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Conference Keynote Speaker and Workshop Leader

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Interview with Dan Glisczinski: UCO 2014 Transformative Learning Conference Keynote Speaker and Workshop Leader

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Dan Glisczinski, who wrote his dissertation on *Transformative Learning In Teacher Education: A Meaningful Degree of Understanding*, was interviewed by Ed Cunliff during a transformative learning conference where he was a keynote speaker.

Ed: First, I want to take the time to thank you for joining us here at UCO for the Transformative Learning Conference. I also want to thank you for the opportunity to pick your brain about “brain stuff” and transformative learning in this interview. What was it that triggered your interest in neuroscience?

Dan: For me it was a bunch of years ago when I realized how dissatisfied I was with the explanations we had for why we do the things that we do as teachers. I realized I don’t have the professional knowledge that I wished I had. I wound up reading an article by a researcher named Draganski - like that’s the coolest name, Draganski. [Editor’s Note: Bogdan Draganski is a researcher at the Max Planck Institute]. Draganski created an experimental design where he studied gray matter or neuronal mass in the human brain, and the experimental variable was juggling.

Ed: As in physically juggling?

Dan: Physically juggling. He took a sample and measured participants’ gray matter, typically 3-1/2 pounds worth of brain, typically 100 billion neurons, and then he intervened with half of the sample, taught them to juggle and watched their brains grow. He watched their brains increase in neuronal mass, which is called neurogenesis.

In 2004, when I first encountered Draganski, neurogenesis knocked me out. It floored me. Moreover, during that time I was reading Mezirow as well. So Mezirow and Draganski together really got me curious.

Ed: You mentioned some of your interest came out of dissatisfaction about what we know about what we are doing. Learning style models are coming into question, and yet there’s a whole industry built around them. There are also a lot of early models dealing with the right/left brain arena. I am wondering if you believe there is a paradigm shift occurring in the way we, as educators, approach education.

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Dan: Yeah, yeah. I think so. I remember when I was teaching in a language of exclusivity. One of my students said, “So why are arguing in between these two?” Now he did not say it so eloquently, he had much more of a confrontational sort of voice, but the takeaway was a good one. These things that we treat as one needing to be preferential to the other may, in fact, be an early understanding or a misunderstanding or a misperception. When I think about learning styles or left brain / right brain, in that manner, I think about our struggle to learn. Moreover, early on for me, learning styles was helpful because it suggested other spaces to travel and to connect with a learner’s existing schema or neuronal network. The more we read now, we see that it may not actually be one or the other but in fact both or all three or all five. So when I think about a learning styles inventory that has a person end up with “You are a visual learner,” this may be less accurate than we intend it to be. However, it can, at least, invite us into this notion of better-using occipital and parietal components of the brain, where we used to just teach to auditory regions of the brain.

So I laugh, or I blush at my early misconceptions, and why wouldn’t we all have that experience to sort of say, “Well you’re an auditory learner,” when in truth we are all a portion auditory and visual and kinesthetic, tactile, and experiential, etc. What seems to me to be smart is now we are maturing in our conversations with ourselves, and when we do it well, it’s not, “Hey, you folks were all wrong,” but it’s, “Well, thank you for starting that conversation.” Moreover, now we understand it not as competing truths but in fact realities that can be complimentary to each other.

One of the things we’ll talk about here at the TL conference is the way we can use these ideas in an additive manner. James Zull, who is the teaching and learning mentor and biochemist at Case Western, talks about this notion of “sense lusciousness,” where auditory, visual, tactile, olfactory, and taste regions tend toward synergy in learning. To me, that’s where the conversation goes with learning styles; is a yes and a yes, rather than a one or the other.

Ed: That triggers another question regarding early interpretation of ideas such as learning styles. It seems that the interpretation went like this: if you are an auditory learner, I should speak to you, if you are visual I should show you pictures, etc. I’m wondering now, with the idea of neurogenesis and creation of new neural pathways, if we don’t approach learning differently. Does it now look more like: so you’re an auditory learner, now I’m not going to give just auditory stimuli, but I’m going to put you in situations where you will be involved in kinesthetic and visual activities as a means to expand your capabilities?

Dan: I think so. Neuroscience appears to suggest that if we are going to get on a student’s radar, we need to begin with their mental map. Then we can grow and expand their map, or we can nuance their map, but their reality is essentially the beginning of where learning connects from inside to this reflexivity space, this mutual thing. So it seems that the educational neuroscience

points us toward familiarity, putting us into what Vygotsky called the zone of proximal development, using Zull's sense lusciousness to connect with existing neuronal history to develop new neuronal complexity.

Ed: That appears to connect with the idea of transformative learning and the concept of offering students an opportunity to see and experience life events differently.

Dan: Yes. We cannot force anybody to think. If you are trying to force somebody, they have evolutionary protectors that will cause them to resist. This is where we talk past each other and polarize discussions when we allow our neuronal defense mechanisms, primarily amygdala-oriented stuff, to suggest that someone's perception is inaccurate. This process, though flawed, is incredibly reinforcing to our existing maps.

Ed: I'm curious how you incorporate these neuro-scientific concepts and findings in your classroom?

Dan: There are two ways to speak to that. One is to ask my students—and please don't because they'll tell you it does not show up. Moreover, another is to show my intentions or my willfulness.

For me it's fun. The long-standing researchers like Kolb have suggested to us that there are some of what Whitman called uniform hieroglyphics in the mystery of learning. Kolb does this in the cycle of try, think, analyze, and revise. Moreover, so then in come the neuro-scientific colleagues, and they say, "That's not a terrible mismatch. There may be something to that." And then in come the transformative colleagues and those folks who are like I am or maybe like yourself who are to a degree generalists, where we just watch what specialists are doing, and we ask, "What are the emerging themes?"

The emerging themes in a classroom, based on the best of my understanding in 2014, might begin a learning session or a learning experience with some strong or meaningful, but not overwhelming, sensory stimuli. Overwhelming stands the chance of overshooting the target, but in the language of Kolb, we would begin with a concrete experience. I've got my hands on, my ears on, my eyes on, my sense of smell, my sense of taste and those stimuli right there. If we're doing well, we then create a reflective space for this region in our brain which could be described as temporal where we do meaning associations. So sense, associate, formulate questions and seek plausible viable answers. That's "answers," plural with an s, because if we look for the singular, we get into "functional fixedness." When we look for a singular answer which may, in fact, be accurate, it may just be one component of the larger piece. So if we head down the path of functional fixedness, we try to plug that in and then we sort of wind up bumping into other people that will reinforce and or do it divergently, and what comes forward is what appears to be this cycle, (knowledge of sense, reflect, analyze, try). This cycles us again or transitions, us and now, that we've tried, we have new observable sensory stimuli.

So coming from Kolb into the work of James Zull, or bumping into the thinking of folks like Mezirow that look into these transformative dimensions, it seems those

appear to be converging. So you as a tennis player or me a Minnesota skier, we can take these out with us into our one hour of exercise and ask, “What’s the big idea takeaway for my students tomorrow or the next week? While you’re playing tennis or I’m Nordic skiing, we ask “What’s the big idea and then how would we sense it, how would we reflect it, how would we analyze it, and how would we try it?” That’s the instructional design I bring into it, and I just carry it with me.

If a person was interested in reading about that in a rudimentary way, there is an article in a journal called *Mountain Rise* that I was fortunate to have published a bunch of years ago that describes that thing in more detail. I think that Jeff King has maybe even suggested that as some reading to folks at the conference. (2008, Gliszinski) Moreover, what I did sort of overlapped those different ways of understanding what learning might be and then what might be a model.

Ed: I guess one of the more relevant questions in terms of where we are right now at UCO is the connection you would make between transformative learning, as you understand us, and neuroscience. Are there certain parts where those overlap? Do they overlap as a frame, do they share a frame?

Dan: I think of it as an iterative process that depends on what we understand at the moment. Moreover, I see that at transformative learning conferences, where people are coming together to share literature driven by three or four decades’ worth of understanding about the larger human experience of transformative learning. And then to some degree trying to identify or represent some commonalities and how that can happen in a generalizable sort of way or an operationalized sort of way. I think that’s what happens every two years at transformative education conferences. About every four years it appears in the Mezirow, Taylor, Cranton driven literature that says: “Here is what we think we know.” In that sense, I think that what UCO appears to be doing is informed practice. And then there is this place, this iterative element where I see UCO challenging the rest of us as a higher education community. As you are operationalizing those values into what might be a progression of different points of evidence across six central tenants. And I think that’s really interesting.

The reason I think it’s interesting is it puts us all on the stretch to ask, “Where or how are we seeing that, not just teaching evidence of me trying to use a transformative or educational neuro-scientific curriculum cycle but in the case of UCO building structures by which you would look at student learning and success along those continuums or on those rubrics of transformative learning experiences (TLE). That’s pretty sophisticated what you’re doing. The degree to which, ten years from now, you say, “We’re right on,” or “yeah we had many corrections to do,” remains to be known. But I also think that’s kind of what we get to do here in today’s conversation, in this conference, and in our additional conversations. We get to establish some agreements on where it all seems to be going and then maybe build relationships of trust to take chances to “kick the tires a little bit” and see where they might be ready for some inflation to drive meaningfully. That’s hard work to do because as individuals we protect ourselves, and as

institutions. We certainly don't want to be embarrassed, and I don't know that there is an embarrassment to be found in any of that. However, if this collaborative thing is to go forward, it only suggests that it would make the UCO TL model increasingly robust, increasingly informed, increasingly accurate.

So along those lines you've probably already done so. It would seem to be very interesting or valuable to be proposing to have these models reviewed, discussed, reviewed, presented at upcoming conferences such as The International Transformative Learning Conference at Teacher's College. When we get models like that in front of some of our senior scholars as well as the emerging brilliant scholars, I think we'll be better for the interactions.

Ed: So far we've done a pretty good job at the transformative learning model as we've developed it, but we are now getting into more about assessing it. Do you think we can tell an accreditation body what transformative learning is? How can we tell people, like our accreditation body, what it means to our students?

Dan: Yeah, that's an amazing endeavor that your institution is committed to.

Ed: It's tricky, yeah. I haven't seen a crystal ball in your room, but for me the potential of the increasing understanding of neuroscience and education is just mind boggling, no puns intended. Where do you see the research taking us in the next couple of years?

Dan: Boy Ed, I think that we are going to have silly grins in ten years with what we wondered about and what's known. And I'm specifically thinking about functional magnetic resonance imaging (fMRI) that appears to have noninvasive ability to give us strong indications of what is taking place. When a person experiences profound or maybe even transformative learning in the sense that we have strong stimuli, which we've often thought of as trigger events, we have a reflective space with room for reflective discourse or critical reflection which moves us into the prefrontal cortex. I think we're going to be able to, in this decade, by 2024, watch via an fMRI the brain that's participating in critical reflection of the foundations or the tacit assumptions that are affecting cognition and I think what we're probably going to see is mind maps or schema lighting up.

The reason I say that or point to that is in Mezirow's 1970's work. He used a descriptive approach, partially numerical, partially qualitative, to tell about this experience. Thank heavens we have scientist colleagues that are now helping us get inside the neurons that accompany that experience. I think that's what's next. Now with that being said, we need a bunch of colleagues that have talents that I don't, such as neuroscientists and psychometricians. There's so much I'd like to assess that I don't yet have the psychometric language or understanding to do. I think, Ed, we need to find very astute assessment colleagues and not only bring them into the conversation but have them lead us to operationalize more effectively what we're really talking about when we reference Transformative Learning Experiences. I say this because in my own experience the way that I interpret and measure

those are frequently clumsy. Moreover, as UCO is asking how do we get closer to accurately measuring and giving feedback on perspective transformation, education neuroscientists, and assessment experts will be game changers for our institutions.

Education policy research tells us to be wary of leadership fads and instead tells us to pay attention to the things that really change education longitudinally (and this comes from Elmore's Harvard research and Fullan's Ontario Institute of Studies In Education research). This research says when we pay attention to what the core is of learning, to the relationship in between learners' curriculum and teachers, those are the investments that last and that change learning outcomes. So it seems that such an initiative is the best kind of commitment to our existing goals and helps us not become distracted by trends and fads.

Ed: I've been doing some work with Rachelle Franz, Jeff King, and Tracey Romano, colleagues here at UCO, and we are asking how open do we have to be to transforming ourselves, as individuals and educators, to facilitate that in others. We are challenging ourselves as learners in the interactive process. I'm curious, what do you do yourself to stay abreast of the changes in neuroscience, transformative learning, or just generally challenging yourself? Are the two or three places you rely on?

Dan: Well, I prioritize campus-based scholarship of teaching and learning sessions where faculty bring forward action research projects about how to improve student learning within biological, mathematical, and sociological contexts. And I sit in awe of other professionals from so far across campus that I have to make an effort to get there and to understand their findings that directly inform the way they teach in increasingly scholarly manners. They are faculty, that when we walk by their classrooms, there's real student engagement happening. So in one case it's making sure I get out of my office or beyond the classrooms in which I teach and go and hear what other colleagues are doing. This is similar to your TL Center that is a hub for helping connect across disciplinary or interdisciplinary boundaries.

Another thing I try to do is make sure that I get off campus, and I ask the person I'm pedaling a bicycle next to: "So what are you thinking about these days, or tell me about what's going on in your week, this week professionally." Moreover, I hear the hydro-geologist explain his work, and I hear the pediatric oncologist explain her work. Because in the case of the pediatric oncologist, she is trying to offset the way the free radicals are attacking our healthy systems—gosh that reminds me a lot of what we study in class when we're looking at your central tenet of health and wellness. We're working on very similar things but from different institutions.

This summer I have a grant project that has a pediatric oncologist, a school principal, an art educator, and myself. We are attempting to use as a variable the introduction of BDNF (brain derived neurotropic factor) via exercise to increase wellness, increase positive neurotransmitters, and improve critical thinking in math and science. Anyhow, I'm knocked out by the fact that my skiing and biking partners are doing such cool stuff.

Also, at least in my experience, if you go to a publisher you think does good work, Teacher's College Press or Jossey-Bass for example, the emerging titles are often pretty exciting, especially the ones that are edited by the mind, brain, and education people. An example of this is

David Sousa's recent work in which he invited twelve scientists to come forward and tell about how they see neuroscience affecting pedagogical designs. Moreover, from that he has names like Obama's Presidential Scientist Award winner Michael Posner [University of Oregon], and emergent names like Immordino-Yang, they just knock us out. So to me that's like it's already been vetted. Jossey-Bass did the work or another publishing house did the work to sort of filter and see whether it's got chops.

Moreover, then I read it and I read it with my students, and we try to read it to sort out what might guide our thinking and increase the evidentiary basis by which we do teaching and learning practice. Then we're closer to this international model of evidence-informed teaching, like Finland as an example. Finland has brought about substantial change in its students' learning level by creating pedagogical designs that are driven by research and findings. They've committed to evidence-based practice, and that's a good invitation for us to look at how learning changes when we are driven by evidence-based practices.

Ed: I'm just curious. You mentioned Immordino-Yang.

Dan: Yes, she knocks me out. If I could apprentice myself like a post-doc to a handful of folks around the world, I would most certainly ask to be connected to her.

Ed: Are you planning on attending the Mind Brain Education Conference? I think it's in Fort Worth in the fall.

Dan: That's news to me. What's the story?

Ed: It's IMPES, International Mind, Brain, and Education Society.

Dan: Yeah that was the other thing, Ed. I went to one of those conferences; I wound up at Harvard at a conference and even in this cursory sort of way you get this packet. This packet had a lot of quality in it. It's kind of what I want students to have which is, go ahead and buy all the books if you so choose, and then in a lifetime you can organize it if you have unlimited time. But we don't know that to be our reality, so a chapter at a time, from a variety of different sources, I think can help us to ask, "Is there a preponderance of evidence that seems to be coming forward?" And from Harvard and from others, yeah there seems to be a preponderance of evidence. Now in a lot of cases, I don't yet have the language or understanding to really get it.

So I need it to work for me at the emerging level because I'm nascent. This is new to me.

Ed: It's new to all of us.

Dan: Yeah, so here's this other challenge: the folks that it's not new to, we want to invite them into our classrooms. The folks that it is new to, we need to invite them into the supported discussion, so that the new standard becomes a clear evidentiary basis for inquiry and practice.

Ed: I could probably go on for the rest of the day, but then we'd both be in trouble. Any final word for the interview that you'd like to say?

Dan: This might be predictable, but "thanks". Because so much of this is stuff that maybe we wind up carrying around with us in our commutes to campus when we're having this conversation with ourselves in those shared spaces. We get this briefly, and then we go back to doing the same thing.

Well this is a neat opportunity to call any of this into question or conversation, so I want to say "thanks" for inviting me to this conversation, to UCO, and to the TL Conference because to me this has been a fun experience. It's saying, "What do we know? What does that look like? Moreover, then what do we want to know next? Moreover, then how do we invite that next to be very doable?" So thanks for keeping me in the conversation, thanks for inviting me into the conversation. This is pretty fun to be a part of. Thank you.

Ed: Well, good. Thank you.

Dan: You're welcome, man.

Research Discussed

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