

Putting Teacher Judgment First:

Leader Insights on AI and Instruction

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Introduction

Generative artificial intelligence (AI) tools are entering PK-12 classrooms faster than guidance about how to best use them. While [85 percent of middle- and high-school teachers](#) reported using AI during the 2024-25 school year, there is little shared guidance about what teachers should actually know and be able to do to evaluate, select, and use both teacher- and student-facing tools responsibly and effectively.

Programs training future teachers feel this acutely. Without a well-defined set of practical guidance, educator-preparation programs (EPPs) risk either ignoring AI altogether or offering fragmented instruction that is inefficient and does not equip new teachers to make thoughtful instructional decisions.

The solution is not to ensure EPPs keep up with the myriad of tools that teachers are using. **It's to ensure that future teachers are being prepared with a strong foundation in instructional decision-making and to know how to make judgment calls grounded in a scientific understanding of how students learn.** With this preparation, new teachers are clear-eyed on how to leverage AI tools in the best interest of high-impact, durable student learning.



In 2026, Deans for Impact (DFI) and TeachingWorks set out to provide this needed guidance for EPPs. To inform this framework, which will be released in spring 2027, we surveyed, interviewed, and visited with leaders across PK-12 school systems, education organizations, and EPPs to better understand how student- and teacher-facing AI tools were being used to support instruction and what the learnings and impact have been.

The primary unit of analysis was not AI tools themselves, but the instructional judgments teachers

make while using them. The interviews and survey results helped us understand the forms of professional expertise that AI-enabled instructional tools demand and amplify, and the competencies beginning teachers will need to exercise sound instructional judgment in AI-rich learning environments.

We identified leaders based on our collective scan of the most thoughtful and promising AI in education initiatives across PK-12 schools, school systems, and traditional and alternative EPPs. These insights reflect expert observation rather than measured outcomes, and are intended as an early foundation for the field rather than definitive conclusions.

In this brief, we'll walk through our findings, organized into a key takeaway and three key themes.

Summary of Insights



KEY TAKEAWAY

AI doesn't replace teacher judgment; it amplifies it.

Across the survey and interviews, leaders describe AI-enabled tools as magnifying whatever instructional judgment teachers bring to them, for better or worse. In other words, in the hands of a capable teacher with strong instructional judgment grounded in a scientific understanding of how students learn, the use of AI tools can make their good instruction even better: more efficiently planned, more precisely responsive to different student needs, and more scaffolded. For teachers whose evidence-based knowledge and skills are still developing, AI can make weak instruction even worse—for example, AI-generated learning activities and assignments that may look rigorous but ask very little of the cognitive work required for strong student learning. **That makes how new teachers are prepared more important than ever.**

"Understanding how AI works" was the lowest-rated competency on our survey, with only 53 percent of those who answered rating it very or extremely important compared to other, more judgment-oriented areas such as "evaluating outputs," "recognizing bias/ethical concerns," and "deciding when not to use AI," each rated very or extremely important by 94 percent.



The tool can produce the surface of a good instructional decision faster than a teacher can evaluate whether the decision is sound.

SURVEY RESPONDENT

Leaders emphasized that judgment isn't tied to any particular AI tool; they pointed out that AI tools change faster than EPPs can teach how to use them, noting that tool-specific skills can be learned on the job. What can't wait is the durable, evidence-based instructional judgment that enables teachers-in-training to evaluate outputs, design assignments, and align AI use to learning goals. That makes preparation coursework and clinical experiences critical opportunities for building a teacher's knowledge and skills that inform this sound instructional judgment.

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Any framework around AI has to be tool-agnostic because it's more around 'how could you use something to help with feedback?' which I think goes back to just those big ideas of just good teaching, like 'what does good instruction look like? What does good classroom management look like?'

INTERVIEWEE

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Teachers who enter the profession with strong instructional judgment are better equipped to learn and adapt to new AI technologies throughout their careers.

SURVEY RESPONDENT



Three themes emerged about what preparation should emphasize to best equip new teachers for AI-enabled classrooms.



THEME #1

New teachers need to discern when AI-supported instruction *actually* demands real thinking from students and when it only *looks* rigorous.

When describing AI use they'd observed, 87 percent of responding leaders raised the importance of protecting student thinking and rigor, including cases where AI did the thinking for students. Eighty-one percent named designing for productive struggle as a key difference between AI use that works and AI use that doesn't.

Students learn a topic when they spend time and effort thinking about it. When teachers ask AI tools to help create instructional activities, there's a risk that the tool can make those activities look more rigorous or better differentiated while also removing the effortful thinking, retrieval, and reasoning that students need to experience for effective learning. New teachers who have been prepared with a strong foundation in how students learn can skillfully discern these gaps and modify AI outputs so that students, not the tool, do the actual cognitive work necessary

for learning.

For example, one survey respondent described a workshop in which a teacher asked an AI tool to “make this assignment more rigorous.” The tool returned a version with longer vocabulary and a few extra steps with more reading—and notably, not more thinking—and she accepted it as more rigorous.



THEME #2

Deep content knowledge and clear learning goals enable new teachers to evaluate AI outputs and focus them on what students need to learn.

Three-quarters of survey respondents who answered named evaluating accuracy and recognizing bias as the most common gaps they observe in teachers' use of AI tools.

AI produces accurate and inaccurate outputs with the same level of confidence. New teachers in AI-enabled classrooms are already being asked to evaluate AI outputs, sometimes in content areas they haven't yet mastered. Those with strong content and pedagogical knowledge, and a clear understanding of what students should learn, can use tools in service of that goal and recognize when the outputs fall short. Those who don't have clear learning goals in mind often use AI-generated material that looks finished but lacks substance in the subject area.



“You cannot evaluate an output in a subject you do not command, so deep subject mastery is what lets a teacher catch the wrong date, the broken worked example, the explanation that is fluent and incorrect. Pedagogical content knowledge sits right beside it: knowing the three ways students typically misunderstand a concept is what lets a teacher tell whether a generated explanation will actually land.

SURVEY RESPONDENT



THEME #3

New teachers need to protect student privacy and use AI ethically, whatever the tool.

"Protecting student privacy and data" was the only competency that every respondent who answered rated very or extremely important.

Interviewees warned that new teachers often don't understand data privacy and can put their licenses at risk without realizing it. Because policies vary and change, new teachers must be thoroughly equipped to exercise professional and ethical judgment, and, in particular, know the risks when they use an AI tool.

“ My biggest concern is that new teachers have no idea about the data privacy pieces.
INTERVIEWEE

“ There is so much room for malpractice...[it's] really important to work with them in savvy [ways, and they] need to know the law and what is appropriate.
INTERVIEWEE

How These Insights Will Inform our Work

Ensuring that new teachers make strong instructional decisions comes from intentional, well-designed preparation and sustained, ongoing professional development and support. As more schools and classrooms adopt AI-enabled tools, these early insights surface recommendations for what EPPs should emphasize. New teachers need to be prepared to protect the rigorous thinking students need to do, draw on deep content knowledge and clear learning goals to evaluate AI outputs, and safeguard student privacy while using AI ethically, all grounded in instructional judgment that transcends any single tool. While none of these competencies are new to teacher preparation, the growing use of AI-enabled tools in PK-12 classrooms increases the stakes.

These insights are shaping a framework DFI and TeachingWorks are producing, which will be released in the spring of 2027 alongside recommendations for coursework, clinical experiences, and licensure, as well as case studies of systems and programs that are taking a strategic approach to building teachers' capacity for thoughtful use of AI.



We are grateful to the leaders and experts who shared honest, candid experiences and reflections through our surveys and interviews. Their insights are central to our work.



To learn more and stay informed on updates about the framework, subscribe to [DFI's newsletter](#) and [TeachingWorks' newsletter](#).

About Deans for Impact

Deans for Impact (DFI) is a national non-profit organization committed to ensuring that every child is taught by a well-prepared teacher. DFI supports educator-preparation programs to bring the science of learning into teaching practice; partners with policymakers to ensure pathways into teaching are instructionally-focused, practice-based, accessible, and innovative and responsive; and equips leaders with the tools to address today's most pressing challenges in educator preparation. Guided by principles of learning science, DFI aims to help aspiring and early-career teachers create rigorous and affirming classrooms where all children thrive.

deansforimpact.org

About TeachingWorks

TeachingWorks is a national organization based at the Marsal Family School of Education at the University of Michigan committed to improving teacher preparation so that every new teacher enters the profession ready to support ambitious and equitable learning for every student. TeachingWorks partners with educator-preparation programs, school systems, and state leaders to strengthen practice-based teacher education, helping future teachers develop the instructional knowledge, skills, and professional judgment needed for effective classroom practice. Through research, tools, professional learning, and field-building efforts, TeachingWorks supports the design of teacher preparation that is grounded in the real work of teaching and the science of learning.

teachingworks.org