traffic flow, drainage, play fields, playgrounds, fencing, lighting, exterior security
- Chapter 5: Program of Requirements
    - **Assists districts in establishing the size** and quantity of instructional and support spaces for new facilities and additions
    - **Identifies an overall size** in square feet for a facility and spaces that must be included
- Chapter 6: Program Space Guidelines
    - Contain space plates – graphic representations of information related to layout, features, fixtures, and finishes for each type of space
- Chapter 7: Building Systems
    - Design and performance standards for systems including HVAC, electrical, computer networking, plumbing, security
- Chapter 8: Safety and Security
    - Provides safety and security standards and guidelines

Components of School Size Decision-Making

The components of school size decision-making vary by state, as shown in Tables 8.A.2, 8.A.3, 8.A.4, and 8.A.5. The information contained in these tables was developed by a thorough review of documents available online, with interviews with state officials to clarify some items. But states vary in their definitions and interpretations of some of these categories and how each category affects their approach to providing design assistance on school size factors as well as calculating the state share of funding. States exercise different approaches in the ways they influence and control local school board

decisions on school size and school construction design and approval. The primary purpose of reviewing the state and local relationship on school size and design was to identify best practices, which are discussed at the end of this report.

Table 8.A.2: School Construction Planning, Approval, and Finance

State	Planning Requirement	Approval Authority		
	Educational Facility Master Planning (EFMP) Requirement	Approval Authority by State	Financial Share-State and Local School District	Penalties for Non-Compliance with Guidelines
Arkansas	Yes	Yes	Yes	
Alabama	Yes	Yes	Yes	
Delaware	No	Yes	Yes	Yes
Florida	Yes	Yes	Yes	Yes
Georgia	Yes	Yes	Yes	Yes
Kentucky	Yes	Yes	Yes	Yes
Louisiana				
Maryland	Yes	Yes	Yes	Yes
Massachusetts	Yes	Yes	Yes	Yes
Mississippi				
North Carolina	Yes	Yes	Yes	
Oklahoma	Yes	Yes		Yes
South Carolina	No	Yes		
Tennessee				
Texas	Yes			No
Virginia	No			No

Table 8.A.3: Size Guidelines

State	School Size Guidelines (Enrollment)	Class Size Regulations (Maximum, Minimum, Average)	Classroom Space Guidelines	Space Size Guidelines (Square Feet per Student)
Arkansas	No	Yes	Yes	Yes
Alabama	No		No	No
Delaware	No	Yes	Yes	No
Florida	Yes	Yes	Yes	Yes
Georgia	No	Yes	Yes	No
Kentucky	No	Yes	Yes	Yes
Louisiana	No		No	No
Maryland	No	Yes	No	No
Massachusetts	No	Yes	Yes	Yes
Mississippi	No	Yes	Yes	Yes
North Carolina	Yes	No	Yes	Yes
Oklahoma	No	Yes	Yes	Yes
South Carolina	No	No	Yes	Yes
Tennessee	No		No	No
Texas	No	Yes	No	No
Virginia	No	Yes	Yes	No

Table 8.A.4: Number and Size of Spaces

Number and Size of Spaces				
	Student Capacity Guidelines	**Site Size Guidelines**	**Required Spaces (Classrooms, Special Education, Common Spaces)**	**Ratio of Required Spaces**
Arkansas	Yes	No	Yes	Yes
Alabama	No	Yes	No	No
Delaware	Yes	Yes	Yes	No
Florida	Yes	Yes	Yes	Yes
Georgia		Yes		
Kentucky	Yes	Yes	Yes	
Louisiana		No		
Maryland	Yes	No	Yes	Yes
Massachusetts	Yes	No	Yes	Yes
Mississippi	No	Yes	no	No
North Carolina	Yes	Yes	Yes	Yes
Oklahoma	No	Yes	No	No
South Carolina	No	Yes	No	No
Tennessee		No		
Texas	No	No	Yes	Yes
Virginia	No	Yes		

Table 8.A.5: Design Assistance from State

	Design Assistance			
State	**By Educational Architects Employed by State**	**Educational Specifications Required**	**Design Guidelines by Type of Space (Layout, Size, Furnishings)**	**Prototype Designs of Model Schools**
Arkansas	Yes	Yes	Yes	No
Alabama	Yes	Yes	No	No
Delaware	Yes	Yes		
Florida	Yes	Yes	Yes	Yes, innovative funding grants
Georgia	Yes			
Kentucky	Yes	Yes	Yes	
Louisiana				
Maryland	Yes	yes	Yes	
Massachusetts	Yes	Yes	Yes	Yes
Mississippi	No	No	No	No
North Carolina	Yes	Yes	Yes	
Oklahoma	Yes		No	No
South Carolina	Yes	No	No	No
Tennessee				
Texas	No		Yes	No
Virginia	No		Yes	No

Comparison of Space Sizes and Student Occupancy: Arkansas and North Carolina

Many states have adopted capacity and size guidelines to enable school districts to make better decisions about their buildings and school construction projects and to provide uniform funding support at the state level. Arkansas developed its Program of Requirements, which recommends the maximum numbers of students allowed in various types of spaces. The enrollment capacity of a school is determined by the quantity of spaces required of each type and the student capacity of each type of space.

In Arkansas, to build an elementary school for 350 students who are distributed equally across kindergarten and grades one to six at 50 students per grade level, three kindergarten classrooms of 18 students each would be required, along with two classrooms for each of the other six grade levels. This would require a total of 15 rooms (3 x 18 kindergarten yields a capacity of 54, plus 12 x 25 yields a capacity of 300, requiring a total of 15 classrooms) and result in a school with a total capacity of 354.

Using the North Carolina standards of fewer students per room and larger rooms, kindergarten remains the same at 18 per classroom, but grades one to three would require three classrooms at 17 per room, while grades four to six would require two classrooms each at 26 students per classroom. In North Carolina, a 350-student elementary would take 18 classrooms (three at K, nine at grades one to three, and six at grades four to six). In addition to the three extra rooms at 1,000 square feet of space per room, the North Carolina size of spaces standards add 350 square feet per kindergarten classroom and 150 square feet for grades one to three classrooms. This would call for an additional 2,400 square feet of space to the building. In total, North Carolina's combined standards for students per classroom and size of space differences require adding 5,400 square feet to a 350-student elementary school. This comparison shows the importance of establishing the recommended standards balancing educational and financial objectives.

Table 8.A.6 shows the standards for all types of classrooms in both states.

Table 8.A.6: Arkansas and North Carolina Space Standards

Type of Space	Students per Classroom or Teaching Station, NC	Students per Classroom or Teaching Station, AR	Size of Spaces (Square Feet), NC	Size of Spaces (Square Feet), AR
Regular classrooms				
Pre-kindergarten	18	20	1,200	1,000
Kindergarten	18	18	1,200	850
Grade 1	17	25	1,000	850
Grades 2-3	17	25	1,000	850
Grades 4-5	26	28	850	850
Grade 6		28		850
Grades 6-8	26	30	950	850
Grades 9-12	18 to 21	30	850	850

Type of Space	Students per Classroom or Teaching Station, NC	Students per Classroom or Teaching Station, AR	Size of Spaces (Square Feet), NC	Size of Spaces (Square Feet), AR
Other teaching stations				
Art, elementary			1,200	1,200
Art, middle school			1,400	1,200
Computer classroom, elementary			850	900
Computer classroom, middle school			1,000	900
Computer classroom, high school			850	900
Music			1,000	1,200
Science, elementary			1,100	850
Science, middle school			1,100	850
Science, high school			1,200	850
Science, Labs				1,440
Science, high school chemistry			1,500	1,440
Special education, resource rooms			450	450
Special education, classrooms			450	450
Workforce development labs				
Agriculture, trade & industry			3,000	3,000
Trade and industry			2,500	3,000
Technology			2,000	1,500
Communications, miscellaneous			1,500	1,500
Vocation classrooms			750	750

Chart 8.A.1: Applying NC Elementary School Enrollment Size Guidelines to AR Elementary Schools

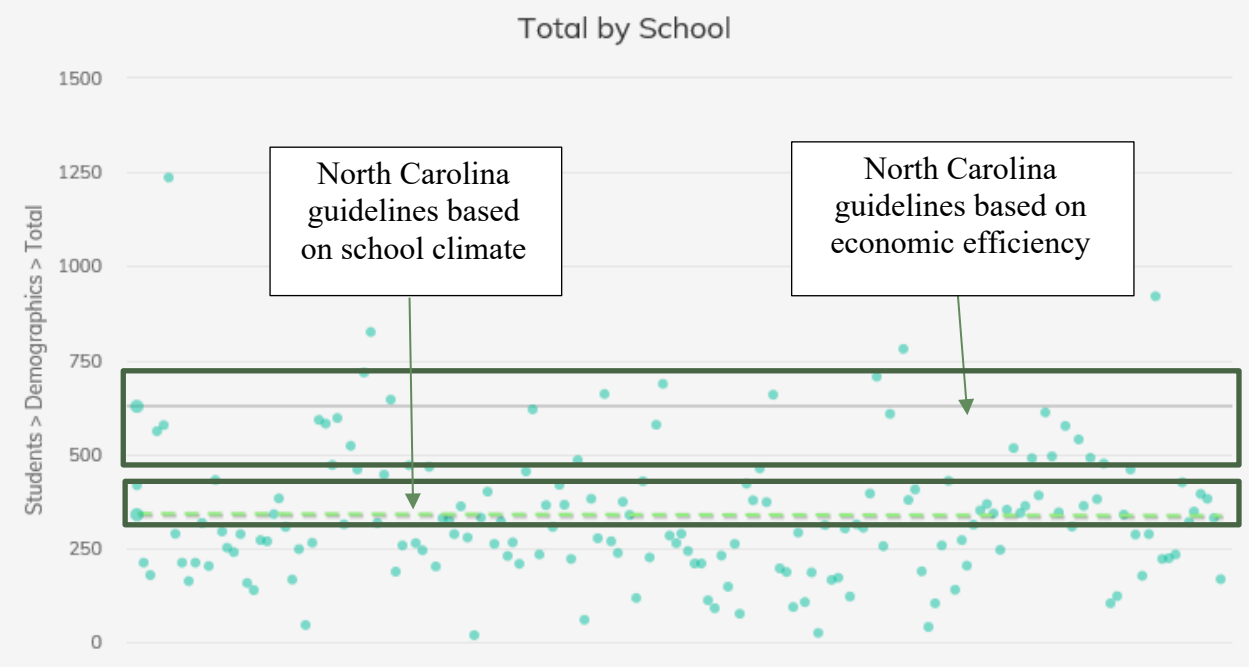


Chart 8.A.2: Applying NC Middle School Enrollment Size Guidelines to AR Middle Schools (6-8)

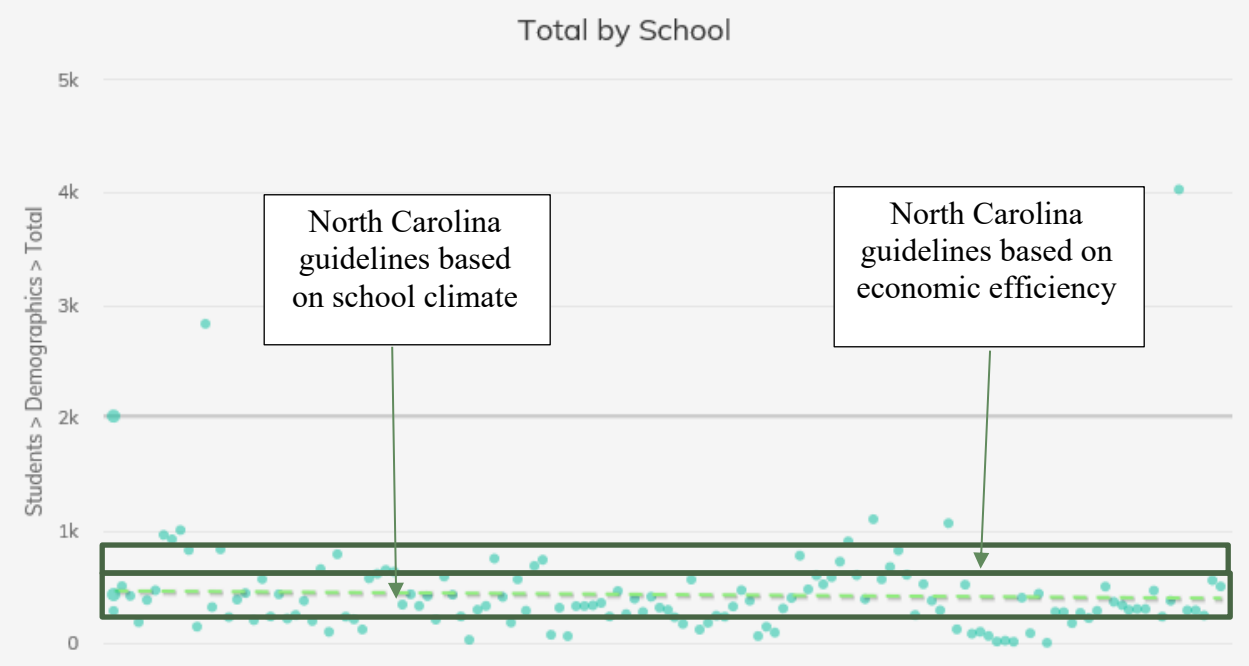
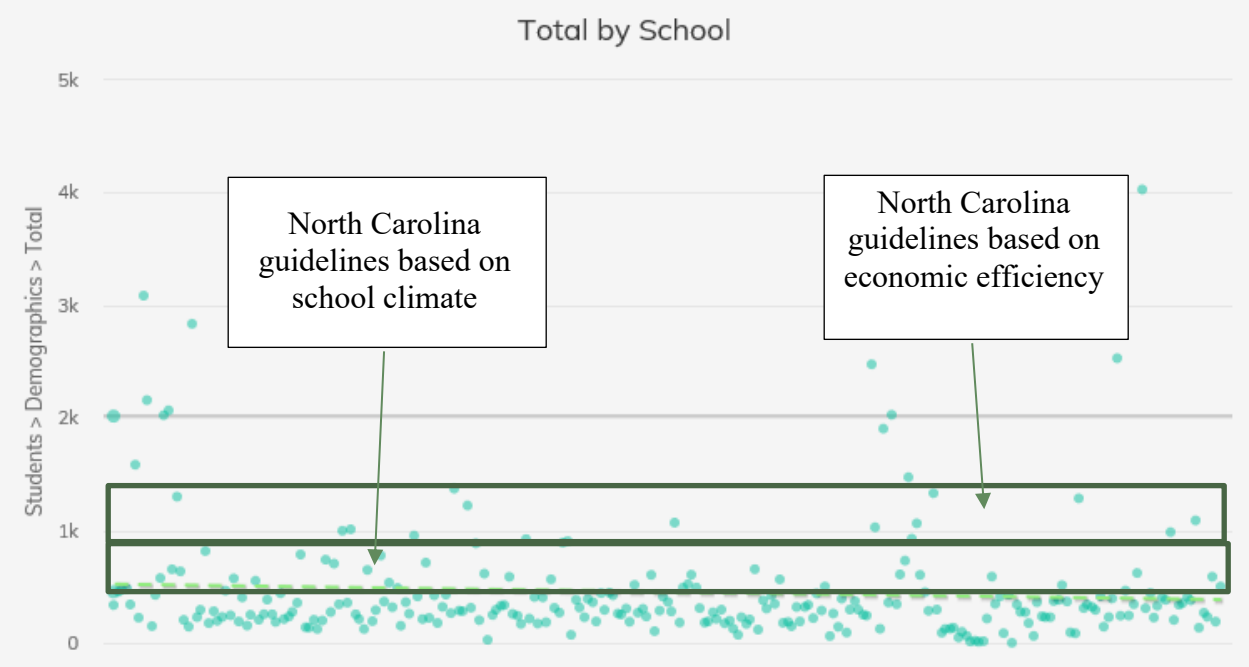


Chart 8.A.3: Applying NC School Enrollment Size Guidelines to AR High Schools (9-12)



North Carolina: Timeline to Establish Ideal School Size Standards

Establishing school size standards has taken many years in the states that have addressed ideal size. Recent North Carolina history illustrates how that state moved toward adoption of school facility guidelines that set ranges of ideal school size at each grade level configuration. The effort serves the

state's goals of educating its children in safe, appropriate schools while assuring taxpayers that public funds are spent efficiently. North Carolina's facility policies evolved over decades of work in the last half of the 20th century, but particularly in the late 1980s and the 1990s. Briefly, here is the timeline:

- 1949 – Statewide bond issue passed to pay state's share of building costs. Other bond proposals passed in 1953, 1963, 1973, and 1996.
- 1987 – Public School Building Capital Fund approved and financed by an earmarked portion of the state's corporate income tax.
- 1987 – School Facilities Finance Act requires local boards of education to develop long-range organization and facility plans.
- 1996 – General Assembly declares facility *standards* will become facility *guidelines.* State creates a Public School Facilities Task Force to describe minimum facilities to ensure program performance and long-term cost-efficiency (exceptions noted for science rooms to meet lab safety regulations).
    - "Guidelines are meant to provide strong direction for school design, while maintaining local control of that process."
    - "... flexibility is essential to good design but cannot be allowed to become a means of lowering guidelines."
    - "The facility guidelines do not replace the need for educational specifications … that should be developed to describe the education program to be implemented."
- 1998 – Deadline for completion of facility plans. Districts plans must develop updates every five years thereafter.
- 2005 – North Carolina Education Lottery passed with a portion of revenues dedicated to school construction and class size reductions.
- 2011 – Department of Public Instruction and State Board of Education issue guidelines identifying optimal school population sizes that will "offer excellent education programs that include a comprehensive curriculum …''
    - Elementary schools – 450 to 700 students
    - Middle schools – 600 to 800 students
    - High schools – 800 to 1,200 students
- Research on school climate and safety suggest significant reductions in optimal student numbers
    - Elementary schools – 300 to 400 students
    - Middle schools – 300 to 600 students
    - High schools – 400 to 800 students

School Size Policy Best Practices from Other States: Kentucky Example

In reviewing the master planning and school construction guidelines and processes, certain best practices become apparent. In some states, public input is required at duly advertised public hearings and certain topics must be discussed, such as design efficiency ratios, cost factors compared to established limits, financial penalties for exceeding limits, and affordability based on limits to property tax increases. Transcripts of the public hearings as well as any subsequent written comments are submitted to Department of Education officials for their use in reviewing and approving projects for

state funding eligibility. If design efficiency factors or costs limits are exceeded, school boards are required to take formal action recognizing these decisions and explaining their decision to the public. In Arkansas, according to interviews with school officials, public input is informal at times when Master Plans are adopted, school construction plans are finalized, and school construction bids are awarded. This contrasts with states like Kentucky that have very formalized approaches to public input on school design. In Kentucky, every four years a local planning committee must develop a District Facility Plan and the state Department of Education reviews and comments on the plan. Those comments must be considered by the local committee at open public meetings.

Enrollment projections are generally provided by the state government using the cohort survival method, which incorporates birth rates in the projections and bases future projections on past patterns of enrollment change as an age cohort progresses through the grade levels. Arkansas uses county-level birth rates, but some other state projections are based on municipal-level birth rates. As proven by the Great Recession, birth rates can decline as much as 30 percent due to economic uncertainty and variations in birth rate in areas within a school district. These variations mean that some attendance areas within a district can be growing while others are declining. Variations between years can also result in different sizes of age cohorts (students in a grade level) between years. In other words, enrollments may be growing at some grade levels and declining in other grade levels.

Because expensive and difficult decisions about facilities and staffing are based on enrollment projections, it is best to utilize the latest techniques, including the use of geographic information systems with extensive demographic data that provide additional insight into enrollment change and reliability of enrollment projections. At this time, news reports are indicating higher birth rates due to the pandemic lockdown, whereas birth rates declined as much as 30 percent due to economic uncertainty in the Great Recession. Students born during the birth rate decline a decade ago are now in schools, resulting in significant fluctuations of enrollment as bubbles move through the grade levels. Therefore, it is important to understand the potential for enrollment growth at a local level in order to avoid expensive mistakes, such as selling an unused facility now when there is a possibility of needing it again soon. These spikes in birth rates, even if known in advance, require planning to accommodate the need for more space as well as more staff. If not anticipated with enough time to take appropriate actions, detrimental mistakes can occur.

For many decisions at all levels of educational decision-making, it is helpful to calculate a capacity for each school, then maintain those calculations for school district and statewide planning. Online facility planning calculators, similar to Arkansas's Program of Requirements, can be used to establish a school capacity for each school and by grade level configuration for all schools in a district. This allows analysis of projected enrollment compared to capacity at a district and school level. When combined at a regional or state level, the differences between school capacity and projected enrollment can assist in state-level policy discussions. These capacity and projected enrollment calculations allow consideration of sharing agreements between bordering districts when one district has excess capacity, and the other district needs capacity.

The Arkansas system also uses student classroom capacity standards, such as 30 students per high school classroom, which are often above actual student-teacher ratios. Also, the Arkansas system does not assign a capacity to specialized classrooms, including computer labs, music rooms, art rooms, science labs, gymnasiums, and other spaces. In other states, a gymnasium, for example, is given a capacity of 50 since the space provides two teaching stations. States that assign a student capacity to most spaces, use a utilization factor, such as 90 percent at the high school level, to reduce a total capacity figure to reflect the inability to schedule every room for every period of the school day. Since these capacity numbers are interpreted and used by many decision-makers at all levels throughout the school planning and design processes, it is valuable to have accurate space and capacity figures.

The enrollment capacity of a school should reflect the realistic capacity of each space. If the capacity of small spaces is overstated, it can result in an actual utilization below the capacity assumed during the design process. For example, in Kentucky, model elementary classrooms of 800 square feet or more are given a maximum class size of 24 for grades one to three, 28 for grade four, 29 for grades five and six. Between 721 and 800 square feet, the capacity is reduced to 25 at the upper grades. Between 651 and 720 square feet, the maximum class size is 22 and between 600 and 650, the maximum is 20 students. For the secondary level, 750 square feet is the model size with a base capacity of 25; 651 to 700 square feet for a maximum of 22 students; and 563 to 650 square feet with a maximum of 21 students. Secondary classrooms below 563 square feet may not be used as standard classrooms.

Kentucky also sets minimum and maximum school enrollments by type of school, shown in Table 8.A.7.

Table 8.A.7: School Size Ranges in Kentucky

Grade Levels	Minimum Enrollment	Maximum Enrollment
Pre-school	100	300
Elementary	300	600
Middle School	400	900
High School	500	1,500
Alternative School	50	Not specified

Modern educational programs require spaces for a growing percentage of students identified as special needs. The space and capacity requirements for special needs students are important considerations in any school construction project. If school renovation and new construction projects do not consider the spaces needed for special education students, schools are required to use other spaces designed for regular education uses, thereby reducing the capacity of the school. In Arkansas, two special education rooms of various types are required for 1,000 students and above. The various special education rooms are self-contained classrooms (850 square feet), workrooms/conference rooms (150 square feet), restrooms/showers (100 square feet), special education resource rooms (450 square feet), speech therapy rooms (475 square feet), and occupational/physical therapy rooms (350 square feet), and gifted and talented rooms (850 square feet).

The school construction process is the best opportunity to make decisions on school size. Budget constraints at certain points during the planning and decision-making processes provide opportunities for decision-makers to consider school size for financial reasons. Kentucky requires special justification if

the cost of renovating a new facility exceeds 80 percent of the cost of new construction. Other states require project justification to consider long-term financial impacts using concepts such as total costs of ownership and 40-year life-cycle costing. In Kentucky, schools can be declared transition facilities to be phased out to minimize renovation costs.

In most states, school design plans and specifications are reviewed in detail at various stages of the design process by specialists in school architecture. Some states use a highly sequential review and approval process at all stages of school design and construction. This allows project managers to make interim decisions for the overall benefit of the project. For example, it is important not to spend large sums to renovate buildings that will still be deficient based on original design or site limitations. The interim decision would consider whether the estimated costs of a proposed renovation project exceed an established percentage of new construction costs. As the design process proceeds, another interim decision regards design efficiency ratios, where the total space to be constructed is limited by a ratio to classroom space, e.g. total space, including hallways, administrative, health, and instructional support spaces, cannot exceed 1.58 times classroom space in the Pennsylvania process. In some states, based on the experience of some school districts and the school design specialists employed at the state level, it is common to perform independent value engineering and constructability reviews that provide an independent opinion on the cost-effectiveness of the design.

School site location decisions can impose long-term costs and other impacts. Kentucky sets a requirement that 75 percent of its bus riders cannot ride for longer than 45 minutes at the elementary level and 60 minutes at the secondary level. The site selection process for new schools can address these considerations. For existing schools, site considerations may limit the size of an addition, forcing decision-makers to look at other options. These decisions must occur after master planning but early in the consideration of school construction options.

States that share in school construction funding can achieve school size objectives over time. The state's contribution provides an incentive for local school districts to meet the space, size, and capacity standards of a modern educational program. Implementation of state school size standards is achieved through a combination of providing technical advice and sharing in the financial support.

Impacts of Consolidation

Opponents of consolidation have found that additional administrative costs in large schools can undermine economies of scale.[3] Meier (1996) found that educational and fiscal accountability were more likely in small schools because teachers and administrators are more visible and organizations are simpler. Monk (1987) found that after enrollment reached 400 students in a school, no additional benefit was achieved through economies of scale. Turner and Thrasher (1970) found that decreases in cost per student were minimal once enrollments reached 1,000 students. Fox (1981) found that cost curves are "U" shaped, meaning that increasing school size beyond an optimal level increases rather than decreases per-pupil cost. Monk (1992) found that projected savings for central administrative staff were not realized through consolidation because administrative expenses are a small proportion of a

[3] McKinzie, 1983; Haller, 1992

total district budget. Fox (1981) noted that as school size increases and maximum class size is reached, no additional savings in instructional costs are possible and that increases in school size continue to increase administrative and supervisory costs. Alspaugh (1994) found that both very small and very large schools tend to be expensive to operate. McGuire (1989) concluded that schools with over 2,000 students are on the upward slope of the "U" shaped curve and that course offerings could be made available in more economical settings in smaller schools. Small schools, often found in rural areas with low population density, have high transportation costs due to longer distances.[4]

School district consolidations resulting in larger school districts and school closures and mergers resulting in larger schools pose an array of community, economic, financial, and academic issues that require comprehensive analysis by decision-makers. Closure can heighten tensions between affected communities and the government. For example, the 2006 closure of Paron High School in Arkansas's Saline County resulted in public protests, and supporters of the school filed a lawsuit against the Department of Education (Encyclopedia of Arkansas).

Civic Life and Economic Considerations

Schools are vital to rural communities because they provide many social, cultural and economic benefits. In smaller communities, they become the hub of social and cultural life where people gather for extracurricular activities and other events. Rural communities with schools rank higher than communities without schools on most indicators of social and economic well-being. Parents want their children to attend good schools. If a school is closed and not put to some other use, its abandoned buildings can become eyesores or worse.[5] Research also indicates that property values tend to be higher in rural communities and in urban neighborhoods with high-performing schools, both reflecting market demand. A 2002 study of rural areas in New York found that home values were significantly higher and better infrastructure was in place in small communities with schools.[6] In larger New York villages with schools, property values were found to be about six percent higher. A more recent study in New York did not find that villages with a school enjoyed higher home values, but it did find economic benefits for those living closer to schools.[7] A 2012 Brookings study on the cost of housing in the national's 100 largest metropolitan areas found that home values are $205,000 higher on average in neighborhoods with high-scoring vs. low-scoring schools.[8] Income inequality is greater in small rural communities without schools than in communities with schools. The study also found that more households receive public assistance in communities without schools, "although the differences are not large."

Academic Considerations

In 2008, University of Arkansas researchers found that students and staff who moved to a new school following a merger often reported being extremely anxious about finding their place in a new setting.[9] Students and teachers in the receiving schools generally did not suffer from such anxiety. Students were

[4] Fox, 1981
[5] Lyson, 2002
[6] Lyson, 2002
[7] Sipple, Francis, Fiduccia 2019
[8] Rothwell, 2012
[9] Nitta, Halley, 2008

found to be more flexible than adults involved in the moves, saying that negative feelings about the change dissipated in a few months. Some teachers said they still did not feel comfortable in the new building even after two years. But most students, teachers, and administrators told the Arkansas researchers that the larger classes following a merger had few adverse effects on academic support. The study found benefits to students, including more variety in advanced courses and more extra-curricular activities. Heightened competition to take part in some activities was noted. A 2019 University of Pennsylvania study of school consolidation in Arkansas in 2004 found that graduation rates suffered.[10] A 2013 study of consolidations in Texas found that student passing rates did not improve after consolidation and small rural districts experienced a decline in student achievement.[11]

Financial Considerations

The same University of Pennsylvania study reported that improvements in efficiency should not be expected automatically. Consolidated schools reported administrative cost savings through reductions of central office personnel, but the study noted increased transportation costs offset half of those small savings.[12] The fear that a merger will require students to spend more time on buses is common among parents, but the Arkansas study found no significant increases, saying "It was usually 10-15 minutes at the most."[13] The Texas study found no savings in per-pupil expenditures through consolidation when comparing consolidated districts and non-consolidated districts with similar organizational structures. Consolidation resulted in increases in per-pupil spending for districts that absorb another; joining districts saw only minimal declines in per-pupil expenditures. Though consolidation could prove cost-effective in a few instances, the study authors said they found no compelling evidence that mergers are cost-effective alternatives to small rural schools.[14]

Conclusions

School closures and mergers resulting in larger schools and school districts must be carefully considered because schools are important economically and culturally to a community. These decisions have advantages and disadvantages, and the research findings are not consistent. In larger schools, use of teaching staff may more closely approach desired student-teacher ratios. Students may have more course offerings and extracurricular activities. Financial and academic tradeoffs result from sharing of administrative personnel, but depending on the geographic circumstances, the savings may be offset by increased transportation cost.

Educational Service Cooperatives (ESCs)

Laws in most states enable the creation of regional education services agencies. These are known as Educational Service Cooperatives (ESCs) in Arkansas. The purpose of these agencies is to provide access to high quality and diverse services needed by school districts, particularly small and rural districts. In Chapter 8, each ESC and the number districts, school, and students served were identified.

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[10] Collins, 2019
[11] Cooley, Floyd, 2013
[12] Collins, 2019
[13] Nitta, Halley, 2008
[14] Cooley, Floyd, 2013

Map 8.A.1 shows the boundaries of the ESCs in dark blue boundary lines, with white school district boundaries showing all districts served by each ESC.

Map 8.A.1: ESC Boundaries

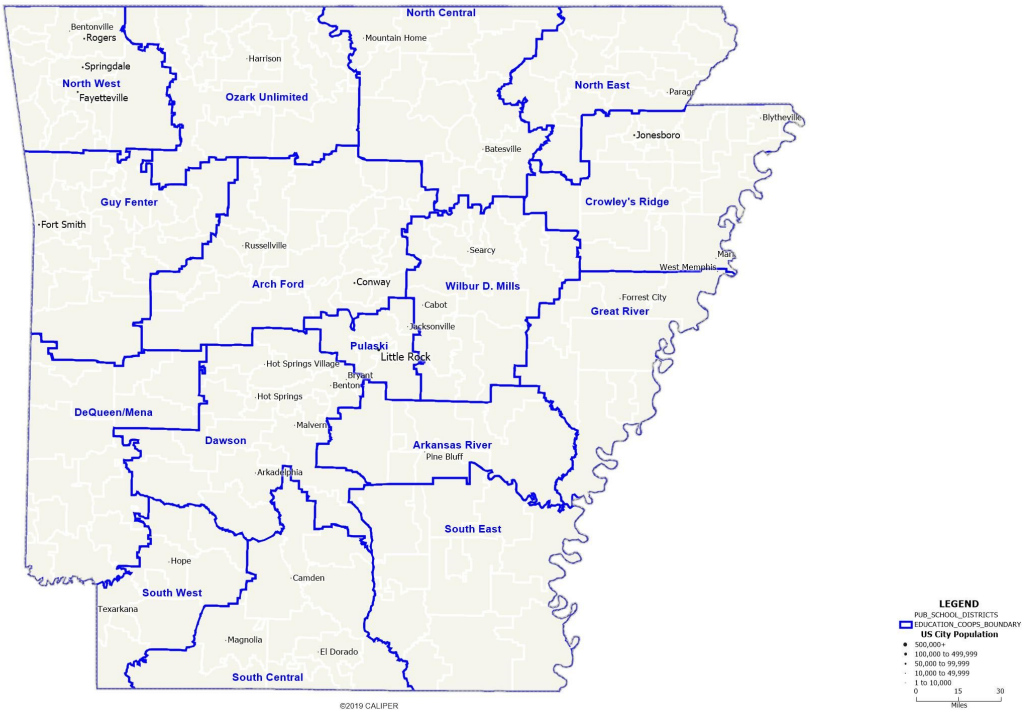


Table 8.A.8 notes the services provided by ESCs. Each was identified by reviewing ESC websites and were verified by telephone. This table provides an overview of the types of services provided by each ESC and may not include all services each provides.

Table 8.A.8: Types of Service Provided by Each ESC

Service Provided By ESC	Arch Ford ESC	Arkansas River ESC	Crowley's Ridge ESC	Dawson ESC	Dequeen/Mena ESC	Great Rivers ESC	Guy Fenter ESC	North Central Arkansas ESC	Northeast Arkansas ESC	Northwest Arkansas ESC	Ozark Unlimited Resources ESC	South Central Services COOP	Southeast Arkansas ESC	Southwest Arkansas ESC	Wilbur D. Mills ESC
Academic Attainment	X														
AmeriCorps													X		
Board Training			X												
Bulk Ordering			X												
Community Health Nurse		X			X	X	X				X	X		X	
Computer Science	X	X	X		X			X		X				X	
CTE	X	X	X	X	X	X	X	X		X	X	X	X	X	X
CTE Perkins Consortium			X												
Curriculum and Assessment														X	
Digital Education		X				X									X
Dyslexia Specialist	X	X			X	X									
Early Childhood	X	X	X	X	X		X	X		X	X		X	X	X
Education Psychologist			X												

Service Provided By ESC	Arch Ford ESC	Arkansas River ESC	Crowley's Ridge ESC	Dawson ESC	Dequeen/Mena ESC	Great Rivers ESC	Guy Fenter ESC	North Central Arkansas ESC	Northeast Arkansas ESC	Northwest Arkansas ESC	Ozark Unlimited Resources ESC	South Central Services COOP	Southeast Arkansas ESC	Southwest Arkansas ESC	Wilbur D. Mills ESC
ESOL Specialist				X						X					
Extended Learning Program		X													
Fingerprinting	X	X	X	X	X	X	X						X	X	X
Foster Grandparents					X										
Free Books Online		X													
Gifted and Talented Specialist	X	X	X	X	X	X	X	X			X	X	X	X	X
Home Instruction for Parents of Preschool Youngsters (Hippy)		X		X				X			X			X	X
Instructional Leadership		X													
K-12 Behavior Support Service		X	X	X	X			X		X	X	X	X		
K-12 Special Education Services					X	X									
Literacy Specialist	X	X	X	X	X	X				X	X	X	X	X	X
Math Specialist	X	X	X	X	X			X		X	X	X	X	X	X
Media Center Specialist		X						X							X
Mentoring												X		X	
Migrant Program					X		X								
Non-traditional Learning		X													
Novice Teacher		X	X	X	X	X		X					X		
Occupational Therapy								X							
Online Forms														X	
Parents as Teachers (PAT)		X													
Physical Therapy								X							
Preschool Special Services						X									
Print Shop										X		X	X		
Professional Development	X		X				X							X	
Response to Intervention (RTI)					X										
Science Specialist	X	X	X	X	X	X						X	X	X	
Science/STEM Specialist						X	X			X					X
SLP Support Personnel Program	X														
Special Education	X		X					X			X			X	X
Staff Development	X														
Teacher Center											X			X	X
Teacher Recruitment and Retention															X
Technology						X	X	X			X		X	X	X
The HUB/ALE	X														
Vision Hearing Machine Calibration			X												
Vision Specialist			X												

Table 8.A.9 displays the results of the LEA survey to determine which services are used to serve a need entirely or partially. In addition, it shows the percentage of school districts that do not utilize ESC services for a specific need.

Table 8.A.9: Use of ESC Services

Question	Services Used to Meet Entire Need	Services Used to Partially Meet Need	Services Not Used
Academic Attainment	13.61%	40.83%	45.56%
Career and Technology Education	20.71%	57.40%	21.89%
Community Health Nurse	13.61%	44.38%	42.01%
Computer Science	9.47%	36.09%	54.44%
Digital Education	11.24%	45.56%	43.20%
Dyslexia Specialist	13.02%	47.34%	39.64%
Early Childhood	36.09%	39.64%	24.26%
Electronic Fingerprinting	60.36%	15.38%	24.26%
ESOL Specialist	20.71%	33.73%	45.56%
Gifted and Talented Specialist	15.98%	55.62%	28.40%
K-12 Behavior Support Service	15.98%	52.66%	31.36%
K-12 Special Education Services	21.30%	44.97%	33.73%
Literacy Specialist	23.08%	54.44%	22.49%
Math Specialist	22.49%	55.62%	21.89%
Mentoring	35.50%	40.24%	24.26%
Novice Teacher Program	47.93%	41.42%	10.65%
Preschool Special Services	44.38%	30.18%	25.44%
Print Shop	9.47%	27.81%	62.72%
Professional Development	18.34%	77.51%	4.14%
Science Specialist	24.26%	51.48%	24.26%
Science/STEM Specialist	18.34%	47.93%	33.73%
SLP Support Personnel Program	8.28%	43.79%	47.93%
Special Education	17.16%	50.89%	31.95%
Staff Development	15.38%	75.15%	9.47%
Technology	11.83%	55.62%	32.54%
The HUB/ALE	17.16%	18.34%	64.50%
Vision Specialist	10.06%	34.91%	55.03%

Whether larger ESCs provide more services is addressed by Chart 8.A.4. The chart indicates that larger ESCs serving more districts do not provide more services.

Chart 8.A.4: Services Provided vs. Number of Districts Served

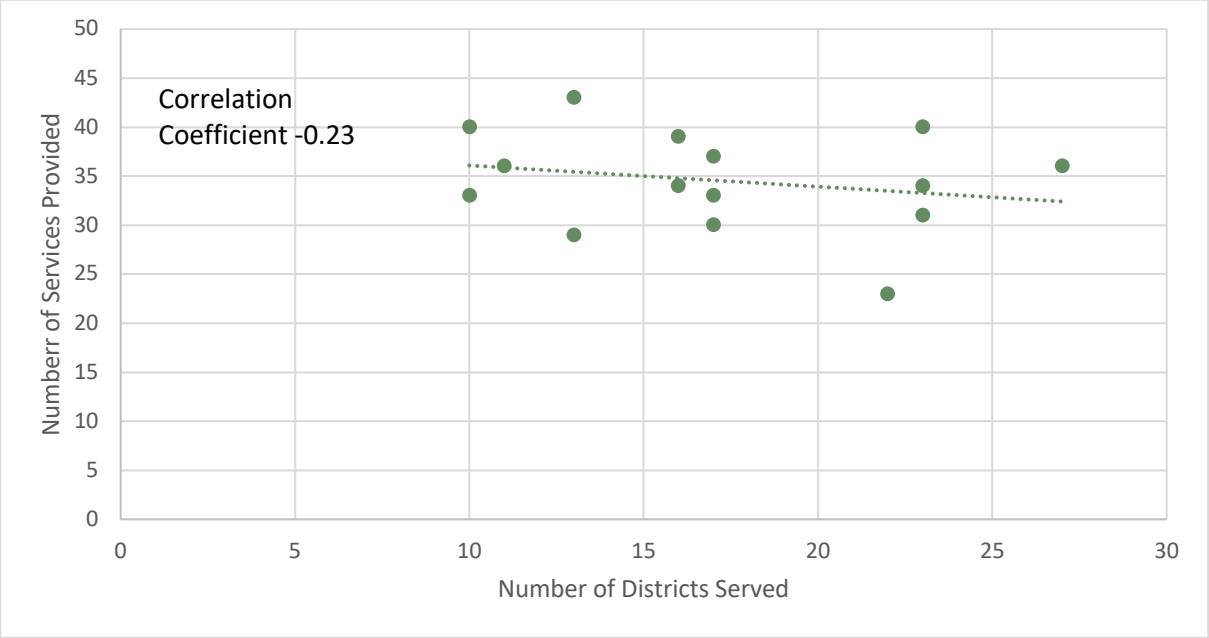
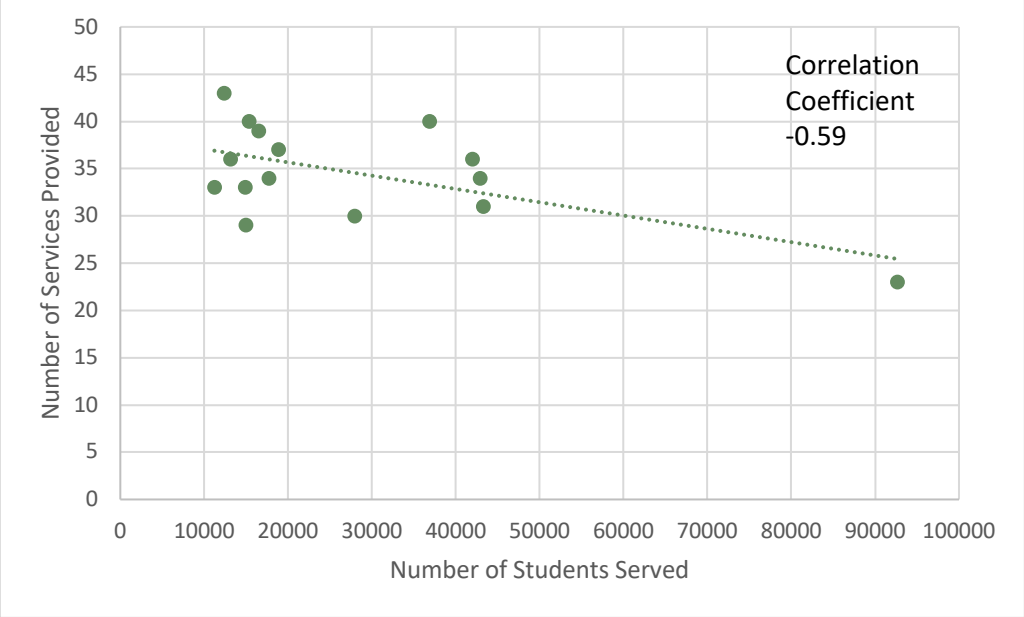


Chart 8.A.5: ESC Services Provided vs Number of Students Served



Conclusions on ESC Services

This analysis found that ESCs provide a wide variety of services to small and rural school districts and schools. The analysis also found that ESCs serving the largest number of students provide fewer services, which may reflect that the larger districts can serve their students cost-effectively without requesting

additional support from ESCs. It also may reveal that ESCs dominated by a large district may not serve the small and rural school districts within its boundaries as well. In ESCs without a large urban district, the districts served may demand a wider range of services. While this issue requires additional research, the concern is addressed by several of the recommendations, one of which is to conduct a statewide study with the participation of school leaders from rural and small schools to determine the needs, whether services can be created to meet those needs, whether other ESCs provide those services that might be offered statewide, and other related issues.

Another recommendation is to consider providing specialized services for rural and small schools by another entity, for example a statewide entity focusing primarily on the specific needs of rural and small schools. These needs range from specialized staffing directed at rural problems to specific supports such as financial recovery specialists who would be assigned to small or rural districts experiencing the greatest financial challenges. Arkansas has some examples of this type of arrangement, including facility planning experts working for several districts.

Further Efficiency Opportunities

Shared Services and Cooperation Agreements

Further efficiency can be obtained through several other options. The state could encourage intergovernmental agreements between two or more districts. These agreements could help a district deal with short-term student population increases that bring a "bubble" of students by allowing one district to pay tuition to send some of its students to another district while the bubble persists. The district paying the tuition would avoid expensive construction to accommodate the short-term increase in students. Districts could share transportation needs when vehicles from one district take students through a neighboring district for special education, to address homeless needs, or other reasons. Small rural schools could pay tuition for students to participate in another district's distance learning options for advanced and diverse coursework. The agreements could enable one district to rent specialty spaces, such as science labs, computer labs, and planetariums to other districts. Districts also could share specialists on alternating days. These cooperative arrangements also could include purchasing agreements and combining financial services. It is common for small school districts to share certain types of expertise, including food service managers, grant writers, HVAC mechanics, heavy equipment operators, professional development experts on specific topics, and many others listed in the Appendices. These arrangements are not limited to school district agreements only because many of these needs can be met by other local government agencies. State grants for pilot programs are used in many states to implement and evaluate options.

Potential to Share One-of-a-Kind Positions

Sharing one-of-a-kind positions offers potential to address specialized needs with flexible and cost-effective arrangements. Districts could use cooperative agreements to share the costs of these specialized positions, including managers of curriculum, facilities, federal programs, food services, technology, human resources, and transportation and other functions. Specialized services not needed on a full-time basis by small school districts include strategic planning, recruiting and hiring, professional development, grant writing, fundraising, public relations, facility planning, construction management,

and similar functions. In technology, shared employees could address planning and specialized software instruction, infrastructure planning, and network support and equipment repair. On operational functions, districts could share expertise on equipment repair, bus driver training and retention, bus route planning, vehicle maintenance, energy management, preventative maintenance, and other specialized functions. Districts also could consider sharing vehicle maintenance staff and facilities.

Potential to Share Equipment

Instructional equipment could be shared among schools and school districts. Examples include science, computer, and robotics labs as well as mobile planetariums. Science kits can also travel among schools and districts. Expensive printing equipment ranges from high-speed copiers to 3D printing. The potential to share equipment is not limited to other school districts or educational cooperatives. Equipment sharing with local and state government agencies can involve expensive, seldom needed equipment, such as excavators, backhoes, dump trucks, boom lifts, and groundskeeping equipment.

Examples of Sharing for Gifted and Talented Programs

Programs serving a small number of students, such as gifted and talented programs, provide opportunities to share specialized staffing and instructional resources. Regional professional development for teachers of this population can result in sharing of lessons and activities. Shared assemblies, even a Ted Talk type format, are now possible with interactive video conferencing. Circuit rider specialists are used in some areas, and this could expand into traveling assemblies. Collaborative projects between students living in rural areas are now possible with technological improvements. Online programs may also increase cost-effectiveness in providing gifted and talented programs.

Expansion of ESCs

ESCs that can provide expanded services are often referred to as Regional Education Service centers in other states. Selected examples from other states include:

- Texas: 20 Regional Education Service Centers offer approximately 400 different instructional, administrative, financial, training, and technology services estimated to save school systems over $60 million per year.
- Connecticut: instructional, administrative, programs for gifted and talented students, early childhood education, community business and adult education, technology, strategic planning, special education and pupil services, cooperative purchasing, public relations, academic audits, behavioral intervention strategies.
- Pennsylvania: distance learning network, healthcare consortiums, administrative software, specialized transportation, training, grant writing, financial benchmarking.
- Montana: gifted and talented professional development, resource sharing-equipment and personnel, distance learning training.

In Arkansas, while many services are offered, more services could be added. Regular performance evaluation of existing programs and services should also be implemented for all offerings to ensure that the needs of small and rural districts are being met.

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Appendix 9: Attraction and Retention of Staff

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Appendix 10. Other Requested Studies

Professional Development
No additional materials

Student Mental Health
No additional materials

Waivers

Table A.10.1: Number of Individual Waivers in Each Topic Area

Topic Area	Statute	ADE Rule	Accreditation Standard	Total Individual Waivers
Teacher Licensure	11	2	4	17
Library Media	7	-	5	12
Salaries/Compensation/Personnel Policies	7	1	3	11
Curriculum	1	-	9	10
Class Size and Teaching Load	1	1	6	8
Flexible Schedule	4	-	3	7
Alternative Learning Environment	3	1	2	6
Personnel Policies	6	-	-	6
Board of Directors	4	-	-	4
Guidance and Counseling	1	-	3	4
Principal	1	-	3	4
Attendance	2	1	-	3
Grading Scale	1	1	1	3
Advanced Placement	1	1	-	2
Credit Hours	-	-	2	2
Student Services	1	1	-	2
Superintendent	2	-	-	2
Achievement Gap Task Force	1	-	-	1
College Credit	1	-	-	1
Duty-Free Lunch	-	-	1	1
Facilities	-	-	1	1
Planning Periods	1	-	-	1

Table A.10.2: Number of 1240 Schools with Waivers in Each Topic Area

	15-16	16-17	17-18	18-19	19-20
Flexible Schedule	10	136	212	951	979
Teacher Licensure	30	116	293	311	258
Attendance	0	110	146	143	143
Library Media	0	54	84	91	102
Credit Hours	22	33	79	88	87
Class Size and Teaching Load	2	21	68	73	79

	15-16	16-17	17-18	18-19	19-20
Salaries/Compensation/Personnel Polices	4	57	59	55	79
Grading Scale	13	23	29	27	28
Facilities	19	19	19	19	19
Principal	0	3	3	14	15
Alternative Learning Environment	0	5	11	10	11
Planning Periods	0	8	12	11	11
Guidance and Counseling	0	5	9	8	10
College Credit	9	9	9	9	9
Curriculum	0	8	12	11	9
Duty-Free Lunch	0	6	6	5	5
Superintendent	0	3	3	2	5
Achievement Gap Task Force	0	3	5	4	4
Student Services IR	0	3	7	6	4
Advanced Placement	0	3	3	2	2
Board of Directors	0	3	3	2	2
Total Schools	**32**	**219**	**447**	**952**	**988**

Table A.10.3: Aggregated Waiver Achievement/Growth Regression Analysis Results

Is having waiver(s) associated with:	Instruction Waiver	Resource Waiver
All Students		
Change in Math Achievement	NS +	NS +
Change in Math Growth	NS +	NS +
Change in Literacy Achievement	NS +	NS +
Change in ELA Growth	NS -	NS +
FRL Students		
Change in Math Achievement	NS +	NS +
Change in Math Growth	NS +	NS +
Change in Literacy Achievement	NS +	S + (1.2 % pt. ↑)
Change in ELA Growth	NS +	NS +

Table A.10.4: Aggregated Waiver Expenditure Regression Analysis Results

Is having waiver(s) associated with:	Instruction	Resource
Change in Instructional Expenditures Per Pupil	NS -	NS +
Change in Total Expenditures Per Pupil	NS +	S + ($613 ↑)

Table A.10.5: Individual Waiver Topic Area Achievement/Growth Regression Analysis Results

Is having a waiver associated with:	Attendance	Licensure	Library Media
Change in Math Achievement	S + (2.0 % pt. ↑)	S - (1.9 % pt. ↓)	NS -
Change in Math Growth	S + (.64 pt. ↑)	NS-	S - (.74 pt. ↓)
Change in Literacy Achievement	NS +	NS -	NS -
Change in ELA Growth	S + (.54 pt.↑)	NS -	NS -

Vouchers

Table A.10.6: School Voucher and Tax Credit Programs in Comparison States

School Voucher and Tax Credit Programs, SREB States and Massachusetts		
	Voucher Program	**Tax Credit Program**
Alabama		X
Arkansas	X	
Delaware		
Florida	X	X
Georgia	X	X
Kentucky		
Louisiana	X	X
Maryland	X	
Massachusetts		
Mississippi	X	
North Carolina	X	
Oklahoma	X	X
South Carolina		X
Tennessee	X	
Texas		
Virginia		X
West Virginia		

Table A.10.7: Brief Descriptions of Comparison State Voucher Programs

State	Brief Description of Voucher Program
Florida	**Two voucher programs**: John M. McKay Scholarships for Students with Disabilities Program (since 1999), voucher amount is based upon what the district would have spent on the participating child per their individual plan; and Family Empowerment Scholarship (enacted in 2019); students from households up to 300% of federal poverty level (or direct certification list), and those in foster care or out of home placement are eligible; requirement for attendance in public school the prior school year. Voucher amount is the lesser of the school's tuition and fees or the calculated scholarship amount - based upon the grade level and district of residence, be calculated at 95% of the funds per unweighted FTE full-time equivalent in the Florida Education Finance program for a student in the basic program, plus a per-full-time equivalent share of funds for all categorical programs, except special education.
Georgia	Special Needs Scholarship Program, a school choice program available for special needs students attending Georgia public schools who are served under an Individualized Education Plan (IEP). Scholarship award amounts can be used at in- or out-of-district public schools or private schools and are based upon the services the student received in the local school district.
Louisiana	**Two voucher programs**: School Choice Program for Students with Exceptionalities, provides special needs students in certain parishes tuition assistance to attend participating schools with special needs programming. Tuition assistance is approximately 50% of the state per pupil funding for the district. Louisiana Scholarship Program is available to families with income below 250% of the federal policy level and enrolled in a public school with a C, D or F letter grade. Voucher amount is the lesser of 90% percent of the per pupil amount the district receives from state and local sources or total school tuition and fees.
Maryland	Broadening Options and Opportunities for Students Today (BOOST) program, provides scholarships for students who are eligible for the Free or Reduced-Price Meals program. Awards are granted based on household income, with the lowest income served first; availability of awards subject to program appropriation.

State	Brief Description of Voucher Program
Mississippi	**Two voucher programs:** one for students with dyslexia, one for students with disabilities. Dyslexia Therapy Scholarship for Students with Dyslexia Program provides students with dyslexia the option to enroll at an approved public or nonpublic school with dyslexia therapy programs. Maximum scholarship is an amount equivalent to the Mississippi Adequate Education Program base student cost. Nate Rogers Scholarship for Students with Disabilities Program provides K-6 students with speech-language impairment to attend an approved public or nonpublic school that emphasizes speech-language therapy and intervention. Maximum scholarship is an amount equivalent to the Mississippi Adequate Education Program base student cost.
North Carolina	**Two voucher programs**, one for students with disabilities, one for low-income students to attend private school. The Disabilities Grant Program provides assistance of up to $8,000 per year for awarded students with disabilities who enroll in a participating nonpublic school, including home school. NC Opportunity Scholarship Program provides a maximum of $4,200 per year for students from low income families to attend a participating private school.
Oklahoma	The Lindsey Nicole Henry Scholarships for Students with Disabilities provides scholarships for students with disabilities and students in foster care/out-of-home placements with funding to attend a private school. Amount is equivalent to total state aid, including grade and disability weights
Tennessee	Newly enacted, planned to launch for the 20-21 school year, Education Savings Account Program, would allow low-income families in two counties (Memphis and Nashville) to use state and local Basic Education Program funds at participating private schools. Funds would be deposited into ESA accounts, and could also be used for transportation, tutoring, other school expenses, and higher education. Current legal challenge has delayed implementation.

Table X. Brief Descriptions of Comparison State Tax Credit Scholarship Programs

State	Brief Description of Tax Credit Scholarship Program
Alabama	**Opportunity Scholarship Fund:** individuals may donate up to one half of their annual Alabama income tax liability and receive a dollar-for-dollar credit. Individual donations are capped at $50,000. Provides scholarships to low-income, K-12 children to attend public or private school of their choice; first priority is for students zoned to attend a "failing" public school. $30 Million annual cap on tax credits.
Florida	**Two tax credit scholarship programs.** Florida Tax Credit Scholarship Program provides for state tax credits for contributions to nonprofit scholarship funding organizations (SFOs). SFOs then award scholarships to eligible children of low-income families. Tax credit cap for the 2019-2020 fiscal year is $873,565,674. During the 2018-19 school year, scholarships in the amount of $644 million were awarded to 104,091 students enrolled in 1,825 participating Florida private schools; Hope Scholarship Program (enacted 2018) allows purchasers of motor vehicles to contribute their vehicle sales tax to fund private school scholarships. Hope Scholarships may be used by students who are victims of bullying or are physically attacked in school. These students may also transfer to other public school districts.
Georgia	The Qualified Education Expense Tax Credit allows taxpayers (individuals and corporations) to receive tax credits for donations to Student Scholarship Organizations (SSOs). SSOs will provide student scholarships to parents of eligible children who plan to attend private schools; $100 million donation cap annually.
Oklahoma	The Oklahoma Equal Opportunity Education Scholarship allows individuals and businesses to receive state income tax credits for donating to a scholarship granting organization (SGO) recognized by the Oklahoma Tax Commission. The SGO then uses those contributions to provide scholarships for eligible students to attend an accredited private school; $5 million credit cap annually.

State	Brief Description of Tax Credit Scholarship Program
Louisiana	Louisiana authorizes School Tuition Organizations (STOs) to collect and use taxpayer donations to provide scholarships to students that meet the program's income requirements to attend nonpublic schools through its Tuition Donation Credit Program. All School Tuition Organizations are tax-exempt, not-for-profit organizations with 501(c)(3) status. Taxpayers earn a credit toward their Louisiana state taxes for the year in which they make a donation. To be eligible for a scholarship from an STO, students must have a family income that does not exceed 250% of the federal poverty line and must be entering kindergarten, currently enrolled in a Louisiana public school, or enrolled in the Louisiana Scholarship Program. School Tuition Organizations determine the amount of the scholarship. Scholarship amounts cannot exceed the lesser of either the school's tuition and mandatory fees or 80% of the state average per pupil funding for elementary and middle school students (approximately $4,200) and 90% of the state average per pupil funding for high school students (approximately $4,700).
South Carolina	Exceptional South Carolina allows taxpayers (individuals and corporations) to receive tax credits for donations to the Exceptional SC Scholarship Fund, up to 60% of income tax liability, which provides scholarships to exceptional needs students. $12 million annual statewide cap.
Virginia	The Education Improvement Scholarships Tax Credits Program provides state tax credits for persons or businesses making monetary donations to foundations that provide scholarships to eligible students and children attending eligible private schools and eligible nonpublic pre-kindergarten programs. $25 million annual statewide cap.

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Appendix 11. Review of Resources in Matrix and Methods for Routinely Reviewing Adequacy

No additional materials

References

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Lawrence O. Picus and Associates (2006). *Recalibrating the Arkansas School Funding Structure.*

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Appendix 12: Recommendations

No additional materials