

2019 MISSOURI LEGISLATORS RETREAT

Elevating Education in Missouri



ISSUE BRIEF

Missouri Legislators **RETREAT**

Elevating Education in Missouri

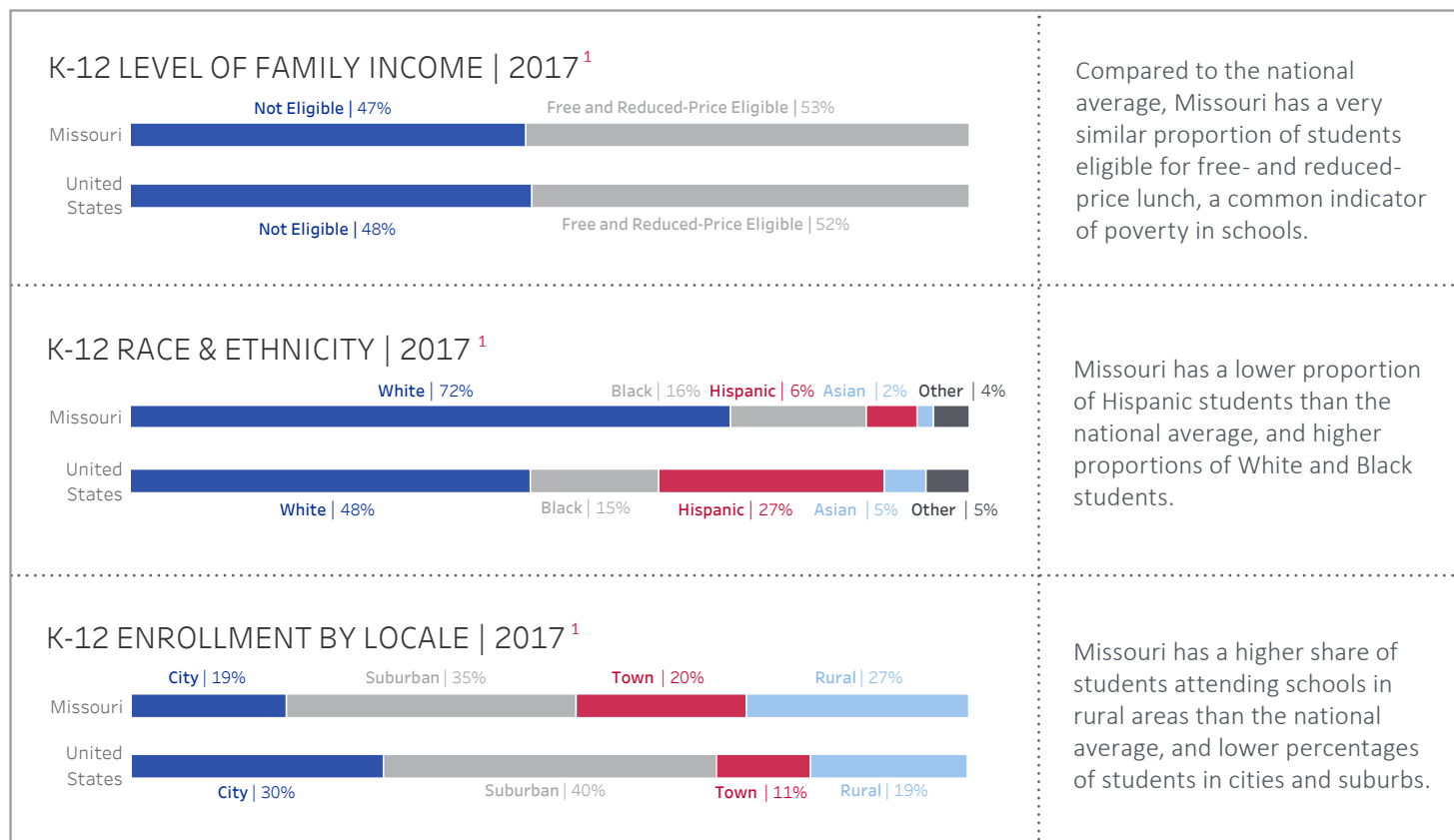
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Overview

K-12 EDUCATION LANDSCAPE IN MISSOURI

915,040 K-12 public school students ¹	↑ 1.2% expected enrollment change by 2027 ³	Value	Category	State Ranking
2,424 public schools ¹	521 public school districts ⁵	\$12,011¹	Per Pupil Expenditures	32
401,094 public postsecondary students ²	37.7% are enrolled in 2-year colleges ⁴	13.47²	Student-Teacher Ratio	12
18.7% 2-year public college graduation rate (in 6 years) ³	55.2% 4-year public college graduation rate (in 6 years) ³	40%*²	NAEP 4th Grade Math	25
¹ DATA SOURCE	² DATA SOURCE	37%*²	NAEP 4th Grade Reading	24
⁴ DATA SOURCE	⁵ DATA SOURCE	30%*²	NAEP 8th Grade Math	33
		35%*²	NAEP 8th Grade Reading	27
		89%³	Public HS Grad Rate	6
		*Represents the percent of students who scored at or above proficient.		
		¹ DATA SOURCE	² DATA SOURCE	³ DATA SOURCE



¹[DATA SOURCE](#)

STUDENT PERFORMANCE IN MISSOURI

Missouri's public schools use the Missouri Learning Standards (MLS) content standards. To assess students' progress in mastering MLS, Missouri uses the Missouri Assessment program (MAP). **Annually, all students in grades three through eight take the MAP in English Language Arts (ELA) and Mathematics. Additionally, fifth- and eighth-grade students participate in a Science assessment. At the high school level, Missouri administers the MAP End-of-Course exams, which assess student content acquisition in Algebra I, English II, Biology, and Government. These four assessments are required for graduation from a Missouri public or charter school.**

Missouri Assessment Program Proficiency Rates

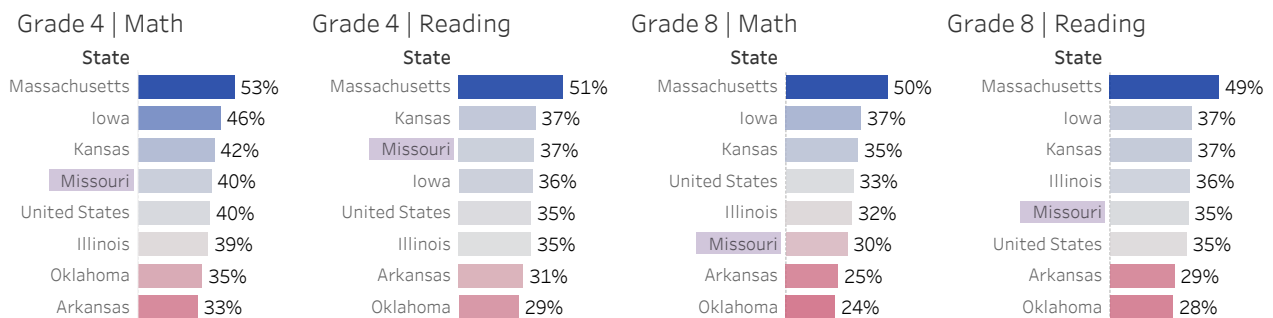
	2016		2017		2018	
	Math	Reading	Math	Reading	Math	Reading
Grade 3	52%	61%	53%	62%	47%	49%
Grade 4	53%	63%	54%	64%	46%	50%
Grade 5	46%	62%	48%	63%	41%	48%
Grade 6	43%	59%	43%	60%	41%	48%
Grade 7	42%	58%	43%	59%	38%	44%
Grade 8	28%	59%	31%	60%	30%	49%

[DATA SOURCE](#)

The National Assessment of Educational Progress (NAEP) is administered nationally every two years. The accompanying chart indicates that Missouri's proficiency rates are comparable to national averages, particularly in fourth grade math, fourth grade reading, and eighth grade reading.

NAEP Proficiency Rates, Selected States | 2017

[DATA SOURCE](#)

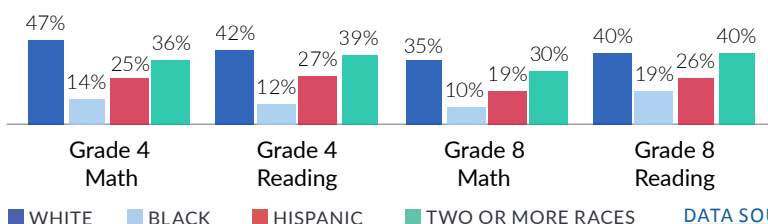


ACHIEVEMENT STANDARDS

To align content standards with achievement standards, states must set cut scores on their assessments that align with "proficiency" of standards. Historically, states have set cut scores that are well below what would be considered a "proficient" or "basic" mastery of standards as defined by NAEP. With the adoption of more rigorous standards, states have been working to adopt more rigorous assessments. As of 2017 all states have cut scores that are more aligned with NAEP's proficiency and basic standards.

While [Missouri's cut score](#) for fourth grade reading falls within NAEP's basic mastery threshold, there are still 46 states with higher cutoff points for NAEP proficiency as compared to state assessments. For fourth grade math, Missouri's cut scores were more rigorous, with 37 states having higher cutoff points.

NAEP Proficiency Ratings Among Subgroups in MO | 2017



[DATA SOURCE](#)

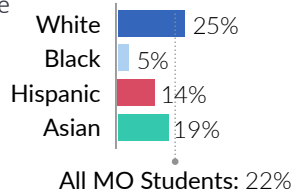
ACHIEVEMENT GAPS IN MISSOURI

Average rates can mask variation among subgroups. When proficiency rates are disaggregated by race and economic status, disparities in achievement can be seen. Achievement gaps among races/ethnicities on standardized assessments in Missouri have persisted across years with little sign of narrowing. **In Missouri, Black students have consistently had the lowest proficiency rates. Hispanic students have performed**

better, while white students have regularly had the highest proficiency rates. Similarly, white students tend to graduate high school on time at higher rates than their Black and Hispanic peers.

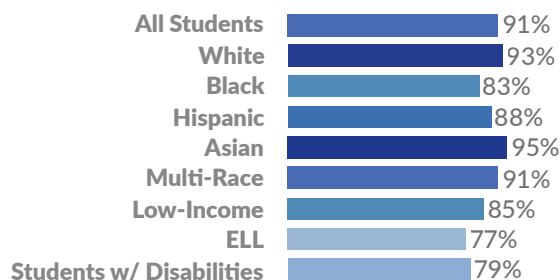
ACT Performance by Subgroup | 2018

% Students Meeting College Readiness Benchmarks on All Four Subjects



[DATA SOURCE](#)

Missouri Five-Year High School Graduation Rate | 2018



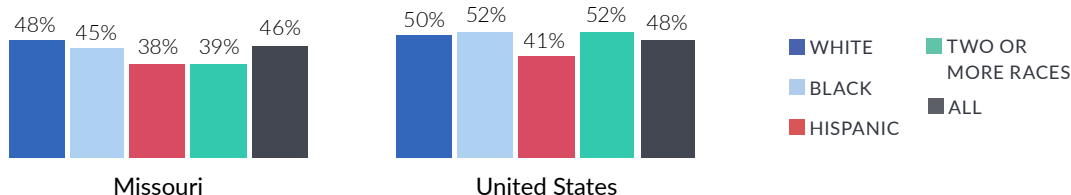
[DATA SOURCE](#)

Early Childhood Landscape in Missouri

Missouri's prekindergarten enrollment rate is slightly lower than the national average. Additionally, there are disparities in enrollment by race. A higher percentage of white children are enrolled in prekindergarten than children who identify as Black, Hispanic, or as two or more races. While the enrollment of white children is only 2 percentage points lower than the national average, the enrollment of Black children is 7 percentage points lower than the national average and the rate for children who identify as two or more races is 13 percentage points lower than the national average.

Kindergarten readiness is gaining more attention than ever due to the increasing consensus on the importance of high-quality learning in a child's first years of life. Missouri is one of 44 states that is developing a multi-dimensional [Kindergarten Readiness Assessment](#). In June 2013, the Missouri State Board of Education adopted California's Desired Results Developmental Profile (DRDP) as the recommended early childhood readiness tool. The DRDP is aligned to the existing Missouri Early Learning Goals, which are a set of standards intended to properly prepare children with the skills necessary to be successful in kindergarten.

Enrollment of 3- and 4-Year Olds in Pre-K Programs | 2017



[DATA SOURCE](#)

Public Support for Infant Care

PROGRAM	FUNDING SOURCE	DESCRIPTION	NUMBER OF CHILDREN AGES 0-2 SERVED	% OF ALL CHILDREN 0-2
EARLY HEAD START	Federal (with optional state supplement)	Funds early education programming for children ages 0-3 from low-income families in addition to health and family services.	3,573	1.6%
CHILD CARE AND DEVELOPMENT FUND	Federal and State	Provides financial assistance to low-income families to access child care for children under age 13 so they can work or attend a job training or educational program. The majority of infants and toddlers are in center-based care, and approximately 30% are in some type of home-based care.	11,749	5.3%

School Discipline in Missouri

Nationwide, school discipline trends have been [shown to be inequitable](#) for students of color, low-income students, and students with disabilities, particularly for male students. **In the United States in the 2013-14 school year, 14 percent of Black students received at least one out-of-school suspension, as compared to 3 percent of white students. This trend held true in Missouri during that school year as well, as 17 percent of Black students received an out-of-school suspension, as compared to 4 percent of white students.**

[Research](#) examining trends in other states has examined discipline disparities by race and income within the same districts and schools and has found that Black and poor students are disciplined for similar behaviors more often and more harshly than their peers.

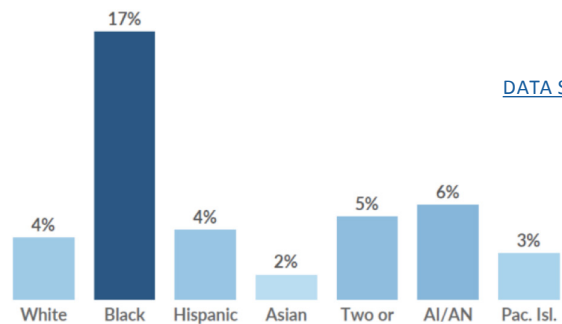
Students who are [excluded from the classroom](#) miss out on crucial learning time, are more likely to repeat their behaviors, and are not engaged in their learning. In an effort to address some of these discipline concerns, various disciplinary frameworks have emerged to not only manage behavior more effectively, but also to get to the root of students' behavior issues and create long-term solutions.

Missouri State Dollars for Early Learning Programs | 2018 (Source: DESE)

Program	Appropriation
Early Childhood Special Education	\$183,209,718
Parents As Teachers	\$18,000,000
Missouri Preschool Program (MPP) including quality assurance	\$11,753,854
First Steps	\$42,318,953
PK Funding through the State Funding Formula	\$6,258,417
Total	\$261,540,942

* State dollars only, does not include federal funding

Percent of Students Receiving Out-of-School Suspension by Ethnicity in Missouri | 2013-14



[DATA SOURCE](#)

Method	Overview
Responsive Classroom	<p>Responsive Classroom is a method of teaching that emphasizes social, emotional, and academic growth that raises teachers' instructional quality. It prioritizes creating a safe environment where students and teachers know each other on a more personal level. Consistency among classrooms is a key feature of Responsive Classroom.</p> <p>4 Key Components of the Responsive Classroom Model:</p> <ol style="list-style-type: none"> 1. Engaging Academics 2. Positive Community 3. Effective Management 4. Developmental Awareness
Positive Behavioral Interventions & Supports (PBIS)	<p>PBIS focuses on prevention, not punishment, by teaching kids about behavior as any other subject would be taught. It has the core belief that every child can learn proper behavior but can only meet behavioral expectations if they know what those expectations are.</p> <p>There are three Tiers of Intervention that are based on level of intervention needed. Tier 1 is a degree of universal intervention practiced consistently, whereas Tier 3 is the most intense and addresses severe and repeated behavior concerns.</p>
Restorative Justice	<p>Restorative Justice works to repair harm through inclusive processes that engage all stakeholders by bringing students together to talk, ask questions, and air grievances. There is an intentional focus on making amends before resorting to punishment, and it empowers students to resolve conflicts on their own or in peer-groups.</p>

It is important to note that none of the models discussed here are mutually exclusive. All three, when implemented thoughtfully, can work in harmony with each other and have been shown to have positive effects on student behavior, well-being, and performance.

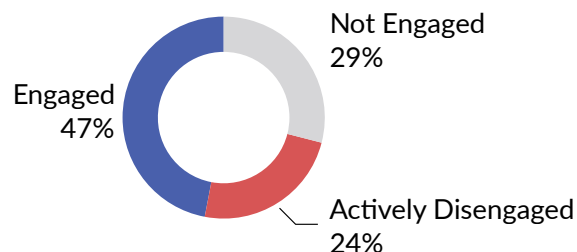
Flexibility, Data, and Accountability in Missouri

MOTIVATION FOR FLEXIBLE AND INNOVATIVE SCHOOL MODELS

There are many factors leading educators both in Missouri and nationwide to [rethink the traditional high school model](#) in order to improve postsecondary and workforce outcomes for students. According to a 2017 Gallup Student Poll, 29 percent of students rated themselves as “Not Engaged” in school, and another 24 percent rated as “Actively Disengaged.”

In Missouri, 23 percent of first-year students enrolled in [public postsecondary institutions](#) in Fall 2017 were required to enroll in remedial courses, including 46 percent of Black postsecondary students (although this is a decrease from the Fall 2013 values of 36 percent and 66 percent, respectively). [Postsecondary remedial courses](#) – which students pay for but do not receive credit for – add to students’ financial burdens and prolong the amount of time they will spend earning their degree, decreasing their likelihood of graduating. Additionally, employers are reporting that employees are not taught the skills that they need to be successful in the workforce. These are important trends, as [research](#) points to a need to significantly increase educational attainment in the coming years; **by 2020, the U.S. will need an additional five million workers with some type of postsecondary education.**

Engagement Levels, Students, Grades, 5-12 | 2017



COMMON CHARACTERISTICS OF INNOVATIVE HIGH SCHOOL MODELS

Innovative learning models may carry several common characteristics, including an emphasis on **competency-based education**. This approach measures skills and learning rather than using time-based references for course advancement; it also supports more [personalized](#) instruction by ensuring students can move through material at a flexible pace with the supports they need. The accompanying table outlines some common characteristics of effective competency-based models.

Along with competency-based learning, innovative school models, by and large, utilize these [approaches](#):

Common Characteristics of Innovative High School Models	
Characteristic	Description
Personalized Learning	Some or most of the learning experience is tailored directly to students’ needs, interests, and goals. Many schools do this through technology, such as online courses that have been curated specifically for each student.
“Anywhere, Anytime” Learning	Students may earn credits through opportunities outside of school hours and/or off school grounds, including internships, apprenticeships, service-learning projects, or at-home online learning opportunities.
Hands-on, project-based learning	Project-based learning allows students to engage in long-term, interdisciplinary projects that allow them to apply learning and practice problem-solving skills. This curriculum more closely reflects what occurs in the workforce.
A focus on in-depth preparation for both college and careers	Redesigned high schools tend to articulate a goal of preparing students for success through a blend of academic, social-emotional, and technical skills. They blend rigor, postsecondary credits, and hands-on learning to prepare students for the future economy.

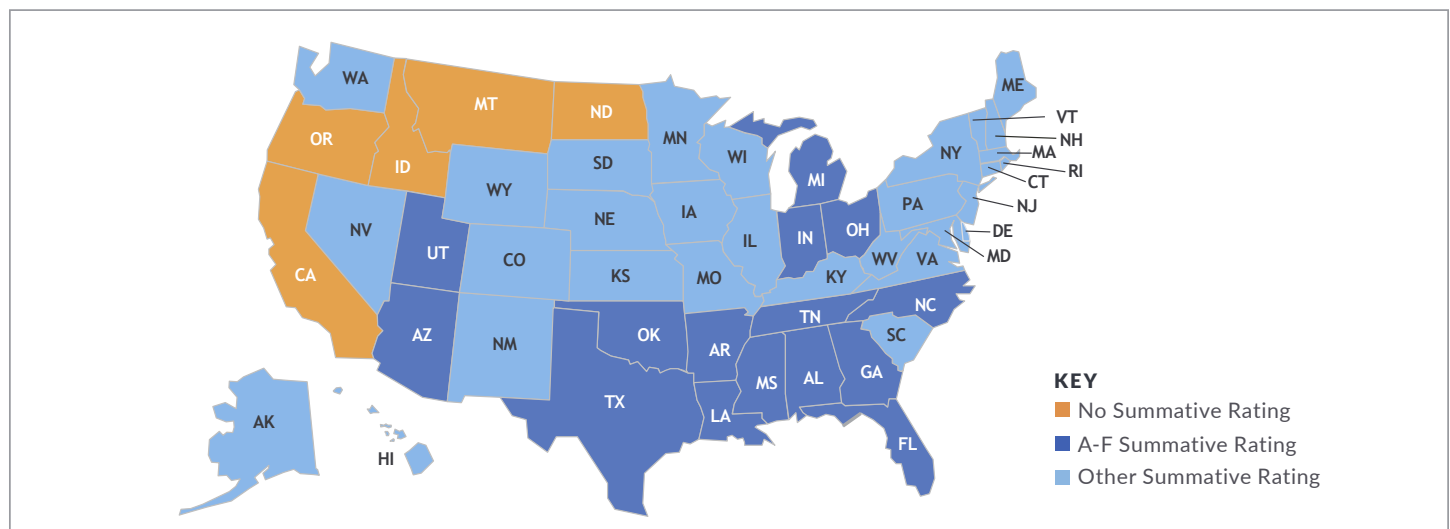
SCHOOL REDESIGN AND INNOVATION IN MISSOURI

Stakeholders are finding ways to fundamentally rethink school design to build systems that are engaging, relevant, equitable, and prepare students to be successful after high school.

Program	Description
Summit Technology Academy – Lee’s Summit, MO	Summit Technology Academy (STA) is a shared campus for junior and senior high school students to spend a half day away from their typical campus to prepare themselves for college or the workforce. STA offers multiple programs in order to meet the individual needs of each student. While the majority of students come from the Lee’s Summit district, about 42 percent are from other Missouri districts. There are five signature programs at STA that students may choose from, including The Missouri Innovation Campus (MIC) Program and The University of Kansas Degree in 3 (KUD3) Program.
Center for Advanced Professional Studies	Center for Advanced Professional Studies (CAPS) is a national network with 10 affiliates in Missouri. CAPS partners with local businesses and organizations to place students in professional learning experiences tailored to their individual interests. Students earn credits from these experiences. The purpose of this program is not to be a career training program or trade school, but to allow students to immerse themselves in professions they are interested in and explore available areas.
Battle High School – Columbia, MO	Battle High School’s “Geometry in Construction” course gives an example of rethinking student curriculum and performance measurement in a way that better prepares students for the future workforce. Students apply geometry lessons to design and build a tiny house that is then donated to Central Missouri Community Action, who then makes it available to a community in need. This teaches students geometry, construction skills, and exposes them to community service experiences.
Eldon School District – Eldon, MO	Eldon School District has developed a symbiotic relationship with Quaker Windows, which has facilities in the area, to efficiently communicate workforce and education needs. Students are able to participate in internships and other programs that expose them to necessary workforce skills with the idea that they will then be adequately prepared to work for Quaker Windows upon graduation.

TYPES OF ACCOUNTABILITY SYSTEMS

States across the country have chosen to use either summative or non-summative accountability systems. Summative systems provide a single rating for a school based on the measures selected. Non-summative systems provide ratings for each measure or indicator but do not define overall performance. Nationally, 45 states plus the District of Columbia provide summative ratings for schools using a variety of scales and formats.



MISSOURI SCHOOL IMPROVEMENT PROGRAM

Missouri uses a summative index rating for its ESSA-approved accountability plan. Index ratings score schools on a point scale out of 10 points. The state has also created the [Missouri School Improvement Program \(MSIP\)](#), of which their federally-approved ESSA accountability plan is a component. The Department of Elementary and Secondary Education is in the process of redesigning MSIP. The program is the driving factor for school accountability in Missouri.

The current version of MSIP is in its fifth iteration and uses the following performance standards to score schools and districts:

Standard	Definition	Points possible – K-12 District	Points possible – K-8 District
Academic Achievement	The district administers assessments required by the Missouri Assessment Program (MAP) to measure academic achievement and demonstrate improvement in the performance of its students over time.	56	48
Subgroup Achievement	The district demonstrates required improvement in student performance for its subgroups.	14	12
College and Career Readiness (K-12 only)	The district provides adequate postsecondary preparation for all students.	30	--
High School Readiness (K-8 only)	The district provides adequate post-elementary preparation for all students.	--	10
Attendance Rate	The district ensures all students regularly attend school.	10	10
Graduation Rate (K-12 only)	The district ensures all students successfully complete high school.	30	--
Total Points Possible		140	80

ESSA requirements are a component of MSIP. Below are the indicator weights for Missouri's ESSA plan, separated by districts with greater than 30 English learners and districts with fewer than 30 English learners.

Indicator Weights for ESSA Accountability		
Indicator	English Learner (EL) Present	EL fewer than 30
Academic Achievement	4	5
English Language Arts		
Mathematics		
Academic Progress (K-8)/Graduation Rate (High School)	3	3.75
English Language Acquisition	2	-
Progress to Proficiency (1.2)		
Growth (.5)		
Participation (.3)		
Attendance	1	1.25
Total Summative Rating	10	10

[DATA SOURCE](#)

Missouri Teacher Landscape

70,575¹
TEACHERS
NATIONAL TOTAL:
3.2M (2017-2018)

13.5 : 1²
STUDENT
PER TEACHER
RATIO



15.9 : 1²
NATIONAL
AVERAGE
(2015-2016)

5.5%³
DECLINE
IN TEACHER
SALARY



1.6%³
NATIONAL
AVERAGE
(2000-2017,
constant 2017 USD)

43³
National Rank of
Missouri Teacher
Salary

[DATA SOURCE¹](#)

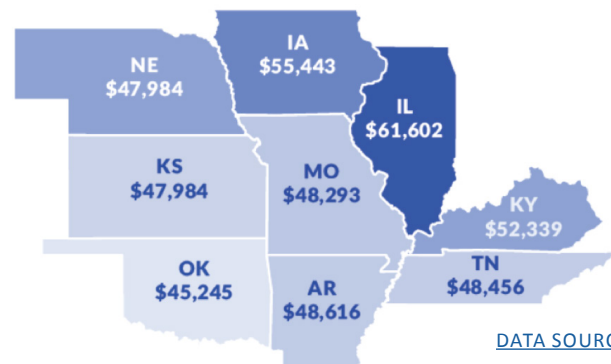
[DATA SOURCE²](#)

[DATA SOURCE³](#)

[Districts across the country](#) are facing severe shortages of teachers – especially in certain subjects and schools. Subject shortages are highest in STEM courses, career & technical education (CTE), bilingual education, and special education. Schools with teacher shortages are more likely to be urban, rural high-poverty, high-minority, and low-achieving schools.

[Research](#) suggests that, while some attrition is likely and necessary, persistent shortages can be costly for districts and have negative impacts on workforce quality, student outcomes, and school climate. Additionally, staffing inadequacies and turnover tend to have the greatest impact on schools and students that are of the highest need.

Average Teacher Salary, Selected States | 2018



TEACHER SHORTAGES

There was a [slight increase](#) of 0.6 percent in the number of teachers in Missouri between 2016-17 to 2017-18, for a total number of 70,575.

In the 2017-18 school year, there were 3,523 [unqualified teachers or vacant teaching positions](#), which represents 5 percent of full-time equivalent positions.

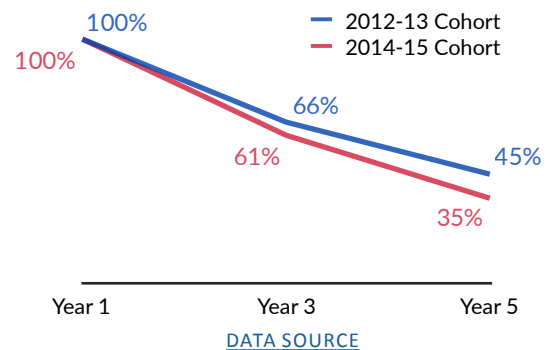
The five subject areas with the most severe shortages in Missouri are:

1. Elementary Education (1-6)
2. Cross-Categorical Mild/Moderate Special Education (K-12)
3. Early Childhood Special Education (Birth-3)
4. Early Childhood
5. General Science (5-9)

TEACHER RETENTION

Teacher retention is a [concern](#) in Missouri. **For teachers who entered Missouri's workforce during the 2014-15 school year, 61 percent were still in the classroom after three years. However, after five years, only 35 percent of that cohort remained in the teacher workforce.** This is a significant change from even the 2012-13 cohort, which had a 66 percent retention rate after three years and a 45 percent retention rate after five years.

Share of Teachers Still in the Workforce

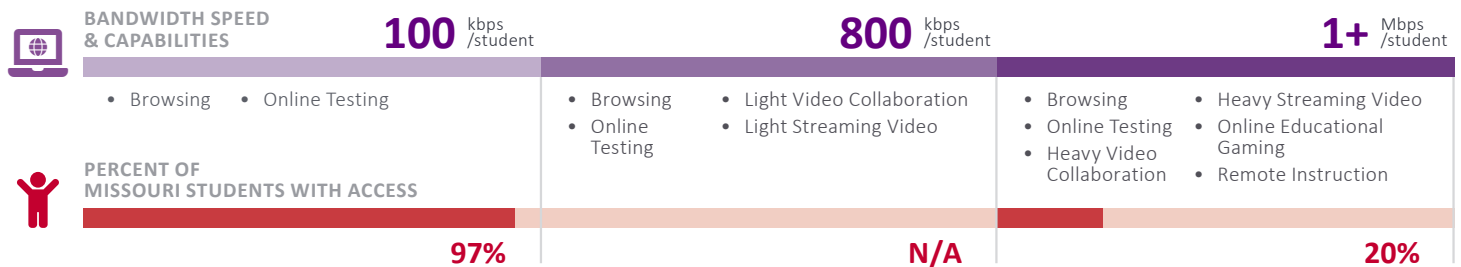


Course Access in Rural Schools

Missouri hosts a handful of large urban centers in which the majority of students live. Eight percent of Missouri's education agencies serve 50 percent of public school students. This, of course, presents its own unique challenges for [Missouri's education system](#), as there is a large concentration of students in these large districts. **It also highlights that 92 percent of Missouri's districts are rural, small, and oftentimes isolated and in areas with fewer economic opportunity.** Additionally, these rural districts and their students are less likely to have access to technology and high-speed internet. **This is a [significant detriment](#) not only because access to technology provides a number of educational resources, but also because technological skills are an increasing need for most careers.**

INTERNET ACCESS FOR MISSOURI'S RURAL STUDENTS

Missouri has done an excellent job of increasing [broadband internet access](#) for rural students. **As of 2018, 98 percent of Missouri's school districts could access internet at 100 kilobytes per second (kbps), which is a 22 percent increase from 2015. There are still 37,811 students who need more bandwidth for digital learning.** While there have been great improvements, the FCC recommends a speed of 1 Mbps/student, which only 20 percent of Missouri's students have access to, compared to 24 percent nationwide. The median bandwidth speeds have increased by 2.3 times across Missouri from 2015 to 2018, from 238 kbps to 599 kbps. The table below breakdowns the difference that faster bandwidth makes in a classroom as compared to Missouri's speeds.



[DATA SOURCE](#)

COURSE ACCESS

While high-speed internet access can be one of the barriers to educational opportunities for rural students, it is not the only issue. Due to their small size and distance from urban centers, rural schools often lack the ability to offer students a wide selection of [course options](#). It is difficult to justify bringing in teachers for advanced or unique courses if only a handful of students will enroll in them. The chart below outlines methods rural districts are using to expose students to a wider variety of coursework.

Alternative Platform	Overview
Online Schools	<p>Online schools allow instruction and lessons to be delivered entirely over the internet. This allows students who live a greater distance from schools to access a variety of different coursework and build their coursework around the career pathways they want.</p> <p>While many students have found online schools to be an option that works for them, there are concerns around the quality and oversight of online schools. Additionally, technological access can be inconsistent for some rural students, and there are questions regarding how to fund students to attend online schools while still supporting local public districts.</p>
Virtual Coursework	<p>Virtual coursework allows students to stay enrolled in their local districts while accessing courses that go beyond what the school can offer. This is funded by the school district, and also gives students the ability to work outside the classroom at convenient times.</p> <p>Virtual coursework does require a great deal of self-discipline and time management on the part of students but can be a great opportunity for students to access more advanced coursework or catch up on credits if they have fallen behind.</p>
Blended Learning	<p>Blended-learning programs combine online educational material and interaction with traditional face-to-face classroom teaching. This allows for groups of students to engage in direct instruction with an instructor while another group can work independently or utilize online materials.</p>
School Consortia	<p>School Consortia are a coalition of two or more districts with the intent of sharing resources, improving finances, and educating students. It involves allowing open-enrollment so students can take part in courses or extra-curriculars at other schools. This encourages collaboration among schools, cuts costs, and keeps fees lower for students. Districts can then use the money saved for other needs while students still access new coursework.</p>

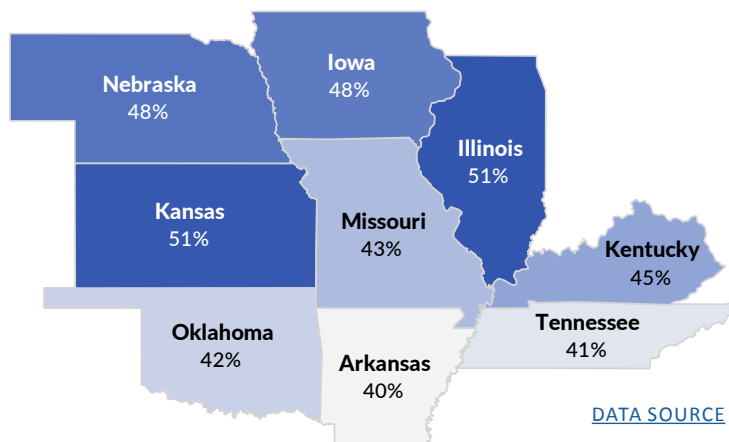
Missouri's Efforts to Prepare Students for College and the Workforce

[Research](#) shows that by 2020, 65 percent of all jobs in the economy will require some form of a college degree. In order to ensure that Missourians are prepared for these evolving workforce requirements, Missouri has joined the majority of states across the country in pushing for higher postsecondary attainment rates. All but five states have set goals to achieve higher rates.

CAREER & TECHNICAL EDUCATION

There is consensus among educators, policymakers, and business leaders that there is a growing skills gap (the difference between what employers need to fill in-demand positions and skills of the current workforce) in the U.S. labor market. [Research](#) suggests that **high-quality CTE programs in high school can support students in building technical skills, gaining practical experience, and laying the foundation for future pursuits in postsecondary education and their careers.** More and more, districts and states are looking into methods of developing career-readiness frameworks in the elementary and middle school levels, so that students are being provided with the necessary tools for their entire education career.

Postsecondary Attainment Rates, Selected States | 2018*



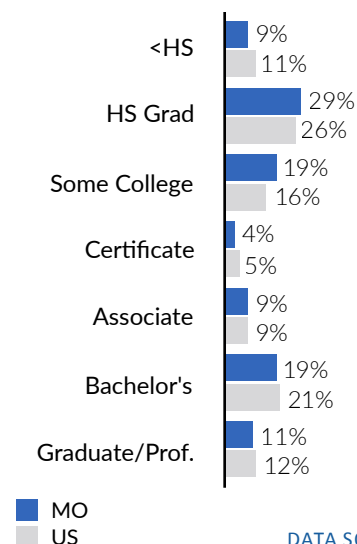
*In order to provide comparisons with other states, these estimates are based on Lumina Foundation data. The Missouri Department of Higher Education calculates the percentage of adults with a certificate differently and [estimates](#) that 52.6 percent of Missourians have a college degree or certificate.

WORKFORCE READINESS

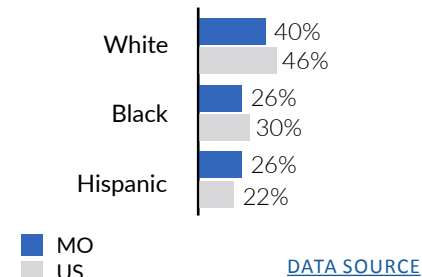
Missouri is a diverse state with a number of urban centers and a high number of rural areas; degree attainment varies throughout different regions of the state. The rural regions of the state are shrinking in population and tend to have lower rates of degree attainment.

In Missouri, there is a large wage premium for employees with a college education. **The yearly median earnings are \$17,508 more for adults with a bachelor's degree compared to those with only a high school diploma.**

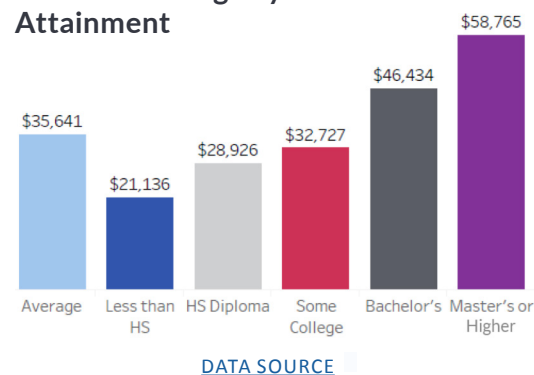
Postsecondary Attainment Rates by Level of Education



Postsecondary Attainment Rates by Race

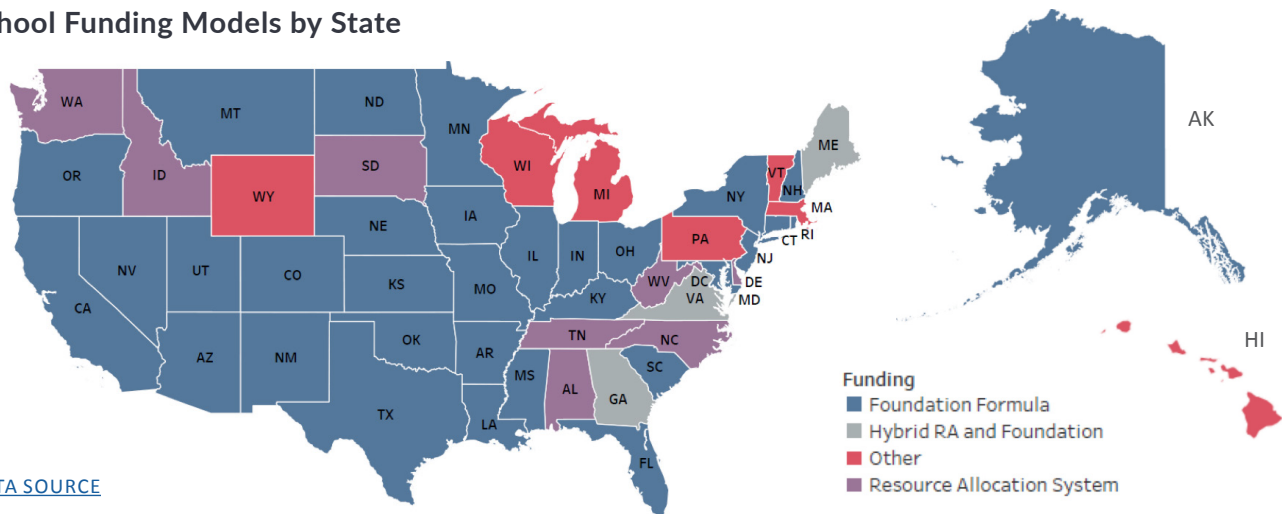


Median Earnings by Educational Attainment



Missouri's Education Funding System

School Funding Models by State



Schools in Missouri are [funded](#) by a pool of local, state, and federal dollars. Federal funding plays a relatively small role in schools (9 percent), with total state funds making up over 33 percent of funding and local dollars accounting for 58 percent of the total. **The average per-pupil expenditure in Missouri in 2017-18 was \$10,927.**

The map above shows the [various methods](#) states use to fund their public school systems. The two primary methods are:

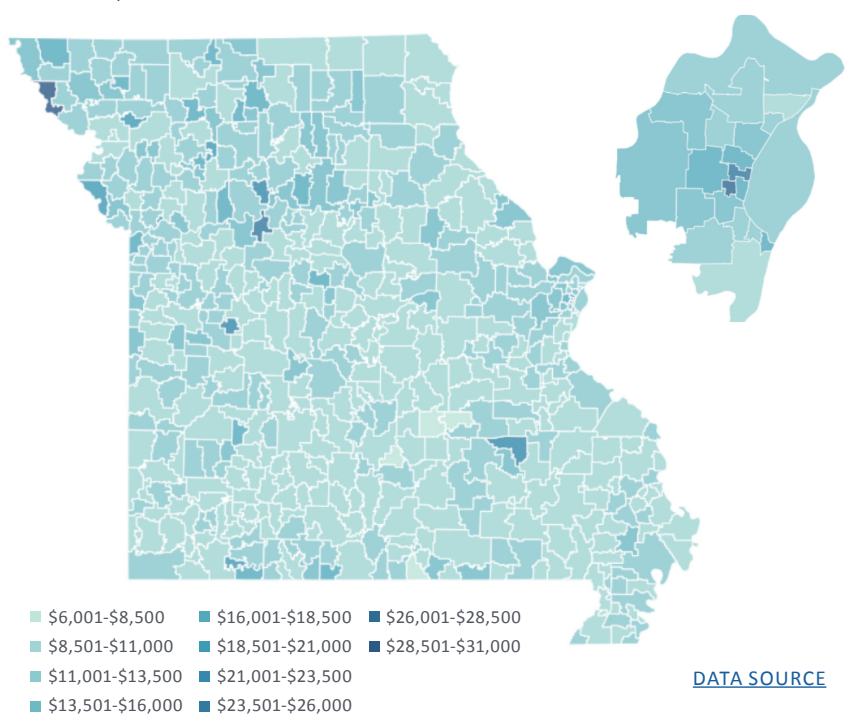
- **Foundation formula**, in which districts receive a base amount of funding per student with additional money or weights added to best serve high-need student populations. Some of the student characteristics that add additional weights to the formula are: Special Education, English Language Learner, low-income, and rurality; and
- **Resource Allocation System**, in which states distribute resources rather than assigning weights or values based on certain criteria.

Missouri uses a [foundation formula](#) funding model.

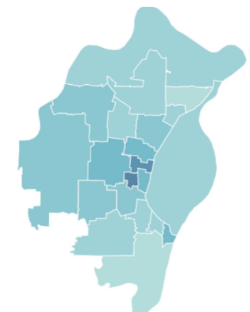
The accompanying map of Missouri shows each district colored by the amount of total revenue per student during the 2015-16 school year. The darker the color, the more revenue the district received. The map accounts for local, state, and federal funds. Due to the number of districts in the greater St. Louis area, please see the separate map for a closer look.

Revenue does not vary too greatly throughout the state, but there are a few [trends](#). **Districts with the most revenue tend to have lower test scores, lower enrollment, higher proportions of low-income students, and higher proportions of non-white students.**

Missouri School Funding by District, 2015-16



St. Louis Area Funding by District, 2015-16





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