The Forking Paths of the Learning Paradigm - What is the role of Education in a Transformative Future?

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It is such an honour to be able to talk with you this morning and to think a little bit about the future. You'll have a day filled with amazing talks and insights on the practice of yourselves and your colleagues. So, I'm really here to just try to see if we can maybe put this in a slightly larger perspective, and to give you a sense of the kind of work and the things that are on my mind. I will absolutely make my slides available, and they can be distributed so I'd be happy to share those afterward.

So, this is a question that I spend every day asking and have for several decades now, more decades than I'd like to count. I think this is the question that we should always be asking which is "what should our educational response be to the conditions of the world right now?" Somehow this question has gotten more and more compelling and urgent the deeper we've gotten into the 21st century, of what it means to really respond to the current conditions of the world right now.

In so many ways that's the question that this wonderful Showcase is asking. All of the kinds of things that the presentations today are addressing: students as partners, social justice, community engagement, inclusive pedagogies, neurodiversity, digital learning, transdisciplinarity. All of the themes that are going to come up today are all trying to ask, "what should our educational response be to the conditions of the world right now?"

I get to ask those questions every day from my current position. I, like CIRTL, I operate out of a house as well known as the Red House, for reasons that hopefully this picture makes obvious. It's right across the street from campus, but it's symbolic that we are not on campus, but just across the street. Just like CIRTL is near that gate, one foot out one foot in maybe.

This past month began the 10th anniversary of this unit, the Red House, that I founded. It was launched on November 20th 2013, when our President gave a talk that launched the initiative called the "Designing the Future(s) of the University" initiative. In honour of our 10th anniversary, we are launching a project that has this framing. We're calling it the 10^2 project and we're trying to ask the question, how might we design for the next 10 years with the next 10 decades in mind? That's really one of the questions that I think we don't ask all that often in higher education.

We tend to think of innovation as always being a variant from the present and therefore the past. As opposed to education and educational innovation being something that's helping us move towards something. So, that's the idea of this project. It's not just what will education be like a hundred years from now, it's the next 10 decades. 10 years, 20 years, 30 years, 40 years, 50 years.

If you think about it, the students that we are graduating, if we were graduating students in their early 20s, they will be actively working in their careers for half of the next 10 decades. They will be having careers that will be peaking in the 2040s or the 2050s. In case you're wondering how I'm calculating when a person's career peaks, it's whatever age I am right now. Just in case you're wondering how I was doing that math.

So, we asked this question, this 10^2 question, in the middle of what I like to think of as a 50-year arc. A little bit arbitrary to pick 50 years, but something like a 50-year arc of what I would consider the transition to the learning paradigm. I just pick arbitrarily 1995 as the beginning of this 50-year arc because that's the year that Robert Barr and John Tagg published what was then a very famous and influential article called "From Teaching to Learning a new paradigm: for Undergraduate education".

In that article they argued simply this, they said, "*A paradigm shift is taking hold in American higher education*". That was the context they focused on. "*In its briefest form, the paradigm that has governed our colleges is this: A college is an institution that exists to provide instruction*". That's the old paradigm. "*Subtly but profoundly we are shifting to a new paradigm: A college is an institution that exists to produce learning. This shift changes everything. It is both needed and wanted*". So, this is what they called the transition from the instructional paradigm to the learning paradigm.

In that article they have about a three-page table with 30 some odd comparisons of what it means to shift from this to this. I'm going to show you six and they'll all feel very familiar to you.

The instructional paradigm you deliver instruction. Learning paradigm you produce learning. Instructional paradigm you transfer knowledge from faculty to students. Learning Paradigm you elicit student discovery. Move from offering courses and programs to creating powerful learning environments. Faculty are primarily lecturers. Faculty are primarily designers of learning environments. You can see this was aspirational of course.

Instructional paradigm you start with the parts, and they are prior to the whole. In the learning paradigm you think about the whole curriculum and then the parts are aligned. Instructional paradigm time is held constant and learning varies. Learning paradigm, learning is held constant and time varies. I'm not sure we're doing so great on that last one. I think we're still pretty much locked into the time held constant piece.

But again this is what they said was part of this shift. In talking about this shift, they said, "*this change is a small change that changes everything. Simply ask, how would we do things differently if we put learning first"? Then do it*". Sounds pretty simple when you put it like that.

But key, they say, "*It will take decades to work out many of the Learning Paradigm's implications*". Just as a life hack, that's a great thing to put in any article you ever publish on anything. Just say, "I'm right, but it may take decades for you to know that". I've always tried to adopt that stance. In 50 years, you'll say he nailed it.

So that's why I have this 50-year arc because it'll take decades to work out many of the learning paradigm's implications. To me it's almost comforting to not think "why are not we making more progress?", or "why are there still colleagues that think this or that?" Instead to think no we're like in the middle of this multi-decade transition. In that sense you can feel that progress everywhere including an event like today.

So, the reason that I called my talk "the Forking Paths of the Learning Paradigm" is that I think that although this has been largely absolutely an essential and positive movement. There is this double side to the learning paradigm and it's captured a bit by one of my favourite writers about education, I'm going to quote him a few times today, Gert Biesta. One of the many books he's written is called Beyond Learning.

He says, "*Something has been lost in the shift from the language of education to the language of learning*". He acknowledges that there's a great deal about the language of learning that's really powerful., e.g. Teaching and Learning showcase. But the risk is that once you start focusing, not on inputs, i.e. faculty instruction, but on outputs, what it is that students are learning, then you can start getting as granular as possible. You can start to overly focus just on narrow outcomes. That's what he says, what he calls in a subsequent book the 'learnification of education'. Again, not that learning isn't a powerful concept, but that there is this sense in which it has this double edge.

So, on the one hand learning can be something that's very powerful because we're focused on what the impact is on students. But, it can become very disintegrative and transactional, where learning is just about very narrow skills, very instrumental means. Or it can be very integrative and transformative. I think this is probably the primary tension in higher education right now. Is whether you fundamentally believe in a disintegrative vision, of course I'm calling it disintegrative to be provocative, whether you think it's just about the parts or whether you think it's about a whole greater than the sum of the parts. It seems to me that's a very essential challenge.

So, I'd like to propose this is one of the great axis of education. This disintegrative, integrative, transactional, transformational. The other axis I would say is not just what kind of education are you trying to provide, but for whom? Whether the education you're providing is inclusive, which I don't really need to explain, or exclusive. Historically of course exclusive excellence was what colleges and universities were for hundreds of years. They were about qualifying and preparing students in rich, holistic environments, but now we believe that we want to reach more people in more diverse ways.

If you look up inclusive excellence on the web, you'll find tens of thousands of articles about education. If you look up exclusive excellence on the web, you'll find like stuff on luxury resorts in Mexico or something. That's not a term in higher education, but in some ways, it was the implicit ethos of higher education for hundreds of years.

So, like all good 2 x 2 models, you want to be in the upper right-hand quadrant. This is where I would put, when Biesta says, "*the language of learning has taken something away from the language of education*", this is where I'd put the new language of education. This quadrant that maximizes for inclusive and integrative learning is where we see things like growth mindset, teaching to the whole person, relationships and mentoring, belonging and mattering. Helping students learn how to exercise judgment in conditions of uncertainty, which we might say is one of the highest things we can teach people. Helping students to do work that matters.

You could put many other things in this quadrant, but to me this quadrant is where we want to be, what we want to develop for. It's starting to develop this language, which I'd say is the language of education, not the language just of learning. Again Biesta, "*education is not just about the transmission of knowledge skills and values, but is concerned with the individuality, subjectivity or personhood of the student, with their 'coming into the world' as unique singular beings*". That's what he would say would be what it means to think about education as distinct or at least as including learning.

He says, "*the first responsibility of the educator is a responsibility for the subjectivity of the student, for that which allows the student to be a unique singular being*". He writes mostly about K12

education, younger education, but I find his writing to be extremely compelling for higher education as well.

He talks about education as being made up of three distinct, but inter-related goals. One is what he calls qualification, that's just knowing stuff, knowledge skills etc. The second is socialization, that's learning how to fit in. So, you go to school starting at 5 years old to start learning stuff and to learn how to fit in. Both of those are important, critical. He adds a third thing, which he calls subjectification and that's learning how to become your own person. How to emerge into the world. How to emerge into the world with other diverse people who are also emerging into the world.

So, the first two you could say you can cover with learning, but if you care about all three of those, now you're talking about education. You're talking about education. Subjectification, how do we help people learn how to come into the world, to become present in the world?

So let me give you concrete example, one from Georgetown. This is a program that we run at Georgetown called the Regents Science Scholars. It was launched in 2016 and it was meant to address the problem that our lower income very diverse students who were coming to Georgetown to major in the Biomedical Sciences were disappearing in the first semester or two. We were just haemorrhaging low-income students in that first semester.

So, this was meant to address that problem. It was focused on a five-week pre-matriculation programme where students would come in July and August before they would enter Georgetown to get a kind of on-ramp into the university. At first, they designed the programme to try to make up for 12 years crappy schooling. It was like "Oh you got a terrible Science Education growing up poor, we're going to teach you everything you need to know about Biology and Chemistry in five weeks". That went about as well as you can imagine.

But, as the Professor says, "*we had been focused on fixing deficits not building strengths*". Instead after the first year, they completely reshaped the programme to be focused on what they called professional identity. They didn't mean that in an economic sense, but in the sense of helping them think of themselves as scientists, on impact, agency, and community. That's what they could do in five weeks. They could teach them a bunch of stuff, but it was really the identity and the agency that they wanted to give them.

So, the entire programme was built around my wife and my favourite winery in Virginia. This is not a coincidence, but I won't go into the story. It came to be known as the Glen Manor Wine project. The scholars work with this winery now for 7 years. The Professor, who in full disclosure is my wife, she would describe that when they rebuilt the course they covered absolutely as much content as they were covering before, except in the context of a project, a project that really had some meaning to the students. As she says, the students who have arrived six weeks before matriculating to get a gentle on-ramp into Georgetown.

They were surprised and daunted that they were the research team, but within one day the most common phrase was, "would this help Jeff?" Jeff White is the wine maker at Glenn Manor. So, we take them out to the vineyard. That's Jeff there talking to them. It's a gorgeous spot. They design the experiments based on soil maps etc. They collect the samples. They're divided into three teams: Team microbe, Team DNA, Team Quant.

We had them all over for some Glenn Manor wine when they were old enough at 21 and team microbe, team DNA and team Quant were still talking smack to each other as they were in that first year. Then they present on campus in what is really a traditional research setting; there's 40 or more people there.

I just can't emphasize this enough, these are students from low-income backgrounds. They think they're stupid. They think they are imposters. They think that they don't belong at Georgetown. They've come here for a five week on-ramp so they can succeed. They're acting like scientists before they've even started Georgetown. They're doing science presentations for a community of people on campus working with one of the best wine makers in Virginia, where we get a lot of our wine.

Seven years this programme has been going. The number of first-generation low-income students in Biomedical majors has increased by 5x and now more than 20% of the matriculating class of Biology majors are first gen, low-income students. When the programme started it was 2%.

Part of the success of the programme is they figured out that the most important thing to helping people succeed as scientists was to care about them and their subjectivity. To think about, not just their qualification and their socialization, but how do you help them start to come into presence at Georgetown before they start.

The Regents Science programme to me sits squarely in this quadrant of the integrative and the inclusive. If we had have more time or if this was a long workshop, I'd have you asking yourselves where would you put UCC? Where would you put your programme on this axis? Where on this axis would you plot different parts of UCC? But to me this quadrant is where we want to be, where we want higher education to be.

The question I think is, what would it take for higher education to be centred in this quadrant? What would it take for that to be our home? Is that just a matter of emphasis? Is that a matter of increasingly doing the right practices and people retiring, or is it a paradigm shift? Is this actually a paradigm shift for higher education? Those of course are the kinds of questions that we want to ask in this 10^2 project.

So, when I think about paradigm shifts, I have found a framework that I want to share with you for the next few minutes. Really useful. It's a framework that some of you may have heard of. It's called the Three Horizons framework by man named Bill Sharpe and his colleagues at organization called International Futures. I'm going to move through this pretty quickly, and happy to pick it up later. I'll be here all day and tomorrow so I look forward to speaking with all of you.

So, the idea of the Three Horizons is that there are three versions of the future that exist in any community simultaneously in the present. These are all versions of the future that exist in the present. So, one version of the future they would call H1, Horizon one. This is business as usual. This is the dominant paradigm. This is saying that whatever has been the dominant paradigm, conditions have changed enough that it's a system that's losing strategic fit with the moment. So therefore, it starts to have diminishing returns.

The nature of your students has changed and so therefore the old ways for a different kind of student body starts yielding diminishing returns. The nature of social media and the way people's minds work has changed so just lecturing, like I'm doing, has diminishing returns. I always find that

ironic that I'm always giving lectures on the death of the lecture, but we probably all are in that ironic space sometimes. To keep H1 going you need a managerial perspective. People get locked into this approach when people say, "why is change so hard?", it's because we're locked into H1.

The second one is what they call H3, just to be a little bit confusing. That's the emerging future. That's the new paradigm that's better fit for the conditions of the world. This is a visionary perspective that asks, where are we going? That perspective always has seeds of the future in the present. I would say what's going on today is all about those H3 seeds.

The third horizon, again labelled H2, just to be confusing, is the disruptive innovation. It is that both internal and external disruptions happen that either have the effect of sustaining the dominant paradigm, which they call H2-, or helping the emerging paradigm to come into being which they call H2+. This is the zone of transition. This is the system seeking to exploit the opportunities that are emerging in changing conditions. They would call this the entrepreneurial perspective.

So just to put it all together. There's H1 which is going away, H3 which is emerging, and H2 which is the disruption. The questions that are asked is what is being born and how can we help it arrive well? What is fading and how can we help it to let go and leave well? What is being disruptive and how can it be harnessed [H2+] and not captured [H2-]?

Each of these three things exist on a campus at the same time and each requires a different mindset: a managerial mindset, an entrepreneurial mindset, or a visionary mindset. The purpose of Three Horizons is so a community can have a conversation. You don't put something in and run out and the future comes out the other end. It's just a way for a community to talk about how in a community everyone is operating with a different sense of what the future is.

So, let's populate this. I'm going to pull the terms from the Barr and Tagg's article that I showed you, that list of side by sides. I'm just going to throw those up now into Three Horizons. So, on the left are some of the things they said, the instructional paradigm was, i.e. transfer knowledge to students, deliver instruction, atomistic, faculty primarily lectures. That's the instructional paradigm.

That's what they say the learning paradigm is. We'll put that up in H3, i.e. student discovery, produce learning, learning environments, holistic. Here's some seeds of that emerging future. I arbitrarily picked active learning, project-based learning, equity-minded pedagogies, socio-emotional.

Here's some things we hope to get rid of: assessment without feedback, inequitable practices, passive learning. So, are you following here? Once a community has started to map. What do you think is the dominant, what do you think is emerging, what are the seeds, what's going away? Then you can start to ask, what's happening on the H2 line that creates change? What are those H2 disruptions that are either internal or external?

So, for example, you could throw Covid in here and ask, did the move to remote instruction, did we learn anything in two years? In what ways did the Covid adaptation help sustain the dominant paradigm or help to usher in a new emerging paradigm? I think it's complex. The answer is probably some of each or we'll see. Time will tell.

Where do the innovations here at the Teaching and Learning showcase fit? What if you think of them as H2 disruptions? They are things that you are doing inside UCC that are helping to bring the

dominant paradigm and help it fade, and help the emerging paradigm come into being. That's what's happening today and in all your amazing work.

So, what do you think is the emerging future paradigm for UCC? If you were starting to populate that H3 on your own, again if we had more time and I believed in student centered learning, I'd ask you.

I threw some things up that I gleaned from the programme. You want to help students make an impact, turn them into caring practitioners, create a mentoring and supportive culture, create change makers, help your students have a thriving life, help support economic mobility. A lot of things could go up there.

What goes up in H3 if you're thinking about the next 10 decades? What goes in H3 if you're asking, how is education an intergenerational force for good? What kind of design decisions would we make that might be different if we were not just designing for the short term? So, as a stand in or proxy for that, here's a quotation from a wonderful writer some of you may know named Laura Rendón. It is a great piece she wrote called *Prelude to a New Pedagogical Dreamfield*.

She says, *"I join the many existing voices of educational transformation to contribute to the generation of a new tipping point - a movement that wishes to create a new dream of education. The foundation of this dream is a more harmonic, holistic vision of education that honours the whole of who we are as intellectual, compassionate, authentic human beings who value love, peace, democracy, community, diversity and hope for humanity.*

I think that's a pretty good paragraph can stand in for a vision of H3 for the future. Not something we typically think about as where we're hoping education innovation will take us. I've now put that up in my H3. I just have her quotation up there to stand in for a different kind of emerging future.

So, what does it mean to design for that intentionally? Here's a second example that I'll show and then I have one more thing and I'll try to end with a little bit of time for questions. This is a new programme that we just launched in Environment Sustainability, literally approved by our board 5 days ago. The Red House, my unit, spent two years designing this programme with our Institute for Environment and Sustainability. This has been a major project of the Red House in designing this. We very self-consciously have thought of this degree as an H2 disruption. We ask, what does it look like to create a new degree that is trying to bring a new paradigm into existence?

We designed it around knowledge of course and experience, but also grounding students in complexity, grounding students in humility and personal formation. At the centre of it we imagine that if we're going to have a sustained existence on this planet, it can't be just about cognition or technical solutions to the environment, it has to be an inner change. It has to be about inner transformation, or what we think of as the inner-outer cycle, and at the heart of that is what we call ecological belonging.

So, there's a million things to tell you about this degree. I'm going to just give you a couple details. Each of the first four semesters is a nine credit block that mixes science with ethics or science with humanity or science with history, and each of the first four semesters opens and closes with a separately credited course, one we call the 'opening interruption' which is meant to take a beginning of each semester to interrupt people's assumptions about their learning, and a closing integration, like a massive simulation or design exercise. Then across the years experiential learning at every level

e.g. research rotations, internships, Global Environmental immersion, and peer leadership. Every student in the programme has six credits of peer leadership in their upper division to serve as a peer teacher or a peer mentor to make the rest of the degree work.

That's how we we're starting to think about. What does it look like to do degree design that's trying to bring a new paradigm into existence. Miraculously it passed.

Just really quickly, and I'm happy to talk with anybody who's interested later, we also are taking this idea out. This semester we've been running a global ecological belonging project. This fall have 54 Student Innovation Fellows at four universities. By the first quarter of spring, we'll have 100 Student Innovation Fellows at eight universities on six continents helping to construct a global meta curriculum around ecological belonging. This question of, what does it mean to reimagine the question of higher education addressing how shall we live, not just technical solutions. So that's what we think of as a degree, bringing something into existence.

Now let me just give you one more glimpse and then I'll wrap. Let's take a different kind of disruption. Let's take AI. This is not an internal disruption where you design a new degree that changes things. This is coming from the outside. This is just a pallet cleanser here. In case you can't read that it says, "*how am I supposed to start a robot apocalypse when you keep making me write term papers*".

As I'm sure has happened on this campus, a lot of people are going through many different phases of reaction to Generative AI. It may start with policing, just ban it. In fact, I noticed a couple talks today on this subject. Or maybe it's adapt. Do you have blue books or green exam script books? I was saying people should invest in these because handwritten in-person exams are coming back. But then there's the movement of, how do you integrate AI? How do you help students use it responsibly? How do you help students use it creatively or innovatively?

But I don't think it's going to be that long until we start getting to the next phase which is well 'this changes everything'. What does it mean to write? What does it mean to have an authentic thought? What does it mean to do honest work? What does it mean to be creative? What does it mean to be human? Then who knows what's after that. But if our students, again for the next five decades and beyond, are going to live in a world where they will be adding human value to AI integrated work, then isn't that our key responsibility as educators? Isn't that now job one?

This is an infographic I just came across. 120 mind-blowing AI tools. Chat GPT came out last November. A year ago, none of these tools existed and then as Ethan Mollick, who's one of my favourite writers on AI says, *"The only thing I know for sure is that the AI you are using today is the worst AI you are ever going to use".* So, 3 years from now, 5 years from now, 10 years from now, 15 years from now.

I've been working in educational technology since 1996, I've never seen anything have such a rapid impact on the environment as AI. So, at Georgetown we launched something called the 'Initiative on Pedagogical Uses of Artificial Intelligence'. We issued a call in September in five categories. We got 90 submissions. One of the categories was called student X grants. A third of these came from students, 34 grants from students so we're just getting that underway.

In January we're launching something called the Georgetown Design Lab for AI and Transformative Education to create a community practice. For the most part, the most important thing to bring everyone together is just this. With the explosion of AI, what would it look like to get this right? We don't have a long time to figure this out.

For us, for all the things that AI can do: personalization of instruction, improve creativity, lifelong learning, expand perspectives, critical thinking. What's at the centre is how do we help students work with AI to develop their unique contribution to the world? There's actually a very powerful alignment between the need to help our students figure out how to contribute uniquely to a world saturated during their lifetime with AI, and Biesta's notion that the educator's greatest responsibility is to the subjectivity of their students.

So this is what the 10^2 question is for me. It rings at a question that I've been asking now for a few years, which is, *"As machines get better at being machines",* which is the very definition of machine learning, *"are humans getting better at being human?"* Might not that be the project of higher education, and what it means to have an educational response to the conditions of the world right now?

This is what I always used to ask then I got yelled at by a bunch of Computer Science faculty at different places I've been talking. So, I've revised it slightly. It's less poetic. That's why I have to start with my old one, it was much better. *"As humans create AI, and humans and AI move toward integration we better ensure that we are **centering human value and our humanity**".* Again, this is what it means to talk about education and not just learning.

So, I close with this passage, one more word from Gert Biesta. It's one of my favourite lines of any of his writing. *"To engage in learning always entails the risk that learning might have an impact on you, that learning might change you. This means that education only begins when the learner is willing to take a risk".*

It's beautiful just as it is, including saying that one of our greatest obligations as an educator is to help learners feel comfortable taking a risk. But I also like to think what if you substitute learner for teacher, education only begins when the educator is willing to take a risk. What if we put the institution or the university there? Education only begins when the University or the institution is willing to take a risk.

So, every one of you, all the people presenting today have taken a risk. What is at stake is not just the future of your students' learning and your students' lives, but, as I've tried to show, the future of all humanity.

So, thank you and good luck.

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