Hello, and welcome to the CIDDL research and practice brief series.

The purpose of this series is to have conversations around the innovative use of technology in special education, early childhood, related services, and leadership personnel preparation programs. Today we have Dr. Eric Moore as our guest expert to share with us today. Dr. Moore serves as the Director of Learning Technology for the Kennedy Krieger Institute. He is the co-founder, and until recently, co-chair of the Digicon and UDLHE network, which brings together professionals practicing UDL from institutes of higher education around the world. Most recently, he coordinates a work group for educators engaged in addressing anti-racism through a UDL lens. Welcome, Dr. Moore.

Thank you, I'm very glad to be here.

And just to check, may I call you Eric?

Yes, absolutely.

Thank you. Would you start us off by telling us a bit about your work and how you see it connecting to teacher preparation programs?

Sure, well so my work has kind of taken a winding course to where it is today. I was a teacher myself, and I have taught a lot of courses in teacher education, oftentimes where UDL was a primary focus. Some of my research has been with regards to teacher preparation programs and how to develop practitioners and pre-service teachers towards the practice of UDL. I've also explored what UDL implementation looks like in the higher education context more broadly and how we can implement and scale UDL in that context. And then, you know, move into instructional design and explore how UDL can interface with some of the theories and practices that instructional designers have used for some years, and just more recently, I'm looking now into an external, like, hospital-based setting where training occurs in a lot of capacities for patients and families and professional doctors and other medical staff. How can UDL look in a less academic type environment? So I've gotten to see UDL sort of in many different capacities in different ways, and ultimately it comes back to this basic understanding that no matter who you're teaching- humans, you know, are predictably variable, but then they have a lot of things in common, too.
And you know the way that we essentially learn when it's really distilled down to its most basic functions is very similar, whether you're working with a child in early elementary setting, or whether you're working with a professional doctor in the medical community-

We all need to be engaged, we all need information represented in ways that work for us, and we all need opportunities to take action and express ourselves as part of the learning experience in conjunction with the UDL principles.

(CIDDL)
That's really interesting. So when we talk about scaling out UDL across these different contexts and, you know, from schools to hospitals to different people- What do you see as some of the barriers to that scaling out?

(Dr. Moore)
Well I think one of the big barriers people experienced is UDL requires a tremendous amount of design emphasis, you know, like really making the process of educating top heavy, where you can't just walk into a classroom with all of your knowledge, and start teaching. It really does require that thoughtful planning process where you take into account who your learners are, what barriers you're likely to experience, where you want them to end up, and how you can provide flexible pathways to get them to that point. That's simply not how teaching has been done. You know, a lot of the way that we teach today, looks very similar to the way that we've taught for generations. That's especially true in higher education and elsewhere, where it's been much less affected by educational theory development, you know, in practice development. Over the years, K12 tends to pick up on that more and faster than higher education.

So, you know, as somebody who mostly aligns with social cognitivism, I believe that teachers teach the way they've been taught. Not the way they've been taught to teach you know, and so in the case of faculty, or medical doctors, or whatever we have this sense of somebody taught them with a lot of lecture and labs, you know, PowerPoints, whatever. And that's how they learn to teach, and so they do the same thing for their learners, and their learners, and their learners, so it becomes generational.

What makes this a very difficult barrier to overcome is that for those who end up in positions of being professors or medical doctors or whatnot, that methodology worked for them, or they would not be in the position that they're in today. So they have no reason to think that this is a broken system, right? For them, clearly it works. And so we really have to break through-that there is a certain amount of unlearning that has to happen- a certain amount of schema breaking, before people are willing to see that there needs to be change, and then open up to a willingness to listen, to different ways that we can go about the design and delivery of a learning experience.

(CIDDL)
So, when I hear you talk about unlearning-How do we encourage people who are in the field who are actually providing this type of instruction- how do we encourage them to unlearn?

(Dr. Moore)
I think people have to—to have an experience with something. You know it's not enough when we're talking about unlearning something that's so deeply set in their cognition and their psyche and their experience. You can't just tell them that that's not the way to teach anymore. Like they might even agree with you, but then when it comes down to their actual practice, they're going to go back to what's comfortable.

It really needs a seismic shift in their—in the way they think. So, to me, the only way to get to the heart is by giving a new kind of experience. That can come in a couple of different forms. Talking about pre-service teachers—Number one, they can experience it in the classroom when they attend their education courses.

I think is critically important for faculty to not only model these best practices—UDL, for example is a big one—but to be very explicit in their modeling. And some of the research I've done, I’ve seen this idea of modeling sometimes is seen as monolithic, but it's not, there's several different types of modeling. So, for example, there's implicit modeling, where I might just be doing the work of designing and delivering instruction using UDL and I never mentioned it to anybody. It's just there, you know, and that's a fine method of instruction for K 12 teachers to teach their learners, but when you're teaching teachers, it's simply not enough.

What they might walk away with is that they learned a lot about classroom management, or you know whatever else it is I'm teaching my class because my teaching was very effective. And they might see me as an effective teacher, but never stop and reflect on what it was that made that teaching effective, and therefore it's difficult for them to replicate it in their own practice. So, a higher tier for that is—explicit—explicit modeling, you know, where, for example, I tell them "I'm going to be modeling UDL today." "Be watching for these things." You know, maybe at the end of the class, reflect—"How did I use more than one way of engaging you?" "Which one or ones work?" and have them compare—"well you can see that this map method works for some of you, and other—others of you who preferred this aspect or that." And the same thing for representation and action expression— they'll begin to see, "Oh, this really is working, and I'm not seeing it from a distance, I'm seeing it from my own experience." Right? The next level up—on top of that—is to still do that reflection and then say, "Now what would this look like— in your future eighth grade math classroom? Your kindergarten classroom? Your high school literature classroom?" Right? And really get them to start thinking about how this translates into a different setting to generalize the experience. That explicit modeling with transfer is critically important if we want to develop pre-service teachers who will later do the practice of UDL.

(CIDDL)
So thinking about explicit modeling and reflection in the current era where you know, we've had a lot of professors who have shifted to teaching more online courses— What do you think is important for instructors to understand about including that, when they're possibly teaching online or using a learning management system for the first time?

(Dr. Moore)
Well, so it really has to come in waves, we have to be within reason. When my faculty first moved online, you know, at the beginning of the pandemic, I wasn't trying to get them to
practice UDL, I was trying to get them to build a module. Like we have to start small, you know, and help them be successful. But as things progress, as people have capacity to actually do the work of designing and thinking about things ahead of time, it's critically important that we design our online learning experiences according to the best practices of UDL in the same way we design in-person instruction according to those principles. They look different - the practice is different, but the process is the same. We want to think about who are our learners - what kind of diversity do we anticipate in them? And what kind of outcomes we want them to get to? What kind of barriers do we anticipate them potentially facing? And how can we be proactive and strategic about providing options for engagement, representation, and action - expression in the online modality that will allow them to circumvent or conquer those barriers without additional supports necessarily. You know, like, and doing that work, that practice, you find oftentimes, is not as difficult as people would think it would be.

So, I'll give an example - Oftentimes students come into a class I'm teaching - Literature 101, for the English teachers to be, and they come into my class and some of these folks were, let's say in AP English in their senior year, and they got a three on the AP exam, and just barely didn't CLEP out of my class right, and then others, you know, they've never really paid attention in high school English, but, you know, that they decided that this is actually what they want to do or they're trying it out, but they don't have a solid foundation. So, we have this significant variability in terms of background knowledge and skill and attitudes related to literature for these students coming into my class. So, there's some pretty simple things that I can do. For example, I can use hyperlinks when I introduce key concepts, or when I'm using a key concept and information on a page or for an assignment. I might talk, for example, about wanting the students to apply different literary lenses or critiques to this particular passage. And I know that some students are already very familiar with different literary criticisms of feminism or Marxism or literary textualism - you know, whatever. And others - they've never encountered this word before - And so, simply hyperlink in that to a page, or a curated resource that gives a brief overview of this and examples, means that somebody who already knows what it is, can keep reading. And they're not getting burned out by having to go through a bunch of stuff that's repetition for them. Somebody who doesn't know what that is, can quickly go check in on it and learn about it and then keep going. This seemingly simple thing of adding hyper-link text can really make a difference to offering different - to cater to different backgrounds, both in engagement and representation style. That means nobody's been left behind and nobody's being dragged through unnecessary content.

That's just one example, but this type of work by proactively designing for those barriers and addressing them from an environmental level can really make a world of difference. You can then, in the context of teacher education, you might have call-out boxes and draw attention to get into that explicitness saying, "Did you notice how I provided this hyperlink?" Here's why I did that, you know, consider how that affected you, right? and just prompt them to reflect as a way to build the explicitness, even in the asynchronous learning experience.

(CIDDL)
I love that you brought it back to the process, because I feel that regardless of whether we're online or we're face to face, you're right - it's the process that matters and understanding that
learner variability. But, I'm also interested in that example that you gave-and I so appreciate examples because I really feel like people can connect with those.

In the example that you gave, you talked about the use of hyperlinks. 

What's the role that you see technology playing when we look at UDL implementation?

(Dr. Moore)

Well, I want to stress that UDL doesn't require technology, and using technology doesn't mean that you're practicing UDL. Oftentimes, technology - we need to see technology as a powerful tool, and it needs to be used appropriately. I find that using technology in the context of practicing UDL really enhances our capacity to give choice to the students in a way that's much harder in a low-tech, no-tech type environment. So for example, you know in a low-tech, no-tech environment, I might recognize that some students will get more out of the text if they're able to read a passage, and some students will get more out of it if they get to listen to it, and some others will get more out of it if they get to listen to it while they're reading. In a low-tech, no-tech environment, this is a little bit tricky. You know, either I'm going to have to pace everybody through a couple steps, you know, or have them put in earplugs if they don't want to listen; they just want to read or something. Has to be very analog, or maybe do groupings, you know, so you can go over here if you want this; over here if you want that; -requires space and time. And all of that in sort of a hard choosing.

Whereas, in a high tech environment, I can use software like Read & Write, for example, by TextHelp, and explicitly teach the students that you can read this passage, or if you prefer, or want to try, you can use this software to listen to the passage, or you can listen to it while you're reading it. That can encourage them to try different things and see how it affects the degree to which they learn or retain that information. Maybe they'll learn something about themselves that they didn't know. But the technology then really puts it in their hands, so that when they go to a different class, where maybe the instructor is not explicitly using UDL, they still have that tool in their toolkit that they can put to use for themselves. Right, so the technology, I think, really expands our potential to empower learners to make choices both in the collective group and it gives them tools to use so that they can expand representation, and other, you know, sometimes action expression in any context, even when they don't have a UDL instructor, per se.

That said, it's critically important to realize that throwing technology at a problem often makes the problem worse, you know. Like, there's been an age-old debate now about laptops in the, in the classroom both in K12 and in higher education. And if you search for, you will find research on both sides of the issue that seems wildly contradictory. You know, some people say that the use of laptops in the classroom for note taking enhances student participation, their retention, their test scores, and others say it's the exact opposite. Right? And so we're left with this-Oftentimes people are left wringing their hands here-like, "Well, I guess, I guess we can't know", and I think if you do a deeper exploration into the context for those studies a different picture emerges.

That when the technology was used intentionally and explicitly, and students were taught how to use the tools appropriately and supported in that- they do very well. And when the technology is just, "If you want to take notes on your laptops do", and we just leave it at that without the scaffolds and supports, students will derail, you know, so it's really about the degree to which
the pedagogy is interfaces with the technology that we have to use the technology with purpose, and students need instruction and support in its use in order for it to be effective. When it's done right, it is very powerful.

(CIDDL)
I appreciate that you reference the research that's out there, and again, looking deeper at the contradictions between the two. What other types of research or where do you feel the implications are for what we need to be looking at next, whether it's research or policy or practice?

(Dr. Moore)
Well I think a lot of what we need to look at now in teacher education is seeing how we can best impact future behavior from our preservice teachers. You know, a lot of the time that the research that we see in teacher education is looking at, "I have this intervention, and that I saw the learners behave in this way, in a very short term" You know, maybe it's in a field placement experience, maybe it's in some sort of an attitudinal measure, something that happens in the classroom, but that to me, does not necessarily mean that when they graduate and take a teaching placement one, two, three years from now, that that's still going to be impacting them in some meaningful way. I think we need to have more longitudinal studies, but I think we also need to let theory drive the way that we design those interventions with that longitudinal effect in mind.

And so, I like the model of Ajzen's Theory of Planned Behavior, in which she basically articulates that if we look at this complex behavior like inclusion of diverse students in the classroom. That doesn't happen by accident. No teacher walks into a classroom and accidentally includes their variable students, right. It has to be intentional or planned. And so that intention is the most immediate proxy to the behavior of doing the work of including you know that's going to come out in the lesson planning, and lesson design, right. Those are all manifestations of that intention. And then, Ajzen wanted to explore- what precludes that intention? And I've modified this theory a little bit but, I basically boil it down to attitudes, teacher efficacy, and the social context. So attitudes are, you know, pretty self-explanatory-like, if somebody feels like, 'Look, these students with disabilities- or students who are English language learners- or whatever, don't belong in the mainstream classroom' then that's seriously going to undermine the likelihood of them actually intending to include them. Likewise that teacher efficacy, which, to me, is a combination of both skills and self-concept like that, 'I can do this'. Right. That is also critically important as a component. Another personal component that, like, if I feel like I have the knowledge and the skills to do this work, I'm more likely to intend to do it and carry through with it, especially when it's powerfully matched with positive attitudes on that subject.

The one that's external to the individuals -the social context- and this is really I think the -the wrench in the system, often time with teacher education because we might prepare teachers through our program to really have a strong attitudes and skills and resources to be inclusive educators, and then they go into a classroom setting, in a school setting, in which the principals and their fellow teachers really just don't have those attitudes, and that quickly- and they don't have supports -and that undermines, then, you know, oftentimes,
as early teachers don't feel like they can push back on that system, and they just get washed in with that social context. So we really need to develop-we need to think about those attitudes and efficacy.

I think we've do a great job focusing on efficacy we work on developing the skills and the knowledge and the resources that people need to be good teachers, but we can't forget the attitudes. I think that attitudinal work is going to have to come through field experiences, though, you know, reflective dialogues, through modeling, those types of things that we talked about, to really get them to take ownership of their values that we're trying to instill in them. And we also, I think, need to be explicit about preparing them for- "You may get into a school setting in which these attitudes and values are not shared in that setting." "What will you do then?" - and have conversations about that.

What we see, you know, in my adaptation of Ajzen's model, I like to say that there's an opportunity- oftentimes we see the social context affecting the individual-like when we're followers of the system as early career teachers generally are, but we can also be leaders, in which our attitudes and our sense of efficacy pushed back on the system. And we change the system over time. And we really need to develop some people who are willing and able to push back. Sometimes that means being connected to a community that's outside your immediate school community, to have like what we have in the anti-racist group-where we- I -might be the only one in my school who's concerned about that -as some of our members are- but, here I have a pool of people who can charge me up, who can, who can support me, and that gives me the strength to continue the work. I think we also need to develop stronger university to school partnerships, especially with public schools, public universities, and public local schools to- to have more of a dialogue between them, to build those shared values together, and to also be supporting in-service teachers, because it's so important to see that those in-service teachers will be the final say in what our preservice teachers ultimately do when they get there.

(CIDDL) Those are such great strategies and I feel like- I feel like you brought it full circle, because you just brought it back to that comment at the beginning of how people tend to teach the way they've been taught and we see it almost like a generational teaching, and I think you talked about right there-the attitudes are pulling people back into the way it has always been done. So I really appreciate that. What resources and tools do you recommend for those who wanted to learn more about this work?

(Dr. Moore) There's a lot out there- I certainly recommend exploring some of the library that CAST has across several different authors. You know a lot of people have found Katie Novak's UDL Now to be a really great read. For really introducing the practical, how to get going with UDL in short order-there's a Mohawk College- Darla Benton Kearney- has a great course assessment tool for those who are developing UDL in the online learning environment. If you look for the UDL course assessment tool at Mohawk College.
I've got a lot of mileage out of that—basically prompts you to think about how you've introduced multiple means of representation, engagement, action expression, and different specific parts to the online course. I've got a course that's hosted on Novak Education called Online by Design. Similarly, that explores proactively how to design a course on Canvas—to address proactively—address common barriers to learning as experienced in that setting.

I would strongly encourage people to join the community—now whether that means joining a SIG through the UDL-IRN or CAST Higher Ed or Implementation or Antiracism, you know, finding a community of people who are working together as practitioners and cutting edge researchers is really important sustaining the energy especially if you find yourself in a setting in which you're the only one who's promoting or pushing the UDL agenda, if you will.

(CIDDL)
I think that's a perfect way to wrap it up with thinking about community. So thank you, Dr. Moore, for sharing with us today. We do appreciate your time and your work, and we look forward to continued conversations.