**Synopsis** of January 13, 2025 Webinar, “Assessment for Deeper Learning: Emerging AI Policies and Practices in California Schools and the Nation:
What We are Learning and What We Need to Know for Deeper Learning

Panelists: Dr. H. Alix Gallagher and Dr. Glenn Kleiman

Moderators: Dr. Brent Duckor and Dr. Carrie Holmberg

## Emerging AI Policies and Practices in Education: Bridging Opportunity Gaps and Redefining Learning

Artificial intelligence (AI) has emerged as a transformative force in education, promising significant opportunities while posing equally substantial challenges. A recent webinar featuring Dr. Alix Gallagher of Policy Analysis for California Education (PACE) and Dr. Glenn Kleiman from the Stanford Accelerator for Learning explored this duality. Moderated by Dr. Brent Duckor and Dr. Carrie Holmberg, the discussion revolved around AI’s role in reshaping educational policy and practice with an emphasis on deeper learning.

This article synthesizes key insights from their conversation, emphasizing the promises of AI, the risks it entails, and the policy shifts needed to harness its potential.

### Framing AI Within Deeper Learning

Dr. Kleiman highlighted the necessity of viewing AI through the lens of deeper learning, which encompasses critical thinking, problem-solving, communication, and collaboration. Unlike the reactionary tendency to address AI as an isolated challenge (“AI is here; what do we do?”), the panelists urged educational leaders to approach AI as a tool to address pre-existing educational challenges.

As Dr. Kleiman noted “AI tools designed to help teachers communicate with families and deal with the translation issue for non-English speaking families, is something AI is very good at and can be a real boon…We're so much at the beginning of AI in education and we know so little and we have so little established research. So a lot of this is more ‘hope for's’ or ‘hope for not's’".

Dr. Gallagher emphasized how AI could alleviate one of the most significant barriers to deeper learning: time constraints. By automating routine tasks like grading grammar and mechanics, teachers can focus on fostering higher-order skills such as argumentation and critical thinking. This shift enables writing to become a tool for intellectual refinement rather than a chore laden with mechanical corrections.

But she also cautioned:

> I worry that too many things will be focused too much more on relatively simple, didactic understandings of learning. I want people who are developing these tools to somehow embed in their really good understandings of productive struggle. I know, you know, there's one very famous tool that is really trying to think about, you know, how do we get kind of a Socratic dialogue going on. So some people are thinking about it, but it still may not be as rich as the conceptions we would want to build really resilient problem solvers and thinkers.

**Enhancing Teacher Capacity**

One of the central promises of AI is its ability to support and augment the teaching workforce. Dr. Kleiman noted the persistent challenge of recruiting, supporting, and retaining skilled teachers. AI can address these gaps by streamlining administrative tasks, providing translation services for multilingual communication, and supporting professional learning.

Dr. Gallagher discussed research from the Stanford Accelerator for Learning that highlighted AI's potential in tutoring. In a study led by Susanna Loeb, AI-supported tutors significantly improved outcomes for students who had less access to high-quality human tutors, narrowing performance gaps. This exemplifies how AI, when thoughtfully integrated, can democratize access to educational resources.

**Addressing Equity and Privacy Concerns**

However, the integration of AI is not without risks. Both Dr. Gallagher and Dr. Kleiman warned of potential pitfalls, particularly regarding equity and privacy. The historical "digital divide"—now expanded to include disparities in AI usage—could exacerbate existing inequities. For example, students in under-resourced schools might spend disproportionate time interacting with AI bots, while peers in wealthier schools benefit from direct teacher engagement.

Dr. Gallagher underscored the importance of ensuring that AI tools do not perpetuate biases baked into their algorithms. For instance, AI-based decisions about student abilities or needs must be carefully scrutinized to avoid discriminatory outcomes. Policymakers and educators must establish protocols that prioritize human oversight in all AI applications to mitigate these risks.

**Rethinking Assessment**

One of the most intriguing possibilities for AI lies in reimagining assessment. Traditional standardized tests, with their emphasis on static, one-size-fits-all metrics, have long been critiqued for their inability to capture deeper learning. AI, with its ability to analyze complex, unstructured data—like essays, projects, and even videos—offers a path toward assessments that reflect students' diverse skills and competencies.

Dr. Holmberg posed the question “Do you see traditional standardized assessments becoming obsolete?” and noted:

> “We use some strong language there. We're going bold to see what nuances you'll come up with from a boldly worded question. And since I'm reading along, let me read the part the second part of this question: What role should AI play, if any, in shaping future models of accountability-based assessments that are both rigorous and reflective of students' diverse skills and competencies?”

Dr. Kleiman highlighted the potential of embedding assessments into everyday learning experiences, allowing for continuous formative feedback. This approach eliminates the need for high-stakes “test days” and enables educators to make real-time instructional adjustments. However, he cautioned that while AI can assist in identifying trends or misconceptions, ultimate accountability for assessment and feedback must remain with educators.

On the topic of the promise of formative feedback in particular with AI assistive technologies, Dr. Gallagher noted:

> “Everyone knows formative assessment is important, and that teachers should be assessing students in an ongoing basis and understanding what students are learning, how they're progressing, what they are understanding, what their misconceptions are. Everyone understands the fundamental importance of that type of analytic task on the part of teachers for excellent teaching, and very few teachers are able to find the time to assess in the ways that we would all want them to. And going back again to where I started all of this, the idea that I could help cut teachers' time and allow them to spend more time on formative assessment, the possibilities of AI being able to put together summaries of where your class is on something so you could do a better job planning for tomorrow.”

But again she cautioned:

“Not that you would necessarily assign consequences, good or bad, to any student on the basis of that AI analysis without, as a teacher yourself verifying it, but the ability to

get a snapshot, even from exit tickets. Could you feed your exit tickets to an AI? You know, just as the technology gets better, you should be able to just take pictures of what your students do and and prompt the AI to help you understand it, to help you think about in advance how you might want to tweak what you were doing the next day based on your understanding of where the class as a whole was, and maybe what the variation looked like and what particular parts of broader concepts your students were still working to understand."

"Those opportunities, I think, are great" she added. I really do worry about the potential consequences unless humans are really in the process of engaging, you know, the grading should not, in my opinion, be delegated to AI, but I could help do some analysis that teachers could examine as part of that process."

Dr. Holmberg agreed about the promise of these formative uses but also pushed into the issue of agency and how teachers acquire deeper understanding of student work:

> What you are saying gets me thinking about, how much will AI shape what it means to become a teacher? Because I'm thinking about how teachers learn through hard experience, analyzing student work, their pedagogical content knowledge, or PCK, and if they offload that, some of those experiences or I don't know what percentage would have to be offloaded for them to miss the opportunity to really [make use of the data]
>
> [Teachers have] got to see enough [sample responses] and analyze and struggle with enough student work themselves to have that knowledge, I think. But of course, I am of a generation that became a teacher long before AI was in existence and maybe beginning teachers won't feel that way and won't miss the kind of development that I got through hand sorting the exit tickets myself.

**Preparing Educators for an AI-Enabled Future**

Professional development emerged as a recurring theme. Dr. Gallagher emphasized the urgent need for structured, ongoing professional learning opportunities that enable educators to adapt to rapidly evolving AI tools. She noted that current professional development models are ill-equipped to match the pace of AI advancements.

To address this, Dr. Kleiman called for a paradigm shift in how teacher preparation and ongoing learning are conceptualized. He advocated for collaborative learning environments where educators can share insights and strategies for integrating AI

effectively. This approach not only builds collective capacity but also ensures that innovations are grounded in classroom realities.

Dr. Duckor added:

> "The 24/7 hour-ish-ness of [technology interactions and new ecosystems] says that human cognition is being transformed and AI is a part of that process. And the question is, what is learning in the way that we might be able to answer that 30 years ago with some confidence? So I'm just putting a placeholder out for those who would like to think hard about the next big thought. We have a challenge about whether our learning theories that we teach currently to teachers and or tell ourselves are relevant to building learning progressions are actually the right learning theories anymore. The machines are changing not only how we think, but how we think about thinking. And I think that's important to recognize and humble ourselves to [these new facts]. So I don't know. That's just my big hopeful thought: Somebody needs to tackle that somewhere."

**Balancing Optimism with Caution**

Throughout the webinar, the panelists maintained a balanced perspective—acknowledging AI's transformative potential while advocating for caution. As Dr. Kleiman remarked, education cannot adopt the tech industry's "minimum viable product" approach. Instead, educators and policymakers must proceed thoughtfully, ensuring that new technologies align with educational goals and uphold ethical standards.

Dr. Gallagher added that while AI can enhance learning, it must be deployed in ways that respect the complexity of teaching and learning processes. For example, while AI tools can assist in formative assessments, they must not replace the nuanced understanding that teachers develop through direct interaction with students' work.

**The Road Ahead: Policy Recommendations**

To fully realize AI's potential in education, the panelists proposed several policy recommendations:

1. **Invest in Professional Learning:** Allocate time and resources for educators to engage in ongoing professional development, focusing on AI integration.

2. **Ensure Equity:** Design policies that address disparities in access to AI tools and ensure that implementation does not exacerbate existing inequities.

3. **Prioritize Privacy and Security:** Establish clear guidelines for data use and confidentiality to protect students and educators.

4. **Encourage Collaboration:** Foster partnerships between educational institutions, policymakers, and AI developers to create tools that align with pedagogical best practices.

5. **Support Research and Evaluation:** Invest in rigorous research to evaluate the effectiveness of AI applications and identify best practices.

## Conclusion

The integration of AI in education is a complex, multifaceted process that demands thoughtful consideration. By framing AI as a tool to address educational challenges rather than an isolated innovation, policymakers and educators can harness its potential to support deeper learning, enhance teacher capacity, and bridge opportunity gaps.

As Dr. Duckor aptly summarized, “The machines are changing not only how we think but how we think about thinking.” This shift presents both an opportunity and a responsibility—to redefine what learning means in the 21st century and to ensure that this new vision is equitable, ethical, and effective.

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