CIDDL Research and Practice Brief 7 Interview Transcript

0:09

Nicholas Hoekstra: Okay. Hello, and welcome to the CIDDL research and practice brief series, my name is Nicholas Hoekstra. The purpose of the Research and Practice brief series is to have conversations around the innovative use of technology in special education, early childhood education, related services and leadership personnel preparation programs. Today, we have with us, Dr. Michael Kennedy, associate professor in the Department of Education and human sciences at the University of Virginia and head of the Supporting Teachers through Coaching, Observations and multimedia to Educate Students with Disabilities or the stormed lab as our guest lecturer - as our guest researcher, guest expert! Dr. Kennedy is going to share with us some of his research and practice around the use of content acquisition podcasts to support preservice, preservice teacher education. Welcome Dr. Kennedy.

1:18

Michael Kennedy: Thanks for having me.

1:21

Nicholas Hoekstra: Thanks for joining us. So, to start with, much of your work focuses around the use of multimedia instruction to enhance learning, whether that be for middle and high school age students, preservice educators, or in the context of professional development. To begin with, can you describe for us the multimedia tool which has been the focus of much of your recent research, the content acquisition podcast?

1:54

Michael Kennedy: Certainly, so CAPs came out of when I was a student at the University of Kansas and doing our university teaching experience. I think those used to be called SPED 326, which is the intro to special ED course; maybe it's the same one now. We always had the same issue that, boy, we wish we had more time: you know, we have 15 minutes or however long the periods were 75 minutes to sort of get to the students, the teachers and training, all of this information. And we didn't feel like we could get it all. And so what if we could pre-record some critical information have them watch it in an effective way, and then during class would be freed up to do some other things. Today, we might call it the flipped approach to learning. we didn't have that word, then, or perhaps it existed and I just didn't know, which is probably more likely. Either way, but we wanted to ensure that these videos that we were going to produce would be of high enough quality that we could ensure that they would result in learning, you know, because we use all kinds of tools in teacher education that "does this work?" or, you know, "I recorded it so that must mean it's good enough" and I think our field of teacher ed. is sort of filled with situations like that. Like most of what we do is convenience rather than, know, something we know to be effective by way of experimental or quasi

experimental research. So, this idea that well what if we used validated instructional design principles and specific learning theory to design something that we know we're using all the time. You know, like a video recorded podcast. So, my colleagues and I, we looked at Richard Mayer's work, and it was Mayer's work on the cognitive theory of multimedia learning, which itself grew out of cognitive load theory, said, you know, we have sort of these ways that we input information both using our visual and auditory inputs, but we can only handle so much information at any given time. That's just how the human brain works. And, if so, if we design multimedia, with that in mind, and keep things simple but also robust, we can positively impact learning. And so that's what we did. We, we learned from Mayer, through his various texts and also his journal articles, and put together the original CAPs, which would be unrecognizable today because we've learned so much and made them so much fancier since then. But, that's sort of where the idea came from. So, we were sort of meshing, meshing something we do all the time, which is using simple technologies to deliver content to teachers, with a more informed set of design principles and learning theories. So that's where the idea came from. And then, well what if we could do that same thing for delivering vocabulary instruction for students with disabilities? What if we were to pair explicit vocabulary instruction like student friendly definitions, using examples, morphological parts of words; what if we took those well known, validated practices, and put those into a podcast model as well, where we're using visuals plus audio to deliver those evidence-based practices. And that really took off, that was my dissertation actually where… Go ahead.

5:55

Nicholas Hoekstra: I just want to ask, just to give everyone an idea, your content acquisition podcasts , what is the length of this podcast, for example, a typical podcast? What would be the length of it?

6:06

Michael Kennedy: Sure, sure, so it depends. So, we actually have a CAPs for teachers and sometimes they have modeling videos and then we call those CAP-TVs. Those are the more modern CAPs we've been making. We also capture students: CAP-s. So, a cap for a student would be short, those would be sometimes three sometimes five minutes, depending on how much, but but short. The CAPs for teachers would be a little longer. They could range anywhere from sometimes five on the short end to 15 minutes on the long end if they had the modeling video contained within them. So it definitely depended on the audience.

6:47

Nicholas Hoekstra: Gotcha, so speaking of that, this kind of brings me into my second question here. In your work, you've mentioned that sometimes, especially content area teachers don't feel, are not familiar with, delivering evidence based practices, especially around promotion of skills such as vocabulary with students with disabilities. so, and can you kind of describe for us how are you using content acquisition podcasts, especially in

preservice education to, to ensure that teachers are better prepared to to enter the classroom and are better prepared for the diversity of students that they will encounter?

7:31

Michael Kennedy: Yeah. yeah, so, so this it sort of ties back to that that issue I was raising back when I was first as a doctoral student in my first steps in teacher preparation. We, we do a lot of talking in teacher education, you know, we we tell a lot we tell the candidates here's what you need to know, here's what you need to do. But I've always argued and and others will join me, that waiting to do more, showing of what we need to do, we need chances for for teachers to engage in use of specific practices and have an opportunity to receive feedback. This is one of the reasons why practicum experiences are so critical. It's one of the reasons why, for example, the the simulator you know the TeachLive or immersion simulator has become so popular, is because it delivers that, it delivers that hands on opportunity, but still in a safe space. And so, we thought well, okay, CAPs are very good at delivering sort of the declarative knowledge, if I just want to tell you the steps of how to provide student friendly definitions, CAPs are great for that. It's what they originally were intended for, it's a very efficient very powerful model, according to our data. We have lots of applications of that, but we said, well, what if we showed some videos within, showing a teacher implementing the practice that we just described. And then one step further: could a teacher candidate who watched that turn around and then create their own lesson, where they were to film and replicate what they saw in the video. And that's what we are trying to do now in those kinds of studies within teacher candidates. So, we can show, okay, baseline they don't know it, they don't they can't do it, which makes sense because they haven't had a chance to learn it yet. We deliver to them this way to learn it, which is, it's in a nice neat box, right, it's in a nice neat package, so it's nice for experimental control for researchers like us. Then do a post test: did they learn anything? By way of some kind of quiz. And then, can they do it, where they film themselves teaching vocabulary word. And what we would do is pick, you know, a whole bunch of words that have similar characteristics and then randomly assigned students to teach different words, so we didn't get 100 videos with the exact same word in them. And our results showed in a couple of different trials that this CAP approach was very powerful for doing that. And so, we're now trying to replicate that with other kinds of things like reading comprehension strategies or other approaches to learning. And then we're pairing it with interesting kinds of feedback. Different kinds of feedback options that could go along with the CAPs as well. So, there's really a neat opportunity for a whole line of scholarship; and the field, and the the editors, and reviewers of this work have been very been very favorable to it because it sort of answers one of these questions that our field has, is well we're all doing things like this, but do we have enough empirical evidence to know that it's actually working. And so that's this is how we're answering that question: We think so.

10:48

Nicholas Hoekstra: One of the things that you just mentioned, is the the aspect of feedback and I know, from reading your work, one of the one of the the tools that you use for feedback is something that's referred to as a CT scan. Could you tell us a little bit about the CT scan and how you're you're using that and kind of what it looks like when you're applying it to kind of the preservice teacher education?

11:10

Michael Kennedy: Yeah, yeah, so the CT scan is the classroom teaching scan. CT scan is its nickname, and it's now within a broader program that we call COACH. And what it is it's an observation measure. It was originally created as part of my IES early career grant that I had from 2013 to 2018 and we created it to be a dependent measure that would be able to document inclusive middle school science teachers' use of vocabulary instruction. So it would document what practices were they using, for how much time, with what quality, and it's, it's an interesting sort of what we call a low inference measure because it captures discrete moves. It doesn't give a score. You might be familiar with the Danielson framework or the class measure which give a quality score across different domains. The CT scan does not do that. It, it says "hey you spent four minutes and five seconds delivering a student friendly definition" and of the five quality indicators like cueing, instruction, clear language, confirming understanding, using images, and one I don't remember, "You did four of them." And so that's good, it's great to Q instruction, it's great to use clear language, it's great to use images, "what I didn't see you do was confirm student understanding, and that is really important, because otherwise you're just talking at the kids and you're not sure that they're learning." So, the CT scan helps the observer capture that nuance as they're watching. Because it's very difficult to watch a live lesson, especially if you're not know, if you don't know what you're watching, you know, if you're walking into a classroom blind or watching a video blind, you don't really know what the teacher is going to do. So, the CT scan actually has a whole bunch of categories and menus that allow you to click what you're seeing and document it and then you can also document events like opportunities to respond, feedback statements, and some other, some other kinds of things like error corrections and prompts and pre corrects, data that PBS people might care about. You can also document what the students are supposed to be doing. It has a little rating of "are the students on task?" So it gives a timeline of the entire lesson - or However, whatever section you wanted to watch it - and a non-judgmental, data driven record of what transpired. And then, out of that, the coach and the candidate, or the teacher, can have a conversation. "Hey, here's what I saw. What, how did you think that went?" And the teachers are often shocked that "Oh my goodness, I didn't realize I only asked five questions in 30 minutes and they were all wrote level questions. I don't realize I only gave 10 feedback statements the entire class." It's been very powerful and transformative in my work and, and in my colleagues work, because it's given us a way, in this non biased way, to capture the moves of teachers. And then,

14:30

Michael Kennedy: what we say to them is "okay, I I saw you do X, Y and Z. I didn't see you do X Y and Z." And in the instance where improvement is needed, well that's where my CAPs come in. "Hey, I've got a short video where you could learn about that practice just on the chance that you're not familiar with it." Sometimes they didn't do it because of reasons and that's cool, but sometimes they don't do a practice because they don't know it. So, we are able to give them on demand professional development, using CAPs or other videos that we have access to. And that's what COACHED is able to do. So, it sort of generates this feedback in an automatic way that can then be supplemented with some additional resources. So, I have some OSEP funding and IES funding, we're working on this and questions around it right now. You can use it for self-observation, you know, so teachers, teacher candidates, can watch themselves and then score themselves, which is really exciting. And it really helps them to think about the nuance of practice.And that's really what we're looking for, especially when implementing technical practices and other evidence based practices.

15:40

Nicholas Hoekstra: No, that makes sense. I'm i'm going to return back to kind of where our conversation began. You mentioned also that the the CAPs, the content acquisition podcasts, you also mentioned that they can be really useful for students. I know in your work, you've discussed how one of the major barriers to students, especially in like the sciences, for example, is a lack of vocabulary knowledge, but that the content acquisition podcasts can help support that. Could you just touch on that really just briefly again?

16:10

Michael Kennedy: Sure, so, so a big issue for all students, especially those with disabilities, English learners, those at risk, but for all students, especially as we get into middle and high school, just the ah, the volume of what they need to learn. In all courses, but science, in particular, you know when was the last time you needed to know what mitosis is, and what it does? You know, I've made it pretty far in my life and career without having that information. On the on the tip of my tongue. Yet this is the example of what we're demanding kids know and being able to apply that knowledge. And there's hundreds of words per year. And this information sort of snowballs, and it creates for students a barrier to their entry into STEM kinds of fields and careers because they get hung up and frustrated with the elements of these courses that don't, well they matter, but they're not the most important thing, you know. A science person would tell you, "Oh no, no, no, we're doing inquiry, we're doing argumentation, hands on, all all the time." Sure you are, you know, but you can't do any of those things unless you really understand the language. And so, CAPs and our CAP approach is our, is our approach to try to help teachers recognize "hey, we need you to spend at least some time on vocab instruction." Writing the words on the board or saying the definition out loud once, it's not going to cut it. So we provide to them actually the unrecorded version of our CAP slides for, for, for the students. We just give them the unrecorded versions say "just use these.And you can

change them." You know, we're we're very flexible, you know, if you don't like the example we've got in there, change it. you don't like the demonstration we've got in there, change it. But we've been very successful in terms of giving teachers sort of a whole curriculum Now. We have like over 150 of these slideshows made, using Mayer's principles, implementing evidence based vocabulary practices, but also now merging with NGSS and other kinds of science standards so that the science people will actually use them to help support the students' needs. And we, and then we use the CT scan within the COACHED system to provide those teachers with professional development to use that. And that's sort of the purpose of my s-4 OSEP Stepping Up Grant.

18:46

Nicholas Hoekstra: No, it's interesting because I like how you, you've got the content, the content acquisition podcasts, they're being applied in a number of different contexts and for some reasons and I think that's something about your work that I personally find very, very interesting. Um, I will go ahead and, in the right up from this interview, I'll include some of the links to the resources that that you've discussed, as well as provide a little bit more of the background context on some of the Mayer's work that you've mentioned. But I guess before we leave, I want to thank you very much for for taking the time today to share with us your work around the CAPs and it's been a very interesting conversation. So, in closing, for more information on the CIDDL research and practice briefs briefs and other resources for higher education and related services, please go to ciddl.org. Don't forget to follow us on social media, subscribe to our channel, and leave us a message. Thank you all very much for watching and thank you, again, Dr. Kennedy for your time.

20:07

Michael Kennedy: My pleasure and don't, anyone watching this don't hesitate to reach out. I'd be glad to connect.

20:14

Nicholas Hoekstra: Excellent Thank you.