The Covid 19 pandemic has affected education, including at the university level, all around the world. More than ever before, students have needed to rely on their support groups. But have you ever wondered about how the educators themselves coped? Open your ears and mind. And let’s chat about that. Welcome to GryphonCast, a podcast where we casually chat about science coming out of the College of Biological Science at the University of Guelph. And how that work can affect lives around the world. I'm your host, Michael Lim. With me today for our inaugural podcast is special guest, Dr. Dan Grunspan. And we'll be chatting about how researchers are uncovering the importance of connections in teaching teams, especially in times of stress. Welcome, Dan.

Thank you. I'm excited to get to be on the inaugural episode.

And we're very excited to have you here. So Dan, how would you best describe your research if you met some random person on the street?

I think the big overarching theme is that all my research aims to improve post secondary education. There's a lot of ways that you could do that. So you can focus on students. You can think about what instructors are doing. You can think about kind of higher administrative, and just kind of generally in higher education. I'm not too discerning in that area. I kind of am willing to embark on any work but it tends to be right. I want to be doing stuff that ultimately helps improve how undergraduate students learn. Then there's a bunch of other kind of random things that I just got interested in and get pulled into. And I'll go for it. But I think that's the big overarching theme, and the sorts of things that kind of keep me up at night thinking about stuff.

So, why did you decide to get into this type of research? Did you ever expect to do this when you first got into higher education?

No, not at all, totally fell into it. And I think it's very common story for a lot of people who end up doing education research in a post secondary setting because it's fairly new. So when I was earning my PhD in biocultural anthropology, I was really interested in human evolution ... evolution of human social learning. And basically what was going on at the time. I was starting to get interested in social network analysis. I was taking a social network analysis course and this coincided with my first time teaching at the university levels as a TA. I was doing this in a biology department, even though I was an anthropology student and there were all kinds of education research going on in the biology department that I was TAing for. And this kind of became this really perfect confluence of things going on. Where I was, like, hey, it's really cool to apply some of the social network analysis stuff, thinking about social learning. In this larger
context where a lot of education research is going on. So, I started doing that with a collaborator as a grad student, and then it was just like from there ... Oh, yeah this is it? This is really cool and super interesting. And then I kind of pivoted from there. So, then it kind of became much more of my focus .... education, higher education, networks, things like that. And then it spread from there.

**Michael Lim 03:28**
Well, isn't that kind of usually how it ends up going? Where you're pursuing something and then all of a sudden you find yourself falling into a new hole?

**Dan Grunspan 03:35**
Yeah, I mean ... I think that's in some ways, right. That's the exciting thing about research if you can find a way to make it happen, right? If you can find the funding. If you find these things you can pursue the questions that you think are really interesting and really important. So, I've been lucky that I've gotten to do that.

**Michael Lim 03:53**
So, I know you're relatively new to the University of Guelph. So, I was curious. Have you found anything different teaching at Guelph versus other universities?

**Dan Grunspan 04:01**
It's hard for me to accurately reflect on how the University of Guelph and the department here may differ from other ones that I've seen. Partially because I've entered at such a strange time. So right, I think you know the overarching primacy of dealing with the pandemic and teaching during the pandemic. And just all the things that are going on. It's really hard to make a fair comparison. I think what I've been really impressed with is just the engagement and how much the Department and the College cares about instruction, teaching, and just that commitment. And I think that's something that I've seen pretty unmatched in a lot of places where it really is something that matters to a lot of people and that there's kind of respect given to it. But all the people don't care, right? They don't do podcasts to highlight it or anything like that. So yes, I think I'm really impressed in that in that regard.

**Michael Lim 04:58**
Speaking of teaching during a pandemic. You recently published a study titled "Instructional communities of practice during COVID-19, social networks and their implications for resilience". So, what first encouraged you to study that topic?

**Dan Grunspan 05:12**
So, I didn't. I was actually invited to work on the project after it was started. So, I'll try to answer as if I was my coauthors Emily Holt and Susan Keenan, University of Northern Colorado. They were both teaching right at the time, as you know, as basically their department was shifting into remote instruction and kind of seized upon the opportunity. They're like, this is a really cool opportunity to maybe collect some data and see what's going on. And I think that they were getting really interested in doing some kind of social network study. So, they knew
that they wanted to do something in those regards. And then, of course, like this whole situation was thrust upon them. And they quickly acted together to start collecting data. Yes, I was kind of invited into this. I was like that sounds super fascinating. So, I kind of have the data they were looking at and they're like, okay, we should reach out and find someone who can maybe help us think through this. I was like, yeah, I'd be happy to sit down and work through this with you.

**Michael Lim 06:10**
So out of curiosity, have you worked with your coauthors before? Was this some kind of a random happenstance thing that just worked out?

**Dan Grunspan 06:17**
Yeah, so this was a new collaboration. I never worked with them before. I think this actually is one of my favorite things about the study. I gave a workshop on social network analysis and higher education. One of my coauthors was basically a participant in that workshop. So, for our workshop, I was like... No, you're not going to really learn how to do social network analysis in four hours. That's unrealistic. But I'd love to get you started, right? To be thinking about how to do this. How to set up the study. How to get those data and then yourself going. So then that apparently helped them get the study going. And then I think once they started diving into the data, they're like... “Okay, well, we should find someone else to do this”. And then she reached out to me, and I said, “Okay, so I thought that was like a really cool moment, right?” It's like, oh, wow, I ran this workshop and it came full circle back to me. But it did something right... it started a project. And that was a really, really cool thing to see happen. So, I was really happy.

**Michael Lim 07:16**
So, for listeners who haven't yet had the chance to read the paper that we're discussing just yet, I would describe this paper as modeling the interactions between both university faculty, (so like profs), and graduate students who are working as graduate teaching assistants (or GTAs). These interactions show who was sharing things like resources, advice and even emotions. And the idea was to understand how these interactions can contribute to resilience in teaching. Do you have anything else you would like to add on to this description of your study Dan?

**Dan Grunspan 07:49**
Yeah, so I think one of the big things is the context. So, this was the interactions that occurred essentially right after it was announced that all teaching was going to move to remote instruction during the winter spring... depending on where you are semester of 2020. So, what this was capturing was: who were people interacting with in that time after the announcement? So, basically two weeks after that was announced ... to have like a week to prepare to move online. I think they were like on spring break or something like that. And it was like “Well, as soon as spring breaks over your remote. You figure out how to do that?” I think what was captured is really interesting. It's these interactions that are going on in that timeframe and what are people doing. It's this moment in time where everyone's kind of
panicking and trying to figure out what to do and how to do it. And I think that greater context is what made this study exciting.

**Michael Lim 08:47**
A big focus of your paper was based on using exponential random graph models. And these were then further used to create these diagrams called sociographs. For our listeners, a sociograph is kind of like a giant web that has different colour and shape coded pins. And then strings between these different pins represent relationships between different individuals. Do you have anything to clarify about that image, then?

**Dan Grunspan 09:11**
Yeah, so these sociographs? It's a picture of a network that lets you visualize what is related to what and in this case, it's people and different types of interactions regarding teaching that they have with each other over this period of time. But it could be anything ... you could look at a power grid, or you know how you can connect from one city to another via flights or trains just like that, right? Those are all networks that can connect with each other. There's a lot of different kind of cool things that you can visualize this way. In some cases, these can be really, really useful because it just gives you an opportunity to look at large scale structures, look at kind of zooming in a kind of more micro level at things that are happening. What really stood out to me when we started visualizing these was the fact that most of the interactions that we see really just happened. It's not surprising. Most of the interactions that we see happen within basically teaching teams. So, if there's an instructor or two instructors and a bunch of TAs ... Are really dense connections going on there a lot of times, right? And that kind of rules over a lot of right ... if you're going to predict who's talking to about teaching, and assignments ... are people who are teaching the same course together, that makes a ton of sense. But it was just kind of cool to be like “Oh yeah, this is obviously a thing”. And there are a lot of studies out there that look at departmental teaching networks and things like that ... and don't really consider that a big underlying fact that if you're teaching with someone like that is going to predict whether or not you're doing a lot of stuff together. That was the approach.

**Michael Lim 10:40**
Speaking of teaching teams, later on in your study, you realized there seems to be more of these kind of isolated interactions between separate groups of faculty members and GTAs. They're teaching the same courses. So, while most of these are very, very similar in terms of having a high amount of interconnectedness. So you know, imagine like four pins but there's a web between every single individual... others are far more isolated with one or two random floaters and one or two people who are really focused in the center. Why do you think there is so much variation between these teaching teams?

**Dan Grunspan 11:09**
Yeah, I thought this was really interesting. This, like some courses ... like everybody was doing everything together... everyone was talking about their emotions... people were co-constructing materials together. And then others, it was just like, no one's doing anything together, right?
It's basically what that meant was the faculty, whoever's the instructor just said, “Okay, TAs I'm just gonna take the wheel and do things”. And, you know, it's hard. This is saying that I wish that we knew more about right, this is where it's like, these were the data that we have. We can kind of cast light on something like this but actually understanding what was going on would be fascinating. So, I can kind of guess, based on my conversations largely with my coauthors on this as far as what was going on from that but what they've told me, and I think it's a mix of things. So first, a lot of it I think depends on what was that course? And what were the roles of the TAs because the main things that disappeared was ... Were the TAs really involved? Were they really interacting with the instructor? Were they interacting with each other? Regardless, it's like, the instructors definitely still teaching the course and the TAs may have some kind of role left, but maybe not depending on it. That may be reflected in the relationship. So, if TAs primary role was to set up in-person labs ... then all of a sudden those in-person labs are just cancelled and the instructor made the decision, “Okay, we're not going to really do anything there”. Then those TAs just kind of didn't have anything to do. My understanding is, in some cases that did happen ... there were TAs who just didn't have anything to do in their in their class anymore. So, it was just kind of like, okay, but my role, you know, I don't have much to do here.

Michael Lim 12:41
Yeah, totally makes sense. It didn't happen to me. But I definitely know some individuals who are in that same boat, where they're just kind of like, cut adrift and left to fend for themselves.

Dan Grunspan 12:50
But you can imagine another class where there's still a lot of reading going on ... the seminars are moved online and they need to be changed and things like that. In which case, right, the TAs are still very involved. But then, I think the other thing to think about is the more interesting thing that was going on was just the way that I think, the variation in how instructors dealt with the moment. So, in some cases, right, and the ones that are super connected and especially I think the one that illuminates a lot is there's a network where we're asking, “Who did you co-construct materials with?”. And that, to me is a really kind of high level interaction. It's not like I'm telling you to do this, that we need materials to come together, like in a meeting, and let's together, right, build this know, what this class is going to look like. And there were classes where everybody was involved with each other building materials together. And that is very different, right? As you kind of point out and like to me, like, this is an instructor who is now kind of not just delegating ... but like being on the same level and kind of having those kind of vulnerability of we're all in this situation ... I need your help, right? Like they're willing to kind of sit down and do this and ... everybody stepped out of the way - I'm gonna just do this.

Michael Lim 14:00
So later on in the study, you make a point sharing that it might be better to have more delegation and more interconnections between members of the teaching team. So, if you know, “knock on wood”, someone gets COVID, the whole course doesn't just like fall apart. If only one individual says “No”... has taken the wheel and dragging the course to that point. So,
with that in mind, do you think it'd be worthwhile to foster more interconnectedness? And, I
guess, sharing of teaching responsibilities within teaching teams going forward?

**Dan Grunspan 14:33**
I think that that would be great. I think I mean, and a larger point, right? I think that graduate
training needs to involve just kind of more aspects of teaching training in general across the
board. This is, I think, something that's been discussed more and more and kind of recognized
as an important neglected part of graduate training very frequently. And one that can actually
offer a lot of benefits for research and the ability to do research is actually the kinds of things
that you can learn from pedagogical training. But yeah, I don't know how many crises that
actually really are right ... that disrupt teaching to this level. But it's certainly helpful to have a
lot of people who are capable of stepping up and stepping in a moment where you may need
them to. And I think the nature of a lot of academia is a lot of people seem to be right. It's like,
“How do you replace this one person who’s supposed to be teaching this whole course, if they
go down, right?” ... and in a seamless way that isn't hyper stressful. And one great way to do
that, is to kind of have a teaching team that is all aligned together, knowing what's going on,
but can kind of pull things together. So, I think that's one model through which you can kind of
be more prepared for these sorts of things to happen where you have graduate instructors,
ready, like feeling comfortable .... and it's not too stressful to say, “Yeah, you can probably
teach this class the next day”.

**Michael Lim 16:01**
So, zooming in just a little bit, do you think the main lesson of the paper being that increased
interconnectedness is important for resilience can be applied to other departments, other
universities, or perhaps even other countries? Or even just not just universities but say,
companies?

**Dan Grunspan 16:20**
Yeah, I think big time. And I think the idea to approach this from a resilience framework really
came from just other areas that looked at this. So, there's work that looked at emergency
networks in response to the September 11 attacks on the World Trade Center. For example,
people have looked at what were the calls that were going out between different emergency
tentities and who were really important players, and what was the overall network structure
that basically allows a rapid emergency response, right? So, the idea to approach it from this
framework was borrowed from other applications of thinking about the importance of these
kinds of social structures in emergency situations where you have to act quickly. This is very
different, though because of the way that a university department works. There are official
positions and things like that, but there's no like, “emergency transition to remote instruction
agency” within the department per se. So, but actually that's not entirely true. If you think
about the college here, the College of Biological Science. There's the CBS office for Educational
Scholarship and Practice (the COESP). My understanding is, .... as soon as remote instruction
happened, the COESP started basically having a ton more faculty start coming to talk about
teaching and to figure out “How do I transition to remote?” In some cases, right, I think what's
really interesting is, “There's a lot of different ways that I think you can be resilient as a college
or a university or a department”. You can kind of have these like centralized bodies that are there to try to help facilitate this transition. I think it would be really interesting to think about, “Okay, well, what happened here, and how important the COESP must have been, and helping a lot of faculty as serving as like this go to resource?”. 

Michael Lim 18:08
Oh, for sure. I bet specially prepared for the here, we’re kind of more, you know, analog that suddenly had to transition to the online space, and maybe even like, really shake up how their course was taught and the structure if at all, I bet the COESP is very helpful for them.

Dan Grunspan 18:23
Yeah, in the case here, this is I think, much more just kind of, you know, unstructured. And we’re talking about this as a community of practice, where these are just kind of the social interactions that the social ties and the social resources that you have access to just in general. And there was like, no clear right centralized body or even person in this case where this was the group of people that you go to. It was very, like just kind of organic. Everyone just kind of activated ...whatever relations that they had ... whether it was in their teaching teams or other faculty for whatever reason they were going to each other than friendships. This is something that I think departments, universities, countries, organizations, kind of do need to think about. Because succeeding through hard times depends on the culture, institutions and structures that you have in place.

Michael Lim 19:17
I think we can both agree that having more deeper relationships are really important to have especially when we don't have such a body you can turn to. So, what do you think can be done to encourage staff in universities, but also companies that really kind of foster that kind of deeper or more relationships?

Dan Grunspan 19:37
Yeah, and I think it's a really interesting important question. I think that's something that also a lot of people are just focused on because I think organizations, right ... they want to nurture the right kind of culture, basically. And I think that's what it really comes down to. It's like, “How do you nurture this culture that that makes the whole greater than the sum of its parts and things like that.”

Michael Lim 19:57
So, taking another further step back. Was there anything about this work that particularly surprised you?

Dan Grunspan 20:04
I think it was just how interconnected the overall department was. Yeah, I mean, there were people who were, I guess, just more connected in general than others. But it was, I mean, most people had some kind of connection somewhere. No one was completely isolated and no one just totally dominated the network. And a lot of networks that I've dealt with in the past, really
do have these people who are … this is like the person or these are the people and this is the institution, right? It's like if you remove them and everything changes, like there really wasn't that in this network. And I think that's really cool. I think it's just really interesting. And again, I think it kind of represents this potentially one way that you can express resiliency ... kind of having this larger community where it seems like a lot of people feel they can kind of turn from each other. And now I'm curious, ... is this representative? If we were to do this in a bunch of more departments could we go back and somehow magically collect data from a whole bunch of departments? Was this overwhelmingly what things looked like? Or was this kind of an outlier? I don't know.

**Michael Lim 21:08**
Speaking of going back, if you could go back in time, is there anything you'd like to go back and change with your study? And why?

**Dan Grunspan 21:16**
Oh, yeah, always. There's never anyone who's ever published a study and not been like, “Man, I want to go back in time and do this differently”, right? That's such a rare feeling. I think I would love to just know more about ... I mean, all we have in this study, and all the data that we have are just structural. So that just means we know who's talking to? Who's doing what .... with who? I would love to know, right? When we were talking about the different independent course teams and how different they were ... I'd love to know the outcomes of that, right? I'd love to know, what was it like to be a TA in this very connected team? And what was it that led to that? And then in the very disconnected teams ... “What's the outcome of that?”'. What did that class look like? What were the students experiences when this happened? CSI event, there's all kinds of things that I'd love to know.

**Michael Lim 22:02**
So other than building a time machine, what do you think are the next steps for this work?

**Dan Grunspan 22:08**
I think kind of the next steps, specifically ... like very proximate to this work would be “What are these other relationships?” Can we go back and actually see if there's other questions we can ask? I think more broadly, this is really kind of raised an interest in me similar to kind of what we're talking about, as far as the different ways that you can express resiliency. For example, like the COESP, right, and the role that it played. Understanding that kind of a model would be really interesting. And actually, in working with a completely different data set from a completely different University ... where it seems like this kind of thing happened ... where there is a centralized organization within a larger College ... where there's a group of faculty that are very teaching focused. And we actually do have data on what their networks look like before and after the, the transition to remote instruction in that department. And it looks like early on at least that, right? These faculty were absolutely critical in these networks, right? Like, it seemed like that's it ... having this kind of like specialized specialized roles. They were the centralized body that were really important and took on this really big role.
Michael Lim 23:16
So that's enough questions from me. We're going to take some from social media now. Our first question is, “How do we get to know the students we teach virtually, and create the same relationships as you would with in person learning?” I mean, certainly there is normally a network being formed between students and their teachers, and has been, you know, greatly thicker the switch to the virtual format. So, do you have any tips for this? listener?

Dan Grunspan 23:40
Yeah, I mean, again, the way I always think about things, the number one word, whenever I think about teaching is structure, right. You want to accomplish something, you structure it into your class as part of the class. You need to be the person to structure that in, right? I think there's a lot of different ways that people like to do this. So, it's a really small class ... I've heard of people saying, “You know, it's like, well, you're not teaching a lot of classes”. So I think, right, I've heard the advice, it's like, you know ... “Set up a one hour meeting with all your students”. But that like works in the context of like, I have one, I'm not teaching four classes, right? Like, yeah, I'm not teaching three classes, I don't have 1000 students, right? But I think you really want to show that effort that you do want to get to know your students, right. And I think you can make that assignment like, “I want a personal email from you or send me something about yourself”. But then I think, again, kind of going back to this idea of like, vulnerability safe because you need to do it too, right? It's like you owe your students information about you. And I think to the extent that you can do it one on one, the issue is right. I think with remote instruction ... a lot of people are realizing is it becomes so much more one on one from a student-faculty perspective. But if you have a ton of students, it becomes untenable to really actually maintain regular close relations with all your students... all the time and things like that. But I think the effort needs to be there, right? It's structuring it in and putting in that effort. And I think just, there's evidence that just putting in that effort is all that matters.

Michael Lim 25:03
So, speaking of effort, or rather the perceived lack of effort, here's our next question: How can you create a feeling of accountability when students who bother to sign into class have their cameras and mics off all the time? So anecdotally speaking, that someone's been part of teaching teams, and even attending conferences, I noticed that many students often attend less than they would for in-person classes and don't really participate in discussion very much ... which often can add to the divide between students and teachers. So, how would you command, you know, trying to improve that or trying to really reach out to students?

Dan Grunspan 25:43
The first thing to practice I think, is just recognizing how much empathy you need to have because we don't know what their situation is? We tend to project what we think is going on based on our lived experiences and what we're familiar withon to other people, right? So, it's like, we'll meet someone new and they'll remind us of someone that we know. Then we'll kind of fill in the blanks on someone that we don't actually know based on someone that we do. And
I think it's just the general bias that we have. And I think with students, and especially in the pandemic, it's like, we don't know what their situation is. They may not be able to turn their camera on... they may not have a suitable background or they're gonna be embarrassed to turn it on. There's a million, I think, very legitimate reasons why students may not be able to or be comfortable turning the camera on. So, the kind of big background to my responses is going to be first practice empathy and understand that? We can't assume that the reasons that students are not doing things are not legitimate. So, I think that's kind of one thing. Also, I'm on board with the fact that we kind of do want our students to be engaged, and there, and if they can turn their cameras on, we do want their cameras on. We want them to show up to class and have them do things. But again, how are we structuring our classes? If it's just a recorded lecture, or we're just talking to them online? What about that structure is telling your students that they need to be there and engaged. You need to structure your class in a way that, again, rewards them for doing the things and for me, it's always like, you know, points. So, can you somehow build points into your class? But I think the really big answer is... make your class as interactive as it can be, if you're trying to do the synchronously, give them reason to show up.

Michael Lim 27:31
So that brings us to our last question for today. Do you have any final comments to make about your work? And if our listeners only take away one thing from our chat today, what do you hope it is?

Dan Grunspan 27:41
The one thing from our chat... man, I think our chat just diverged. So now I'm just like, thinking about all these really great questions. I guess to stay on theme with the talk. And with I guess, the moment or not the talk, I'm sorry, the paper that we discussed ... I guess the moment in time that we live in is, I guess, really kind of thinking about the importance of social relationships across kind of everything as we move through. And I think I've been continually frustrated with the idea of, you know, “social distancing” because it's really physical distancing, right? Well, what we're trying to accomplish is physical distancing. And I think some people kind of caught on early that this was a bad title. I don't think people totally think that deeply about events. We shouldn't be socially distancing. We should be physically distancing as needed. But we should be socially as close as we can be right now. Because I think we're living in a time where that social closeness continues to be really important. And I think right here, we're studying a social network, where everyone is physically distanced but they were not socially distanced. And I think that as we kind of approach things moving forward ... I think we kind of need to, you know, work together thinking about the social relations that we do have. And how we can nurture them and how we can kind of rely on them to help kind of support everybody through what continues to be, you know, a difficult time in humanity.

Michael Lim 29:01
So, carry on. That's all we can really do. Yeah, carry on. And so that brings us to the end of today's podcast. A big thanks again to our guest, Dr. Dan Grunspan, for joining us today. GryphonCast is brought to you by your host me, Michael Lim with editing assistance from Ian Smith. If you're hungry to learn more about different science topics, please check out SCRIBE
Research Highlights. That's SCRIBE, S-C-R-I-B-E Research Highlights on the University of Guelph website at uoguelph.ca. Or you can follow us on social media at UofG CBS. You can find us on Instagram, Twitter, and Facebook. Music and the podcast comes from Bosnow on Upbeat. There'll be details in the show notes and until next time, please stay here.