



AUGENBLICK,
PALAICH AND
ASSOCIATES



Review of the Resource Matrix

Amanda Brown, APA

Presentation to the Senate Committee on Education
and the House Committee on Education

Little Rock, Arkansas

October 19, 2020

Presentation Overview

- Review each resource matrix item and all relevant data collected including:
 - Current matrix resource level
 - Any historical variation
 - Recently approved changes for next biennium
 - Prior Arkansas studies from Picus and Odden (2003, 2006, 2014)
 - Adequacy studies in other states
 - District data, including the district survey and available data from BLR/ADE
 - Educator panels and stakeholder survey
 - Case studies
 - National policy scan/literature review
 - Arkansas rules or accreditation requirements (where applicable)
- Similarly, provide all relevant data related to areas not currently addressed in the matrix that have been highlighted through multiple sources as being needed

Presentation Context

- APA understands that the legislature determines adequacy, and that the study team has not been asked to determine the levels of resources that should be in the matrix or overall funding that should be provided
 - In the November 9th presentation, APA will make recommendations for the Committees' consideration of areas that could be addressed
- Each slide will detail what has been found through the various study data sources
 - We will highlight if the information from the various sources is consistent or mixed, and how this information compares to the current matrix resources

Matrix FTEs per 500 students: Classroom Teachers, Kindergarten

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.

Matrix FTEs per 500 students: Classroom Teachers, Grades 1-3

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 grade, 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.

Matrix FTEs per 500 students: Classroom Teachers, Grades 4-12

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	<p>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.</p> <p>For grades 7-12: a teacher shall not be assigned more than 150 students; and an individual academic class shall not exceed 30 students, provided that, in exceptional cases or for courses that lend themselves to large group instruction.</p>

Matrix FTEs per 500 students: Classroom Teachers, Non-Core

Non-Core	
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

Matrix FTEs per 500 students: Special Education Teachers

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).

Matrix FTEs per 500 students: Instructional Facilitators

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 was less about the level of these positions and more 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.

Matrix FTEs per 500 students: Library/ Media Specialist

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.

Matrix FTEs per 500 students: Guidance Counselor and Nurse

Guidance Counselor and Nurse	
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. Elem: 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

Matrix FTEs per 500 students: Principal

Principal	
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.

Matrix FTEs per 500 students: Secretary

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

School-level Salaries and Benefits: Classroom Teachers and Pupil Support Staff

Classroom Teachers and Pupil Support Staff	
FY21 Matrix	\$68,470
Historic Variation (if any)	Original FY05 matrix was based upon a 26% increase and have increased by 2.2%, on average, annually since FY05
Changes for Next Biennium	\$70,010.60 (FY22), \$71,585.80 (FY23)
Prior Arkansas Studies	Not reviewed
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- salaries 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), create issues with staff attraction and retention; 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.

School-level Salaries and Benefits: Principals and Secretaries

Principals and Secretaries

FY21 Matrix	Principals: \$99,012 Secretaries: \$40,855
Historic Variation (if any)	Principals: Similarly have increased by 2.2%, 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

School-level Resources: 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 1-to-1. Technology expenditures are particularly high this year due to remote instruction
Case Studies	Technology/broadband access was a noted issue, particularly this year
Literature Review/Policy Scan	Not reviewed

School-level Resources: 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

School-level Resources: Extra Duty Funds

Extra Duty Funds

FY21 Matrix	\$66.20 per student
Historic Variation (if any)	\$90 per student in FY05 matrix, \$50 in FY08 matrix, has 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

School-level Resources: 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

School-level Resources: 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

School-level Resources: Professional Development (Categorical Outside of Matrix)

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
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 professional development strategies vs costs
Case Studies	Case study themes were about successful professional development strategies vs. costs
Literature Review/Policy Scan	Research is primarily regarding characteristics of effective professional development

District-level Resources

District-level Resources	
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 set 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 pupil 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 (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

Not Currently in Matrix: Additional Student Mental Health Resources

Additional Student Mental Health Resources	
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, it does not meet the need of all students; many districts are using ESA funds to offer
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) 250:1 for school social workers, unless working with students with intensive needs, when a lower ratio is required

Not Currently in Matrix: School Resource Officers/School Security

School Resource Officers/School 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

Not Currently in Matrix: 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), added a 1.0 FTE Assistant Principal per 600 9-12 students for a total of 0.26 FTE (2014)
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

Not Currently in Matrix: Dyslexia Resources

Dyslexia Resources	
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
Arkansas Rules or Accreditation Requirements	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 will be provided RTI or intervention services. No later than the 2015-2016 academic year, a school district shall have at least one individual to serve as a dyslexia interventionist.



Questions?