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20 25 | MISSOURI LEGISLATORS RETREAT

THE ECONOMICS OF EARLY LEARNING

Missouri's growing population and economy make investing in early care and education vital. The state is home to 435,238 children age five and under, with nearly 67,000 babies born every year. Sixty-seven percent of children under age five live in households where all available parents are in the workforce, making a strong early care and education system essential.

The earliest years of a child's life represent a critical developmental window for brain architecture, which is wired largely in response to interactions with family and caregiving adults. Research indicates that positive early learning experiences are predictors of future academic and life success. At the core of a quality system is a qualified and well-compensated workforce. Investing in this workforce supports children's development, improves school outcomes and future productivity, and minimizes spending on compensatory interventions.

Missouri's current early childhood investments through programs like the Child Care and Development Fund (CCDF) and Missouri Quality Prekindergarten (MOQPK) Program represent important foundations, but significant gaps remain. The total cost of child care shortages to Missouri's economy exceeds an estimated $1.14 billion each year to businesses and governments. Recent discussions in the General Assembly have focused on expanding subsidies and improving provider reimbursement rates to address the child care crisis that affects workforce participation across the state.
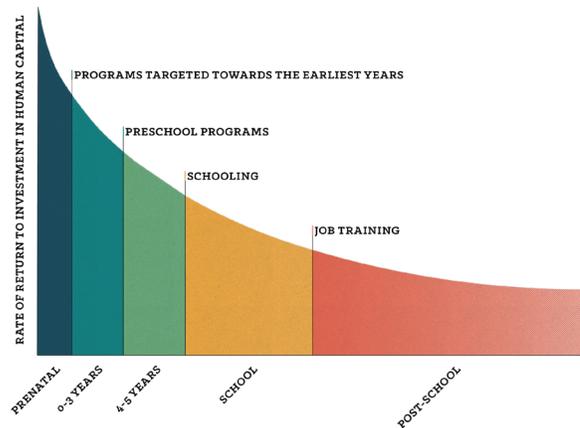
The Return on Investment

High-quality early learning lays the foundation for a child's lifelong success while also delivering measurable economic returns. Research consistently shows that children in safe and enriching early childhood programs are more likely to thrive in school, enter the workforce with essential skills, and contribute positively to society. For Missouri, this is not just about supporting families; it is a strategy for building a competitive workforce, reducing future social service costs, and fostering sustained economic growth.

The economic case is clear: investments in a child's earliest years deliver the most significant returns. The Heckman Curve illustrates that for every dollar spent on high-quality birth-to-five programs, taxpayers can expect a 13 percent annual return on investment, with the greatest returns associated with the earliest stages of life (Figure 1). These savings are realized through reductions in grade retention, special education, welfare supports, and incarceration, alongside increases in employment and tax revenue.

*Figure 1: The Heckman Curve, Economic Impact of Investing in Early Childhood Learning*

RATE OF RETURN TO INVESTMENT IN HUMAN CAPITAL

PROGRAMS TARGETED TOWARDS THE EARLIEST YEARS

PRESCHOOL PROGRAMS

SCHOOLING

JOB TRAINING

PRENATAL 0-3 YEARS 4-5 YEARS SCHOOL POST-SCHOOL

Source

Investing in Early Childhood Education

System-level funding supports foundational elements of the child care system, such as child care subsidies, professional development for the early care and learning workforce, and quality improvement efforts. Federal programs like Head Start and the Child Care and Development Block Grant (CCDBG) play a vital role in providing care to low-income families and narrowing opportunity gaps.

Figure 2: Federally Funded Early Learning Programs by Ages Served
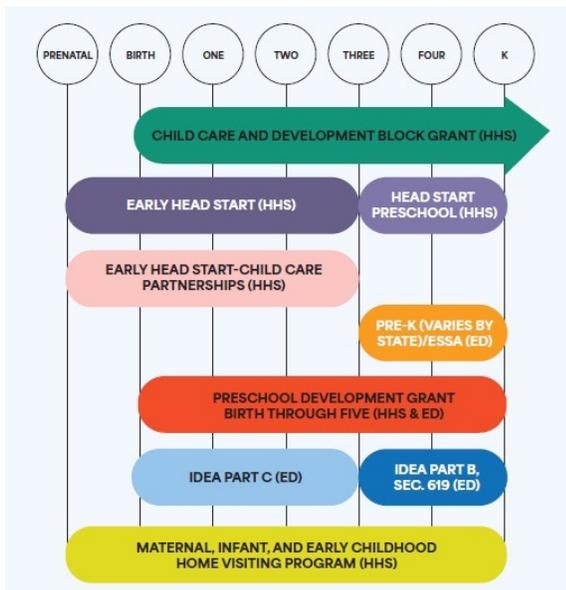
Source

By expanding access to high-quality early care and learning through state initiatives, Missouri is making an investment in its future workforce and economic health. State programs like the Missouri Quality Pre-Kindergarten Grant are at the forefront of the effort to expand access to high-quality early learning experiences. The continued inclusion of per-pupil spending on prekindergarten in the state's school funding formula is important to preserve gains realized from this historic state investment. Targeted investments of this kind, over time,

improve school readiness, reduce future public expenditures, enhance workforce participation, and contribute to economic growth.

At the program level, funding directly influences quality by providing competitive wages to attract and retain skilled educators, the adoption of research-based curricula, and the maintenance of safe, developmentally appropriate, and culturally sensitive environments. Insufficient funding leads to high staff turnover, diminished quality, and a reduced capacity to meet children's needs. Meaningful investment at both levels is essential to building a framework that supports child development, family economic security, and community health.

Child Care Affordability and Access

For many families, child care is difficult to afford, while providers struggle to offer competitive wages. The average annual cost of full-time care is $8,100 - nearly 14 percent of a typical Missouri family's income. Accessibility is another challenge, with 32 percent of Missouri's population in child care deserts. Critical shortages of child care spaces for infants and toddlers persist, with only 16 percent of licensed slots available for this age group. Recognizing the difference between the price of care that families pay and the actual expenses of delivering care, the true cost of care - is a crucial first step toward identifying solutions for addressing child care affordability and access.

The True Cost of Care

The true cost of child care includes the full range of expenses necessary to operate high-quality programs:

- Staff salaries and benefits: since educators are the backbone of quality care, competitive wages and benefits are essential to attract and retain skilled professionals.

- Facilities and maintenance: safe, clean, and well-equipped spaces are required to support children's learning and well-being.

- Curriculum and materials: developmentally appropriate learning materials and evidence-based curricula add to program quality.

- Training and professional development: ongoing support ensures educators can meet diverse children's needs effectively.

- Administrative and operational costs: program management, licensing, insurance, and compliance with regulations all contribute.

Because of these factors, the true cost of providing high-quality care is often much higher than what families can afford to pay, underscoring why child care providers are unable to raise rates to meet the full cost and why subsidies and public investment are critical. Costs can also vary by region, program size, and population served, making accurate cost modeling and market rate surveys essential planning tools.

Financing the Early Childhood System

Federal CCDBG funds are administered through states to support qualifying families in accessing child care subsidies. According to the federal Administration for Children and Families' (ACF) Office of Child Care, "the CCDBG Act requires Lead Agencies to certify that rates are sufficient to ensure eligible children have equal access to child care services comparable to those in the state or local sub-markets provided to children who are not eligible to receive CCDF or other Federal or state child care assistance."

That benchmark for subsidy rates is the 75th percentile of the current child care market, considered by the ACF Office of Child Care to provide equal access. States must conduct a market rate survey at least every three years, and while the 75th percentile of that study's results is the minimum recommendation for setting subsidy rates, states can set the rates higher or lower at their discretion.

Importantly, using the Market Rate Study to set subsidy rates comes with its own challenges for families and child care providers. Specifically:

- The study is a point-in-time capture of what licensed providers are charging across a state, which means the rate is set from an average of rates in rural, urban, and suburban areas, even though the cost of living and of running a business will vary widely based on locale.

- The study data are reflective of only what providers can charge to attract and retain families in a given area, which is rarely or never the same as what it actually costs to provide quality child care.

- By the time a study is completed, even if a state conducts its studies more often than required, the data will never be responsive to economic shifts that occur after the data is captured.

- Subsidy reimbursement rates set at the 75th percentile of statewide market rate data collected 1-3 years in the past may disincentivize child care providers from accepting families using child care subsidies. Even when a provider chooses to accept subsidies for an enrolling family, the reimbursement rate will require many providers to either take a loss to their business income or charge the family the difference between the reimbursement rate and the facility's tuition rate.

- Families using subsidies may also feel they have to select lower quality care than they might prefer to get a spot at a facility that will accept the subsidy and that comes at the least additional expense if the provider chooses to charge the difference.

These challenges create a two-tiered system in which children receiving financial assistance are often clustered in lower-cost settings that may lack the resources to meet the same standards as more expensive programs. For providers, accepting subsidy payments that do not cover the true cost of care can lead to financial strain, reduced staffing, or even program closures—particularly in underserved areas. This mismatch between the cost of quality care and available public funding not only undermines equity but also limits the intended impact of the subsidy itself. Strengthening the alignment between subsidy rates and the actual costs of providing high quality care is critical to ensuring that publicly funded programs truly expand access rather than inadvertently reinforcing disparities in care quality.

The CCDF does allow states to use alternative methodologies for setting subsidy rates, which can involve cost estimation models. Cost modeling is a process used to estimate the financial resources needed to provide high-quality early care and learning programs. Policymakers, program administrators, advocates, and funders use it to make informed decisions about funding levels, program design, and sustainability. This helps them understand the full cost of care, optimize resource allocation, and evaluate the economic viability of different approaches while balancing access, affordability, and quality.
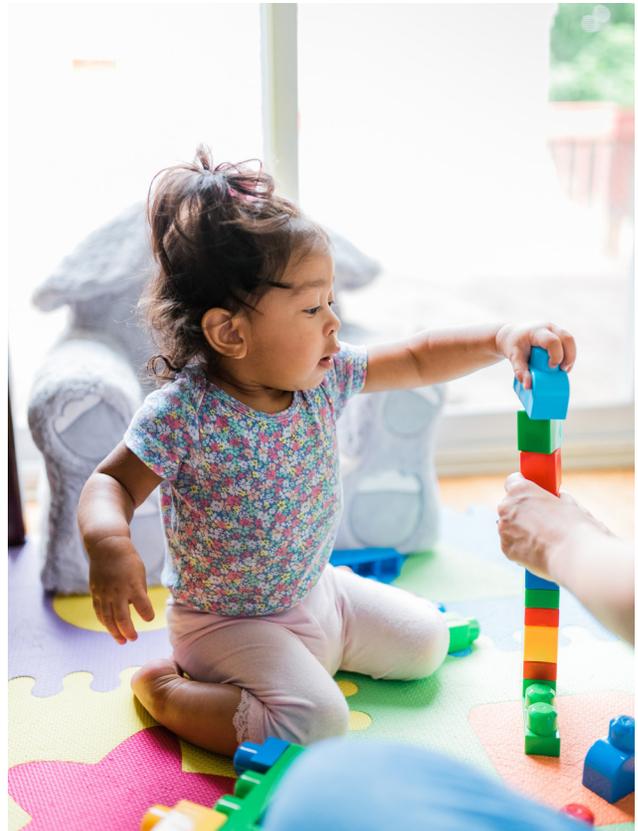
Missouri has seen notable growth in investments in child care. According to Missouri's Department of Elementary and Secondary Education (DESE), beginning in July 2024 the state increased child care subsidy rates for infant and toddler care to the 100th percentile and preschool and school-age care to the 65th percentile. The Prenatal-to-3 Policy Impact Center's recent 5-year analysis shows that Missouri's families paid the highest out-of-pocket costs for child care than any state in the nation in 2020, but by 2024, had reduced those costs significantly. While Missouri continues to use the Market Rate Survey to set subsidy rates, the state's 2024 Market Rate Survey includes a section on "Cost of Care". Survey questions regarding cost of care were optional for providers, however, offer a glimpse into the bottom line for child care businesses that provide a critical community service. Missouri also saw a significant change in out-of-pocket child care costs for families over the last five years.

State Examples

Michigan | Michigan's Great Start Readiness Program (GSRP) is widely recognized for delivering measurable gains in kindergarten readiness and reducing the need for special education supports among low-income four-year-olds. State evaluations are used to document consistent improvements in early academic performance and downstream educational savings. Cost modeling is central to funding decisions: Michigan adjusts per-child funding rates in line with data from local market rate surveys and provider cost reports, ensuring resources reflect the actual cost of delivering quality programming. Moreover, local collaborations between implementation councils and business leaders help target early education in high-need job sectors, offering examples of how public-private partnerships can strategically align early childhood investment with workforce development.

New Mexico | New Mexico leverages its oil and gas revenue via two innovative funds: the Early Childhood Education and Care Fund (ECECF or the Early Childhood Trust Fund) and the Land Grant Permanent Fund (LGPF) to deliver broad early childhood services. The ECECF was established in 2020 with an initial endowment of $300 million, and has grown to approximately $7.1 billion by March 2024. Its distributions now amount to either $250 million annually or 5% of the three-year average fund value- whichever is greater. These resources support early learning expansion, provider reimbursements, and educator wages.

Oklahoma | As early as 1980, Oklahoma had initiated a program intended to serve all 4-year-olds in the state. A decade later, the program "received statewide funding for 4-year-olds eligible for the federal Head Start program, but local areas could choose to serve additional 4-year-olds with local funds or tuition," according to the Oklahoma's state profile in the 2024 State of Preschool Yearbook, published by the National Institute for Early Education Research (NIEER). Oklahoma's universal pre-K program, launched in 1998, made Oklahoma the second state in the nation to provide free preschool for all 4-year-olds. The program stands out as a premier example of high-quality early learning embedded in the public school system, meeting 9 of 10 benchmarks on NIEER's Quality Standards Checklist.

Policy Considerations

- ❓ How can policymakers adopt cost modeling to better understand the true cost of delivering high-quality early childhood programs?

- ❓ What incentives could be offered to encourage employer partnerships that expand access to affordable child care?

- ❓ How can return on investment and long-term outcomes be measured to inform and refine investment strategies?

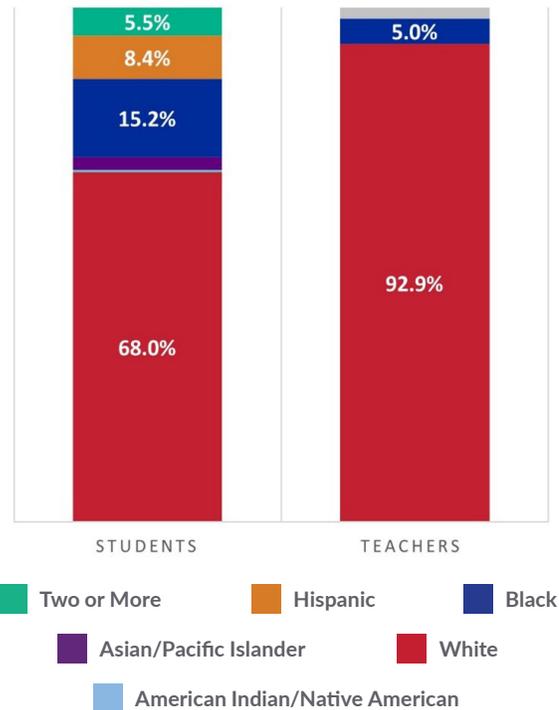# ATTRACTING, CREDENTIALING, AND RETAINING HIGH-QUALITY TEACHERS

Research indicates that teachers are the most important school-based factor for student growth and achievement. Students taught by highly effective, excellent educators are more likely to graduate from high school, attend college, be employed, and earn higher wages. Extensive research has also found that a diverse educator workforce benefits all students, especially students of color. When students are taught by an educator who reflects their racial identity, their test scores improve in both math and reading in early grades, they are less likely to face exclusionary discipline practices, and more likely to attain a postsecondary credential or degree. Thus, as access to excellent and diverse teachers is crucial for all students' academic achievement and success, policymakers need to ensure that teacher preparation, compensation, and evaluation policies and practices support the recruitment and retention of an educator workforce that is both high-quality and diverse.

Missouri, like other states, is experiencing an educator retention crisis. In the 2020-2021 school year, 35 percent of schools reported being unable to or finding it very difficult to fill teacher vacancies, compared to nearly 47 percent nationally. While most teachers enter the classroom through traditional programs, the number of enrolled candidates and program completers has generally declined over the past several years.

To combat teacher shortages, Missouri partnered with the Hunt Institute to establish the Teacher Recruitment and Retention Blue Ribbon Commission. The Commission developed a set of recommendations for recruiting and retaining teachers, investigated the climate and culture of the teaching profession, and provided guidance to the State Board. Under this partnership, Missouri has also tried to recruit a more diverse workforce.

While 31 percent of Missouri's students are people of color, only 7 percent of teachers identify as people of color.

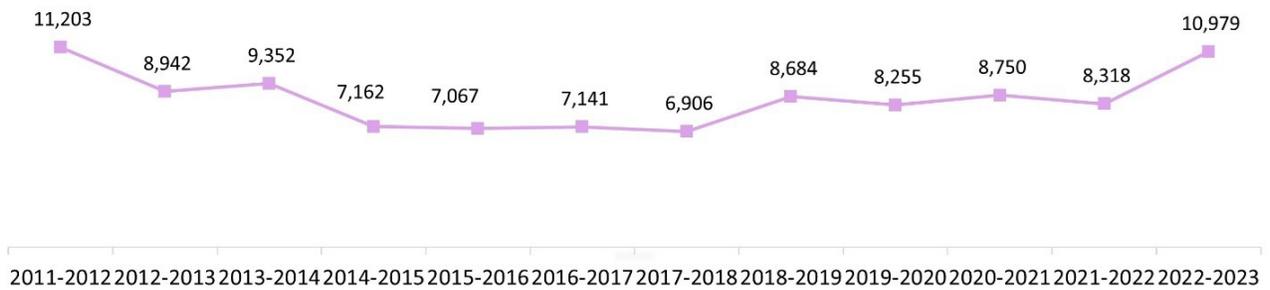Figure 3: Student vs. Teacher Diversity in Missouri | 2021-2022

Legend:
- Two or More
- Hispanic
- Black
- Asian/Pacific Islander
- White
- American Indian/Native American

Students: 5.5%, 8.4%, 15.2%, 68.0%
Teachers: 5.0%, 92.9%

Source

▌ Figure 4: Enrollment in Traditional Educator Preparation Programs | 2011-2023

2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
11,203	8,942	9,352	7,162	7,067	7,141	6,906	8,684	8,255	8,750	8,318	10,979

Source

Certification and Licensure

Research shows that teachers who enter the classroom through high-quality teacher preparation programs are more likely to stay in the classroom. Additionally, teacher certification and licensure are positively correlated with student achievement, particularly in math. Since state leaders set standards and requirements for teacher preparation, certification, and licensure, state leaders can ensure the support of programs that will, in turn, support students.

Traditional educator preparation programs are housed in institutions of higher education (IHEs) and lead to candidates receiving their licensure upon completing their four-year degree. Across the country, 72 percent of preparation programs are traditional. In Missouri, enrollment in Educator Preparation Programs fell by 22 percent from 2011 to 2021; however, the most recent data shows a significant increase for the 2022-2023 school year.

Alternative Programs from Traditional

Alternative teacher preparation programs allow individuals who already hold bachelor's degrees to transition from careers in other fields to teaching through an accelerated process. There are many alternative programs with distinct structures and processes, though candidates will often begin teaching while taking coursework at a partner university to earn their credential. In 2022-2023, 29 percent of all teacher candidates completed their training through alternative teacher preparation programs.

Grow Your Own (GYO) programs attract potential teaching candidates as early as middle school and/or recruit existing paraprofessionals and career changers to become certified teachers. These programs increase a state or district's local pipeline of future teachers and support the increased diversity of the local educator workforce. Additionally, an essential part of teacher recruitment is ensuring proactive efforts to support and retain these teachers. Evidence indicates that teachers hired from low-resourced communities tend to teach long-term in the communities that initially hired them.

Missouri is part of a growing movement of GYO programs. For the 2023-2024 school year, Missouri offered a Grow Your Own Grant. This grant was awarded to 125 local education agencies and districts across the state. According to the annual report, some of the most effective strategies for supporting the teacher pipeline included providing scholarships, establishing dual credit, and offering or sending students to events. Grant recipients reported increased interest in teaching positions, larger candidate pools, and improved student achievement, among other impacts.

Teacher Retention

Generally, beginning teachers leave the profession at higher rates than teachers who have been in the classroom for over five years; national research has found that new teachers leave at rates between 19 and 30 percent over their first five years of teaching. Teacher attrition rates are also higher than in comparable fields requiring advanced education or industry certification. The industries that show higher rates of attrition – correctional officers, child care workers, and secretaries/administrative assistants – tend to employ a disproportionately female workforce and are often criticized for low wages that fail to adequately compensate for the job responsibilities and the importance of the role. This trend provides further evidence that adequate compensation, comprehensive job supports, and societal respect are all crucial to establishing a sustainable workforce.

In January 2025, DESE and the Community Training and Assistance Center developed the Teacher Recruitment and Retention Playbook. The playbook identifies eight cornerstones of retention and recruitment:

- Effective teacher recruitment and retention requires the support of a state system
- Statewide campaigns are needed to elevate the teaching profession
- Effective teacher recruitment and retention requires collaboration and constituency building
- Funding is essential
- The tools of public policy must be targeted
- Funding and policy choices trigger decisions related to teacher development
- A state system needs to recognize the critical importance of teacher voice
- Teacher retention requires the alignment of three factors: recruitment, development, and compensation

With a renewed emphasis on recruitment in GYO programs and apprenticeship areas, Missouri is also leading the country in mentorship and professional development. According to the National Principal and Teacher survey, 97 percent of early career educators say they had an assigned mentor. Furthermore, 76 percent of teachers indicated they receive paid time to attend professional development. Teacher professional development and mentorship positively impact teacher retention and student growth. While these strategies take time to implement and impact, they are promising investments in the profession.

Policy Considerations

- ❓ What data would help stakeholders better understand teacher workforce trends? What partners would be helpful in collecting this data?
- ❓ What can Missouri do to retain and recruit a more diverse educator workforce?
- ❓ Can the state implement policies or incentives to alleviate barriers to obtaining a teaching license, particularly in critical areas?

ARTIFICIAL INTELLIGENCE IN EDUCATION

Artificial Intelligence (AI), which combines computer science and robust datasets to make predictions and classifications based on available data, has rapidly developed over the past several years and has quickly become embedded in society. From social media to smart home devices and television streaming suggestions, AI has supplemented life and culture for some time now.

New advancements in AI, such as ChatGPT, call into question the use of AI and its effects on important aspects of life, such as education. In short, AI has the potential to, and already is, fundamentally changing how we educate students. According to recent assessments, the World Economic Forum projects large-scale changes to the labor market over the next five years due to advancements in AI. The U.S. Department of Education published a report about the importance of developing AI policies for classrooms in 2023. States and districts nationwide are working hard to develop policies and guidance for students and educators.

Current AI Trends in K-12 & Higher Education

If harnessed correctly, AI has the power to transform education. Below are some examples of ways AI has been incorporated across the education continuum.

- Personalized K-12 Learning Experience | AI can adapt to students' level of education, learning speed, and educational goals. This allows for interventions such as intelligent tutoring systems.

- Technology-Enhanced Assessment | AI can assess student performance on assignments more timely and accurately while also analyzing student behavior, engagement, and learning outcomes. These assessments provide the opportunity to tailor intervention for students earlier in their learning.

- Automation of Administrative Tasks | AI can be used to schedule meetings, plan lessons, and perform other activities that are estimated to make up 20 to 40 percent of a teacher's working hours. If utilized correctly, teachers could reallocate their time to activities that better support student learning.

- Strengthening Retention and Completion | Across the nation, IHEs have implemented chatbots to support students. Students can text the chatbot and get connected to individual interventions such as tutoring, food banks, or mental health services, which has resulted in increased retention and graduation rates.

Considerations for Future AI Policy

While AI can positively impact education across the continuum, pitfalls in this technology still exist. Policymakers should consider several aspects when seeking to promote AI, while also providing guardrails.

- Adverse Outcomes | AI operates on available data, so there may be adverse outcomes if the data are flawed or biased. The quality, age, and population should all be considered to avoid harm. For example, an AI learning system trained on students in only one state may not be as applicable to students in another state.

- Data Privacy | Policymakers should consider how to ensure individuals are protected from ill-use of their personal information in AI. These safeguards are critical when using K-12 student data.

- Cheating and Plagiarism | Educators have expressed increasing concerns that students could use AI to write papers and complete assignments, undermining learning.

AI is arguably the most significant disruptor to education in modern times and is already being used by today's students. Rather than fight its use, educators and policymakers can embrace its

potential in a way that ensures equitable access and benefits. Assignments may have to evolve to combat cheating. Still, just as programs such as spell-check and Grammarly redirected the focus of teachers and professors on content rather than grammar, AI can be harnessed to ensure student comprehension and learning.

In Missouri, local education agencies are authorized to develop local policies for their campuses or districts. To support the creation of these policies, the DESE released an Artificial Intelligence Guidance for Local Education Agencies report. This report outlines the benefits and challenges of AI for various roles in the education system, including teachers, students, and administrators. It also highlights best practices for implementation, including responsible implementation, transparency, rigor, curiosity, and ensuring human oversight.

States Leading in AI for Education

Since the 2022 ChatGPT debut, states have gone from having zero AI guidance to 28 states having published AI guidance for K-12 education settings. As leading states like Arkansas, Georgia, and Illinois share results from their AI Task Forces, others are digging into legislation. States like Texas and Connecticut introduced bills banning the replacement of direct instruction from teachers with AI.

- California | California Superintendent Tony Thurmond launched a professional training initiative on a variety of topics, including AI-focused professional learning for educators and administrators. This initiative aims to educate educators on the benefits and limitations of the tool and has produced panels and working groups featuring experts in AI and leveraging stakeholders like the Computer Science Teachers Association. The California Department of Education (CDE) provides a variety of resources on AI, including the CDE AI Resource Kit and a webinar series on AI, which explores topics such as prompting, impact on mental health,

and maximizing workflow. California legislators are in their second reading of a bill that would prohibit developers from producing a product that is intended to collect or process a student's identifying information.

- Connecticut | A bill Concerning Artificial Intelligence, which passed Connecticut's Senate but died in the House, would have established a regulatory sandbox program to plan for the implementation of AI on a community and economic level and develop regulations around its use. The bill also required an AI training academy for higher education institutions and offers implementation strategies for early learning and K-12. This approach to regulation allows for a strategic state-level rollout designed to limit the negative impact of AI on education and the labor force.

- Ohio | Ohio's Department of Education and Workforce (ODEW), has launched the AI Education Project (aiEDU) with Innovate Ohio. Together, they produced the AI K-12 Toolkit with resources for parents, teachers, and policymakers, as well as a step-by-step approach for policy development. ODEW also released Ohio's AI in Education Coalition: AI Strategy Report. The coalition is comprised of industry representatives, school districts, and other stakeholders to develop a plan for ensuring Ohio's students are competitive in the growing AI industry.

Policy Considerations

- ❓ How will student data be protected from misuse when interacting with AI systems?

- ❓ What safeguards are needed to ensure AI used in classrooms is transparent, reliable, and free from harmful bias?

- ❓ Should states adopt a "regulatory sandbox" approach to test AI in education before full-scale implementation?

EXPANDING PATHWAYS TO THE WORKFORCE

Missouri faces a key challenge: while the state's economy continues to grow, employers across multiple sectors report persistent workforce shortages. At the same time, less than 50% of people have confidence in higher education. Expanding and aligning multiple education-to-career pathways, including career and technical education (CTE), dual credit programs, work-based learning, and apprenticeships, can help Missouri meet its workforce needs while supporting students in pursuing meaningful, well-paying careers.

Missouri has made important strides in this area. Since 2017, the Missouri Innovation Campus (MIC) program has served as a national model, blending high school, college, and work-based learning experiences to accelerate degree completion while reducing student debt. In addition, many Missouri high schools have partnered with community colleges and employers to expand dual credit and early college opportunities, and regional career centers such as Columbia Public Schools' Career Center are connecting students with hands-on experiences in high-demand fields. Apprenticeship and credentialing pathways are growing but not yet widely scaled, and too few students complete full sequences that culminate in an industry-recognized credential or seamless transition to postsecondary education and employment. Missouri's higher education institutions are also grappling with enrollment challenges, creating an opportunity to reimagine degree and credential structures that blend traditional learning with flexible, skills-based pathways. In addition, Alabama's Workforce Pathways Act establishes an option for students in high school to earn high school credit for CTE courses that can lead to work after graduating.

- Arkansas | Other states are also investing in models Missouri can learn from. Arkansas passed the Arkansas Access Act, requiring every high school to offer at least one pathway that leads to an industry-recognized credential.

- Tennessee | FutureReady TN is Tennessee's effort to align high school programs with regional labor market needs and incentivizes collaboration among schools, colleges, and employers.

- Colorado | Colorado's Career Advance Colorado initiative funds tuition-free training programs at community and technical colleges in high-need sectors like early childhood education, manufacturing, and nursing.

- Ohio | Ohio's Individualized Microcredential Assistance Program (IMAP) provides funding for low-income, unemployed, or underemployed residents to complete short-term credentials in in-demand fields. The credentials are developed in partnership with employers and regional workforce boards.

Policy Considerations

- How can the state expand equitable access to high-quality CTE, dual credit, and apprenticeship programs, particularly in rural and underserved communities?

- What funding mechanisms (e.g., outcome-based funding, employer incentives, cross-sector partnerships) can support sustainable models of work-based learning?

- How can policymakers strengthen alignment across K–12, higher education, and workforce systems to ensure students seamlessly transition into postsecondary education or employment?
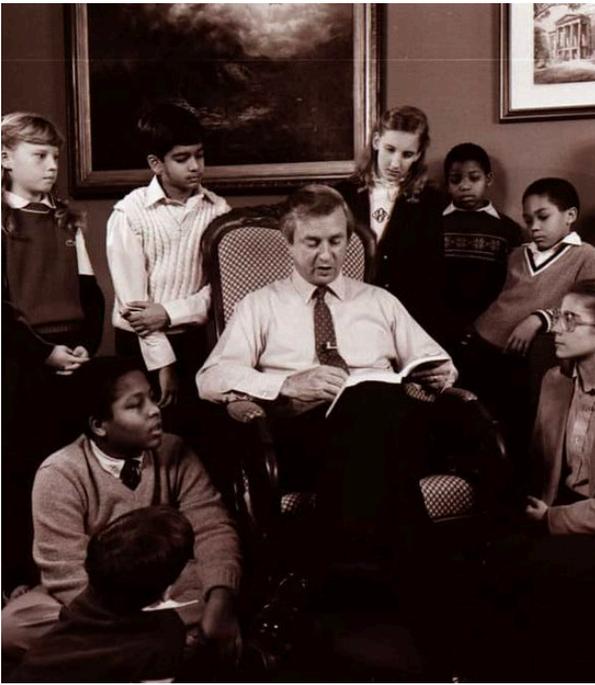
Established in 2001, **The Hunt Institute** honors the legacy of James B. Hunt, Jr., the former governor of North Carolina who distinguished himself as an ardent champion of education.

The Hunt Institute brings together people and resources to inspire and inform elected officials and policymakers about key issues in education, resulting in visionary leaders who are prepared to take strategic action for greater educational outcomes and student success.

In 2016, The Hunt Institute became an independent, nonprofit entity and joined forces with Duke University's Sanford School of Public Policy to pursue research, educational partnerships, and events related to improving education policy.

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