

[Auto-generated transcript. Edits may have been applied for clarity.]
We have a very special event for you today,

a topic that can only be moderated by the top leads at the California Commission on Teacher Credentialing.

We have an august panel today to discuss the topic of: Can AI and education make a difference in teacher performance assessment and licensure?

And we're going to open up this conversation, as usual with moderation by myself and Dr. Carrie Holmberg.

We will guide and serve as guides on the side over the next hour, and we look very much forward to any Q&A or thoughts that you might have,

which we will probably hold towards the end, but feel free to put anything in as things emerge for you.

Before we get started, I want to just take a moment to define AI and deeper learning,

which are really the values that our Center holds dear for the work that we've been doing over the last two years in this space.

We are committed to deeper learning as it relates to exploring the skills,

knowledge and habits of mind that students in AI-mediated learning environments are likely

to need as they develop schema over the course of their lives as lifelong learners.

These schema are going to be related to their ability to engage in critical thinking, problem solving,

collaboration, and communication skills, many of which are familiar to all of us in this particular talk today.

We also highlight the meaning and the worth of what we call ambitious teaching, which is related to accomplished teaching,

but attempts to focus on educative experiences that will invite the learner, in this case, teachers,

to think through the curriculum in ways that require problem solving, project-based and performance-based orientations,

and just a general curiosity with the essential questions of their

work and their discipline.

And last but not least, what comes as no surprise to any of our friends,

we are deeply committed to rethinking and reworking notions of assessment for deeper learning,

which will prioritize dialogic exchange, exchanges that allow humans to be human in the age of AI.

And that means for us to focus on the zones of proximal development that really bring out what is best in the learners for California.

Carrie? Yeah, sure. Thank you,

Brent. It's my pleasure to introduce our three panelists.

I'm starting with Dr. Mary Vixie Sandy.

Dr. Mary Vixie Sandy serves as the executive director of the California Commission on Teacher Credentialing,

the nation's oldest independent standards board for educators.

As a policy leader with more than 25 years experience working in higher education and government,

she currently oversees public policy related to educator preparation and licensing,

and directs an agency that awards over 350,000 credentialed documents per year and accredits more than 250 colleges,

universities, and local education agencies offering educator preparation programs.

Previously, Dr. Vixie Sandy served as the Executive Director of the UC Davis School of Education, CRESS Center,

as an Associate Director of teacher education and public school programs with the California State University Chancellor's Office,

and as a policy analyst for the California Department of Education in the California Postsecondary Education Commission.

Welcome, Dr. Vixie Sandy. Thank you. Adam

Ebrahim. Adam Ebrahim serves as chief deputy executive director of the California Commission on Teacher Credentialing,

where he leads policy and implementation across educator preparation, credentialing, accreditation, workforce development, research, and data.

His work focuses on translating legislation, evidence,

and commission direction into systems that strengthen educator quality and expand access to the profession.

Adam began his career as an English and social science teacher in Fresno Unified,

where he helped launch an International Baccalaureate program and led curriculum and assessment work.

He has since held leadership roles in county, district, nonprofit,

and statewide organizations focusing on assessment, continuous improvement, educator development, and innovation.

Welcome, Adam. And Juliet Wahleithner. Dr. Juliet Michelsen Wahleitner serves as the director of the Division of Research,

Evaluation and Assessment at the California Commission on Teacher Credentialing, overseeing the Center for Educator Workforce Development.

Prior to her tenure at the commission, Juliet held the position of Associate Professor of Literacy Education at California State University,

Fresno, where she additionally served as the Director of Educator Preparation and Accreditation.

Juliet earned her PhD in education from UC Davis, with a primary emphasis on language,

literacy, and culture, and a designated emphasis in writing, rhetoric, and composition.

During her doctoral studies,

she contributed to various research and evaluation initiatives centering on the professional development of both pre-service and inservice teachers.

Juliet maintains a long standing commitment to the California Writing Project,

having recently directed the San Joaquin Valley Writing Project at Fresno State and served on the state executive team.

She began her distinguished career in education as a high school English and journalism teacher within the Lodi Unified School District.

Welcome, Juliet. And now I'll introduce the five questions that we will ponder and discuss over this next hour together,

starting with what role should CCTC and other accreditation bodies play in shaping the future of AI in teacher preparation education?

How should TPE-aligned preparation guide responsible AI use across schools and classrooms, in particular for the TPAs?

We'll also talk about how can educators design AI-assistive learning experiences that preserve productive struggle,

reflection and critical thinking in TPA events? And what new opportunities and risks do AI technologies present for equity and access in TPA spaces?

And finally, last but not least, we'll discuss how might artificial intelligence expand opportunities for some preparation program and students,

while also raising new concerns about bias, over-automation, and uneven access to learning supports?

Well, we want to thank everybody for agreeing to play with these five questions over the next 50 minutes.

And we know that there's lots to say. So without further ado, let's get started.

I think it's worth posing the question again, and we'll take them one by one and work on them for the next, probably 5 to 7 minutes.

You know, we'll riff a little bit here and there. But bottom line is we'll do our best to cover what we can today.

What role should the CCTC and other accreditation bodies play in shaping the future of AI and teacher preparation education?

Look forward to what you have to say, everybody. Well, I'm going to start for us and say thank you for inviting us to have this conversation with you.

It's very much an emerging question for us that we have not gotten to

the bottom of yet,

but it is, it's work that we are deeply contemplating.

So the commission's broad role is to set standards for preparation of the workforce,

to issue credentials to people who earn them, and a few other things.

We do other things. But pertinent to this particular question is that work in setting standards in accrediting preparation.

And with that in mind, I think as we were talking earlier

I'm drawn back to the concept and construct of the instructional core that David Cohen and Deborah Loewenberg Ball,

Richard Elmore and others were talking and writing about many years ago, but is still really pertinent,

which speaks to the relationship between teaching, teachers, students, and content in context.

And that idea of that interaction is, first of all, it's complex.

And it's it's very driven by what's happening on the daily. But without that interaction, learning is not happening.

Instruction is not happening. So that undergirds our approach to writing standards and performance expectations and performance assessments, etc..

So that's a first role that I think the commission and accreditation plays is in establishing the standards around that.

But I'm going to turn it over to Adam and Juliet, who can speak more directly, I think to the question.

Adam and I looking at each other wondering who's going to jump in.

So yeah, as Mary was...first of all, thank you, Brent and Carrie, for having us here today.

It's great to be here. But as Mary was saying, you know,

the role of the commission is to set the standards, right, for accrediting our preparation programs.

And when I think about AI in education and I think about preparing our teachers to grapple with supporting their students with AI,

I think, well, first off, I think about how how might teachers use AI?

And so I'm thinking about they might use AI to help them with creating lesson plans,

but in order to be able to use AI well, you have to critically evaluate whatever that output is that the AI gives you.

So in order to critically evaluate it, you need deep conceptual knowledge of whatever that output is, right?

So how are we thinking about teacher education that supports our candidates in learning that conceptual knowledge

and I think we have that in our current TPEs so that they can then critically evaluate whatever

that AI output is to support them in the practice or the application of that conceptual knowledge.

So it's really thinking about, and again, as Mary said,

this is something we're grappling with, thinking about how how do we integrate that all into our teacher preparation programs?

Thank you for having us here for this conversation. I've been looking forward to it.

You know, I think, when I think about this, I'm going to interpret it broadly.

I didn't see what statutory authority does the commission have to regulate artificial intelligence?

So just go a little bit abstract.

I think about the profession, to kind of build on Mary's point, you know, really the craft, the profession of teaching

I think about how do we both encourage innovation and at the same time protect the core of the profession?

Mhm, you know, with artificial intelligence, with sort of the way that classrooms

can be constructed as marketplaces, as opposed to venues for learning.

You know, we need to be mindful of keeping the human beings at the center, protecting the value of of the profession, of the license.

You know, I think that connects deeply with, with how we work with our preparation providers.

If we're going to zoom out a little bit, this all relates to
to the promise we make to the public about what's going to happen when
they,

they drop their kids off at school and leave and

and the bell rings and the traffic in the hallway subsides and the
door closes and there's

you know, curious minds in classrooms with teachers.

I think that I think we could agree that what we don't want is for
the teacher to the teacher to the teachers and students, students to
mediate ChatGPT from both sides.

Like that exchange can happen in cyberspace. So, yeah, it's sort of
when we bring it down to that venue, that moment

Right? It's sort of like, how do we, as a regulatory agency,

as a cousin of the Department of Consumer Affairs, as an independent
standards board

how do we protect the sanctity and the value of of what is happening
there and the right of those kids to learn.

And the deep professional expertise of the human beings that are
teaching.

So we don't have that authority in statute, though, that would be kind
of a hard bill to get through.

But that's more abstractly how I think about it.

Well, we really appreciate all of your insights. And I have to say, in
fairness, here, we talk about what is the role of the CCTC?

We might ask, what is the role of the CDE? What is the role of the
legislature?

What is the role of the system of support providers that have built
tremendous networks across our state?

And I think we're all grappling.

So we really appreciate you exactly defining and holding the value of your work as a piece of this puzzle. I should say,

Carrie and I have just recently published through the Center, a white paper of over 50 pages long, single spaced,

I hate to say it, exactly asking the question when are we going to move from policy about AI to the pedagogy of AI?

And I think we're aligned with you in the sense that we care very deeply about, as Mary said,

what it would mean to center the core work and then care about how whatever we're using with technology,

how the dignity of teaching and the right to learn, as you just said, Adam, maintains and doesn't just maintain statically, but dynamically grows.

So a lot to think about there. Well, let's take a fun, easy question.

How should the TPE-aligned preparation guide?

Or how should TPE-aligned preparation guide responsible AI use across schools and classrooms, in particular with the TPAs?

And this kind of hints, a little bit of what Juliet was saying.

I think that we are in alignment and we have those standards and we know where we are,

but how are we going to sort of figure this piece out around AI and how it's going to emerge?

Well, that's an easy one, and definitely a fun one. I think that our TPEs were built over time,

not anticipating that AI could come in and make all of this a conversation between one machine and another.

Which is so antithetical. It's antithetical to the concept of schooling.

You know, I go back to John Dewey. What we're trying to do here is with education is to use it as the core tool,

really to build and protect our working active and smart group of citizens in a free society.

Okay. That's John Dewey. And that doesn't happen if that citizenry stops thinking and and allows machines to do their thinking.

I think about The Matrix or Mad Max or some of the other, you know, dystopian views of our potential future when the machines take over.

And that's not that's not the direction we want to go, obviously.

But in order to avoid that, we have to anticipate and get ahead of this technology being available and easy to use

for everybody concerned. So I think going back into our TPEs to anticipate that and build for it is a core next step.

But how? Let me turn that over to Juliet and Adam for some insights about how that we might get ahead of that.

And Adam's going to stay on mute again and let me take this. We could alternate on that.

I'll be happy to do it. I'm a credentialed teacher.

I have excellent wait time, as do you. So we could be here forever.

Wait-timing each other.

And so when I think about this, I'm going to come back to what I was saying before about

the TPEs.

They are responsible for or they establish what we expect our pre-service teachers to be able to know and do by the time they leave our program.

And so what we...I feel like the space that we are getting to is the need to kind of

revisit our TPEs a little bit and think about how could we integrate AI within there.

And then, you know, you call out the TPAs in this question,

and the TPAs are essentially a tool for candidates to demonstrate their ability to apply those TPAs through the instructional cycle.

And so one of the things we've been grappling with is what does it look like to have AI be part of that process so that it's not just,

you know, the worst case scenario is that a candidate goes in and

plugs in those prompts and AI spits out a response.

So the candidate copies and pastes that and submits that. Right?
That's not what we want.

So how do we craft our TPAs so that candidates can use AI as a tool?

And then as I said before, critically evaluate whatever that AI may have produced for them,

and use it to enhance that instruction that they demonstrate through the TPA.

I think we're grappling with what all of that looks like.

I agree.

I mean, I think this notion of, by way of background, we've recently undertaken sort of as stimulated by Senate Bill 1263,

we've recently undertaken the sort of a reconsideration of the TPA and thinking about how it relates to statute,

how it relates to this current moment in time.

And it's been really interesting. Brent, you were part of the work and, it just sort of the dialog that emerged around

artificial intelligence and the TPA and, and from a couple of different angles.

I mean, one angle was, it started off, I would say, kind of predictably about, well,

you know, how do we prevent teachers or how do we prevent candidates from using AI?

And it's like, well, wait, wait a second, is that what we want to do?

No, this is not a no, no red ink moment where we're just going to try to beat the machine.

And that conversation evolved, and I think where we landed was this, this kind of,

this interesting thing where AI has kind of has shone a light on all of our practices in the TPA and in very clear relief shown

All right! You know this. This is this is not core to the, the the demonstration of readiness to teach.

Right? All right. You know, is this a writing test that we're administering here?

Or is this a readiness to teach assessment, demonstration, performance assessment?

And so I think that that was I thought one of the more interesting kind of outcomes was this,

it really kind of put underlined the notion of performance assessment in my mind.

Um, you know, this, this idea that, um, wow!

Unless it's sort of an on demand assessment, you know,

really what we need to be measuring is the ability to do and produce and demonstrate.

I've always been kind of a fan of performance assessment, and its many varieties.

And so maybe that's just selective hearing. But you know, that was really interesting for me.

It really caused us to think about: what are the the modes and the mediums that sort of the next generation performance

assessment system is going to incorporate? How will candidates demonstrate knowledge?

What have we been doing that may, you know, have been a, you know, that may have that,

that AI is just kind of transformed into a, you know, well, let's not have robots talk to robots moments.

Sorry. You know, it's just really interesting and I, you know, looking forward to, we brought performance assessment design standards,

related to the use of AI recently and are in the process of sort of revising those, really, really interesting.

I think this is going to be one of the first areas for the commission where you see the policy translated into into practice here.

And then it's causing us to look, of course, more broadly at our standards.

Mary, did you want to circle back? I couldn't quite tell from looking here on the zoom whether you want to circle back or I will cap.

You can. I think if you want to pivot to the next question,

I had some thoughts that emerged as I was listening to my colleagues here that I'm happy to launch into the next one.

Okay, good. Let's do that.

And let me just say that I think where we're at with this question is a work in progress, not just for the Commission,

but frankly, for all the teacher preparing institutions and organizations that are charged with doing exactly what Juliet suggested,

which is how do we lesson plan with or without AI now in our current programs,

how do we design assessments with or without AI and our current California programs?

The variation in approaches and prohibition are real, and it only takes our own experience.

that I think one of the top performing, teacher ed. programs in the CSU to know that faculty and mentor teachers and cooperating teachers

are going to have very different views of the use of AI to generate what we call in our book,

Productive Struggle, and whether that productive struggle actually helps to form this next generation.

There's a bit of a mismatch. So it's not just alignment between TPEs and TPAs.

It may be even alignment among people who are engaged in figuring out ways to make these things work.

Let's get to Mary's next question. So, Mary, how can educators design AI-assistive learning experiences that preserve productive struggle,

reflection, and critical thinking in TPA events? And of course, I think this is the \$64,000 question if we still count in those numbers.

Well, disclaimer: I don't have the answer to this question, but I have some thoughts about it.

You know, for years and years, you know, the writing project and others, we,

you know, have I rely heavily on the notion that writing is thinking, right?

It certainly is for me. And I, I think a lot about it.

Writing the opening paragraph for anything I'm writing is the thing that takes the longest time,

because I'm framing and and reframing and positing and arguing and reflecting.

It's, it's the core kind of starting point for my... am I headed north or south with this particular topic?

And AI could do that for me in 90 seconds. And I'll tell you what, there's times that I just love that, you know, when I need a quick hit on something.

ChatGPT has it. So how do we use this in teaching when it's so easy to just fall back on it and turn in something

be it a five-paragraph essay or a 7-11 sentence paragraph, you know, as we're learning in the seventh grade,

or have been at least when my kids were in seventh grade, they learned what an 11-sentence paragraph was and how to put that together,

five-paragraph essay.

You write something and you can pass the CBEST with that because that's just distilling it down to some basic functions.

It's not thinking necessarily. It's organizing. So I think that we need to go metacognitive here, which is something your paper speaks to.

And all the work on deeper learning talks about metacognition and critical thinking and creative and effective struggle.

And all of these things are part of it. So if teachers are working in their own practice on how to inquiry,

how do you establish an inquiry with AI that's going to get you to something that you need,

writing and designing the right questions for it as a thinking operation?

The better your question, the better the feedback you're going to get and the more you can interact with it.

Reminding ourselves that interaction between the teacher and the learner and the content is what's happening with instruction.

So teaching teachers and teaching students how to ask the right questions and to use it for research.

Simple research questions. How many of this do what?

Great. But what do you make of it? Is the next thing.

So the shorthand that is enabled by access to AI can be a very effective tool for launching into the more important work,

which involves, I think, some of the other things you're talking about using your critical thinking skills to evaluate.

Is there bias here? What are the sources that AI is drawing from?

You can ask AI, in fact, what are your sources and determine whether they have a moneyed interest or any other particular interest or bias

that's important. So analyzing the source is something that is a really important critical thinking skill.

And teachers can do that and should do that in their own practice.

And they certainly can get ahead with their students and using AI in a very structured way to craft the right

questions to get the information they need so that they can do the more important work of analyzing it.

In a point counterpoint, you know, draw a conclusion sort of way.

I think that we can organize instructional activities for students and for--and our teachers can--

that are effective in helping you to learn. As long as we stay the course with the more important work.

When we had our AI forum several months ago, we talked about the TPA itself and how

how its very structure currently facilitates using AI to do all the planning work,

to look at all the data, to design a lesson that this has all the components of,

of UDL and etc. to design assessments for that.

I mean, you could use AI to create the whole thing. So how do we mitigate that?

We will not be in this person's living room when they're doing and putting this together.

So how do we verify that it's their thinking and their work and they actually know how to do this?

We talked about replacing, well, not replacing, but incorporating something like akin to an orals exam where you do all this work,

you've been in a classroom, you've been with a cooperating teacher, you've had a faculty member from your program working with you.

Let's now sit down and have an intense dialog about what the planning told you,

about who you're teaching and what you're teaching, and how you might need to adapt it and all of that.

So that human component, as Adam pointed out, I think is so central to it.

And we've got a foreground that and not simply rely, as we have for years,

on the notion that your writing is a signal of your thinking, because it may not be your writing anymore.

So there's a there's a next iteration here, a paradigm shift that we're in the midst of.

I think there's some things that are doable. And Brent, you told me this morning you're teaching three classes on this,

so I think you're going to learn a lot about it and have more to say at the end of the semester.

So that's me. Let me just say quickly, Mary,

that it's great to hear us going full circle in 2026 to what we knew in 1996 about portfolio defenses at schools like Central Park East Secondary,

where I taught, as well as where Carrie taught, and her career with the Stanford STEP program.

When we looked hard at what it would mean not just to do performance assessment,

but to generate dialogic oral experiences that are important to our students, that they can engage in talking about the work that they're doing.

So this goes back to capacity, resources and the ability to rethink at our preparation levels, lots of these challenges with you.

These are not just your challenges. They're our challenges as well. Juliet and Adam, what do you think about this question?

I think I have used as much of my "You go first" as I am allotted.

So I think one of the, one of the interesting pieces here

And we're all kind of

touching on this is we have had universal design for learning as a, as part of a requirement for teacher performance assessments to demonstrate that,

you know universal design for learning and can apply it.

Yet we have not applied universal design for learning to our own performance assessment assessments in the sense that,

you would have multiple means of engaging a performance of this assessment.

You would have multiple means, you know, for representing the information and multiple means for action and expression.

So these, you know, we have had writing and some video and, you know, it's sort of like, well, what might a fuller range of

modalities open to candidates to demonstrate their ability to teach or their readiness to teach look like? I don't know, it's interesting.

It's sort of UDL itself kind of gives us some ideas about how we might, might go about doing the thing.

But with this, this question had me thinking, you know, and it it took me a couple of different places.

So the design, AI-assistive learning, assistive learning experiences

that produce productive struggle, how can educators design this?

You know, this had me thinking about when is it appropriate?

So if we have teachers that are preparing, you know, maybe the PK-3 credential, right?

They're going to become early childhood educators. Or maybe multiple subjects.

It's it's like there's almost an "if" in there, do you know,

maybe AI is helping resolve some of the administrative burden that teachers... that is preventing teachers from designing that really good

human-to-human interaction. You know that moment where, you know, the exchange,

these sort of formative assessment cycles of opening, identifying gaps and closing them through,

maybe it's clearing some of the other noise that comes with teaching out of the way so that you could have more of that.

But yeah, I wonder if there and I think we're seeing some we're seeing some questions being raised in districts across the state,

around when is it appropriate to start to mediate learning through computers?

When is it appropriate to start to, you know, and to bring AI-assistive learning experiences into the classroom?

You know, I'm married to a former Waldorf teacher and you know, and subscribe to many of

of the, the theoretical sort of approaches around early childhood education, I'd say.

And it just it's interesting to me because I know there's going to be

there must be a gradual release into sort of this is a tool that exists in the world that you're going to need to know how to use responsibly,

ethically, effectively. And it also just it raises this notion of, yeah, maybe we need to get third graders off Chromebooks.

You know, maybe we should, maybe we should.

You know, we learned a lot about this as on the play-based learning discussions with the development of the PK-3.

It's like maybe AI doesn't belong in that learning space.

Maybe that should just be humans, and maybe it can assist the humans in having interactions.

But shoot, let's let's get some notebooks and some colored pencils and do some fun things with our hands.

So I just want to "plus one" to everything that Mary and Adam just said.

And I think to Adam's point, I keep coming back to this idea that whenever we do anything with AI we have to have--

I've said this in both of my other responses--we have to have that knowledge to critically analyze whatever that AI output is.

And so we need that those opportunities to develop that knowledge. And so, in like Adam said in early childhood and elementary school,

we need children to have opportunities without AI to develop the foundational knowledge so that then when we purposefully,

in a scaffolded way introduce and then integrate AI, they have the knowledge they need to critically analyze what they're doing.

I had like five points I wanted to make. I should have been taking notes.

The problem with going last. Um, yeah, I lost it, but, um.

Oh, sorry. Go ahead. Adam, I could, I could riff a little bit here...

Well, you know, if it, I mean, I, I think that part of it is, is, um, you know, when is AI supplanting cognitive growth

that would happen in the human?

When when is introducing AI going to create a dependency, which, coming back to this notion of markets,

and regulation is this, is this something that we need to protect against?

So I really think that it's looking at the good, looking at the development of the of the learner and thinking about when is,

when is AI actually inhibiting the critical thinking faculties or capacity for abstract thought, you know, to these rather than enabling it?

You know, I don't know. So, Adam.

Of course. You know, we just tried to write what you think,

in our new book on AI and deeper learning is exactly dedicated in chapters one and two to the problem you've raised eloquently.

The challenge has something to do with what we, when Carrie and I did research on teacher learning progressions over the last ten years,

framing how one would think about a novice teacher, not just students.

Let's just hold it to our teachers for now and our people going into the profession.

What is an appropriate tool for them to maintain their productive struggle and to

keep them working towards the cognitive growth that is appropriate to their station,

which is developing over time. From the first five days they observe a classroom, to the first 15 days they teach in a classroom, to the first semester,

in which they have 1 or 2 classes for the semester with the mentor teacher, cooperating teacher.

Where should they be by the time they hit what we call BTSA?

and any kind of support that comes outside, and then where they should be at five years,

ten years. This idea that you can all do it now. And there's no cost.

Not just to children, but frankly, to anyone who's learning the profession as a novice.

Carrie, do you want to say more about what really pushed us towards writing something that would say development matters for teachers?

Well, yeah. What pushed us to write about development matters is our own knowledge and

experience with development, not only student development, child

development, but teacher development.

Because a focus of our research has been on developing teacher learning progressions.

And what we do know is that it takes time for teachers to gain the expertise in their professions.

And Juliet has said a couple times now talking about that conceptual knowledge, right, that a teacher needs to have to critique an output.

Which reminds me to think of what a novice teacher can do when considering their own AI use to plan their lessons or whatever they may use it for,

Versus their skills at being able to draw some hard lines and supports and scaffolding for their students.

Because of how well they know ZPD and the students' own novice experience with that,

that domain knowledge of the teacher's domain.

Right? As compared to an expert teacher who's been at this for 15 years already, they're going to have an easier time seeing things with students.

So in students using AI because they have more expertise.

And so it gets...we don't have clear delineations yet about, for example,

pedagogical content knowledge necessary for AI teaching with middle school and high school students.

But we desperately need it. We need it.

Someone needs to be outlining this so that, so that we can approach with wisdom all these classroom decisions that need to be made.

And right now it's just kind of the Wild West. Yeah. Yeah.

To your point, Carrie. I keep thinking about, like, yes, I can go in and use AI.

I can plug in my students essays and have AI evaluate them all for me.

But in the process of doing that, I lose the opportunity to develop an understanding of my students' voices.

The ability to look across their responses and kind of discern some patterns for myself in where they're

struggling and how I need to then shape my instruction to map onto those struggles to help them develop.

AI can tell me that, yes, and that gives me some information,

but I just feel like there's a lot that's lost when I haven't gone through and actually read that information myself.

And to your point. As a veteran teacher, when I read that AI output.

Oh yeah, because I've had these experiences over time with multiple classes of students,

I'm going to have a pretty good sense of what that output means.

But if I'm a novice teacher who hasn't had those experiences, it's not going to mean as much

I'm not going to be able to use that information to really guide my instruction in the same ways. I'm remembering...

Go ahead, Mary, go ahead. I was just going to say this.

This it puts me in mind of one of the core design principles around both the California Standards for the Teaching Profession

and for the performance assessment work that flowed out of that that also flowed out of the National Board

early work with assessment and the the formative assessment work we were doing in the 1990s with Beginning Teacher Induction, etc...

There's a there's a core habit of mind that is explicit in the TPA.

That is: plan, teach, assess, reflect, apply.

That has to be... I mean, we are trying to build that as a habit of mind that for the new teacher doing their first cycle of a CalTPA there,

there are five steps in the in what you need to develop in that handbook.

You need to do some planning. And here are all the things that need to be part of that.

You need to develop a lesson and teach it. And here are all the things

we're looking for.

It is made very explicit in the first exposures of teachers in training,

in the hope that they see the productivity of this cycle of planning what you're going to teach based on who you're teaching,

what the content is that's required, what UDL means in terms of adapting it to all the learners who are in front of you,

what assessing learning tells you about your teaching and what they got and what you need to do next.

The reflection that's required for you to do that, and the planning for the next thing.

That's like the scientific method in teaching. All right? So what we're trying to do from the very beginning is build that as a habit of mind.

And heaven knows, the experienced educator who stayed in the classroom has got it down to something they don't even have to think about anymore,

because they just do it constantly. They're adapting their practice based on what's happening in the moment.

I think that's core to what we're trying to do here and a core difference between what somebody's learning

it for the first time is able to do with it and what somebody who's more journey level in their work can do with it.

We just need to develop it and keep them long enough,

and make sure performance assessment itself doesn't drive them out of the profession because it was too hard or, you know, anyway, there we go.

So I'm going to I'm going to move this to the next question.

Let me just say that we are on the same page around the need for development, the need for educative experience,

--the cycle is about that--and the need for building new schema for our novice teachers as they develop their own habits of practice.

I think we're on that same page, and the question is how all the various folks involved in this work,

from the teacher education programs, from the school districts where our students are embedded and working, our candidates,

that is, as well as our Commission, we need to be figuring out together in a conversation what's going to make sense and

what Pillars of Practice are going to actually move towards those habits of mind.

But for now, let's take on another question.

I know, Juliet, you wanted to get on that last one, and I was hoping you would maybe lead us or get ready to take us on a new direction with this question.

What new opportunities and risks do AI technologies present for equity and access and TPA spaces?

And I say that because having worked with you, when we were doing the Work Group,

I know that this was like central to much of the the work out of that group.

And I'm just wondering how you updated your thinking with AI technologies and where that's all heading.

I'm feeling called out here, Brent. I just wanted to give you a chance to play!

It looked like you were ready to hit the sandbox. Yeah. Oh, good. Um, well, I just... One of the...

So we had this forum on AI and performance assessment back in March, and one of our speakers, there, Dr. Daniel Soodjinda

actually did a talk about some of the, and he brought up some of the concerns with, or concerns around equity with AI.

In terms of, you know, access to, as you say, right here, access to AI technologies.

We know that not all of our candidates have the same access to AI, the same access to learning how to use AI in all of the ways that we've been discussing today.

And so I think those are just very real concerns that have to stay top of mind as we rethink the TPA to allow for use of AI,

or as we work to integrate AI into the TPA.

I think this is another juicy one. I love these questions.

Like, you know, even on the last one I was thinking that the "preserve productive struggle,

reflection and critical thinking" could be the call to action could be like the the punchline of all this.

Right? But with this one, since we've done a little bit of the vilification of AI, right?

And kind of pointed out some of the, some of the, um, some of the dangers.

I think there's also this question kind of twists the crystal a little bit because, you know, it can supplant the, the germane load, right?

It can supplant the, the reps that build the schema

that then makes teaching more easy over time, as you have such a deep base to call on.

And also thinking about rounds with with let's say, ChatGPT, thinking about going rounds, doing the dialectic thing where you,

you are positioning your positioning AI as less of a, you know, less as speaking and thinking for you and more as in dialog with you.

I could see that being a tremendous opportunity to improve equity and access in TPA spaces.

Specifically, you know, we see

we see a connection between the amount of preparation and support somebody has, the quality of support and outcomes on TPAs.

And so and that does tend to intersect with with race and class and and poses a problem just as we see in, in, you know, in student outcomes.

Same with candidate outcomes. And so to have an AI,

an opportunity to dialog or go rounds with AI around what might be a good

accommodation or less an adaptation for an English learner that's dual identified,

how might you... You know, that might do some that might do some leveling there that might overcome some of the inequity,

that we see because of just the predictable variability across programs.

So there's I see opportunity there.

As long as it is engaged as research partner dialog or, you know, you can which we could engineer a pretty fun prompt, right?

We could we could totally sit here right now and engineer a prompt that's situated ChatGPT to be that critical friend or to be that sort of,

"Well, what about this?"

Well, you know, have you considered Vygotsky or what about, you know, ZPD, some of the things in your that you're talking about.

Have you considered the effect on working with you know,

it has that that really positive potential when you don't have access to you know, in my case, I grew up, I was raised by a teacher.

I had rounds at the dinner table. Right?

I'm married to teacher. I had rounds at the house.

Right? So it does for people that don't have access to those things

I could see a benefit. And with the risks...

where that is offered instead of that rich human dialectic and is promoted as a feature and it is supplanting what should be done instead.

I could see a lot of risks. I think the risks are kind of the easy part to see there.

Can I just jump in on one thing you said? I'm sorry, Mary, I'm jumping ahead

Yes, to what you were saying about those...going those rounds.

But that takes an understanding of how to craft those prompts and knowing when to not just accept what that output is, how to push push the AI, right?

And its thinking and it's the responses that it's giving you. And so that comes back to this need to to rethink our TPEs a little bit for attention to

how are we preparing our candidates to use AI to support their teaching?

Yeah. Mary, do you want to go on? No, I think I think I think they've covered it.

I would just say that it raises the prospect of an interesting inquiry for ChatGPT that would confound it.

You know, one of the things that has been a critique of ChatGPT in particular,

is how empathetic it is, and so how it's attempting to answer the question the way you want it answered.

And others say that Claude is more analytic and doesn't do that so much.

I can't evaluate that. But wouldn't it be interesting to do some simple things with our students

when we're ready for them to to launch into this space that teach them that,

teach them that this is not an absolute, this is not an encyclopedia.

This is not lacking in bias. Its bias is to please you.

So you use it more, whatever it is. I mean, there's some things that they might need to know about the back side of this and the

limitations of it that we could teach them while we're teaching them where its use is.

Carrie and I had a chance to interview over 60 teachers, most of which came from California,

including some that were offered up by Adam to check out best practices or effective or good practices,

particularly around Accessibility for our newcomers and our language learners.

And I have to say, we did some unbelievable interviews that we will leave confidential and not name anybody here.

But we learned a lot about the pillar of accessibility in our framework.

And we wrote a chapter on accessibility. We wrote case studies about accessibility.

Exactly to raise the points that Adam, I think, was hitting on, which are what might be ways for us as a profession to start to think about when accessibility works through non-human rounds and discussion,

and when does it also require us to go right back to the humans and figure out what we mean by accessibility for the students we serve?

So I would just say that I think part of the challenge we still have in this paradigm shift, which is exactly how we see it and we've argued for it,

is there's all these anomalies and all these use cases and all these bubbling up experiences, but nobody really yet has a consensus,

which you would expect in a revolution of this nature on what we mean when we say accessibility matters,

and in the age of AI, it matters in this way or that way. And here's how it changes what we understood about accessibility pre-AI.

The same is true for accuracy, Mary. I could go down that path.

And we wrote a chapter having listened to teachers, asking them, "What are you worried about?"

And they just to a tee said, "It seems like people are more interested in versions of what they produce for others than they are

about whether or not the choices they've made to present that version can be defended or explained or in any way justified."

And so this idea that if we were to enlist bots as coaches, tutors, and the new virtual mentor teacher, we would still have to worry quite a bit about accuracy.

As you've all just said, we'd have to worry about accessibility in terms of playing fields and premier programs,

and who gets access to what across the state. And I would even suggest what we haven't said, Carrie, is authenticity yet,

because one of the things about performance-based assessment, it was always argued since the 90s,

with Linda's work and a lot of other people, Linda Darling-Hammond, that is,

for those of you who are listening in, is that performance assessment is an authentic assessment.

So now we have to rethink what we mean by authenticity

in the age of AI where provenance is not clearly always coming from the person who's presenting this as my learnings, my work.

And I would just say to us that equity and access are going to also get connected,

believe it or not, I think to authenticity.

What does it mean to perform my voice inside of this machinic world and then give it to somebody who's a human to evaluate and read it,

assuming that Adam isn't going to run all those TPAs just through his own AI evaluator, so that the machines are talking to each other again.

But you get my point, I think. Right, which is that there are many dimensions to this puzzle that we're just beginning to explore as a community.

You know, I think that is so true. And I also think that the more, the more we go large, corporate universal with this work,

the more we're going to inspire the artisanal work that comes next,

inevitably. Just look at the beer industry, okay?

And how many microbreweries we have now coming in with their own specific flavor and label and all of that and the incredible interest,

you pay twice as much for a six pack of that as you do for a six pack of, of Hamm's you know.

Right. Uh, I think that there's something about the humans themselves that will reject the corporate flavor. That even for its ease

and that the artist is...the artists are going to be coming out of their time, is coming soon to take this to an artistic level of

enhanced teaching and learning, rather than replacing authentic

teaching and authentic learning.

Love it. Absolutely love it. How might AI expand opportunities for some preparation programs and students while also raising concerns--

--and I think this goes to what Mary said in a very wonderful metaphorical way about bias over automation, uneven access, and frankly,

just plain vanilla, like just going down the center of whatever the generic bot is going to provide you, which doesn't have a lot of flavor.

It doesn't have a lot of artisanal quality. You know, there's the bias, there's the automation,

there's even the idea that not everyone's going to have the same GPT that are as interesting to work with.

A couple of quick thoughts on that. It's a big one. Maybe just make it fast.

I think it's an opportunity for the artisans to learn from its use and deploy it into more artful teaching.

Let's not forget that back in the CSTP development days, the thing we discovered in the 1990s,

it was a rediscovery of the most important part of what teachers do is engage students in meaningful learning.

Engagement is the key. What does it take to engage each generation of students and the diversity, the beautiful diversity they bring?

I think this this could be an opportunity to really double down on what it takes

to engage when these tools could make this a complete dial in experience,

unless you're an artist about it and stay focused on engagement.

I really agree with that. I really do.

I think that this, I think that the, the over automation it is, is leading to a bit of a backlash or a return to quality,

depending on, you know, what you, you know, you see it even when we began the discussion,

the way that the sort of the, the broader field, the, the political atmosphere has shifted around these technologies since we began this in CA SB 1263,

related to TPA, to where we are now with, you know, nationwide movements, cutting down flock cameras.

I think it's interesting as a paradigm shift because it's going to, you know, paradigm shifts are not these nice, neat things, right?

And so we're going to see contradictions like that in really in frankly in interesting and fun new combinations.

Yeah, we're really hopeful. You know, the last chapter was basically on Future Directions once you've grappled with the idea of paradox.

I don't see how you can even begin to step into the work without feeling the tensions.

And what Carrie, I think we heard to a T for many teachers is in addition to their anxiety,

there was a sense of getting back to basics, to foundational things

they cared about, Juliet, and the writing projects, and we interviewed quite a few people in those.

You can imagine what we were hearing about people's concerns regarding the automation and the simulation of access,

basically through writing becomes one and done, you know, two prompts and I'm done with a little bit of humanizing language.

I'm good. And, you know, a lot of writing teachers are saying, "What?"

"Like what just happened?" But they also said there were opportunities for interacting with new ways.

Let's brainstorm a little on paper.

Let's take a picture of it and throw it into the machine and see if it comes up with a few more things we hadn't thought about.

Now the question is when are we going to start that blank page problem? No one wants to write to a blank page, so could we get a sentence starter?

I mean, the scaffolds that we used in the past are going to play into the scaffolds of the future.

It's just a question of how we approximate those scaffolds. Julia, what do you think about that?

Because I know you're an expert on the writing project. Well, I think you're right.

And I think we're in this. I think we're in this space right now where it's kind of like two steps forward,

one step back, where we're trying to figure out what does the future look like for us.

I love what Mary said. I felt like there was so much hope in what you said, Mary, about the artisans coming out.

But I also am thinking about what Adam said and the backlash we have right now.

And I'm thinking about my own children who are, you know, in Fresno Unified Schools,

where they came home from school the other day and said, yeah, we're not using our tablets as much this year.

And they've told us that technology is not going to be as much of a part of our school day and part of me saying,

"Yes, fantastic news," because I don't want you sitting staring at a Chromebook all day while you're at school.

So, so I, I think you're right, Brent, about this idea that we're, we're looking for ways for that AI to become the scaffolds,

that supports that real learning that leads to that productive struggle that we know is so critical to that real learning.

But as I said, two steps forward, one step back, trying to figure out what that actually looks like.

Can I just add one more thing to that? I know we're at the close here, but productive struggle is such a wonderful concept.

And what AI is enabled me to do is to move where I am engaged in productive struggle to a far more complex place.

And so if we can utilize AI as a stepping stool to far deeper thinking and learning,

and I think we can, I'm experiencing that in what ChatGPT could do in 90 seconds for me

saves me hours that I can now, you know, move into a better, deeper place.

That's my optimism as well. That's a great place to close us out today.

I can't imagine a better way to say thank you for everything you've brought today.

And I know my colleague, Dr. Carrie Holmberg, has something to share.

Before we hit the the "goodbye" button. I do, I'm holding up to the camera

one of the mugs that we will be getting to you this fall.

So thank you. Thank you, Mary. Thank you, Juliet. Thank you, Adam. I appreciate you greatly.

Great session. Thank you. Thank you both for the work you're doing and promoting and for involving us.

Very, very appreciative. Thank you so much.