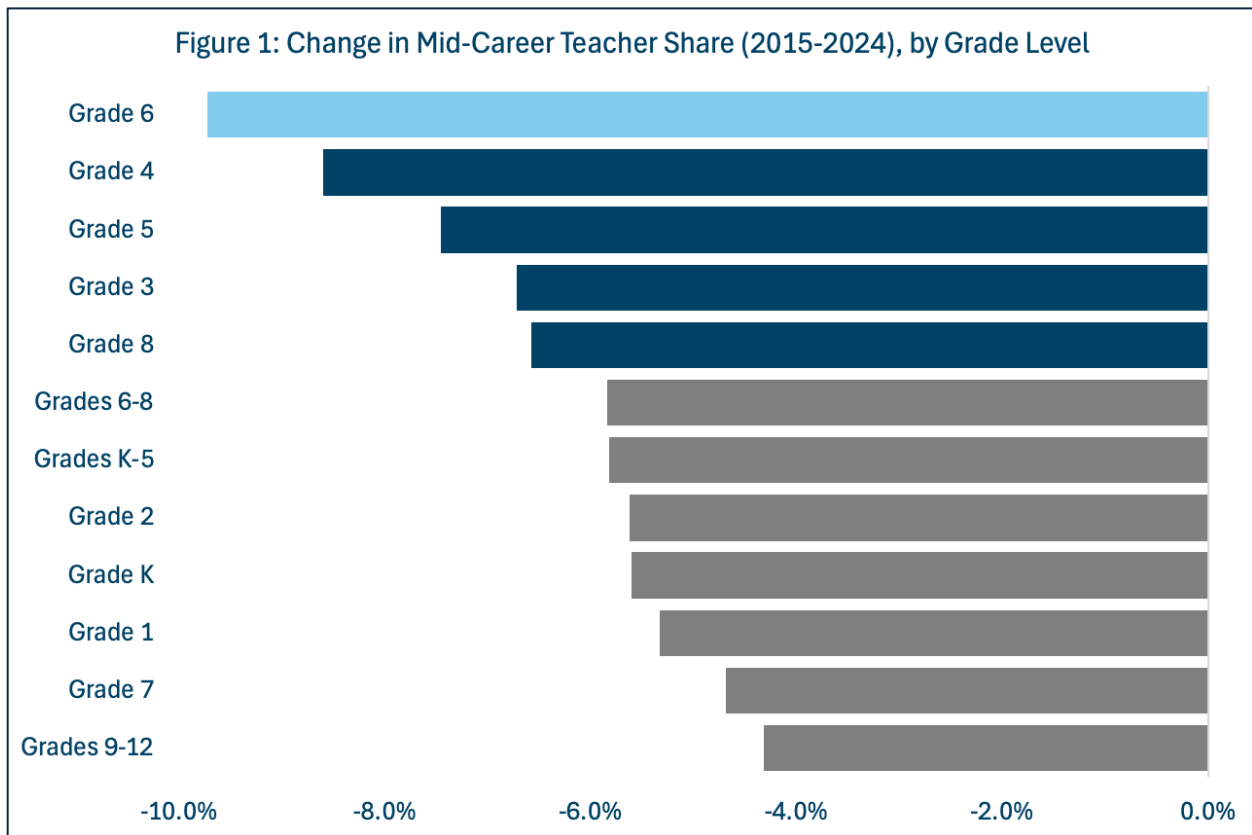


The Hollow Core: Missouri’s Vanishing Mid-Career Teachers Mapping the Experience Gap Across Grades and Subjects (2015-2024)

Executive Summary

Missouri’s mid-career teacher workforce is shrinking in every grade level and subject category. While the decline in the percentage of teachers with 7-15 years of experience is occurring across the board, the severity of this decline is not uniform. The state is losing its instructional core fastest in grades and subjects most critical for student transition and foundational literacy and numeracy skills.



- The Transition Crisis (Grades 3-6):** Missouri is experiencing an aggressive hollowing out in the “transition grades,” where students shift from elementary concepts to complex application.
 - Grade 6 has suffered the steepest drop among classroom teachers between 2015 and 2024, seeing a 9.7 percentage point decline in its mid-career workforce.
 - Grades 4 and 5 have seen declines of 8.6 percentage points and 7.5 percentage points, respectively.
 - Grade 3 has experienced a 6.7 percentage point drop in its mid-career teacher workforce. This creates a stability gap just as students transition from “learning to read, to reading to learn” and facing increased academic demands.
- Hollowing Out vs. Aging Out:** Examining the workforce by subject reveals a tale of two crises:

- **Hollowing Out:** Social Studies and English Language Arts (ELA) are losing their “instructional anchors” (teachers with 7-15 years of experience) the fastest, seeing 7.5 percentage point and 6.2 percentage point declines, respectively. This threatens academic initiatives that rely on deep content knowledge often sharpened and developed in a teacher’s mid-career years.
 - **Aging Out:** Math and Science are seeing smaller mid-career declines (3.5 and 5.5 percentage points) but face an imminent retirement cliff. The share of teachers with 20 or more years of experience has swelled to 21 percent in Math and 20 percent in science.
3. **Hidden Instability in Early Grades (K-3):** While K-3 teacher recruitment appears stable, there is a hidden instability in expertise. Mid-career teachers serve as the primary coaches for new hires, but these educators are disappearing from Missouri’s classrooms. Grade 3 and Kindergarten have seen mid-career declines of 6.7 percentage points and 5.6 percentage points, respectively. This has immediate implications for the state’s literacy laws, which require experienced mentoring to ensure the initiatives like the state’s Science of Reading law are implemented with fidelity.
 4. **The Looming Retirement Bubble:** To make up for the “missing middle,” Missouri schools have increasingly masked the loss of mid-career talent by retaining late-career veterans. This is most visible in Grade 4, where the experience distribution has shifted from roughly 1 in 10 teachers (10.9 percent) having 20+ years of experience in 2015 to nearly 1 in 5 teachers (17.9 percent) today. When these retirements come to fruition, Missouri will face a vacancy crisis unless it pairs aggressive recruitment with a concerted effort to stop the leak of mid-career expertise.

1. Why Teacher Experience and Retention Matters

The long-observed and discussed shifts in Missouri’s educator workforce carry significant implications for student success. Research has long highlighted that teacher experience and quality are primary drivers of school stability, academic growth, and behavioral health.

1. Academic Growth and Instructional Quality

- Cumulative Effectiveness: Teacher experience is one of the strongest predictors of instructional quality. While the most rapid improvements in quality occur throughout the early and novice years of a teacher’s career, educators continue to refine their practices and impact student outcomes well into their second and even third decades of teaching (Atteberry, Loeb & Wyckoff, 2015; Papay & Kraft, 2015).
- Knowledge Sharing: Teachers in their seventh to fifteenth years possess deep content knowledge of curricula and evidence-based practices, often exhibiting higher levels of effectiveness in their practice (Kini & Podolsky, 2016). Importantly, these experienced teachers’ own improvements spillover to their peers, as teachers are more likely to improve when working in supportive schools that allow for collaboration between experienced and inexperienced colleagues (Podolsky & Darling-Hammond, 2025).
- Bridging the Literacy Implementation Gap: While teachers can gain high levels of knowledge from state-mandated training like LETRS, long-term implementation is dependent on frequent coaching from experienced colleagues. Experienced educators are often able to serve as peer collaborators, focused on supporting on providing feedback for improvement and sharing instructional strategies (Hill & Papay, 2022).

2. Behavioral and Social-Emotional Impacts

- Disciplinary stability and Turnover: Stability in the educator workforce is essential for maintaining contextual knowledge of students. Turnover among experienced educators has been linked to an increase in the likelihood of students receiving discipline referrals and suspensions (Rodriguez & Redding, 2025).
- School Climate: Teacher experience is directly associated with more positive student perceptions of school climate, and teachers have been found to have a greater impact on school climate among students (Welsh et. al., 2024).

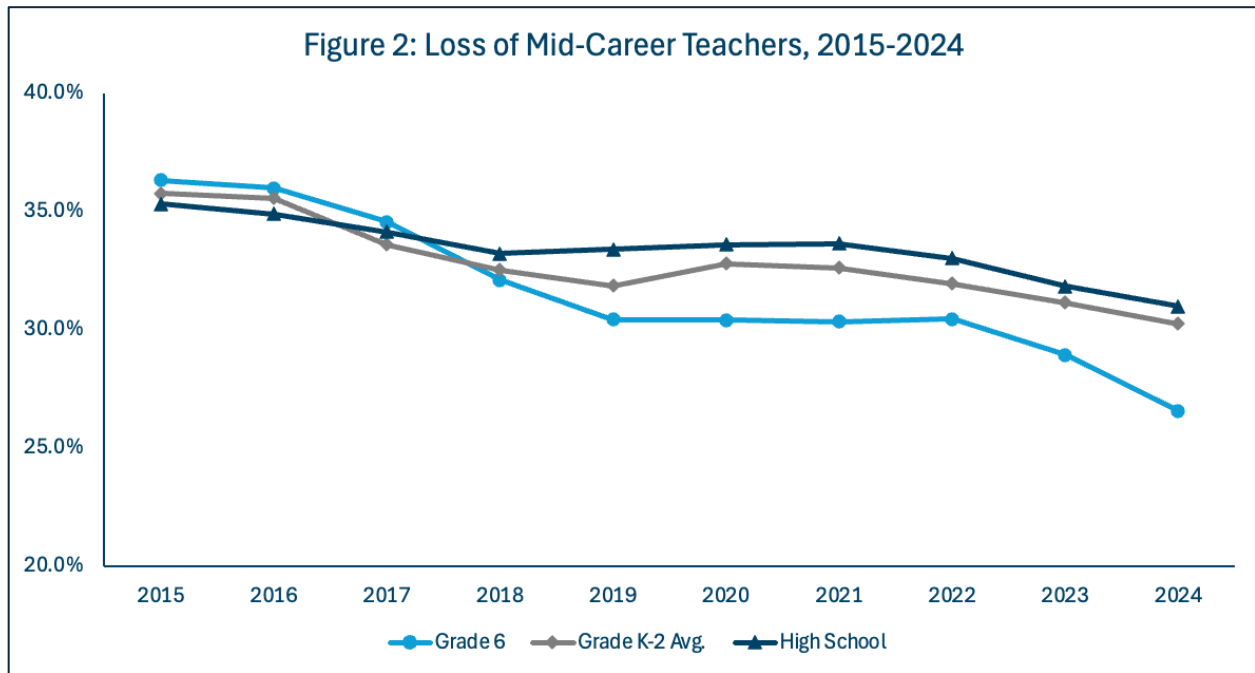
2. The Transition Crisis (Grades 3-6)

Students in grades 3 through 6 undergo a massive developmental shift, often described as moving from “learning to read” to “reading to learn.” Meeting students’ academic needs requires stable, high-quality instruction. While teacher effectiveness improves meaningfully in the early years of a career and continues at a more steady rate throughout the career, it is the mid-career educators who often anchor a school’s

Grade 6 expertise has collapse by 9.7 percentage points—the steepest drop in Missouri since 2015

success by serving as coaches, mentors, and instructional leaders. The value of maintaining this stable core cannot be overstated.

Unfortunately for Missouri schools, this critical segment of the educator workforce is eroding fastest in the grades that need it most to establish a strong academic foundation. Just as students face their most complex social and academic transition, they encounter the state’s least experienced workforce. Since 2015, the proportion of mid-career teachers in these transition grades has collapsed:



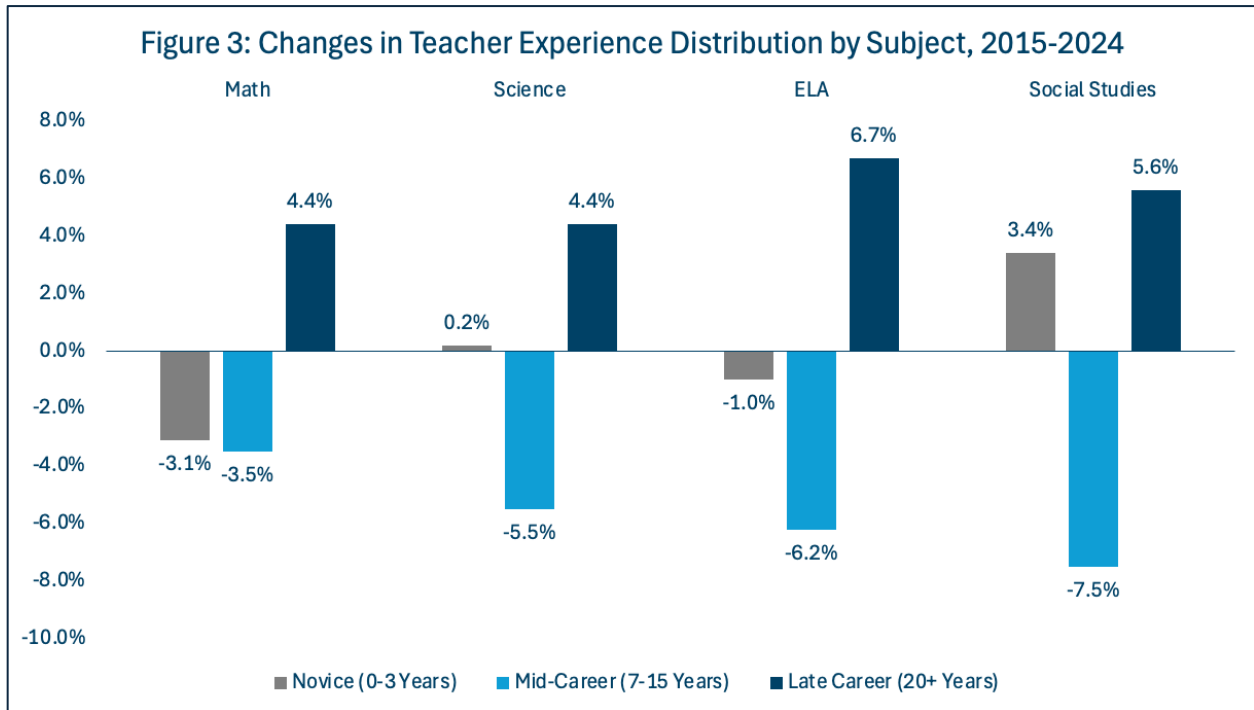
- Grade 6 has seen the steepest drop, seeing a 9.7 percentage point decline in its mid-career teacher workforce.
- Grade 4 has seen a similar decline of 8.6 percentage points.
- Grade 3 has seen a 6.7 percentage point drop.

By comparison, Grades K-2 have seen an average decline of 5.5 percentage points in mid-career teachers, while high school grades have seen a more modest 4.3 percentage point decline.

Crucially, this decline is not solely a result of the COVID-19 pandemic. As shown in Figure 1, the erosion of Grade 6 expertise began before the 2020 shutdowns. Between 2015 and 2019, Missouri saw a 5.9 percentage point drop in mid-career teachers for Grade 6. The trend briefly plateaued between 2020 and 2022, likely due to pandemic-related retention freezing, before re-emerging at a sharper rate in 2023. This indicates that the “transition crisis” is a chronic, structural failure of the pipeline, now exacerbated by recent novice attrition.

3. The Subject Split: Hollowing vs. Aging Out

While the decline in mid-career teachers is a statewide phenomenon, a closer look at subject-level data reveals two distinct crises emerging in Missouri’s schools. In Social Studies and English Language Arts (ELA), schools are facing an “instructional churn,” where mid-career subject matter experts are being replaced by novices. In Science and Math (STEM) fields, schools face an “aging out” problem, driven by a shrinking pipeline of new talent and loss of mid-career teachers.



1. **Social Studies and ELA are replacing anchors with rookies:** These two subjects are losing their “instructional anchors” the fastest. These subjects rely heavily on deep content knowledge and complex pedagogical skills that include facilitating civic discourse and diagnosing literacy gaps that are often mastered in a teacher’s mid-career years.

- Social Studies has seen the most severe hollowing out of teachers with 7-15 years of experience with a 7.5 percentage point drop.
- ELA has similarly lost 6.2 percentage points of its mid-career workforce.

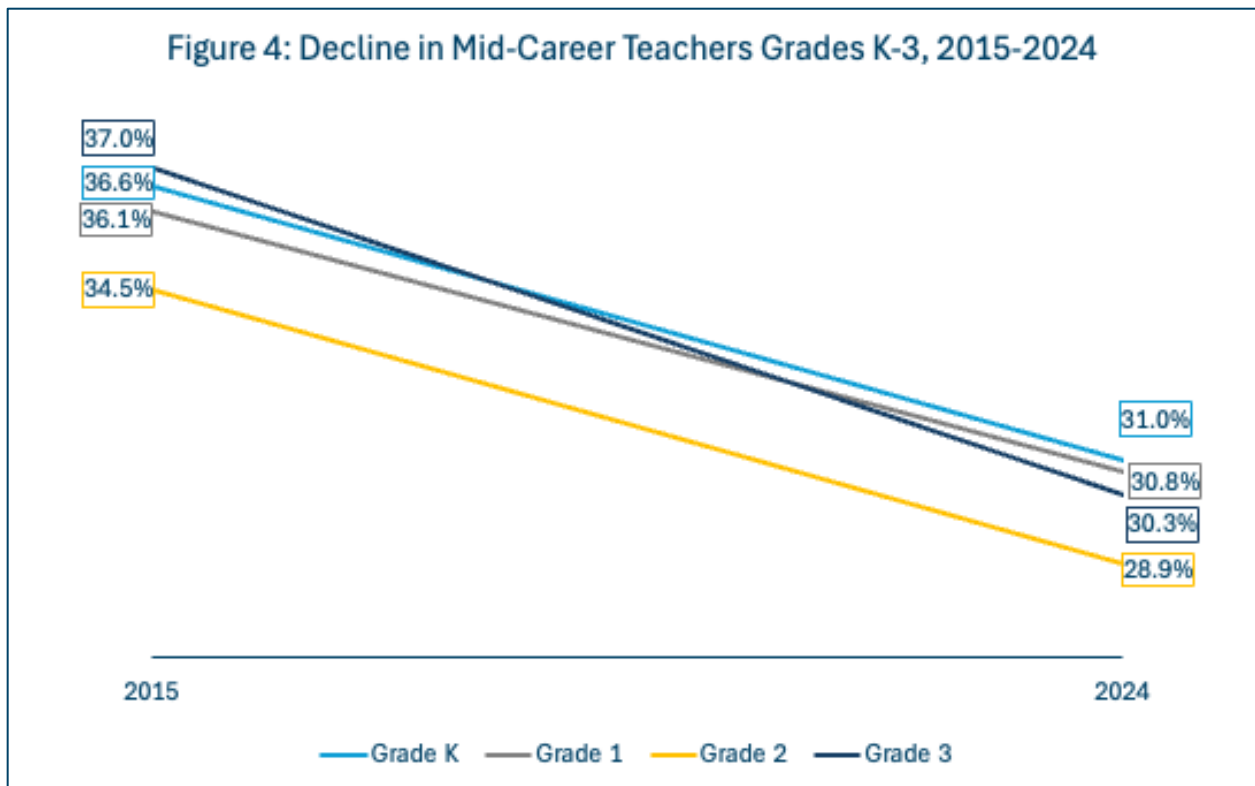
ELA and Social Studies are losing instructional faster than any subject

Critically, the vacancies left by departing experts in Social Studies are largely being filled by new hires. The share of early-career teachers (0-3 years of experience) has increased 3.4 percentage points since 2015. This “youth movement” stabilizes the headcount and is to be commended, but it lowers the average experience level in the department, potentially threatening the quality of instruction.

2. **STEM’s looming retirement cliff:** In Math and Science, the dynamic is different. These subjects are not just hollowing out by losing mid-career teachers; they are aging out. Math has seen the smallest decline in the mid-career band (-3.5 percentage points), suggesting comparatively higher stability among those who stay past year five. This stability masks a pipeline failure. The share of novice Math teachers has dropped by 3.1 percentage points since 2015. Combined with the increase in its aging out problems, Missouri’s math educator workforce is shrinking from the bottom up. The Math workforce is contracting at the source. With fewer new teachers entering the pipeline, the average experience level is rising simply because the bottom of the pyramid is shrinking. The share of Math teachers with 20+ years of experience has increased from 17 percent to 21.4 percent.

3. The Hidden Literacy Risk (Grades K-3)

High-level data suggests that Missouri’s early grades are stable. A deeper analysis reveals a hidden instability in teaching expertise. The first report in this series noted that the share of new teachers assigned to K-3 classrooms has remained relatively flat over the past decade. However, the composition of the workforce around those new teachers has shifted dramatically. The “mid-career buffer” of experienced educators who typically mentor novices and anchor grade-level teams is eroding.



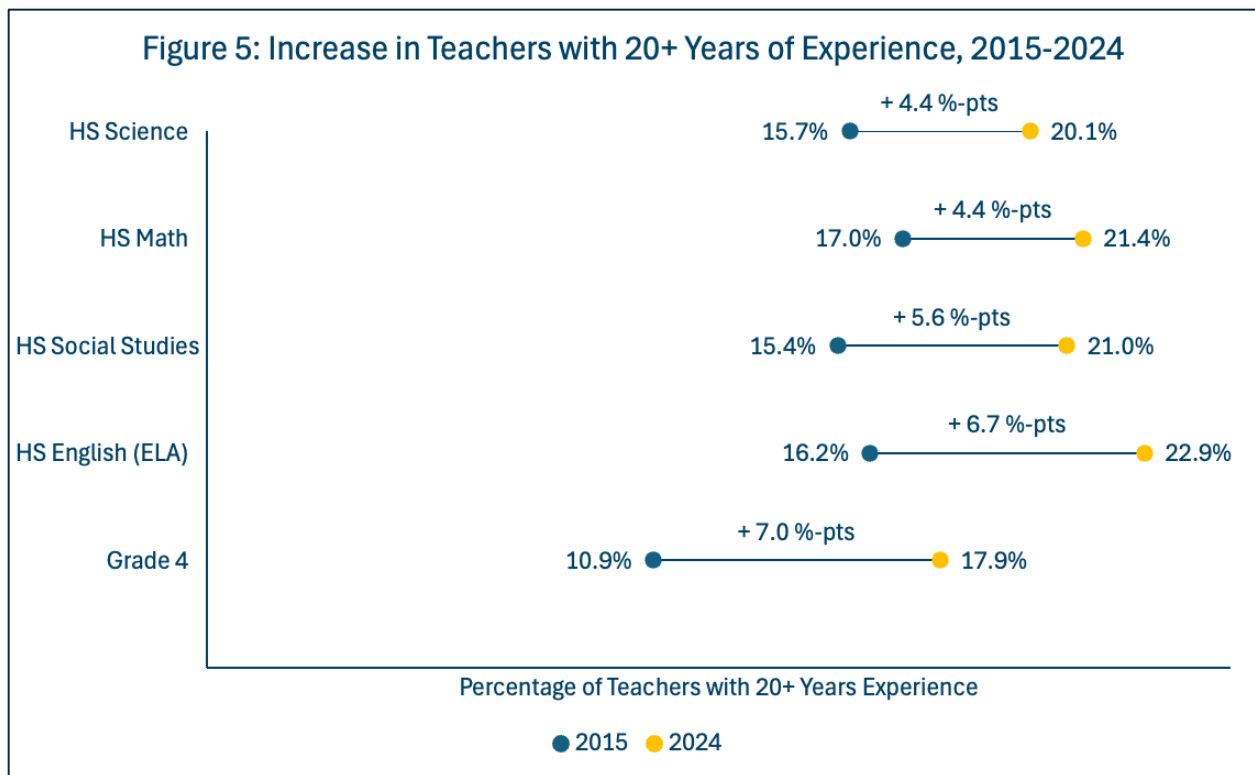
1. **Stability without expertise:** Grades K-3 have successfully maintained a steady pipeline of new educators entering the classroom. However, they are failing to retain these teachers into their mid-career years. The share of mid-career teachers (7-15 years of experience) has dropped by 6.7

percentage points since 2015. Kindergarten and Grade 1 are following a similar trajectory, with declines of 5.6 percentage points and 5.3 percentage points, respectively.

2. **The Consequence: A Coaching Void:** This loss of mid-career expertise comes at a precarious time. As Missouri implements new literacy laws rooted in the Science of Reading,” the demand for instructional coaching is at an all-time high. State-level coaching models were designed to supplement internal expertise, not replace it. The current attrition rate renders that model unsustainable. Successful implementation of these mandates requires deep, sustained mentorship for early-career teachers.
3. With few teachers in the 7-15 experience band, schools are left with an “hourglass” workforce: a large group of learning new and novice teachers and a group of late-career veterans nearing retirement, with a shrinking middle bridge to gap.

4. The Fragile Floor: The Increase in Retirement-Ready Teachers

Missouri’s educator workforce is currently being held together by a “fragile floor” of late-career professionals. As the mid-career core of teachers has eroded, schools have increasingly relied on teachers with 20 or more years of experience to fill the gap. While retaining veteran educators is vital for mentorship and stability, relying on them to plug structural holes creates a massive, deferred liability. Missouri is effectively staffing its classrooms with a workforce that eligible or nearly eligible for retirement.



1. The Grade 4 “Warning Sign”: Nowhere is this risk more acute than in Grade 4. As noted earlier,

Nearly 20 percent of Grade 4 teachers are at typical retirement age

Grade 4 has seen one of the state’s steepest declines in mid-career teachers. To compensate, schools have leaned heavily on veterans. In 2015, roughly 1 in 10 Grade 4 teachers (10.9 percent) had 20+ years of experience. In 2024, that number is nearly 1 in 5 (17.9 percent). This dramatic shift means that nearly 20 percent of the Grade 4 workforce could exit the classroom in a very short window. Because mid-career pipeline (teachers with 7-15 years of experience) has been hollowed out, there are fewer “heirs apparent” ready to step into these senior roles.

2. High School Vulnerability: A similar “graying” phenomenon is stabilizing high school staffing, particularly in core tested subjects. English Language Arts: The share of teachers with 20+ years of experience has grown from 16.2 percent to 22.9 percent between 2015 and 2024. Math and Science: For both subjects, the share has risen 4.4 percentage points each. Math rising from 17.0 percent to 21.4 percent and Science rising from 15.7 percent to 20.1 percent. Social Studies: The share has risen from 15.4 percent to 21.0 percent.

This “retirement bubble” creates a false sense of security. While headcount looks stable today, the underlying structure is brittle. When this cohort retires, likely in the next 3 to 5 years, Missouri will face a “vacancy shock.” This shock will likely not be felt equally. As noted in Report #1, suburban districts have increasingly relied on these veteran teachers. When the retirement cliff hits, these higher-paying districts will likely move to fill vacancies by aggressively recruiting from neighboring rural and urban districts. This will trigger a ripple effect, draining talent from the state’s most vulnerable communities to backfill vacancies, further destabilizing the statewide system.

5. Conclusions and Recommendations

The data presented in this report confirms that Missouri’s educator workforce is undergoing a profound structural shift. We are moving from a balanced distribution of experience to a “hollowed out” workforce, increasingly polarized between learning novices and departing veterans.

Crucially, this report demonstrates that there is no single “teacher shortage.” Instead, Missouri faces three distinct overlapping labor market issues:

1. A Retention Crisis in the transition grades (3-6), Social Studies, and English Language Arts, where mid-career experts are exiting.
2. A Capacity Crisis in early literacy (K-3), where the mentors needed to support implementation of policies like the state’s Science of Reading initiatives are disappearing.
3. A Replacement Crisis in Math, Science, and Grade 4, where a “retirement bubble” is about to burst without a sufficient pipeline to backfill it.

Attempting to solve these problems with blunt, across-the-board policies will likely yield diminishing returns. Instead, Missouri must adopt a precision staffing strategy that matches resources to the specific “leaks” in the pipeline. Missouri can look to what’s happening in other states, offering options and models to consider as solutions.

5.1 Key Policy Frameworks for Missouri

To address Missouri’s evolving educator workforce challenges, the state can adopt a precision staffing strategy that matches interventions to the specific grade-level and subject-area needs identified in this report. Based on evidence-informed practices from other states, the following recommendations target the retention crisis in transition grades, the capacity crisis in early literacy, and the replacement crisis in STEM fields.

- **Strengthening Early-Career Support:** Structured induction and residency models, like those in New Jersey and Colorado, can reduce the revolving door of novice teacher churn by providing mandatory structured mentorship.
- **Rebuilding the Workforce Center:** To stop the “hollowing out” of teachers with 7-15 years of experience, Missouri can expand leadership pipeline grants (like Tennessee’s L.E.A.D.S. Grants) to provide stipends for professional development and classroom initiatives.
- **Improving Compensation Structures:** Competitive salary floors, such as New Mexico’s tiered system reaching \$75,000 for Level 3 or Texas’s Teacher Incentive Allotment (aiming for six-figure salaries in high need rural areas), can help retain mid-career talent.
- **Proactive Retirement Management:** Like Pennsylvania, Missouri should utilize annual street tests and long-term labor market projections to prepare for geographic clustering of retirements, especially in suburban districts where veterans are most concentrated.

By transitioning from blunt, across-the-board policies to these precision interventions, Missouri can better stabilize its instructional core and ensure the fidelity of long-term school improvement initiatives.

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Exemplar Policy Summary

The Issue	The Signal	The Fix	The Example
Losses in transition grades	Loss of mid-career teachers in Grades 3 to 6. 1 in 10 Grade 6 teachers with 7 to 15 years of experience have left, with Grades 4 and 5 close behind.	Offering strategic retention incentives for teachers in these grades when they reach their 6 th year of teaching to stabilize the most volatile grade band.	Louisiana Content Fellowships : offers content-specific fellowships and stipends explicitly for mid-career teachers leading instructional teams rather than administration
Missing Master Teachers in Early Grades	Grade 3’s mid-career teachers dropped 6.7 percentage points; K-2 dropped 5.5 percentage points	Establish state-recognized "Literacy Lead" designation for K-3 teachers with 7+ years of experience and demonstrated excellence in reading instruction.	North Carolina Advanced Teaching : expert teachers receive higher pay to mentor a team of teachers while staying in the classroom.
Math’s Recruitment Emergency	Math is seeing a pipeline collapse, as the share of new teachers has dropped 3.1 percentage points and the share of veteran teachers has surged to 21.4 percent.	Prioritize STEM-specific scholarship and loan forgiveness programs for initial licensure to aggressively target replacing the looming retiree cohort.	Colorado Residency Partnerships : funds district-level “teacher residency partnerships” that integrate clinical preparation with early career mentoring
The Retirement Cliff	In Grade 4 and High School ELA, nearly 1 in 5 teachers is currently eligible or near-eligible for retirement.	Districts must implement succession planning that identifies potential early-career teachers now and places them in “shadowing” roles or department leadership tracks before veteran teachers depart to ensure knowledge transfer.	New Mexico : implements district-level “early warning systems” using vacancy data to predict and rectify shortages before they happen.