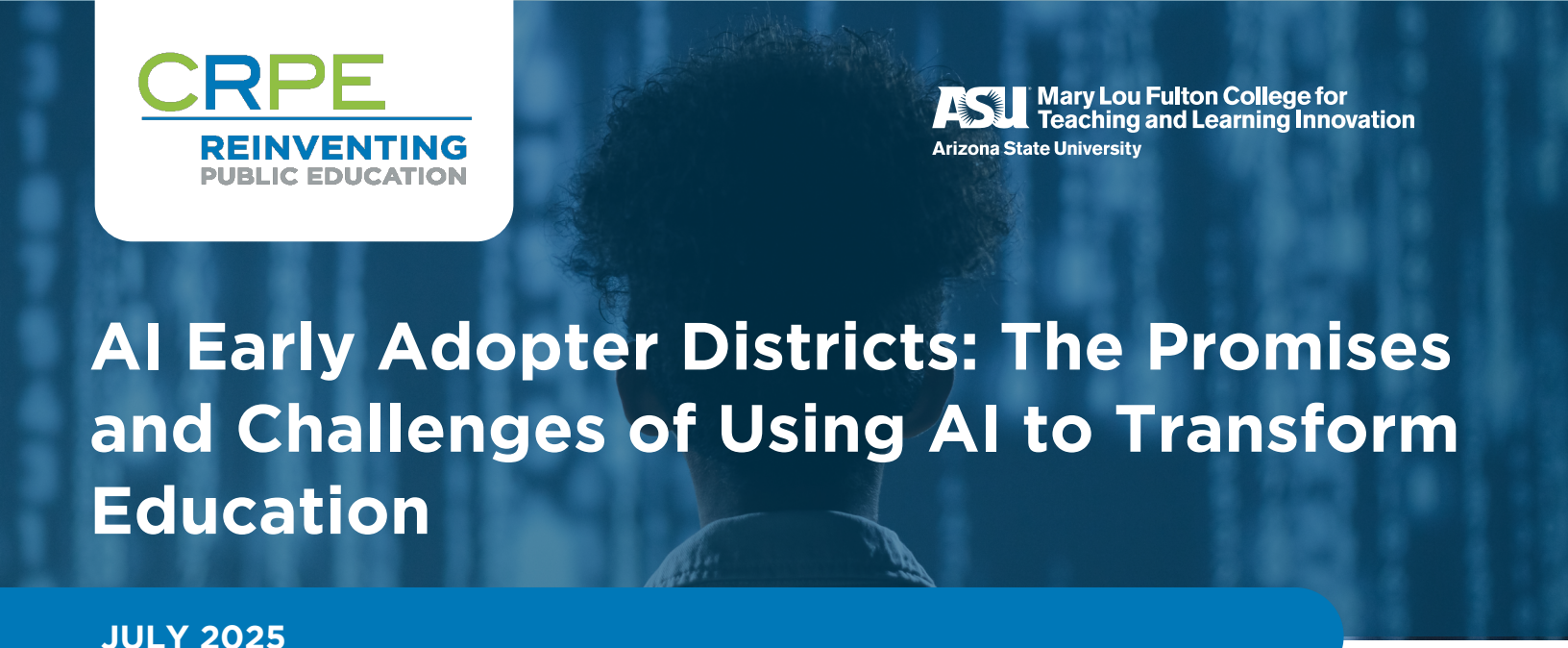

CRPE
REINVENTING PUBLIC EDUCATION

Mary Lou Fulton College for Teaching and Learning Innovation
Arizona State University

AI Early Adopter Districts: The Promises and Challenges of Using AI to Transform Education

JULY 2025

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Artificial intelligence is advancing rapidly, and public education is racing to catch up. Over the past two years, generative AI tools have moved from the margins of public awareness to the center of conversations about the future of learning, work, and society. In classrooms and central offices across the country, AI is beginning to reshape how educators manage their time, how students access academic assistance and mental health support, and how districts define what's possible.

But history offers a cautionary tale. Prior waves of education technology made bold promises to personalize learning and close opportunity and achievement gaps, yet many failed to deliver on their most ambitious claims. Without greater alignment and collaboration between school districts, ed tech developers, policymakers, and researchers, the education sector risks repeating these missteps with AI by prioritizing surface-level efficiencies while failing to respond to the real needs of students and families. Cross-sector coherence means ensuring that tools are designed with real educational needs in mind, that districts have the capacity to use them effectively, and that policies help accelerate responsible and thoughtful AI adoption.

This is a moment of immense possibility and real uncertainty. Educators and policymakers are navigating new AI tools, emerging risks, and rising public scrutiny, all while grappling with deeply familiar challenges: widening opportunity gaps, overburdened teachers, and outdated systems. While many Early Adopter districts are eager to move beyond pilot projects, they face entrenched barriers, including persistent concerns about data privacy and long-term funding. Without more explicit guidance and stronger guardrails, AI may only widen access and opportunity gaps, particularly in under-resourced districts.

At the same time, a small number of districts are beginning to take a more strategic approach, embedding AI into broader plans to redesign instruction, reimagine educator roles, and prepare students for the future of work. These early efforts offer a

glimpse of what is possible when AI is not just a standalone tool, but a lever in a larger transformation agenda.

To understand how school districts are responding to this pivotal moment, the Center on Reinventing Public Education (CRPE) launched a national landscape study of early AI adopters in the 2024–25 school year. Interviews, surveys, and profiles of AI innovators in K–12 education ground our findings, alongside decades of research on systems change.

This brief highlights key patterns from our landscape study and offers recommendations for districts, funders, and policymakers who aim to leverage AI to address long-standing challenges in public education.

METHODOLOGY

CRPE conducted a study from August 2024 to May 2025 to surface insights from districts (defined as public school districts and public charter management organizations) engaging early with AI. The research team:

- Identified 51 districts via referrals and desk research that met our criteria for systemic AI adoption (piloting or exploring an AI tool or strategy in one or more schools, with central office coordination or endorsement).
- Recruited 27 of the 51 districts (those making progress toward systemic implementation of multiple AI strategies) to participate in the study.
- Facilitated 22 focus groups and interviews with 45 leaders from 22 districts, including superintendents, instructional chiefs, and support organizations, to deepen understanding of Early Adopter practices and mindsets.
- Collected survey responses from 17 of the 27 district representatives on AI practices, barriers, and enabling conditions.
- Conducted 10 follow-up group interviews with educators and district leaders at six school districts to investigate strategies specifically targeted to students with learning differences and multilingual learners.
- Coded data inductively and iteratively to identify patterns in adoption types, enabling conditions, and barriers, with typologies ranging from **Dabblers** to **Reimaginers.**
- Conducted three follow-up roundtables with superintendents and interview participants to refine key findings and identify real-time policy tensions and implementation dynamics.
- Created public-facing profiles for 40 districts with adequate publicly available information based on strategic plans, use cases, and publicly available documentation.

While not nationally representative, the sample of participating focus group districts represented geographic, student demographic, and size diversity, with an overrepresentation of suburban districts. More information on the study demographics is available in the **Notes** section.

KEY FINDINGS

1. **Early Adopters are still piloting AI strategies, not scaling them.** Most districts remain in early, fragmented stages of AI experimentation. Pilots are typically isolated, short-term, and not yet connected to broader district strategies or sustained implementation plans.
2. **Early Adopters focus on efficiency over transformation.** Districts are using AI primarily to reduce teacher workload and improve productivity, with limited exploration of how AI might drive deeper instructional redesign or systemic change.
3. **A small vanguard is leading with bold visions for broader change.** A subset of districts are strategically embedding AI into broader transformation agendas, using it to reimagine learning models, educator roles, and student experiences. These districts possess strong foundations, bold ambitions, and a proactive stance toward shaping how AI supports deeper learning redesign.
4. **Common enabling conditions are emerging.** While no district has all the necessary conditions in place, common enablers include a clear vision, strong leadership that encourages a culture of innovation, integrated tech-instruction teams, and robust infrastructure (including tech access and readiness). Taken together, these factors can offer a roadmap for districts pursuing system-wide AI implementation.
5. **Districts cannot unlock AI's potential without investing in adult capacity.** Most districts lack codified training or competencies for understanding AI, making adult learning a critical and underdeveloped foundation for AI integration.
6. **Many leaders report edtech fatigue and decision paralysis.** The rapid pace of AI development, aggressive vendor marketing, and limited evidence of tool effectiveness have overwhelmed many Early Adopters. District leaders are struggling to evaluate tools effectively and separate meaningful innovation from marketing hype.
7. **Lacking clear policies, infrastructure, and expertise, Early Adopters do not have a roadmap for AI adoption.** Even committed Early Adopters face deep structural and policy barriers—including unclear state guidance, inadequate interoperability between AI tools and school data systems, mounting edtech fatigue, limited internal vetting capacity, and steep data privacy and funding hurdles—that constrain their ability to scale AI beyond isolated use cases.
8. **Early Adopters lack the tools and readiness to support special populations effectively.** While AI shows promise for improving access and personalization, few tools currently meet the specific needs of multilingual learners or students with disabilities. Without clear instructional visions and robust edtech solutions, efforts to support these students often remain fragmented rather than integrated into a systemwide strategy.

1. Early Adopters are still piloting AI strategies, not scaling them.

The Early Adopters we studied are still in the early stages of exploring systemic AI opportunities. To understand variation in ambition and readiness, we sorted Early Adopters into four categories by analyzing interview, focus group, and survey data.

- **Dabblers** are experimenting with discrete tools in isolated classrooms or departments, often without centralized coordination or long-term goals.
- **Emerging Users** have begun piloting select tools and have drafted or finalized internal guidance or goals for adoption.
- **System Changers** are leveraging AI to serve broader district goals, such as instructional redesign or data modernization.
- **Reimaginers** are using AI as a catalyst for fundamentally rethinking educator roles, instructional models, student experiences, or learning goals.

About 80% of the districts we studied fell into the first two categories of **Dabblers** and **Emerging Users**, signaling that most Early Adopters are still in the early phases of experimentation, focused on ad hoc and not yet systemic AI adoption.

A **Dabbler** might be participating in an AI learning network or responding generally to the emergence of large language models like ChatGPT and the opportunities they present for learning innovation. Many Dabblers consider themselves "innovative" districts and communicate a general commitment to AI as an innovation strategy, but their efforts are not necessarily coordinated or system-wide. Dabbler superintendents may task their leadership teams to identify potential AI tools to pilot. However, policies remain in development, and only a few early-adopting teachers regularly use AI.

An **Emerging User** district is one step farther along, perhaps piloting AI tools to enhance teacher efficiency within select schools and departments. Their technology department may provide resources and training, but AI work remains siloed from other district initiatives. They have convened a task force or similar group to craft AI guidance and to vet AI tools. Most Emerging Users have not yet built a roadmap to integrate AI into systemwide instructional or operational processes.

While on the far edge of the adoption curve, most Early Adopters remain in pilot mode. Most of these pilots are sporadic and low-risk, commonly focused on lesson planning assistance or operational efficiencies across a few campuses. Early Adopters often launch pilots in an attempt to solve discrete teacher challenges (e.g., burnout, staffing shortages, a lack of visibility into students' learning progress) without long-term sustainability plans or alignment to broader instructional strategy.

Most interviewees described initial adoption efforts as opportunistic and decentralized. Districts often rely on a few enthusiastic teachers or IT staff to experiment with tools and report back informally. Some pilots have led to quick wins—for example, districts reported increased teacher efficiency, echoing a 2025 Gallup poll in which teachers who use AI at least once a week said they save an average of six hours per week. Yet, few districts have established consistent processes for monitoring AI use or formal structures to ensure that tools align with broader instructional goals.

At the same time, leaders stressed the importance of balancing urgency with intentionality. Several district leaders noted tension between wanting to "go slow to go far" and feeling pressure to adopt quickly in response to vendor momentum or public interest. While the rapid evolution of AI tools invites experimentation, districts face the dual challenge of keeping pace with innovation while safeguarding against hasty or inequitable implementation. Many emphasized the need to build foundational AI literacy among staff (discussed below in Section V) before expanding adoption, especially given the limited research base on the long-term educational impacts of many new tools. They worry that without adequate AI literacy, there is a risk that early momentum will lead to fragmented or short-lived adoption rather than meaningful, systemic change. As one district cabinet leader explained, their team is taking time to build internal capacity and "upskill lots of people" before making purchasing decisions they might "regret a year from now."

2. Early Adopters focus on efficiency over transformation.

Using the four Early Adopter profiles explained in Key Finding 1, we found that most districts are in early stages of developing centralized coordination and long-term or system-wide goals for AI adoption. They focus mostly on time-saving and efficiency. Without redesigning learning experiences and roles, AI may simply make outdated and often inequitable systems more efficient or effective—rather than transforming them.

Early Adopters report first using AI to support teacher-centered problems: improving productivity, reducing workload, or improving job satisfaction. Across our interviews and survey data, the most common AI strategies described were piloting teacher-facing tools and supporting teacher AI literacy. These tools tended to help educators save time on routine tasks by generating lesson materials, differentiating instructional content based on reading levels, supporting Individualized Education Program (IEP) development, and streamlining parent communication. Common examples included specialized tools like MagicSchool and SchoolAI, as well as "frontier models" like ChatGPT, Claude, and Gemini.

Many districts intentionally launched AI strategies using teacher-centered tools to build frontline confidence and AI literacy, viewing efficiency gains as an entry point to broader adoption. They also found teacher tools less risky to implement than student-centered tools, given questions and concerns about student data privacy. Focusing on educator needs helped generate early buy-in and offered skeptical teachers something that solved their own problems first.

In addition to teacher lesson planning and design, districts identified several other core use cases driving such early adoption: adaptive student learning and tutoring platforms (such as Khanmigo and Amira), administrative and back-office automation (using ChatGPT and similar tools), and stakeholder communication tools (including custom chatbots for parents and multilingual translation support).

So far, few Early Adopters have expressed concrete plans to move beyond these tactical teacher applications. They may feel that these tools are adequately solving long-standing teacher workload and efficiency problems, or they may feel that their educators need more time to explore and learn about the opportunities AI tools present. Some believe that improving teacher efficiency and effectiveness around lesson planning

or other "basic" tasks is the first step in a process that could result in more expansive and transformational AI use. There are also emerging questions among district leaders about the instructional quality of AI-generated, student-facing materials, especially when trying to align with state standards or High-Quality Instructional Materials (HQIM).

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Without an intentional shift toward deeper integration, systemic AI adoption may plateau at surface-level efficiencies rather than catalyzing meaningful redesign. AI may just be an add-on to existing routines rather than a lever for rethinking the broader system. When districts pursue AI without a clear vision of how they want to approach systemic adoption, they default to solving immediate workload challenges, missing the opportunity to use transformative technology to rethink teaching and learning.

3. A small vanguard is leading with bold visions for broader change.

Roughly 20% of the districts we studied approach AI not as an add-on, but as a strategic lever for district redesign (see Key Finding 1). These **System Changers** and **Reimaginers** are taking a more strategic and systemic approach to embedding AI tools and strategies into plans for serving students and teachers differently.

These Early Adopters typically have digital- and technology-centered strategies, often in place well before large language models entered the public sphere in late 2022. They lean into the enabling conditions described in Section IV. They have clearly stated visions for learning that rely on technological solutions or prepare students for a rapidly changing future, integrated central office teams and strategy, and robust adult AI literacy building and learning opportunities.

System Changers are school districts that leverage AI to achieve broader goals, such as instructional redesign or data modernization. They typically orient AI strategies alongside their strategic plan and other systemwide initiatives.

One System Changer is the Elma School District, a rural school district in Washington State. Elma has been shifting its instructional delivery model to mastery competency-based learning, as described in its strategic plan. The district adopted a competency-based learning management system and spent three years aligning the database with AI tools to create a PK-12 competency tracking database, analyze student learning, align outcomes with competencies, and generate personalized learning activities. It also developed custom AI chatbots that provide guidance about the grading system to various stakeholders. These strategies are part of a broader goal to upgrade student

postsecondary learning pathways and career choices. As their superintendent explains, "AI has really become a powerful backbone in [competency-based learning]. We spent three years marrying our database systems with AI so that we have highly structured systems of learning outcomes and proficiency scales, from pre-K through 12th grade, being able to identify proficiency scales on learning outcomes and using AI to generate student-driven activities in order to meet proficiency."

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>
> **-Superintendent, Elma School District**

Gwinnett County in metro Atlanta, GA, leverages AI readiness as part of its vision to equip graduates for new careers and ways of operating in the future age of AI. Gwinnett began broad stakeholder engagement in 2017, asking families and the community what they wanted out of their schools and identifying how to build students' readiness for the future of work. Gwinnett connected with local industry leaders and national experts to identify AI readiness as part of that vision. They created a guidance document that aligns AI-informed policies with systemwide goals. They launched an AI-centered high school and developed new K-12 learning standards to develop "AI-ready students" prepared for a new future of work.

Reimaginers are similar to system changers, but in addition to centering AI strategies in a broader plan for change, they are fundamentally rethinking student learning experiences, teacher roles, or instructional delivery models.

ASU Preparatory Academy in Phoenix, AZ, a public charter network of schools, exemplifies this work. They engage educators in frequent AI pilots, analyzing usage data and student outcomes to evaluate effectiveness and adjusting their tool use accordingly. Building off this culture, the charter network now embeds AI tools into its system-wide instructional model, providing personalized tutoring and student-driven learning experiences. They used what they learned from their pilots to implement AI tutoring tools more strategically—they use them to support students who are more adept at self-regulation, allowing teachers to give higher-need learners more personalized attention.

ASU Preparatory Academy designed a new microschool experience where students use emergent technology and have field trips to meet AI industry professionals. They

are launching a hybrid high school using self-paced AI-enabled curriculum, access to college courses, Socratic learning experiences, and pathway exploration.

ASU Preparatory Academy provides robust, multi-model AI literacy and culture building with their educators. They provide free enterprise ChatGPT accounts for all teachers, something they say helped increase widespread use and comfort with AI. They developed and administered surveys on teacher AI literacy over multiple years to understand what support their teachers need and provide responsive follow-up. This includes a system-wide AI Slack channel teachers use to share use cases and best practices.

4. Common enabling conditions are emerging.

Early Adopters described several common enabling conditions that positioned them to explore or launch systemic AI adoption effectively. While no single district exemplified all of these conditions, their reflections point to a shared set of factors that, taken together, offer a roadmap for supporting thoughtful AI adoption.

- **Early Adopters articulate a clear vision for AI's role in their districts, often connecting it to broader district goals** such as instructional quality, operational efficiency, or equity. The most advanced districts embedded AI into their strategic plans or innovation agendas, giving the work coherence and direction.
- **Superintendents, and in some cases school boards, foster a culture of innovation and psychological safety,** giving staff explicit permission to explore and experiment with AI. This culture helped educators and administrators see AI not as a threat, but as a tool worth understanding.
- **AI learning opportunities are broad and inclusive.** Early Adopters offer professional development (PD) not just for teachers, but for principals, district leaders, and non-instructional staff. In some cases, they used internal pilots or learning communities to give staff hands-on exposure to AI tools and foster cross-role collaboration.
- **Operational structures enable early progress.** These districts have integrated technology departments that work closely with teaching and learning teams, ensuring alignment between the district's vision and school-level implementation. In many cases, instructional coaches played a key role in helping teachers adopt AI tools to support local priorities.
- **Many Early Adopters have strong foundational infrastructures,** including device access, stable internet connectivity, and a positive track record with prior tech initiatives. These districts built on existing platforms and trust, rather than starting from scratch.

These attributes gave Early Adopters a meaningful head start by creating the conditions for thoughtful experimentation and helping them move quickly from curiosity to initial implementation. However, strong leadership, vision, and infrastructure alone are not enough to ensure educators are ready to use AI in ways that transform teaching and learning.

5. Districts cannot unlock AI's potential without investing in adult capacity.

AI adoption presents a unique challenge for school districts, not only because of its novelty but also because of the pace at which tools are evolving and the depth of understanding required for responsible use. While many aspects of AI integration echo familiar systems change dynamics, district leaders emphasized that adult AI literacy demands deeper, more urgent investment than past innovations. As one cabinet leader explained, "part of our vision statement is … that we want to provide each and every child with a strong competitive advantage … and we believe that AI is going to be a piece of that. [To set students] up for success, we knew we had to focus on our instructors. We really did not want them to come from a fear base or not have the knowledge. Also, knowing that AI is going to be very different from a lot of other implementations because of its rapid change, we had to be very thoughtful about how we were going to provide professional development when the arc of change is moving as we're providing [it]."

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-Cabinet Leader

In our interviews, district leaders identified adult AI literacy[1]—defined as the knowledge and skills to critically understand, evaluate, and use AI tools safely and ethically—as a prerequisite for effective and equitable adoption. Unlike previous waves of education technology, generative AI requires users to reason about opaque algorithms, ethical tradeoffs, and evolving best practices. Leaders consistently pointed to three reasons this foundational knowledge matters.

- **Addressing mistrust.** Educators often express skepticism or fear about AI, driven by limited knowledge of its capabilities, risks, and limitations. Leaders noted that this mistrust leads to hesitation or resistance, particularly when staff feel ill-equipped to evaluate tools or anticipate unintended consequences.
- **Preventing misuse.** Without appropriate training, educators may apply AI in ways that reinforce bias, introduce inaccuracies, or misalign with instructional goals. Central office staff cited challenges with evaluating tools, drafting safe vendor

1 Adapted from Digital Promise's definition of AI literacy (2024)

contracts, and supporting consistent implementation, particularly in districts without dedicated expertise.

- **Envisioning new possibilities.** Leaders described how low baseline knowledge constrains innovation. When educators lack fluency in AI's capabilities, districts struggle to imagine transformational applications such as rethinking time use, redesigning assessments, or expanding personalized learning for underserved students.

Most districts in our sample are providing varied opportunities for adults to grow their AI literacy skills. However, they have not yet codified AI competencies and are still embedding them into formal professional development. Most efforts tend to rely on teachers or administrators with greater AI proficiency or one-off training sessions. However, several promising strategies emerged from our research:

- **Role-specific professional development:** Some districts are tailoring PD to the unique needs of teachers, IT staff, and school leaders, helping each group develop relevant skills aligned to their responsibilities.
- **Peer-to-peer coaching and internal resource hubs:** Some districts are using peer coaching to distribute leadership, encourage prompt-sharing and tool experimentation, and build a collaborative learning culture. Districts are creating shared repositories of vetted tools, example use cases, and guiding policies to support consistent implementation and shared understanding.
- **Safe spaces for experimentation:** Leaders are creating low-risk environments where staff can try AI tools, helping to build trust and curiosity without fear of mistakes.
- **Multimodal learning opportunities:** Districts are offering in-person workshops, virtual sessions, and self-paced modules to ensure broad access and ongoing learning.
- **Partnerships with national organizations:** Some districts are joining programs led by groups like Digital Promise, TeachAI, and ISTE to build leadership capacity and align AI use with broader goals.
- **Strong instructional-technology collaboration:** Integrated technology and instructional teams ensure that AI tools support classroom practice and align with district priorities.

Without these supports, districts are unlikely to move from tactical use to transformational change. Educators cannot realize AI's potential for transformational change without effective training and support.

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6. Many leaders report edtech fatigue and decision paralysis.

Several district leaders acknowledged that the rapid pace of AI-driven technological advancement and aggressive tool marketing have left school districts in a reactive stance. Edtech companies often define the available AI "solutions" by shaping tool capacities and introducing a constant stream of new products, leaving education leaders struggling to set an independent agenda. This contributes to decision fatigue and allows vendor marketing to drive implementation more than district strategy.

Leaders described feeling inundated by product pitches, many of which offered little evidence of instructional value or alignment with district goals. Without trusted vetting mechanisms, robust procurement processes, or time to test tools thoroughly, leaders found themselves defaulting to tools that were accessible and well-marketed.

Operations departments also often lack clear procurement processes and AI-specific contractual standards to safeguard against data privacy violations and predatory pricing. One districtwide AI director said, "The requirements for edtech vendors to be in front of a K-12 school must [be] disclosed or explained because [vendors] are really tokenizing our students' data....Access is a huge pain point for us. What does that mean for equity across the system?"

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>
> **-District AI Director**

The consequences of this fatigue go beyond cognitive overload. Many Early Adopter districts are maintaining a narrow focus on a small set of AI tools because they lack the time, capacity, or confidence to evaluate a wider range of options. This conservative approach helps manage risk but can also limit innovation and prevent broader district alignment. Without clear standards, trusted intermediaries, or stronger coordination across state and local levels, Early Adopters risk embracing tools that exacerbate, rather than solve, existing system-level challenges.

This dynamic underscores a critical need for stronger investment in infrastructure and guidance to help districts navigate the evolving AI marketplace. Leaders emphasized that they are desperately seeking trusted vetting mechanisms, whether state-provided, third-party, or peer-reviewed, to evaluate tools for instructional value, accessibility, data protections, and long-term viability. Some suggested that shared procurement frameworks or vendor accountability standards could reduce risk and prevent districts from negotiating complex contracts alone. Without these structures in place, districts may continue to make reactive, rather than strategic, choices.

In contrast to their peers, many districts we identified as System Changers or Reimaginers are taking deliberate steps to shift the balance of power. Rather than simply responding to vendor pitches, these districts are building strategic relationships with edtech providers, partnering with local colleges and industry, and investing in internal capacity to understand the evolving technology landscape. Their goal is not just to adopt tools, but to shape how those tools are developed and used. As one cabinet-level leader explained, "I think the one thing I would say is the realization … if we don't solve it, it will be solved for us… We can either set the pace or have the pace set for us. So we're setting the pace."

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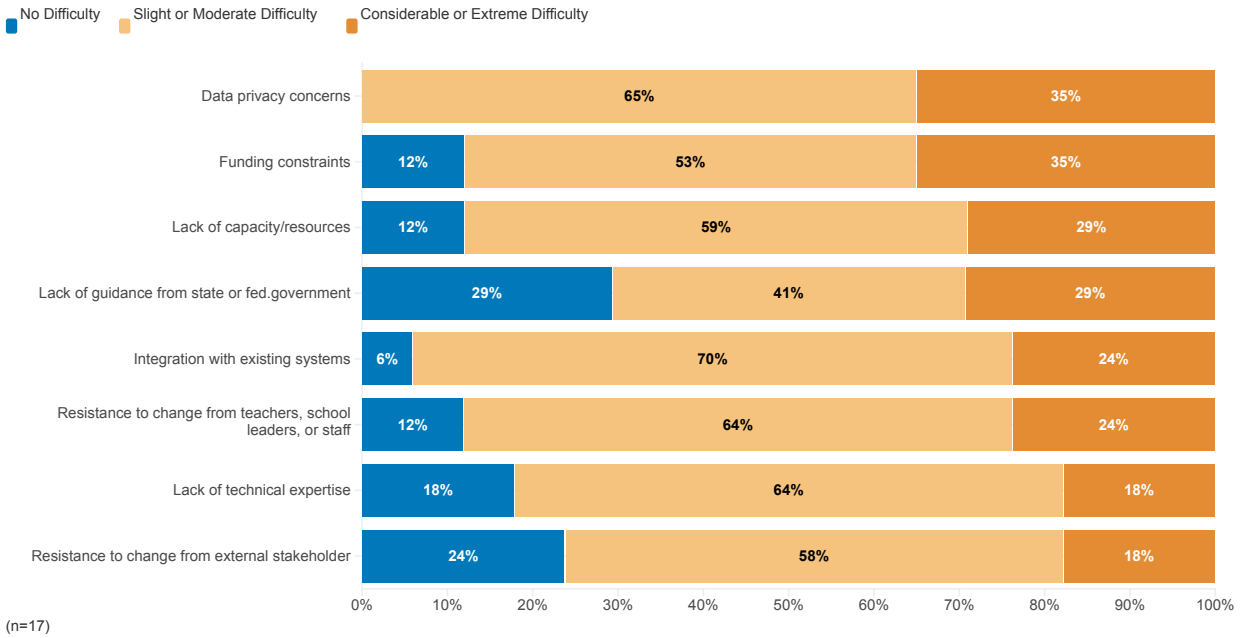
Another leader emphasized the importance of having a seat at the table: "We really believe that it's imperative for those of us who are in public education to be part of that wave of change rather than behind the wave of change… If we are silent now when things are emerging, somebody else's voices are going to be making the products the way they are, and we want our voices to be in that conversation." These leaders are not immune to fatigue or procurement challenges, but they are taking proactive steps to ensure their districts have a voice in how AI tools are developed and deployed.

7. Lacking clear policies, infrastructure, and expertise, Early Adopters do not have a roadmap for AI adoption.

While many Early Adopters are eager to move beyond pilot projects, most are navigating without a clear roadmap. Persistent gaps in policy, infrastructure, and internal expertise create structural barriers that extend far beyond questions of tool readiness. In a fall 2024 survey, we asked Early Adopters to rank the level of difficulty posed by various obstacles to AI adoption and integration (see Figure 1 on the next page). Two challenges stood out most prominently: data privacy and sustainable funding, each cited by more than a third (35%) of respondents as posing "considerable" or "extreme" difficulty.

Figure 1. System Challenges Ranked by Reported Level of Difficulty



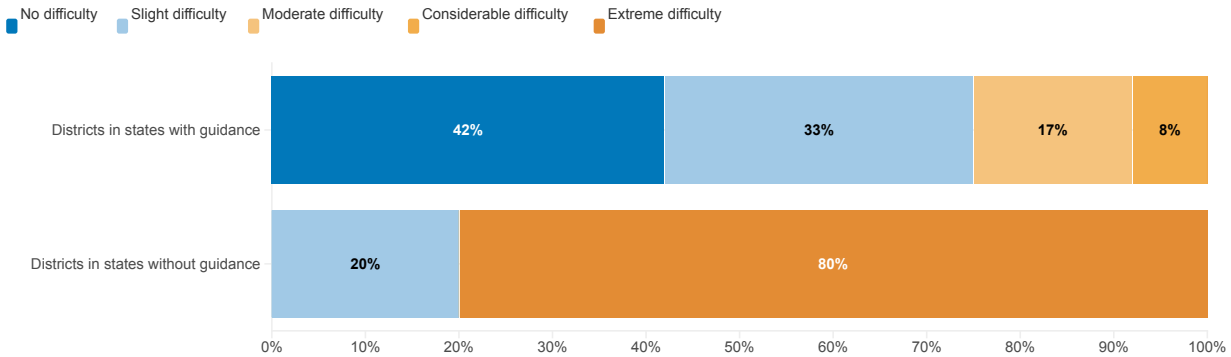
(n=17)

In focus groups, district leaders expressed that without clear legal safeguards and procurement processes, concerns about student data privacy and the opaque practices of some vendors continue to stall district momentum and increase the risk of exposing students to data misuse, privacy violations, and unintended harm. At the same time, ongoing subscription fees and device refresh cycles are colliding with fiscal cliffs created by the expiration of ESSER funding, making long-term AI integration financially precarious.

Roughly another third (29%) of surveyed Early Adopters report that lack of resources and capacity present considerable or extreme difficulty in sustaining AI adoption. Leaders cited a vital need for cross-functional teams to vet new technologies and support implementation at scale. In fact, many Early Adopters credited strong technology teams, often led by a Chief Technology Officer or Chief Information Officer who had a prominent role on the district leadership team, as central to effective AI strategy rollout and sustainability.

And another third (29%) of surveyed respondents highlighted uneven state policy guidance and limited internal capacity as major barriers, indicating more insidious issues with fragmented governance and underdeveloped district infrastructure. Diving deeper, 80% of surveyed districts that operate in states without guidance (at the time of this survey) reported the lack of state guidance as an “extremely difficult” barrier (see Figure 2 on next page).

Figure 2. Reported Level of Difficulty Experienced by Districts



(n=17) Districts in states with guidance n=12; Districts in state with no guidance n=5

One district director in a state without guidance described the lack of policy direction as disorienting: "[I]n some cases, it feels like the wild west and we're just making things up as we go." In contrast, leaders in states with proactive policies noted that guidance helped them act with more confidence and coherence. For example, an instructional technology specialist praised Washington State's Office of the Superintendent of Public Instruction (OSPI) for offering a clear framework: "OSPI has provided essential guidance on incorporating AI into education, ensuring our efforts align with state standards, particularly around equity, innovation, and responsible technology use."

Reported resistance to change among educators (24%) and resistance to change among external stakeholders (18%) are slightly less reported but still significant barriers. Early Adopters are intentionally deploying a range of adult AI literacy strategies to counteract educator resistance (see Sections IV and V). Prioritizing AI strategies that solve teacher-centered problems may also help build buy-in. However, it is unclear to what extent Early Adopters are involving parents and families in their AI strategies. This lack of engagement could expose districts to political vulnerabilities, such as fears that AI will replace teachers, especially when families may not yet understand that these tools are designed to supplement, not replace, educator expertise. It could also diminish the effectiveness of AI strategies if families lack trust in new tools or resist student use of AI at home.

Our conversations with Early Adopters unveiled even more nuanced challenges. Almost all the Early Adopters we surveyed and interviewed expressed difficulty integrating AI into existing technology. Districts experienced many issues with interoperability, or getting their various AI-enabled tools to "talk to" each other or existing district tech. Most Early Adopters use outdated data systems that make it difficult to integrate AI tools systemwide. New AI-driven tools are also often "siloed," or unable to connect users or data across platforms or programs.

As a result, Early Adopters are data-rich but information-poor. They often cannot connect their student data systems or online curriculum and instructional materials with AI-powered tools, such as those used for personalized instruction, automated feedback, or real-time learning analytics. The inability to integrate AI tools with existing technology creates gaps between what data systems collect and what educators can act on, between what AI could offer and how districts are actually using it, and between schools and families who must navigate a maze of disconnected tools and platforms.

Early Adopters also say they can't leverage AI to advance data sovereignty—the ability to analyze student data across platforms or make student data more accessible to families. This fragmentation across varying tech and platforms gets passed on to educators and families, who are burdened by multiple logins and siloed platforms that can't communicate with one another. Compounding the issue, unreliable or glitchy systems erode trust and make it harder to build confidence in the value and staying power of AI tools.

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All of these factors cause fatigue for educators and central office leaders. As one director explained, "It just feels like we continue to stack on and fill [educators'] plates with more and more things; that they have to have this cognitive capacity to be able to embrace, provide [professional development, and] provide capacity building. And so I think there's a lot of that challenge in terms of just initiative fatigue." These challenges suggest that leveraging AI is not simply a matter of tool selection or professional development. Without stronger guidance, infrastructure, and internal capacity, district leaders must improvise rather than execute a coherent plan.

8. Early Adopters lack the tools and readiness to support special populations effectively.

Most AI pilots to date are not intentionally designed with multilingual learners (MLLs), students with learning differences, or other historically underserved groups in mind. Current applications for these populations are typically narrow, focusing on tasks like text translation or simplified content generation rather than providing holistic support integrated into everyday instruction.

While districts may not be adopting AI strategies specifically to serve special populations, they have found some success in using AI tools to address some longstanding challenges facing these students. While language translation is a simple application of AI, educators report that AI-powered translation tools have helped humanize their relationships with MLL students and families, and at times, have led to more rigorous assignments as teachers better learn their students' capacities. Schools report that more effective translation tools have helped open up more effective communication channels with families, especially in schools that may serve families representing dozens of languages or uncommon native languages.

A few Early Adopters are piloting AI tools to support students with IEPs or 504 plans by helping with goal setting or adapting lesson plans to align with individual learning goals. However, whether these tools lead to meaningful improvements in student learning or teacher effectiveness remains unclear. Some educators find that general-purpose tools like ChatGPT outperform specialized products because they can handle various tasks. Still, no AI tool can replace the expertise required to serve neurodiverse students well. While AI holds promise for addressing some of the longstanding inequities these learners face, both Early Adopter districts and edtech developers often approach these tools primarily as efficiency aids rather than as opportunities to fundamentally reimagine how to support diverse learners.

Districts often have equity goals, but few have proactively explored how AI might advance inclusion or close access gaps. Several district leaders acknowledged the missed opportunity this represents. In some cases, leaders described a sense of caution, noting that the field has not yet developed a robust understanding of how AI tools may impact different student groups. They expressed concern that without clear evidence, AI could unintentionally reinforce existing disparities by, for example, automating inaccessible instructional formats or diverting attention from students who already receive fewer resources. Others shared that, even though they are aware of an AI usage gap for special populations, they are hesitant to pilot new technologies for fear of exposing students with the most specific needs to unreliable or untested solutions.

Still, promising early experiments suggest a different path is possible. In the hands of skilled educators, AI is beginning to show potential as a supplement to human expertise by amplifying personalized support and easing the burden of labor-intensive accommodations. For example, one Early Adopter learned through pilots that an AI tutoring tool serves one specific learner profile particularly well. They asked their teachers to “co-teach” with the AI tutoring tool, only for students within that learner profile. This freed up teachers to offer more personalized instruction to students who need additional remediation and support. Rather than replacing teachers, AI can extend their capacity to meet individual learning needs, particularly for students who require differentiated instruction.

IMPLICATIONS AND RECOMMENDATIONS

Early Adopters show what is possible, but their experience also reveals what is missing. This study, combined with CRPE's broader research on systems change, makes clear that durable transformation requires more than new tools. It demands clarity of purpose, coordination across stakeholder groups, and infrastructures that support continuous learning.

To move from scattered pilots to sustained, system-wide progress, we offer three interlocking recommendations for funders, state policymakers, district leaders, and edtech developers:

1. **Tools alone will not transform broken systems—design AI strategies to solve systemic problems.**
2. **Move from fragmented policies to a coherent strategy.**
3. **Build evidence through networked training alongside research and development.**

These recommendations draw from the patterns we observed in our study and are guided by lessons from prior waves of education reform. They are designed to help school districts, funders, and policymakers ensure that the current wave of AI adoption lives up to its transformational potential.

1. Tools alone will not transform broken systems—design AI strategies to solve systemic problems.

AI cannot patch over outdated schedules, misaligned curricula, or data systems that can't talk to one another. Districts that treat AI as "just another tool" gain small efficiencies but leave opportunity gaps unchanged—especially for multilingual learners, students with learning differences, and other underserved students—and don't adequately prepare students for a rapidly changing future.

Funders

Prioritize investments that connect AI to deeper redesign goals, not just tool pilots.

Fund cross-functional roles (e.g., AI leads, tech-integrated coaches) to move from exploration to strategy.

Support initiatives that directly support historically underserved learners.

State Policymakers

Tie funding and waivers to AI strategies aligned with system-wide improvement.

Highlight districts that are using AI to support state education priorities, such as closing opportunity and achievement gaps.

District Leaders

Anchor AI efforts in broader goals for instruction and future readiness.

Assess readiness across infrastructure, curriculum, and staff before scaling tools.

Design pilots that expand access and personalization for multilingual learners and students with disabilities.

Edtech Developers

Build tools compatible with existing systems, including Student Information Systems (SIS), Learning Management Systems (LMS), and assessment platforms.

Align product design with instructional coherence, enabling customization that supports system-wide learning goals, standards, and priorities.

2. Move from fragmented policies to a coherent strategy.

Districts face a torrent of vendor pitches, uneven policy signals, and limited internal vetting capacity. The result is "islands of innovation" rather than sustained, system-wide progress.

Funders

Seed governance infrastructure by supporting internal strategy teams and AI leads to align efforts across departments.

Invest in trusted intermediaries that help districts vet tools and manage risk.

State Policymakers

Provide model policies on procurement, privacy, and training to reduce confusion and fragmentation.

Create shared frameworks for vetting vendors and enforcing interoperability.

Require inclusive design standards that ensure strategies and tools are designed to support multilingual learners and students with disabilities.

District Leaders

Establish cross-functional leadership to reduce fragmentation.

Set clear guardrails so staff can experiment responsibly within boundaries and with appropriate supports.

Edtech Developers

Adopt and adhere to open data and interoperability standards to enable secure, seamless data exchange across systems and platforms.

Provide clear documentation on data flows, integration, and requirements so that districts can evaluate tools quickly and responsibly.

3. Build evidence through networked training alongside research and development.

The AI landscape is evolving far too quickly for each district to test tools in isolation or wait for long-horizon studies. A coordinated, practitioner-led research agenda can accelerate learning while paving the way for system-wide transformation.

Funders

Invest in rapid-cycle research and cross-district learning to surface real-time insights about what's working, and for whom.

Support innovation networks that connect educators, developers, and researchers to co-design tools and build shared knowledge.

State Policymakers

Convene statewide collaboratives to share use cases, develop common metrics, and surface implementation lessons.

Support rapid evaluation by developing evaluation tools to assess AI's impact on practice and outcomes.

District Leaders

Treat AI pilots as structured inquiries with clear goals, regular reflection, and mechanisms to scale what works.

Join peer networks to test and iterate with trusted partners.

Edtech Developers

Co-design with educators and researchers to build tools that respond to educator and student needs.

Develop tools that help districts monitor implementation, assess student outcomes, and facilitate collaboration across departments—while maintaining robust data privacy protections.

Design AI features that meaningfully support multilingual learners and students with disabilities, and test these tools with educators who work directly with these students.

NOTES

Participating District Demographics: Overview

A total of 22 districts participated in focus groups and interviews, representing a diverse cross-section of districts across the country. These districts varied significantly in locale, size, and student demographics.

District Locale

- Suburban: 15 districts (68%)
- Rural: 4 districts (18%)
- Urban: 3 districts (13%)

District Size (Student Enrollment)

- Fewer than 10,000 students: 9 districts
- 11,000–20,000 students: 5 districts
- 21,000–40,000 students: 6 districts
- More than 150,000 students: 2 districts

Student Poverty Levels (by percent of students in poverty)

- Fewer than 20%: 3 districts
- 21–40%: 5 districts
- 41–60%: 1 district
- 61–80%: 9 districts
- More than 80%: 4 districts

Racial Demographics (by percent of Students of Color)

- Fewer than 20%: 1 district
- 21–40%: 8 districts
- 41–60%: 3 districts
- 61–80%: 1 district
- More than 80%: 9 districts

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The findings and conclusions expressed are those of the authors and do not necessarily reflect the views of the funder. Any errors or omissions are the sole responsibility of the authors. To learn more about our research on AI in education, visit crpe.org.

About the Center on Reinventing Public Education

The Center on Reinventing Public Education (CRPE) is a nonpartisan research organization at Arizona State University's Mary Lou Fulton Teachers College. We rigorously examine and test transformative ideas, using our research to inform action. We are truth tellers who combine forward-thinking ideas with empirical rigor. Since 1993, we have been untethered to any one ideology but unwavering in a core belief: public education is a goal—to prepare every child for citizenship, economic independence, and personal fulfillment—and not a particular set of institutions. From that foundation, we work to inform meaningful changes in policy and practice that will drive the public education system to meet the needs of every student.

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