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APA CONSULTING

Identification of Gaps

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Presentation to the Senate Committee on Education and the House Committee on Education, Little Rock, Arkansas September 8, 2020

Roadmap

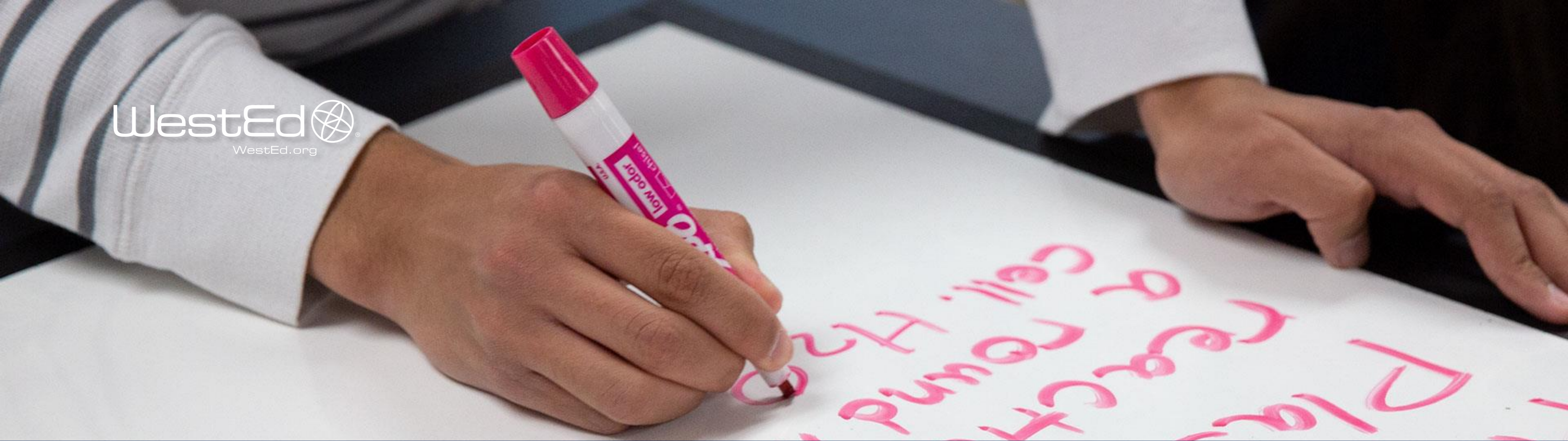## 1. Key Findings

2. Methodology

3. Analysis Overview

Key Findings

Identification of Gap Areas: Key Findings

- **Low-income students, LEP students, student with disabilities, and students of color have lower proficiency rates than their peers.**

  - High need, or disadvantaged student populations, show the largest gaps.

- **Math and ELA growth rates decrease as schools serve larger high need student populations.**

  - For the most part, growth decreases as schools serve more low-income, limited English proficient, and special education students.

- **In 2018, higher need students were funded at higher rates, but all students are funded within $790 of each other.**

  - Low-income, LEP, special education and underrepresented minority students reside in schools that are funded at higher per-pupil rates on average.

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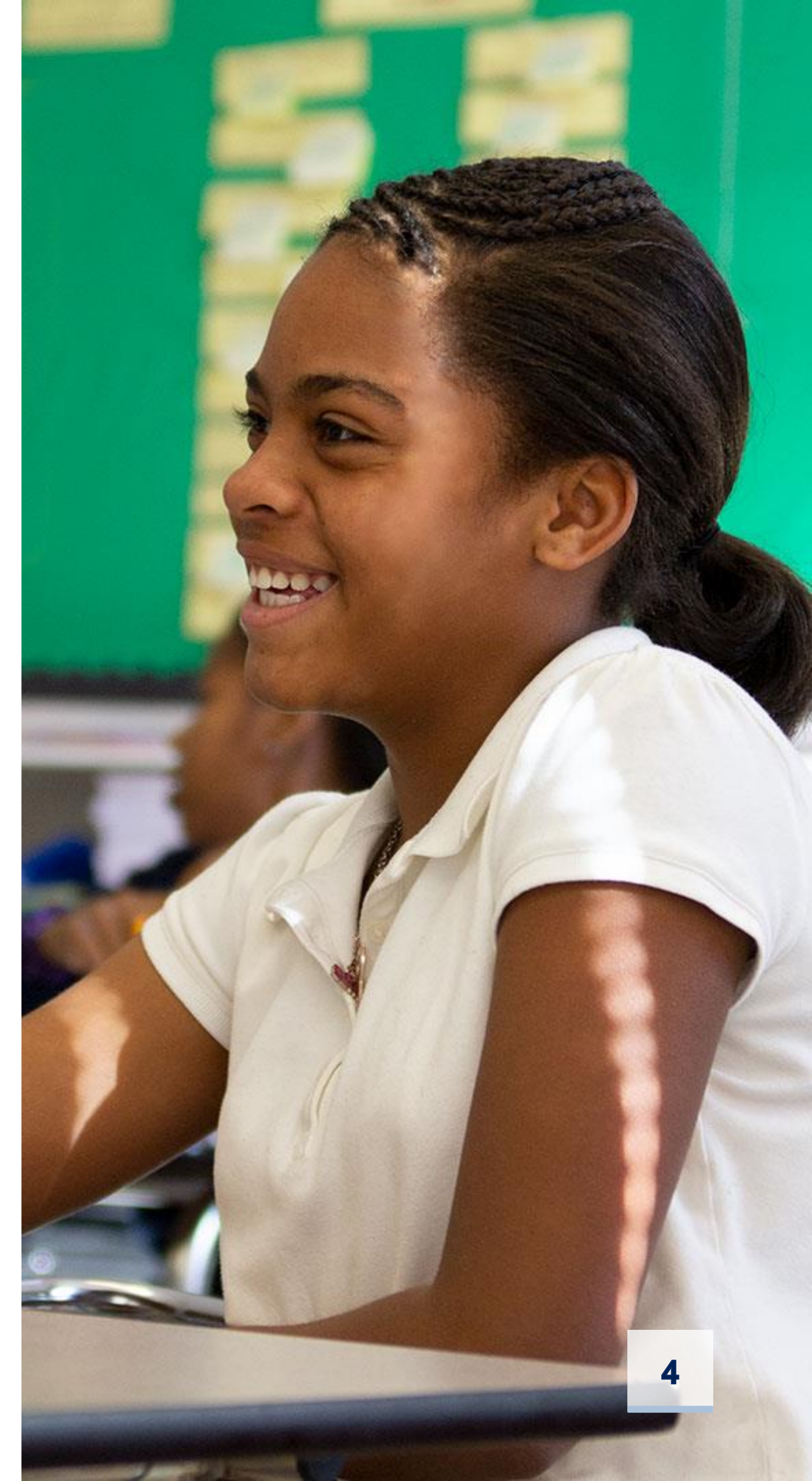
Data & Methodology

Data Sources

- **Arkansas Department of Education (ADE)**

  - Proficiency level data

  - Student demographics

  - School expenditures

- **National Center for Educational Statistics**

  - Locale and geography

- **Office of Education Policy at the University of Arkansas**

  - School VAM measures

  - Region

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Identification of Gap Areas: Methodology

Exploratory Analyses

- Descriptive analysis

- Correlational analyses

  - Scatterplots

  - Correlation coefficients
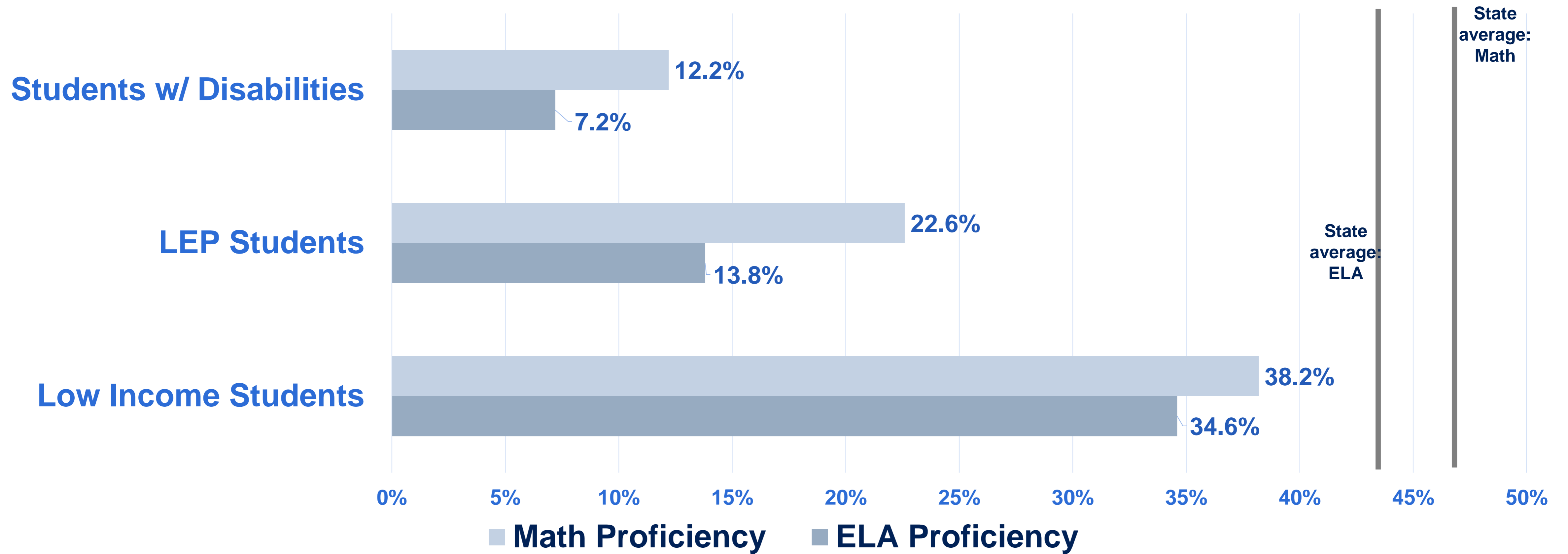
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Analysis Overview

Math and ELA Proficiency in Arkansas in 2019

- **In Arkansas 43.7% of students are proficient in ELA, and 46.6% are proficient in Math.**

    - Low-income students had lower proficiency rates than their non low-income peers.

    - Proficiency also differs depending on the students racial or ethnic background.

    - Higher need student populations: Students of color, Limited English proficient students, and special education students all had lower than average ELA and Math proficiency rates.
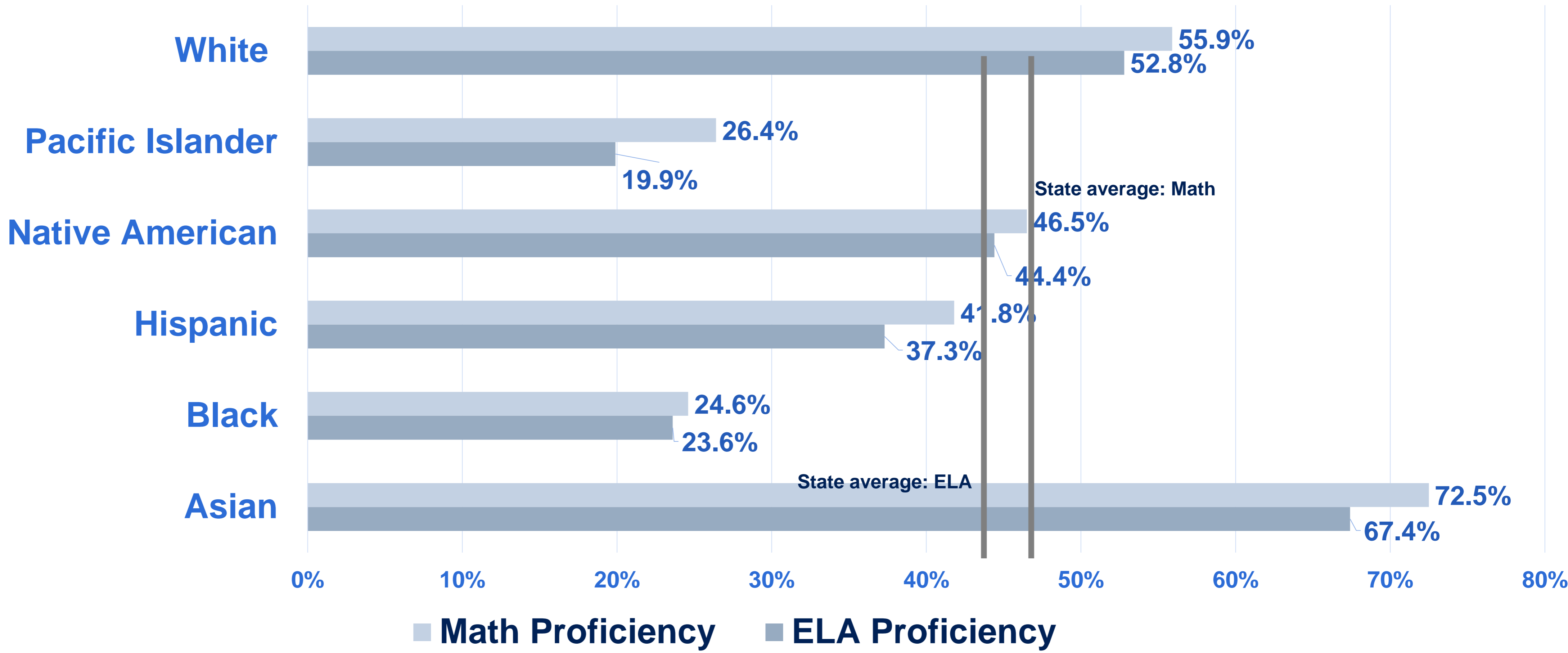
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2019 Math and ELA Proficiency by At-Risk Student Characteristics

2019 Math and ELA Proficiency by Race & Ethnicity

White
- 55.9%
- 52.8%

Pacific Islander
- 26.4%
- 19.9%

Native American
- 46.5%
- 44.4%

Hispanic
- 41.8%
- 37.3%

Black
- 24.6%
- 23.6%

Asian
- 72.5%
- 67.4%

State average: Math

State average: ELA

0%   10%   20%   30%   40%   50%   60%   70%   80%
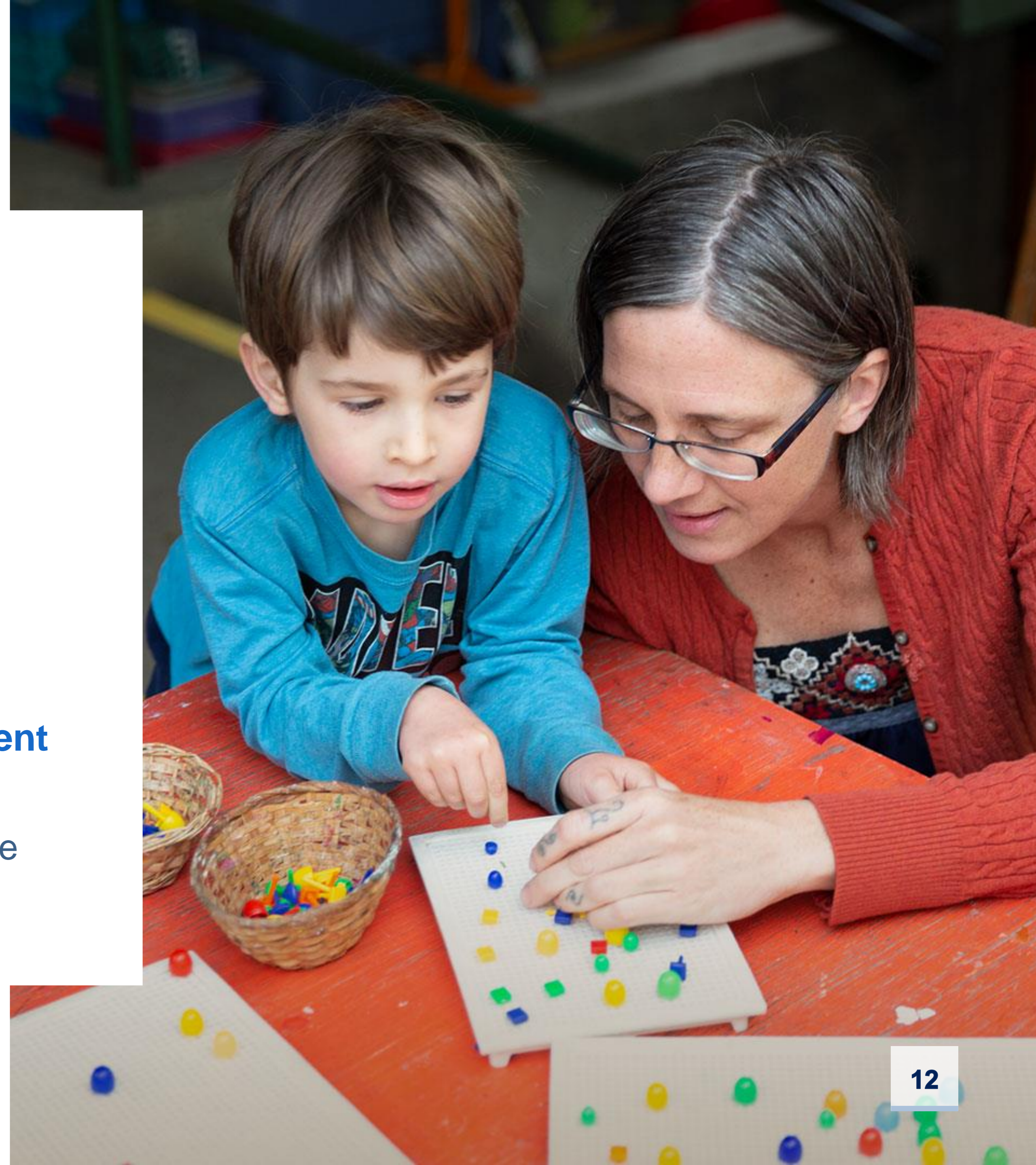
■ Math Proficiency   ■ ELA Proficiency

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Math and ELA Growth in Arkansas

- **Math and ELA growth measures decrease as the percentage of underrepresented minority (URM) students served increases.**

  - School level growth measures are negatively correlated with the percentage of URM students served.

- **Arkansas growth metrics correlate less with student demographics than proficiency.**

  - In contrast with proficiency, growth is less a measure of school demographics and more a measure of student progress.

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Growth and Proficiency Correlation with Student Demographics (2016-19)

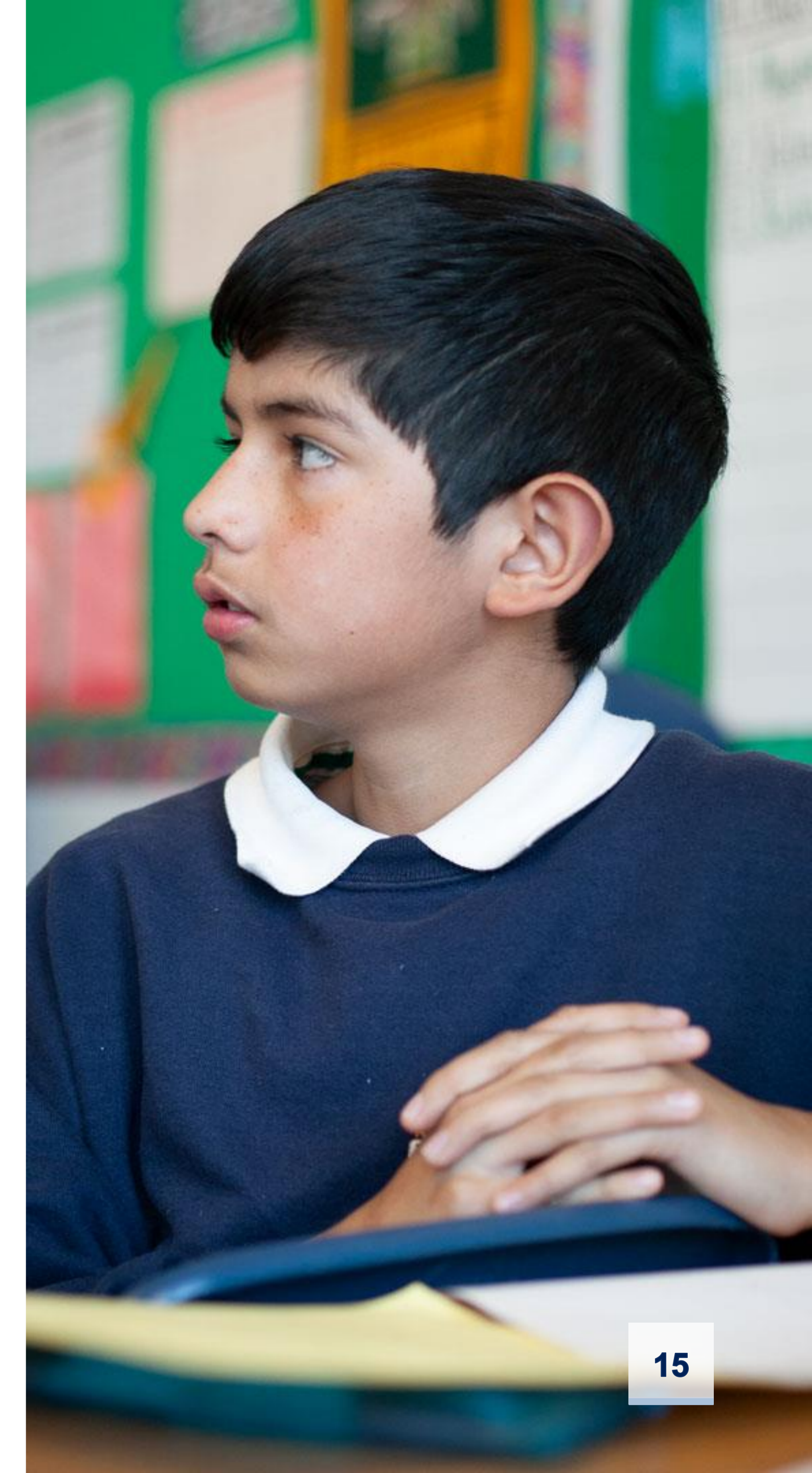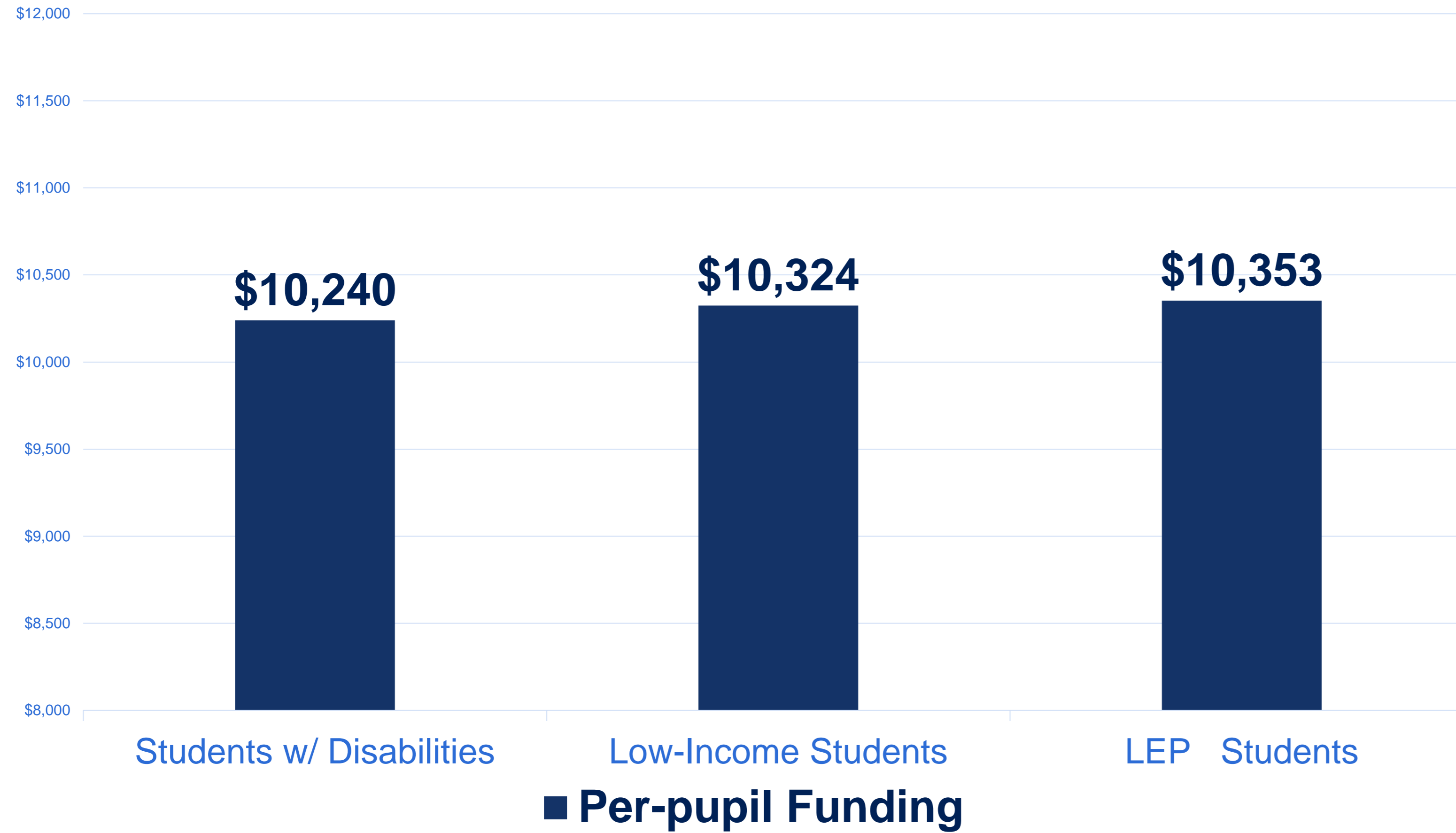| Measure	School Demographics	Growth	Proficiency
ELA	Underrepresented Minority Students	-.15	-.57
	Low-Income Students	-.20	-.65
	LEP Students	-.22	-.09
	Students w/ Disabilities	-.08	-.19
Math	Underrepresented Minority Students	-.15	-.41
	Low-Income Students	-.28	-.39
	LEP Students	.20	-.03
	Students w/ Disabilities	.11	-.09

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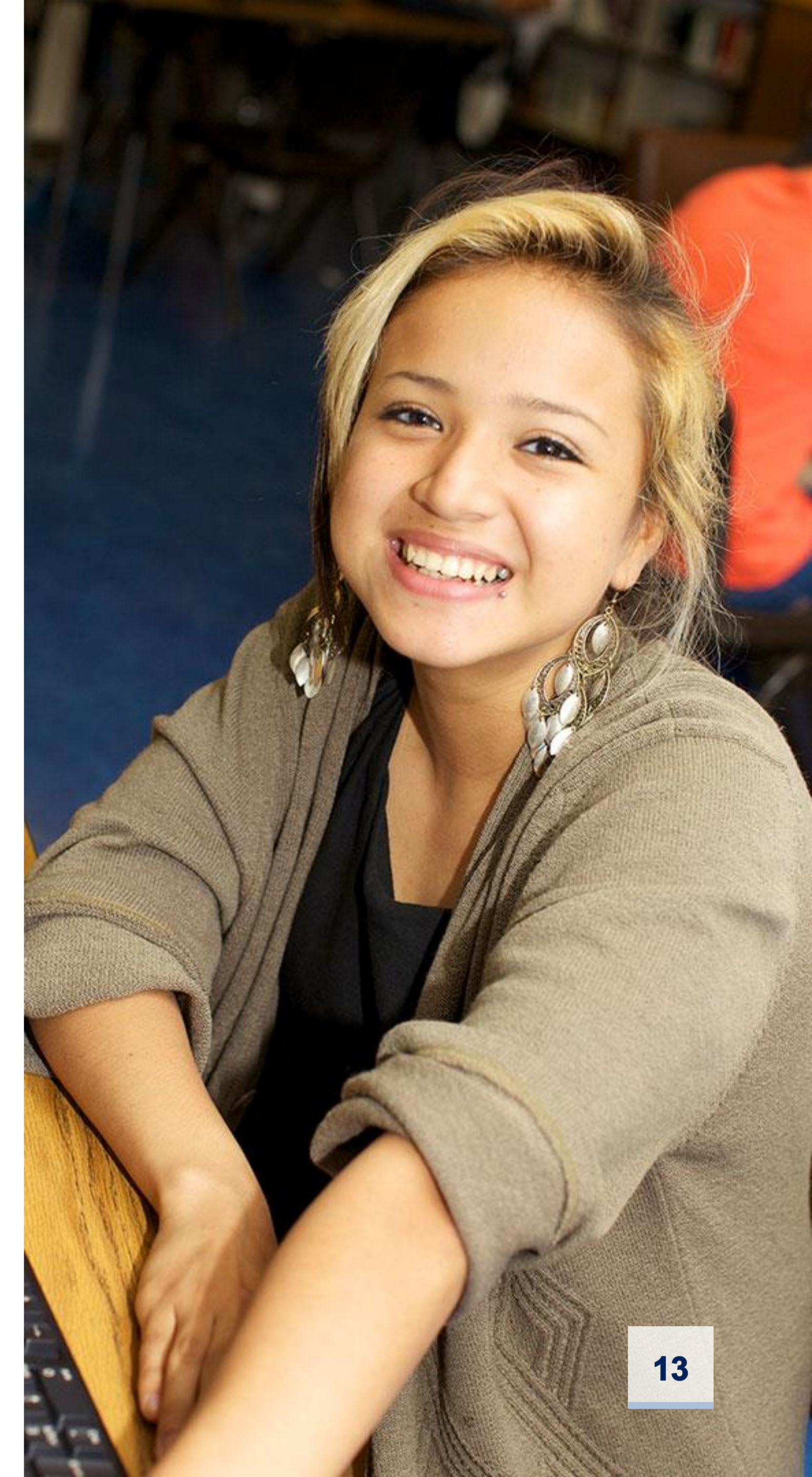
2018 Arkansas Funding and Academic Performance

- **Per-pupil funding in Arkansas illustrates differences in per-pupil funding by student demographic.**

  - Low-income students, on average, reside in schools that spend about 4.9% more in per-pupil expenditures compared to non low-income students.

  - LEP students reside in schools that spend roughly 2% more per-pupil compared to all other students.

  - SPED students reside in schools that spend 1% more per-pupil.

  - Per-pupil funding ranges from $9,817 to $10,695 per-pupil depending on the race/ethnic group.

- **Differences in per-pupil spending between groups were statically significant. Though, no group analyzed was funded more than 8% higher than another.**

2018 Arkansas per-pupil funding levels by At-Risk Student Characteristics

Chart: Per-pupil Funding
- Students w/ Disabilities: $10,240
- Low-Income Students: $10,324
- LEP Students: $10,353

■ Per-pupil Funding

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2018 Arkansas per-pupil funding levels by the schools in which students attend

Per-pupil Funding:

- N. American: $9,817
- Asian students: $9,905
- White Students: $9,970
- 2 or more: $9,974
- Pacific Islander: $10,209
- Hispanic Students: $10,275
- Black Students: $10,695

■ Per-pupil Funding

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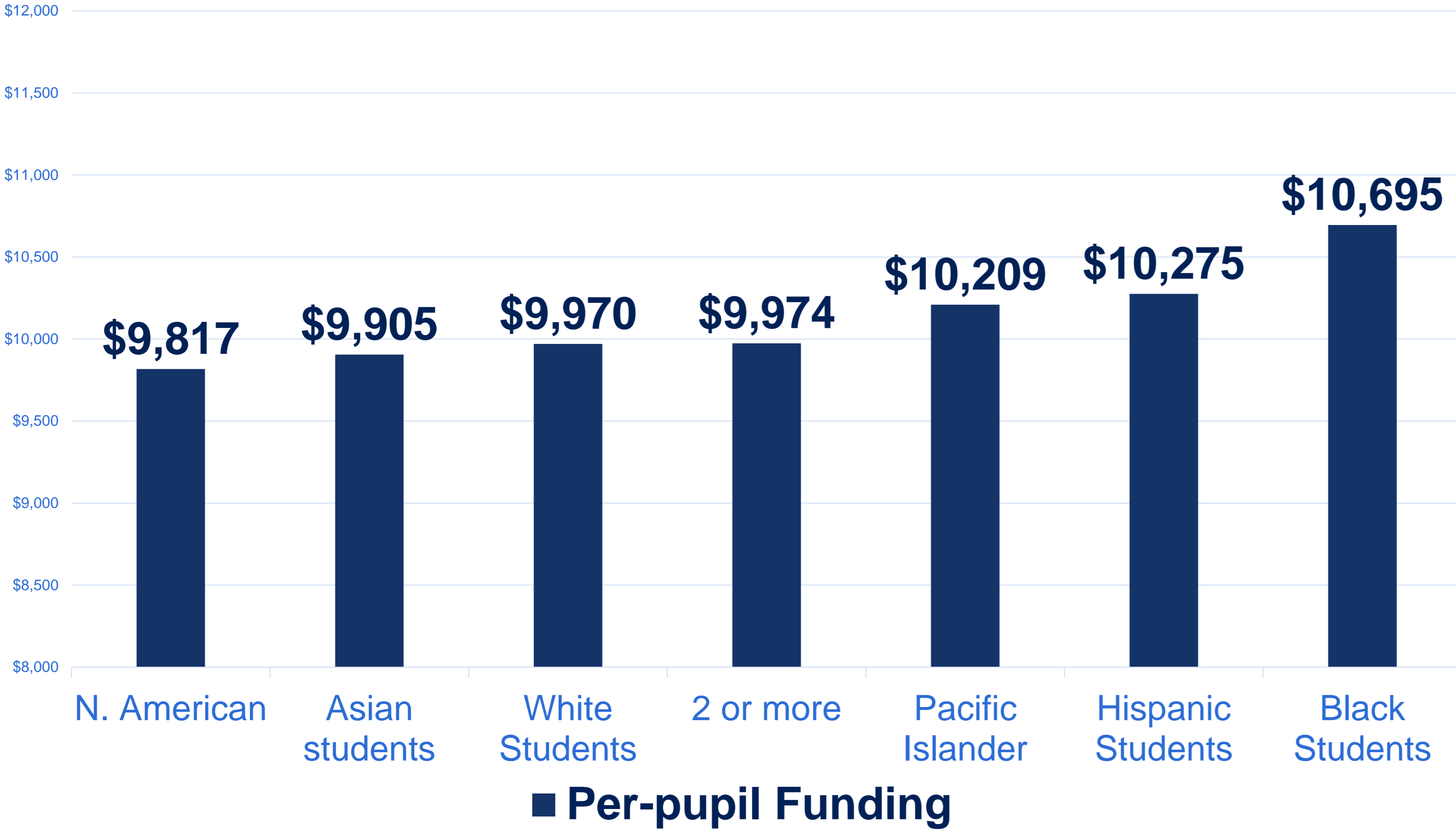
Appendix A: Terms and Definitions

Descriptive Analysis: Analyses to summarize or describe data to find patterns. Descriptive analyses may entail univariate analyses that describe the distribution of variables.

Decile: A decile is a portion, or a slice of a distribution, that is formed through cut points that segment the distribution into 10 equal parts.

Students of Color: African American, Latinx, Native American, Pacific Islander, or mixed-race students.

LEP Students: Limited English Proficient. Students

Proficient: A student categorized as level 3 or level 4 on the ACT Aspire assessment.

Growth: Gain in assessment scaled score between two regularly scheduled test administrations.

Correlation Coefficients: A numerical value quantifying the statistical relationship between two variables. We report the Pearson correlation coefficient.

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Arkansas ELA Proficiency Levels
By Race

2 or More
- L1 32.3
- L2 20.8
- L3 21.0
- L4 25.8

Asian
- L1 18.2
- L2 14.4
- L3 20.9
- L4 46.5

Black
- L1 55.7
- L2 20.7
- L3 14.4
- L4 9.2

Hispanic
- L1 40.2
- L2 22.4
- L3 19.9
- L4 17.4

N. American
- L1 35.3
- L2 20.3
- L3 21.2
- L4 23.3

P. Islander
- L1 58.7
- L2 21.5
- L3 12.6
- L4 7.3

White
- L1 27.9
- L2 19.3
- L3 22.1
- L4 30.7

Percent

2019 ACT Aspire Assessment Data

Arkansas ELA Proficiency Levels
By Income

Low-Income
- L1 43.9
- L2 21.5
- L3 18.4
- L4 16.1

Not Low-Income
- L1 19.6
- L2 17.3
- L3 23.3
- L4 39.8

Percent

2019 ACT Aspire Assessment Data

Arkansas ELA Proficiency Levels
By LEP

LEP
- L1 63.6
- L2 22.6
- L3 10.5
- L4 3.4
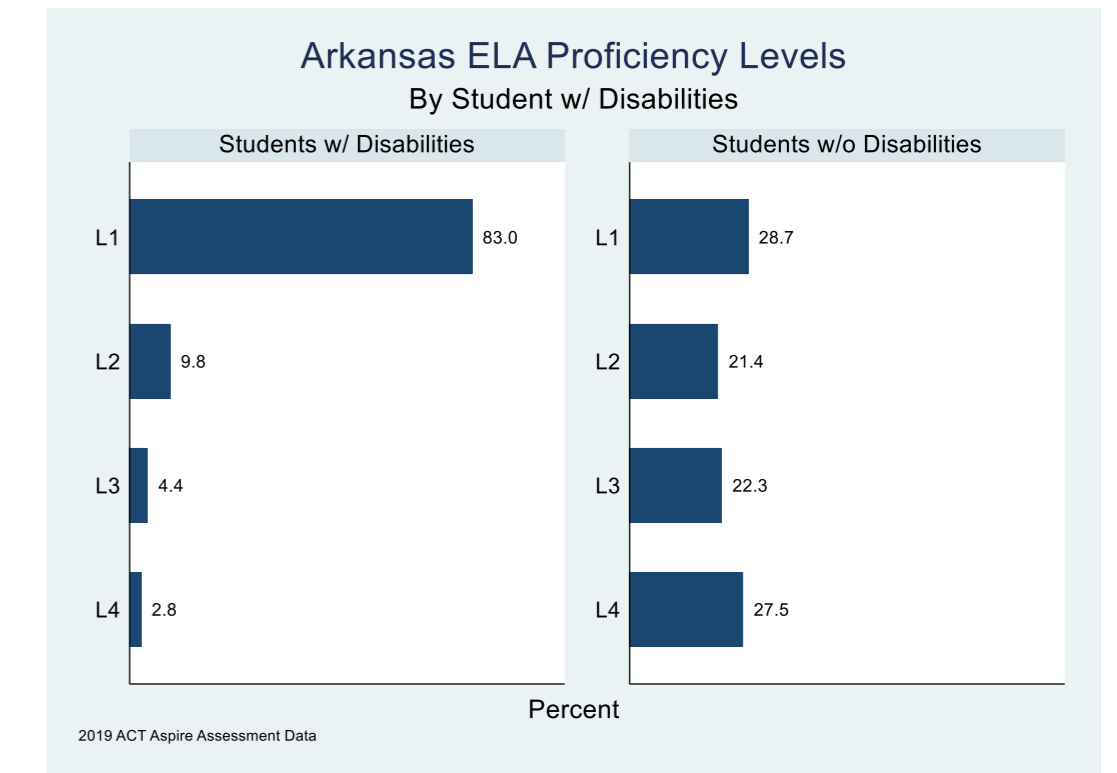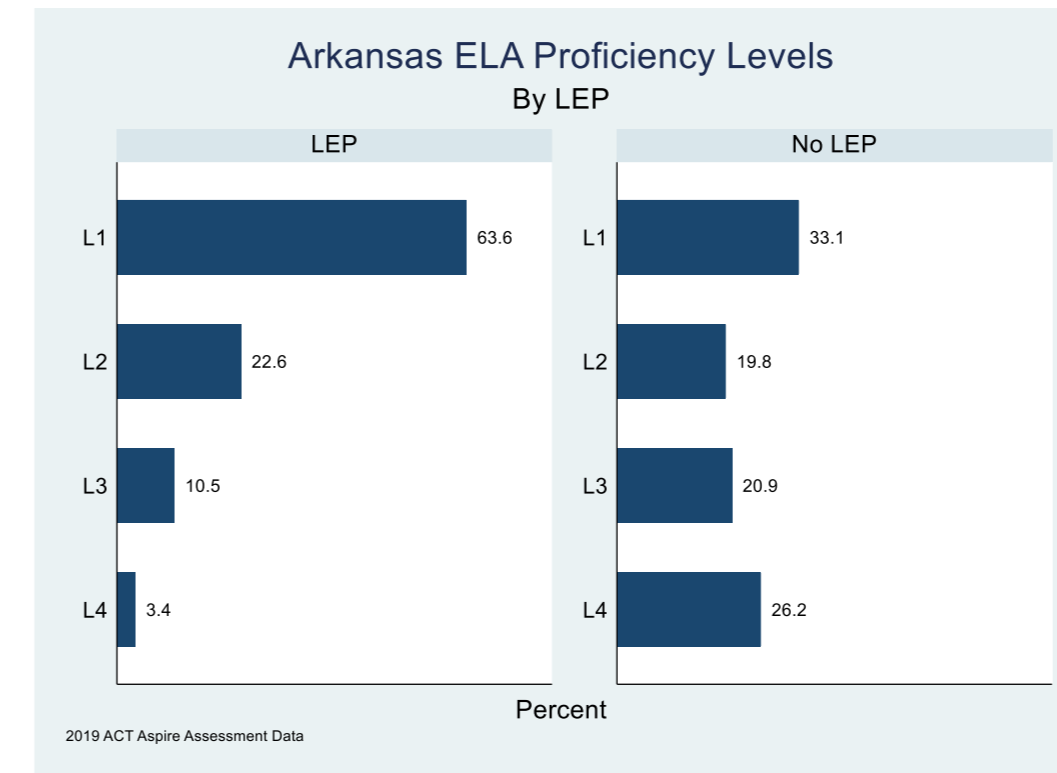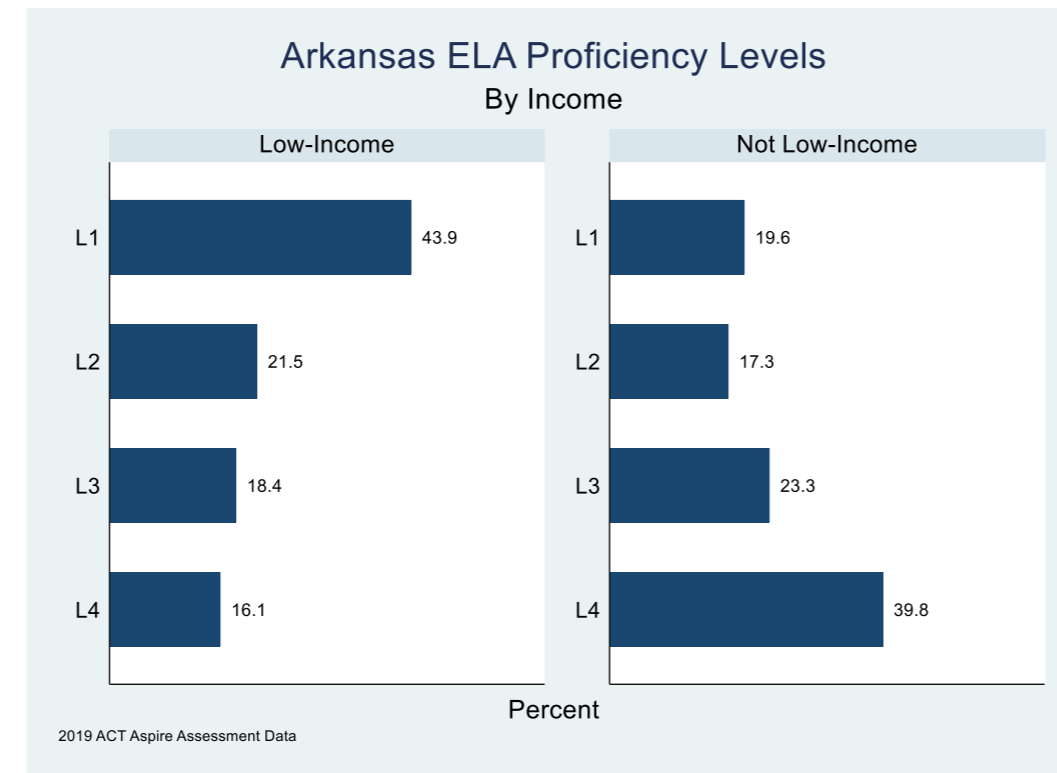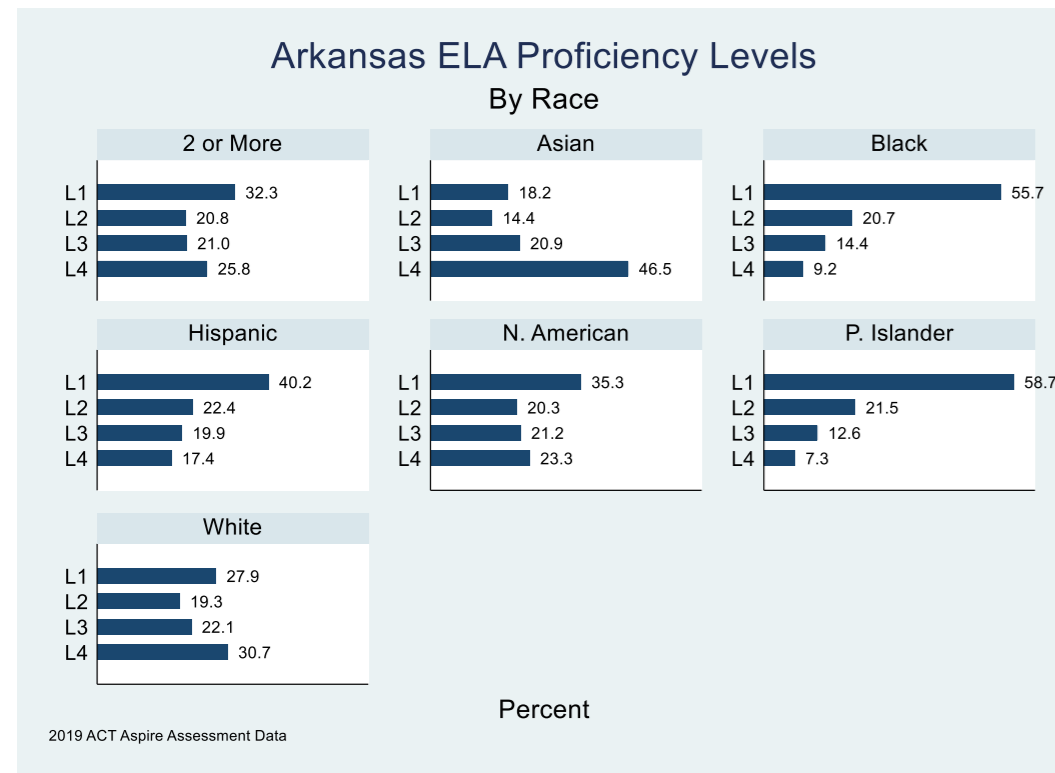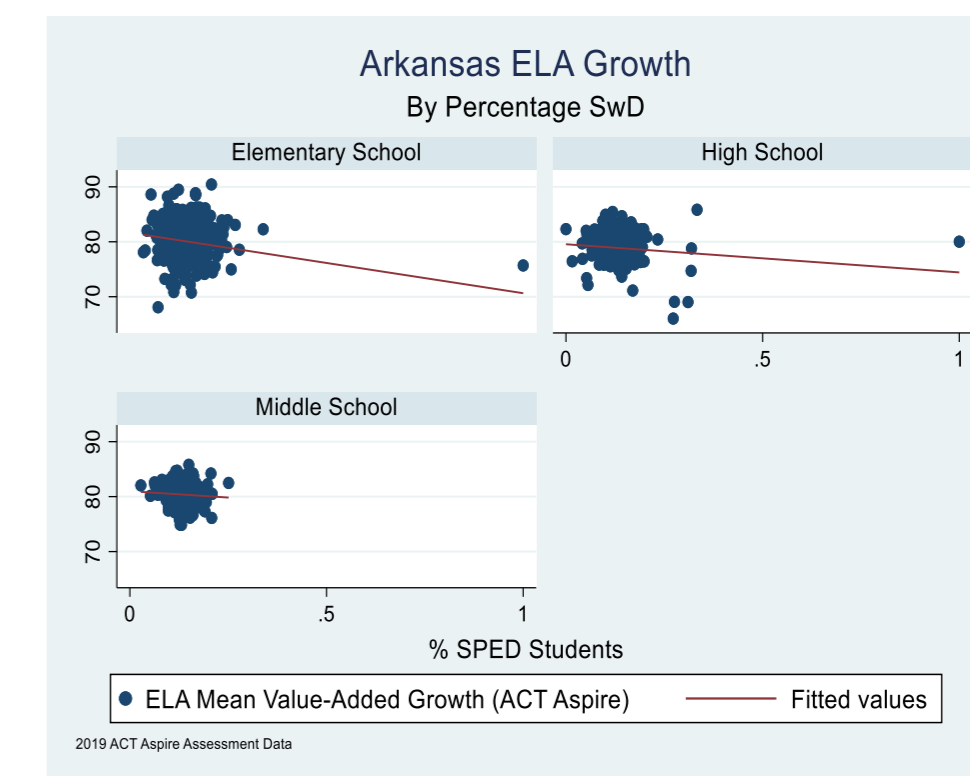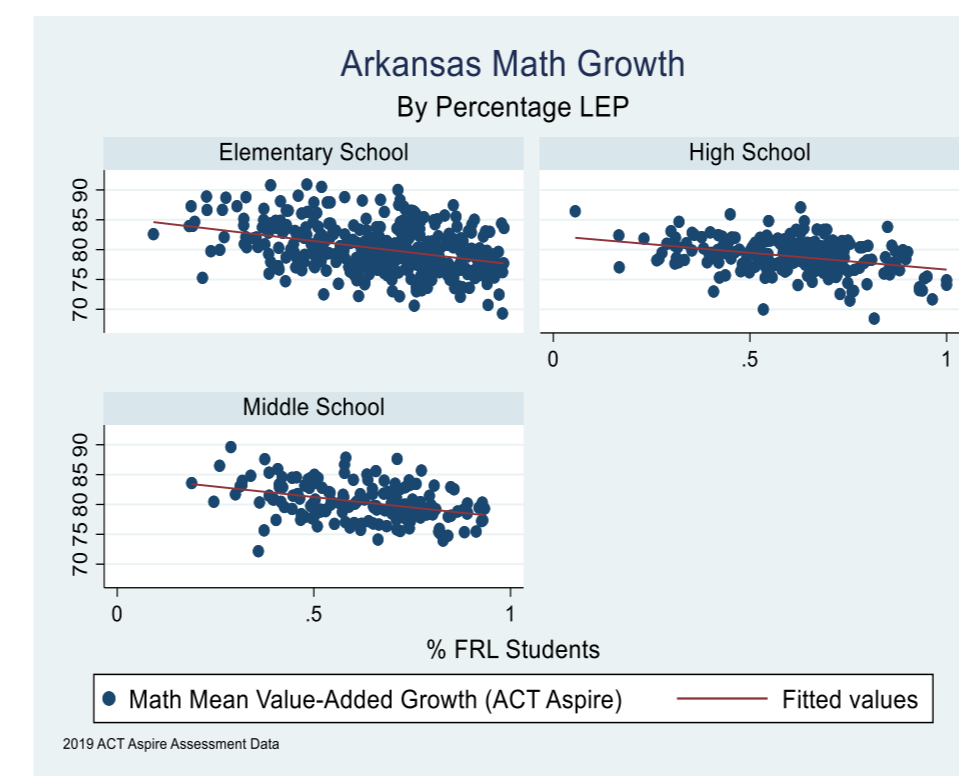
No LEP
- L1 33.1
- L2 19.8
- L3 20.9
- L4 26.2

Percent

2019 ACT Aspire Assessment Data

Arkansas ELA Proficiency Levels
By Student w/ Disabilities

Students w/ Disabilities
- L1 83.0
- L2 9.8
- L3 4.4
- L4 2.8

Students w/o Disabilities
- L1 28.7
- L2 21.4
- L3 22.3
- L4 27.5

Percent

2019 ACT Aspire Assessment Data

Arkansas Math Proficiency Levels
By Race

2 or More
- L1 20.7
- L2 29.7
- L3 32.2
- L4 17.4

Asian
- L1 10.2
- L2 17.2
- L3 28.4
- L4 44.1

Black
- L1 39.8
- L2 35.6
- L3 19.7
- L4 4.9

Hispanic
- L1 25.6
- L2 32.6
- L3 29.5
- L4 12.3

N. American
- L1 23.9
- L2 29.6
- L3 29.5
- L4 17.0

P. Islander
- L1 38.9
- L2 34.7
- L3 21.5
- L4 4.9

White
- L1 17.9
- L2 26.3
- L3 33.2
- L4 22.7

Percent

2019 ACT Aspire Assessment Data

Arkansas Math Proficiency Levels
By Income

Low-Income
- L1 28.8
- L2 33.0
- L3 27.5
- L4 10.7

Not Low-Income
- L1 13.6
- L2 21.7
- L3 33.9
- L4 30.7

Percent

2019 ACT Aspire Assessment Data

Arkansas Math Proficiency Levels
By LEP

LEP
- L1 39.3
- L2 38.1
- L3 18.8
- L4 3.8

No LEP
- L1 22.2
- L2 28.3
- L3 30.7
- L4 18.9

Percent

2019 ACT Aspire Assessment Data

Arkansas Math Proficiency Levels
By Students w/ Disabilities

Students w/ Disabilities
- L1 58.3
- L2 29.5
- L3 9.2
- L4 3.0

Students w/o Disabilities
- L1 18.6
- L2 28.9
- L3 32.7
- L4 19.8

Percent

2019 ACT Aspire Assessment Data

Appendix C: Growth Scatterplots
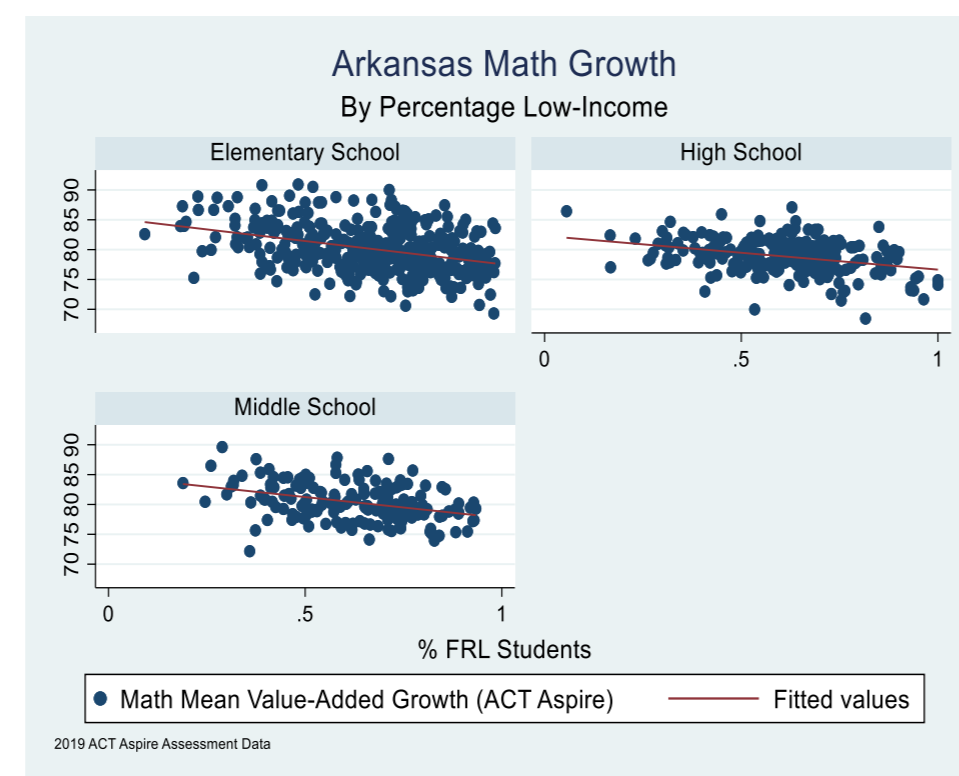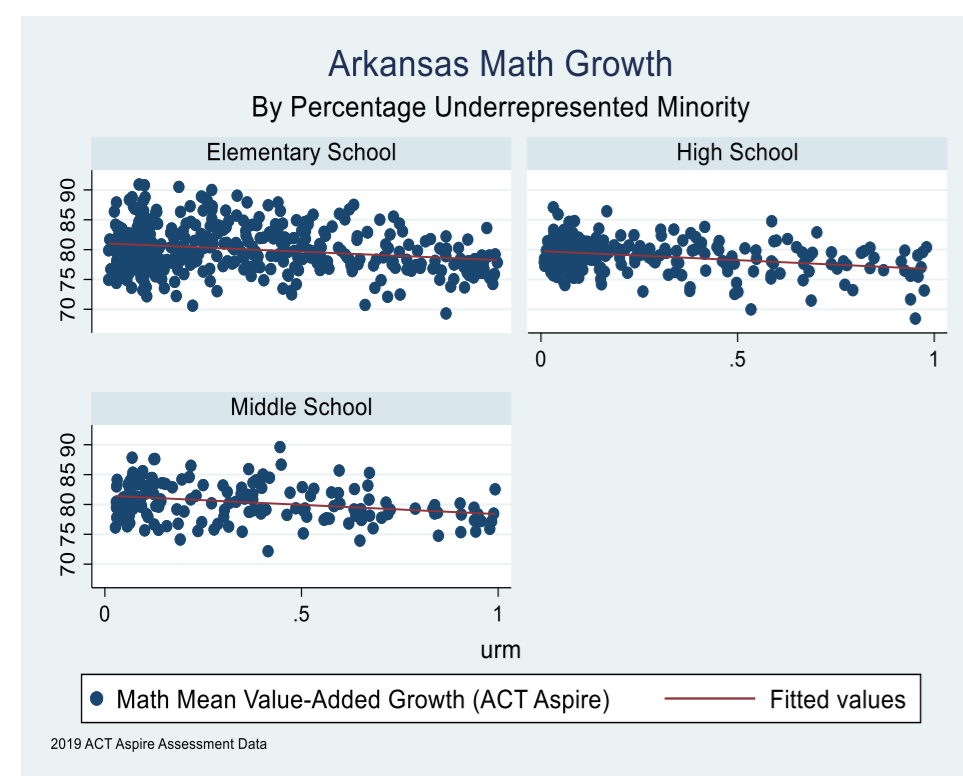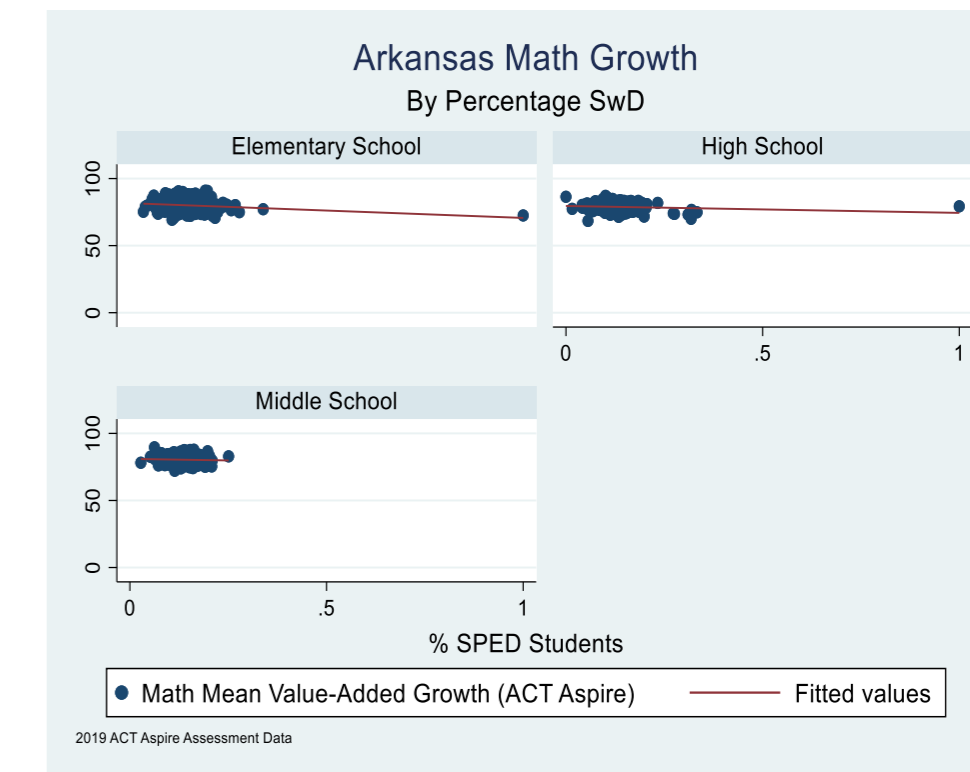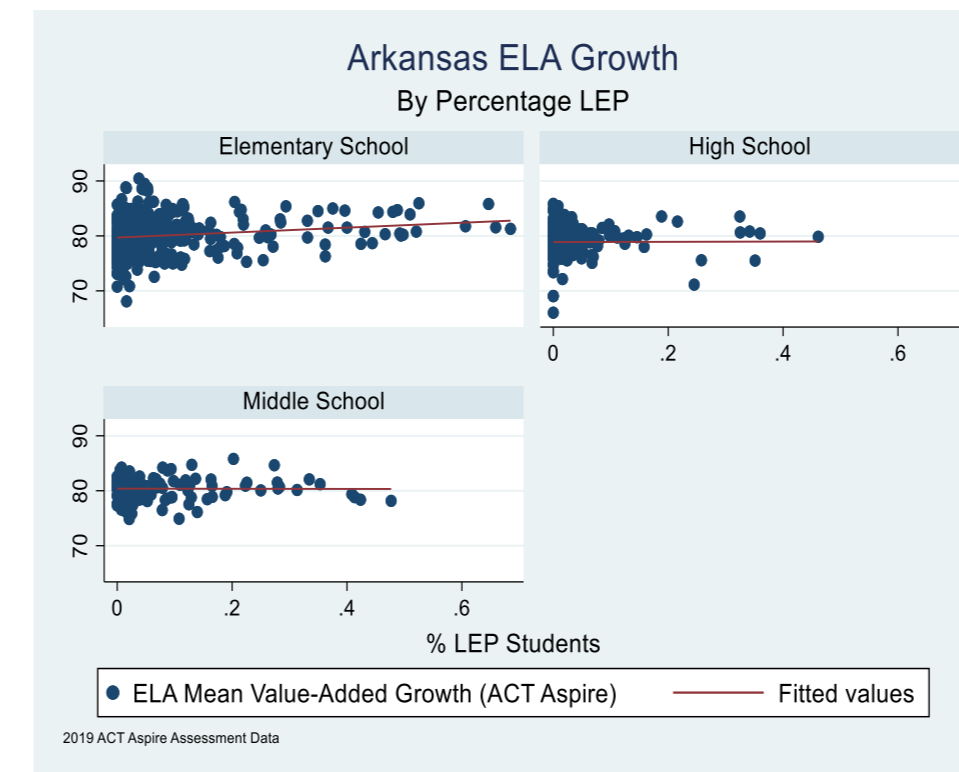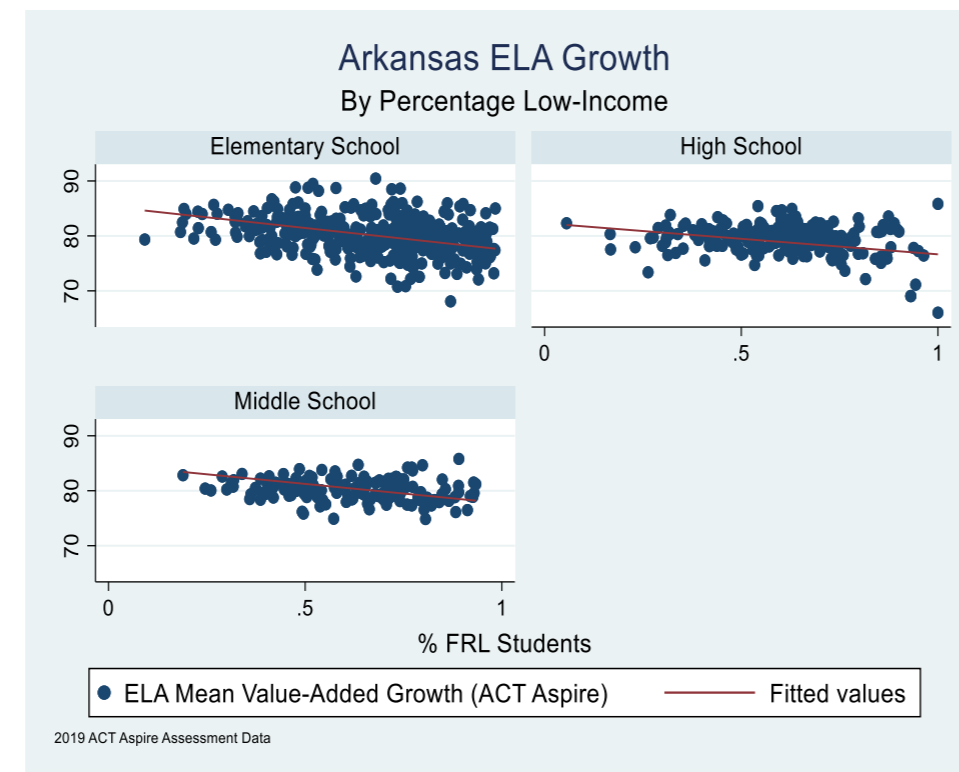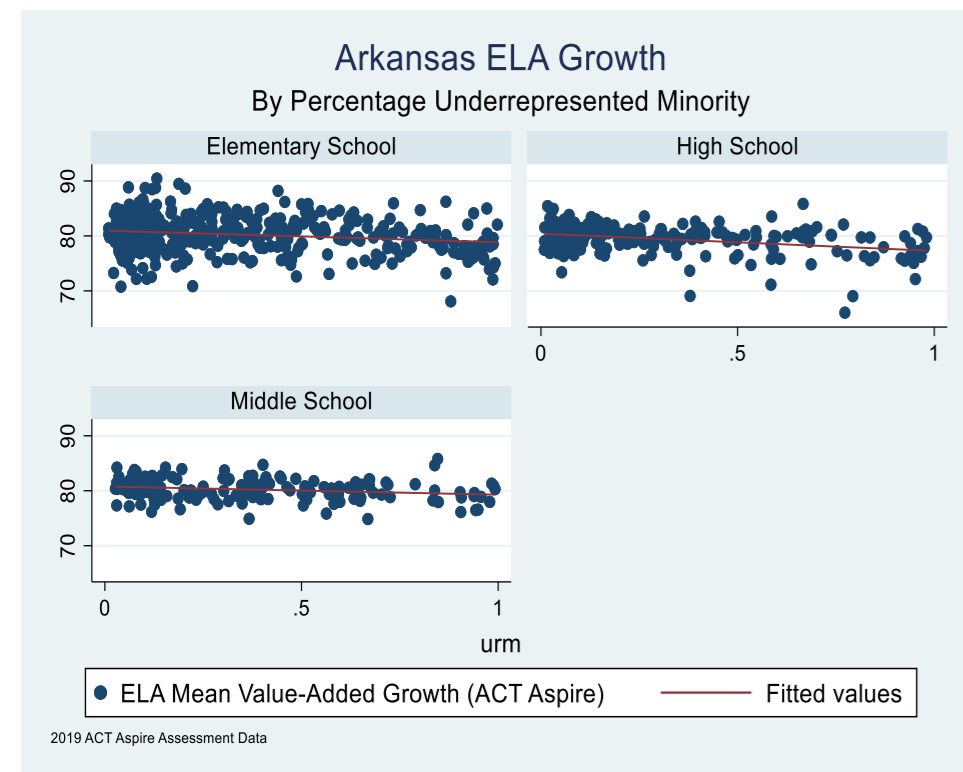
Appendix D: Per-pupil Funding Graphs

Arkansas Per Pupil Funding
By Race

Race	Average Per Pupil Spending
2 or More	9,974
Asian	9,905
Black	10,695
Hispanic	10,275
N. American	9,817
P. Islander	10,209
White	9,970

Average Per Pupil Spending (8,000 – 11,000)

2018 expenditure data
Adjusted for inflation

Arkansas Per Pupil Funding
By LEP

LEP Status	Average Per Pupil Spending
LEP	10,353
No LEP	10,145

Average Per Pupil Spending (8,000 – 11,000)

2018 expenditure data
Adjusted for inflation

Arkansas Per Pupil Funding
By Low-Income

Income Status	Average Per Pupil Spending
Low-Income	10,324
Not Low-Income	9,846

Average Per Pupil Spending (8,000 – 11,000)

2018 expenditure data
Adjusted for inflation

Arkansas Per Pupil Funding
By Students w/ Disabilities

Group	Average Per Pupil Spending
Students w/ Disabilities	10,240
Students w/o Disabilities	10,148

Average Per Pupil Spending (8,000 – 11,000)

2018 expenditure data
Adjusted for inflation

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